



Solution of Magnetic

**Strong Magnets sp. z o.o.**  
(Polish Branch)

[www.strong-magnets.pl](http://www.strong-magnets.pl)  
[info@strong-magnets.pl](mailto:info@strong-magnets.pl)

ul. Łagiewnicka 21,  
02-860, Warsaw, Poland

NIP: 6631869118    REGON: 260733310    KRS: 0000493145



**Strong Magnets**  
Solution of Magnetic

**Shanghai Strong Magnets**  
(PRC Headquarters & Manufactory)

[www.strong-magnets.cn](http://www.strong-magnets.cn)  
[info@strong-magnets.cn](mailto:info@strong-magnets.cn)

No 424, YuYang Village,  
SiTuan Town, FengXian District,  
201413, Shanghai, PRC

+86-21-3758-8183

**Strong Magnets India**  
(Indian Branch)

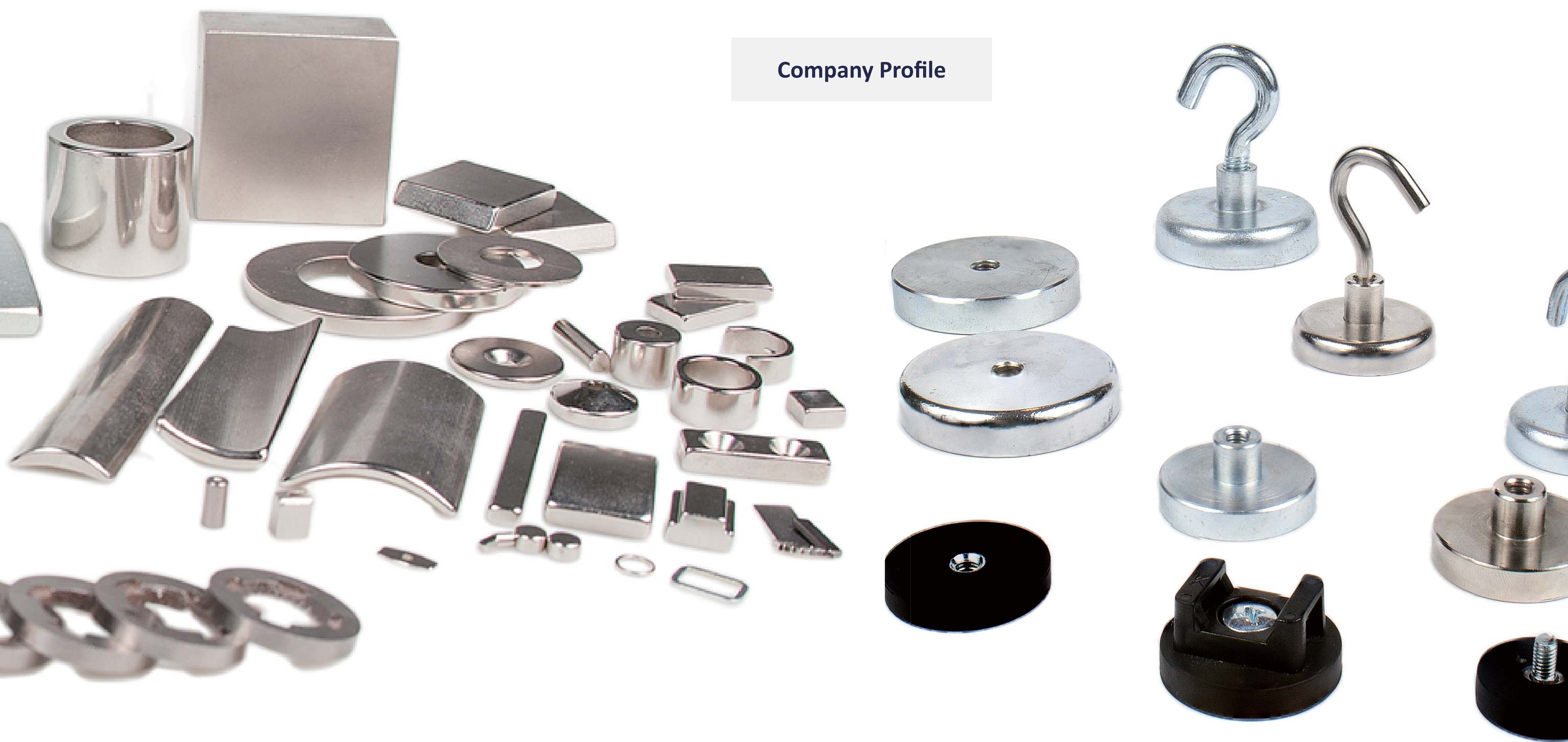
[www.strong-magnets.cn](http://www.strong-magnets.cn)  
[sales@strong-magnets.cn](mailto:sales@strong-magnets.cn)

Tower no.31, Flat 707,  
Amanora Park Town,  
411028 (M.H.), India

+91-9823930608







Company Profile

Permanent  
Magnets

NdFeB

AlNiCo

Ferrite

SmCo

Flexible

Self-Adhesive

Magnetic  
Assemblies  
&  
Equipment

Pot  
Magnets

Lifting  
Magnets

Magnetic  
Separator

**Strong Magnets** is a worldwide magnets producer and provider of magnetic assemblies and equipment with ISO9001 and CE certification, products including:

- Permanent Magnets | NdFeB Magnets
- | AlNiCo Magnets
- | Ferrite Magnets
- | SmCo Magnets
- | Flexible Magnets
- | Self-Adhesive Magnets

- Magnetic Equipment | Lifting Magnets
- | Pot Magnets
- | Magnetic Separator

**Shanghai Strong Magnets**  
PRC Headquarters and manufactory, located in Shanghai, grouping of professional talents in management, marketing phase teams, and technical support group to offer our best products and service to our clients.  
Relying on the international company network for years, PRC Headquarters, branches of India and Poland, Strong Magnets has achieved around 1,500mt sales volume of magnets per year, and this number keeps in growing.

**Strong Magnets sp. z o.o.**  
Polish branch of Strong Magnets, was grand opening in 2014, located at Warsaw. A 300m² warehouse in Poland is available for us to support our **CSC** solution to clients:  
- **Competitive price:** Strong Magnets is a Chinese based magnets producer (Shanghai Strong Magnets);  
- **Short lead time:** Our offices and warehouses in Shanghai, India, Poland, supplying products in stock basis for sustained cooperation;  
- **Comprehensive technical support:** From design, production to installtion and applying, our professional engineer teams are at your disposal.





Permanent  
Magnets

NdFeB

AlNiCo

Ferrite

SmCo

Flexible

Self-Adhesive

Strong Magnets is able to supply almost all kinds of permanent magnets of various grades commercially, wide range of remanence (the strength of the magnetic field), coercivity (resistance to being demagnetized), and energy product (density of magnetic energy), they are divided into the following six categories: **NdFeB / AlNiCo / Ferrite / SmCo / Flexible (rubber) / Self-adhesive Magnets**



Raw Materials → Melting → Pulverizing → Aligning & Pressing  
→ Sintering → Annealing → Machining → Surface Treating  
→ Magnetizing → Inspecting → Packing & Delivery

Production

Property Table

| SI unit |                              |   |                               |   |  |                                    |
|---------|------------------------------|---|-------------------------------|---|--|------------------------------------|
| Grade   | (range)<br>Remanence<br>(Br) | (min.)<br>Intrinsic Coercivity<br>(Hcj) | (min.)<br>Coercivity<br>(Hcb) | Max<br>Energy Product<br>(BH)max<br>kJ/m <sup>3</sup> | Max Working<br>Temperature<br>(Tw)<br>°C | Curie<br>Temperature<br>(Tc)<br>°C |
|         | mT                           | kA/m                                    | kA/m                          |   |  |                                    |
| N33     | 1130-1170                    | 955                                     | 836                           | 247-270   | 80                                       | 310                                |
| N35     | 1170-1220                    | 955                                     | 868                           | 263-287   | 80                                       | 310                                |
| N38     | 1220-1250                    | 955                                     | 899                           | 287-310   | 80                                       | 310                                |
| N40     | 1250-1300                    | 955                                     | 923                           | 302-326   | 80                                       | 310                                |
| N42     | 1280-1330                    | 955                                     | 923                           | 318-342   | 80                                       | 310                                |
| N45     | 1330-1380                    | 955                                     | 876                           | 342-366   | 80                                       | 310                                |
| N48     | 1370-1430                    | 955                                     | 892                           | 366-390   | 80                                       | 310                                |
| N50     | 1390-1450                    | 876                                     | 836                           | 374-406   | 80                                       | 310                                |
| N52     | 1420-1470                    | 876                                     | 836                           | 390-422   | 80                                       | 310                                |
| N33M    | 1130-1170                    | 1114                                    | 836                           | 247-270   | 100                                      | 310                                |
| N35M    | 1170-1220                    | 1114                                    | 868                           | 263-287   | 100                                      | 310                                |
| N38M    | 1220-1250                    | 1114                                    | 899                           | 287-310   | 100                                      | 310                                |
| N40M    | 1250-1300                    | 1114                                    | 923                           | 302-326   | 100                                      | 310                                |
| N42M    | 1280-1330                    | 1114                                    | 955                           | 318-342   | 100                                      | 310                                |
| N45M    | 1330-1380                    | 1114                                    | 995                           | 342-366   | 100                                      | 310                                |
| N48M    | 1370-1430                    | 1114                                    | 1019                          | 358-390   | 100                                      | 310                                |
| N50M    | 1390-1450                    | 1114                                    | 1035                          | 374-406   | 100                                      | 310                                |
| N33H    | 1130-1170                    | 1353                                    | 836                           | 247-270   | 120                                      | 310                                |
| N35H    | 1170-1220                    | 1353                                    | 868                           | 263-287   | 120                                      | 310                                |
| N38H    | 1220-1250                    | 1353                                    | 899                           | 287-310   | 120                                      | 310                                |
| N40H    | 1250-1300                    | 1353                                    | 923                           | 302-326   | 120                                      | 310                                |
| N42H    | 1280-1330                    | 1274                                    | 955                           | 318-342   | 120                                      | 310                                |
| N45H    | 1330-1380                    | 1274                                    | 963                           | 334-358   | 120                                      | 310                                |
| N48H    | 1370-1430                    | 1274                                    | 971                           | 342-366   | 120                                      | 310                                |
| N50H    | 1390-1450                    | 1274                                    | 1035                          | 374-406   | 120                                      | 310                                |
| N33SH   | 1130-1170                    | 1592                                    | 844                           | 247-270   | 150                                      | 320                                |
| N35SH   | 1170-1220                    | 1592                                    | 876                           | 263-287   | 150                                      | 320                                |
| N38SH   | 1220-1250                    | 1592                                    | 907                           | 287-310   | 150                                      | 320                                |
| N40SH   | 1250-1300                    | 1592                                    | 939                           | 302-326   | 150                                      | 320                                |
| N42SH   | 1280-1340                    | 1512                                    | 971                           | 318-342   | 150                                      | 320                                |
| N45SH   | 1320-1380                    | 1512                                    | 995                           | 342-366   | 150                                      | 320                                |
| N48SH   | 1360-1420                    | 1512                                    | 995                           | 358-390   | 150                                      | 320                                |
| N28UH   | 1020-1080                    | 1990                                    | 764                           | 207-231   | 180                                      | 330                                |
| N33UH   | 1130-1180                    | 1990                                    | 852                           | 247-270   | 180                                      | 330                                |
| N35UH   | 1170-1220                    | 1990                                    | 860                           | 263-287   | 180                                      | 330                                |
| N38UH   | 1220-1270                    | 1990                                    | 876                           | 287-310   | 180                                      | 330                                |
| N28EH   | 1040-1090                    | 2388                                    | 780                           | 207-231   | 200                                      | 330                                |
| N30EH   | 1080-1140                    | 2388                                    | 812                           | 223-254   | 200                                      | 330                                |
| N33EH   | 1130-1180                    | 2388                                    | 820                           | 247-270   | 200                                      | 330                                |
| N35EH   | 1170-1220                    | 2388                                    | 836                           | 263-287   | 200                                      | 330                                |
| N28AH   | 1020-1090                    | 2706                                    | 780                           | 199-231   | 220-240                                  | 330                                |
| N30AH   | 1070-1130                    | 2706                                    | 812                           | 215-247   | 220-240                                  | 330                                |
| N33AH   | 1110-1170                    | 2706                                    | 820                           | 239-271   | 220-240                                  | 330                                |

\*for reference only

Remanence (Br)

measure the strength of the magnetic field

Coercivity (Hcb / Hcj)

the material's resistance to becoming demagnetized

Energy product (BHmax)

the density of magnetic energy, which relates to the magnetic flux output per unit volume. Higher values indicate stronger magnets

Curie temperature (Tc)

the temperature at which the material loses its magnetism

Sintered

Neodymium Magnet (NdFeB)

the most widely used type of rare-earth magnet, is a permanent magnet made from an alloy of neodymium, iron and boron.

Two kinds of Neodymium,

Sintered NdFeB & Bonded NdFeB

are commercial according to their different manufacturing process.

NdFeB is the strongest type of permanent magnet commercially available.

Higher remanence (the strength of the magnetic field);

Higher coercivity (resistance to being demagnetized);

Higher energy product (density of magnetic energy).

Bonded

Bonded neodymium is able to be multipole magnetized

Property Table

| SI unit |                              |  |                                |   |  |
|---------|------------------------------|--|--------------------------------|---|--|
| Grade   | (range)<br>Remanence<br>(Br) | (range)<br>Intrinsic Coercivity<br>(Hcj) | (range)<br>Coercivity<br>(Hcb) | Max<br>Energy Product<br>(BH)max<br>kJ/m <sup>3</sup> | Max Working<br>Temperature<br>(Tw)<br>°C |
|         | mT                           | kA/m                                     | kA/m                           |   |  |
| BNM-5   | 570-620                      | 560-720                                  | 288-320                        | 40-48   | 120-140                                  |
| BNM-6   | 580-630                      | 640-800                                  | 322-376                        | 48-56   | 120-140                                  |
| BNM-7   | 590-640                      | 640-800                                  | 360-416                        | 56-64   | 120-140                                  |
| BNM-8   | 620-670                      | 680-800                                  | 400-464                        | 64-72   | 120-140                                  |
| BNM-9   | 640-690                      | 680-800                                  | 416-448                        | 68-76   | 120-140                                  |
| BNM-10  | 670-720                      | 680-800                                  | 416-480                        | 72-80   | 120-140                                  |
| BNM-11  | 690-740                      | 720-840                                  | 400-464                        | 80-88   | 120-140                                  |
| BNM-12  | 740-760                      | 720-840                                  | 456-512                        | 88-96   | 120-140                                  |
| BNM-11L | 700-750                      | 520-640                                  | 400-464                        | 80-88   | 120-140                                  |
| BNM-12L | 750-800                      | 520-640                                  | 432-496                        | 84-92   | 120-140                                  |
| BNM-8SR | 620-670                      | 880-1120                                 | 400-464                        | 64-72   | 140-160                                  |

\*for reference only

Shape

Neodymium magnets could be made into various shapes, common shapes including:



Disk/Cylinder



Bar/Block



Ring



Arc



Countersunk

Custom design is available for client's specific needs

Coating

Coating prevents the Neodymium magnets from oxidation, common coating including:



NiCuNi



Zn



Epoxy



Gold

Other coatings, for example, Phosphate, Copper, Silver, and etc.

Applied in

- Permanent Magnet Motor/Generator
- Magnetic Separator/ Filter
- Magnetic Lifter
- Magnetic Pot/Hook
- Magnetic Bearings and Couplings
- Magnetic Sensors
- Magnetic Resonance Imaging (MRI)
- Bench-top NMR spectrometers
- Loudspeakers and headphones

Production

Rapidly quenched NdFeB Powder → Particle size adjustment → Kneading with other material → Molding → Secondary Process, Surface Treating, Grinding → Inspecting → Packing & Delivery



Raw Materials → Mixing → Melting → Mold Casting →  
Ingots Selection → Heat Treatment → Tumbling →  
Magnetic Inspection → Machining → Cleaning and Driving  
→ Machining Inspection → Inspecting → Packing

Production



Property Table

| SI unit |                             |                               |                                  |                                    |                              |           |
|---------|-----------------------------|-------------------------------|----------------------------------|------------------------------------|------------------------------|-----------|
| Grade   | (min.)<br>Remanence<br>(Br) | (min.)<br>Coercivity<br>(Hcb) | Max<br>Energy Product<br>(BH)max | Max Working<br>Temperature<br>(Tw) | Curie<br>Temperature<br>(Tc) | Remarks   |
|         | mT                          | kA/m                          | kJ/m³                            | °C                                 | °C                           |           |
| LN10    | 600                         | 40                            | 10                               | 450                                | 760                          | AlNiCo3   |
| LNG10   | 600                         | 44                            | 10                               | 450                                | 760                          | AlNiCo3   |
| LNG12   | 700                         | 44                            | 12                               | 450                                | 810                          | AlNiCo2   |
| LNG13   | 680                         | 48                            | 13                               | 450                                | 810                          | AlNiCo2   |
| LNG16   | 800                         | 48                            | 16                               | 450                                | 810                          | AlNiCo4   |
| LNG18   | 900                         | 48                            | 18                               | 450                                | 810                          | AlNiCo4   |
| LNGT18  | 580                         | 80                            | 18                               | 525                                | 850                          | AlNiCo8   |
| LNG37   | 1200                        | 48                            | 37                               | 525                                | 850                          | AlNiCo5   |
| LNG40   | 1230                        | 48                            | 40                               | 525                                | 850                          | AlNiCo5   |
| LNG44   | 1250                        | 52                            | 44                               | 525                                | 850                          | AlNiCo5   |
| LNG48   | 1280                        | 56                            | 48                               | 525                                | 850                          | AlNiCo5DG |
| LNG52   | 1300                        | 56                            | 52                               | 525                                | 850                          | AlNiCo5DG |
| LNG56   | 1300                        | 58                            | 56                               | 525                                | 850                          | AlNiCo5-7 |
| LNG60   | 1330                        | 60                            | 60                               | 525                                | 850                          | AlNiCo5-7 |
| LNGT28  | 1000                        | 56                            | 28                               | 525                                | 850                          | AlNiCo6   |
| LNGT30  | 1100                        | 56                            | 30                               | 525                                | 850                          | AlNiCo6   |
| LNGT32  | 800                         | 100                           | 32                               | 525                                | 850                          | AlNiCo8   |
| LNGT38  | 800                         | 110                           | 38                               | 550                                | 860                          | AlNiCo8   |
| LNGT40  | 820                         | 110                           | 40                               | 550                                | 860                          | AlNiCo8   |
| LNGT44  | 850                         | 115                           | 44                               | 550                                | 860                          | AlNiCo8   |
| LNGT48  | 900                         | 120                           | 48                               | 550                                | 860                          | AlNiCoHE  |
| LNGT60  | 950                         | 110                           | 60                               | 550                                | 860                          | AlNiCo9   |
| LNGT72  | 1050                        | 112                           | 72                               | 550                                | 860                          | AlNiCo9   |
| LNGT80  | 1080                        | 120                           | 80                               | 550                                | 860                          | AlNiCo9   |
| LNGT88  | 1100                        | 115                           | 88                               | 550                                | 860                          | AlNiCo9   |
| LNGT96  | 1150                        | 118                           | 96                               | 550                                | 860                          | AlNiCo9   |
| LNGT36J | 700                         | 140                           | 36                               | 550                                | 860                          | AlNiCo8HC |
| LNGT36J | 800                         | 140                           | 48                               | 550                                | 860                          | AlNiCo8HC |
| LNGT52J | 850                         | 145                           | 52                               | 550                                | 860                          | AlNiCo8HC |

\*for reference only

Remanence (Br)

measure the strength of the magnetic field

Coercivity (Hcb / Hcj)

the material's resistance to becoming demagnetized

Energy product (BHmax)

the density of magnetic energy, which relates to the magnetic flux  
output per unit volume. Higher values indicate stronger magnets

Curie temperature (Tc)

the temperature at which the material loses its magnetism

Cast

## AlNiCo Magnet (AlNiCo)

Alnico is the permanent magnets composed primarily of  
Aluminum (Al), Nickel (Ni) and Cobalt (Co).

They also including Copper, Ferrum, and sometimes Titanium.

Two kinds of Alnico,

### Cast AlNiCo & Sintered AlNiCo

are commercial according to their different manufacturing process.

Alnico alloys are ferromagnetic with:

High magnetic flux density;

Resistance to corrosion;

Excellent temperature stability;

Electrically conductive

Sintered



Production

Raw Materials → Pressing → Sintering → Heat Treatment →  
Tumbling → Magnetic Inspection → Machining → Cleaning and  
Driving → General Inspecting → Packing & Delivery

### Shape

AlNiCo magnets could be made into various shapes, common shapes including:



Disk/Cylinder



Bar/Block



Ring



Arc



Countersunk

Custom design is available for client's specific needs

AlNiCo

### Applied in

Applications requiring for high temperature stability

- Automotive, aerospace and military sensors

- Instruments communication control systems

- Audio Devices

- Magnetron

- Traveling-wave tubes (TWT)



Ferrite magnets could be made into various shapes, common shapes including:



Custom design is available for client's specific needs

Shape



Applied in

Some examples of Soft Ferrite applications:

- Electronic Inductors
- RF Transformers

Some examples of Hard Ferrite applications:

- Microphones
- Loudspeakers
- Electro-acoustic Instrument Pickups
- Magnetic Separator

Production

Raw Materials → Pre-Sintering → Milling → Granulation → Dry/Wet Press in Magnetic Field → Sintering → Machining → Magnetization → General Inspecting → Packing & Delivery



Hard

Hard

Hard

## Ferrite Magnet (Ferrite)

Ferrites are usually non-conductive ferromagnetic ceramic compounds derived from iron oxides such as hematite ( $\text{Fe}_2\text{O}_3$ ) or magnetite ( $\text{Fe}_3\text{O}_4$ ) as well as oxides of other metals.

In terms of the magnetic properties, the ferrites are classified as

### Soft Ferrite & Hard Ferrite

which refers to their low or high magnetic coercivity.

Ferrites magnets are, like most other ceramics, hard and brittle.

Permanent ferrite magnets are made of Hard Ferrites, which have a higher coercivity and remanence after magnetization than soft Ferrite

### Property Table

#### Remanence (Br)

measure the strength of the magnetic field

#### Coercivity (Hcb / Hcj)

the material's resistance to becoming demagnetized

#### Energy product (BHmax)

the density of magnetic energy, which relates to the magnetic flux output per unit volume. Higher values indicate stronger magnets

#### Curie temperature (Tc)

the temperature at which the material loses its magnetism

| SI unit |                              |  |                                |                                  |                                    |                              |
|---------|------------------------------|--|--------------------------------|----------------------------------|------------------------------------|------------------------------|
| Grade   | (range)<br>Remanence<br>(Br) | (range)<br>Intrinsic Coercivity<br>(Hcj) | (range)<br>Coercivity<br>(Hcb) | Max<br>Energy Product<br>(BH)max | Max Working<br>Temperature<br>(Tw) | Curie<br>Temperature<br>(Tc) |
|         | mT                           | kA/m                                     | kA/m                           | kJ/m <sup>3</sup>                | °C                                 | °C                           |
| Y20     | 320-380                      | 140-195                                  | 135-190                        | 18.0                             | 250                                | 450                          |
| Y25     | 360-370                      | 140-200                                  | 135-190                        | 22.5                             | 250                                | 450                          |
| Y30     | 380-385                      | 200-220                                  | 190-210                        | 26.0                             | 250                                | 450                          |
| Y30BH   | 380-390                      | 230-245                                  | 223-235                        | 27.0                             | 250                                | 450                          |
| Y30H-1  | 380-400                      | 235-290                                  | 230-275                        | 27.0                             | 250                                | 450                          |
| Y30H-2  | 395-415                      | 310-335                                  | 275-300                        | 28.5                             | 250                                | 450                          |
| Y32     | 400-420                      | 165-195                                  | 160-190                        | 30.5                             | 250                                | 450                          |
| Y33     | 410-430                      | 225-255                                  | 220-250                        | 31.5                             | 250                                | 450                          |
| Y35     | 430-450                      | 217-241                                  | 215-239                        | 33.0                             | 250                                | 450                          |
| Y40     | 440-460                      | 340-360                                  | 330-345                        | 37.6                             | 250                                | 450                          |

\*for reference only



SmCo magnets could be made into various shapes, common shapes including:



Custom design is available for client's specific needs

Shape



Applied in

High-end electric motors

Turbomachinery

Applications in which performance requiring to be consistent with temperature change or at cryogenic and very hot temperature

Raw Materials → Blending → Melting → Milling  
→ Molding → Sintering → Magnetic Inspection  
→ Machining → Surface Treatment → General  
Inspecting → Packing & Delivery

Production



Permanent  
Magnets

SmCo

Sintered

### SmCo Magnet (SmCo)

SmCo magnet, a type of rare earth magnet, is a strong permanent magnet made of an alloy of samarium and cobalt.

Two "series" of SmCo are available,  
namely Series 1:5 and Series 2:17 (SmCo<sub>5</sub>, Sm<sub>2</sub>Co<sub>17</sub>)

Sintered SmCo & Bonded SmCo

similarly in strength to neodymium magnets, while have:

Higher temperature ratings;

Higher coercivity;

Extremely resistant to demagnetization

Sintered

Sintered



Property Table

|  |
|--|
| Remanence (Br)   |
| measure the strength of the magnetic field   |
| Coercivity (Hcb / Hcj)   |
| the material's resistance to becoming demagnetized   |
| Energy product (BHmax)   |
| the density of magnetic energy, which relates to the magnetic flux output per unit volume. Higher values indicate stronger magnets |
| Curie temperature (Tc)   |
| the temperature at which the material loses its magnetism  |

| SI unit |                             |   |                               |                                  |                                    |                              |
|---------|-----------------------------|---|-------------------------------|----------------------------------|------------------------------------|------------------------------|
| Grade   | (min.)<br>Remanence<br>(Br) | (min.)<br>Intrinsic Coercivity<br>(Hcj) | (min.)<br>Coercivity<br>(Hcb) | Max<br>Energy Product<br>(BH)max | Max Working<br>Temperature<br>(Tw) | Curie<br>Temperature<br>(Tc) |
|         | mT                          | kA/m                                    | kA/m                          | kJ/m <sup>3</sup>                | °C                                 | °C                           |
| SmCo16  | 830                         | 1430                                    | 640                           | 128                              | 250                                | 750                          |
| SmCo18  | 880                         | 1430                                    | 680                           | 144                              | 250                                | 750                          |
| SmCo20  | 920                         | 1430                                    | 700                           | 160                              | 250                                | 750                          |
| SmCo22  | 940                         | 1450                                    | 730                           | 176                              | 250                                | 750                          |
| SmCo24  | 980                         | 1450                                    | 730                           | 192                              | 300                                | 750-820                      |
| SmCo26  | 1030                        | 1450                                    | 760                           | 208                              | 300                                | 750-820                      |
| SmCo28  | 1050                        | 1450                                    | 780                           | 224                              | 300                                | 750-820                      |
| SmCo30  | 1100                        | 1450                                    | 810                           | 240                              | 300                                | 750-820                      |
| SmCo26M | 1030                        | 1100                                    | 760                           | 208                              | 300                                | 750-820                      |
| SmCo28M | 1050                        | 1100                                    | 780                           | 224                              | 300                                | 750-820                      |
| SmCo30M | 1100                        | 1100                                    | 810                           | 240                              | 300                                | 750-820                      |
| SmCo28L | 1050                        | 700                                     | 550                           | 224                              | 250                                | 750-820                      |
| SmCo30L | 1100                        | 700                                     | 550                           | 240                              | 250                                | 750-820                      |
| SmCo24H | 1000                        | 2000                                    | 720                           | 192                              | 350                                | 750-820                      |
| SmCo26H | 1030                        | 2000                                    | 760                           | 208                              | 350                                | 750-820                      |
| SmCo28H | 1050                        | 2000                                    | 770                           | 224                              | 350                                | 750-820                      |
| SmCo30H | 1080                        | 2000                                    | 810                           | 240                              | 350                                | 750-820                      |

\*SmCo 16-22, Sm:Co=1:5; the rest grades Sm:Co=2:17

\*for reference only





Isotropic

### Flexible (Rubber) Magnet

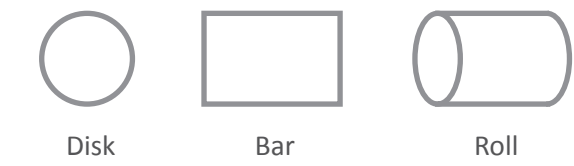
Flexible Rubber magnets are compounded by mixing ferrite magnet powder and base material, i.e. rubber. Typically two kinds of flexible magnets are commercially available,

#### Isotropic & Anisotropic Ferrite

Anisotropic flexible magnet is stronger than Isotropic type. Both of them are easy to roll, bend, incise, punch and shape.

Pure or various laminations are available:  
with adhesive type, with PVC (full color, pattern)

Flexible (rubber) magnets could be made into various shapes, common shapes including:



Custom design is available for client's specific needs

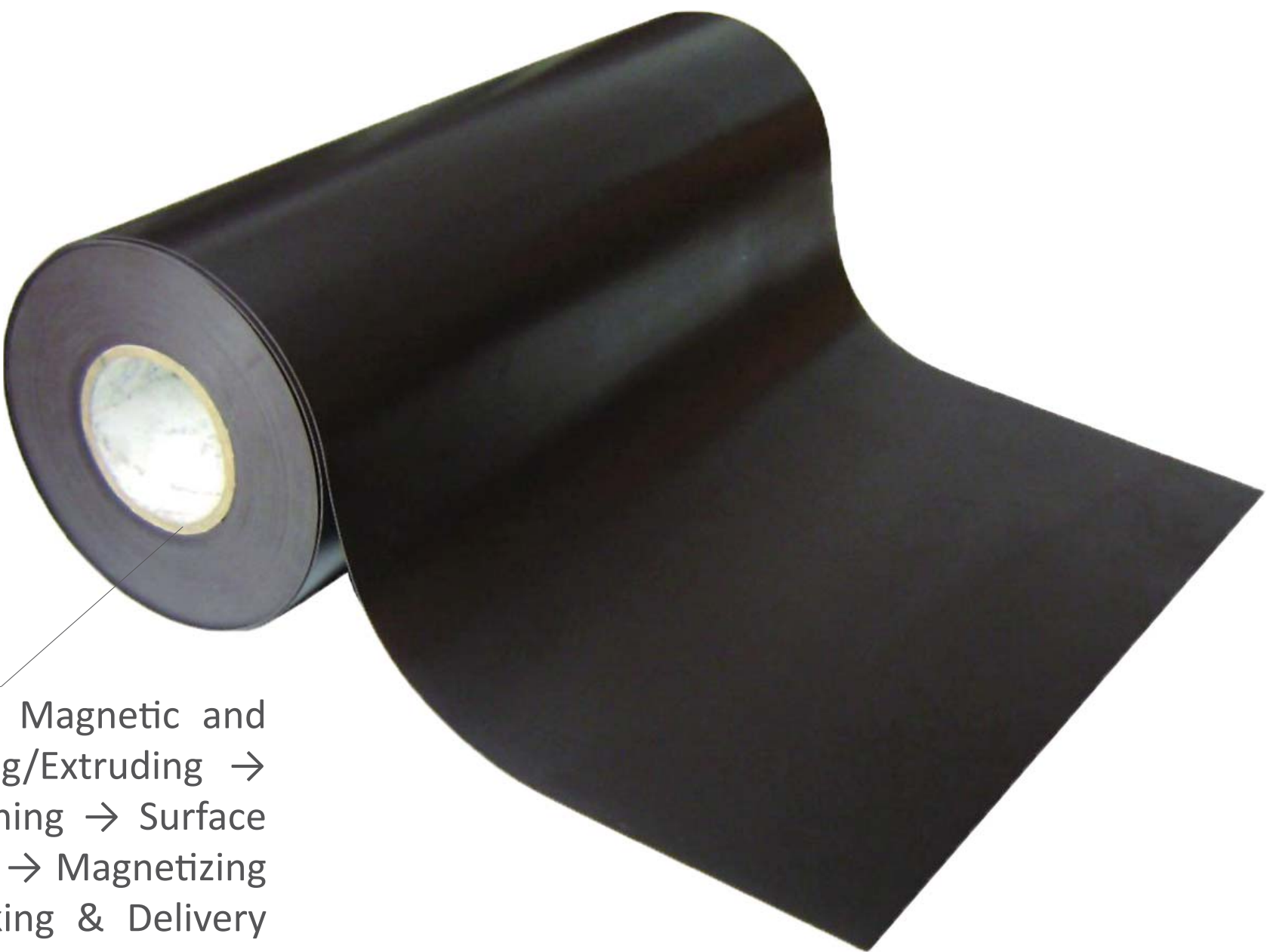
Shape



#### Applied in

- Printing industry
- Advertisement
- Fridge magnet
- Souvenir / Gift

Anisotropic



#### Production

Raw Materials → Blending of Magnetic and plastic material → Calendaring/Extruding → Mounting in System → Machining → Surface Treatment → Coating/Pattering → Magnetizing → General Inspecting → Packing & Delivery

#### Property Table

**Remanence (Br)**

measure the strength of the magnetic field

**Coercivity (Hcb / Hcj)**

the material's resistance to becoming demagnetized

**Energy product (BHmax)**

the density of magnetic energy, which relates to the magnetic flux output per unit volume. Higher values indicate stronger magnets

**Curie temperature (Tc)**

the temperature at which the material loses its magnetism

#### SI unit

| Grade  | (range)<br>Remanence<br>(Br)<br>mT | (range)<br>Intrinsic Coercivity<br>(Hcj)<br>kA/m | (range)<br>Coercivity<br>(Hcb)<br>kA/m | Max<br>Energy Product<br>(BH)max<br>kJ/m <sup>3</sup> | Remark      |
|--------|------------------------------------|--|--|---|-------------|
| FRM-5  | 165 ±10                            | 132 ±8   | 108 ±8                                 | 5.2 ±0.4  | Isotropic   |
| FRM-6  | 170 ±10                            | 136 ±8   | 112 ±8                                 | 5.6 ±0.4  | Isotropic   |
| FRM-8  | 220 ±5                             | 160 ±8   | 136 ±8                                 | 8.0 ±0.4  | Semi-aniso  |
| FRM-11 | 245 ±5                             | 148 ±8   | 140 ±8                                 | 11.2 ±0.4   | Anisotropic |
| FRM-12 | 247.5 ±2.5                         | 224 ±8   | 168 ±8                                 | 12.0 ±0.4   | Anisotropic |

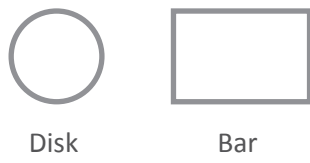
\*for reference only

Permanent  
Magnets

Flexible



Self-adhesive magnets could be made into various shapes, common shapes including:



Custom design is available for client`s specific needs

| SI unit |                                    |   |                                       |   |  |                                    |
|---------|------------------------------------|---|---------------------------------------|---|--|------------------------------------|
| Grade   | (range)<br>Remanence<br>(Br)<br>mT | (min.)<br>Intrinsic Coercivity<br>(Hcj)<br>kA/m | (min.)<br>Coercivity<br>(Hcb)<br>kA/m | Max<br>Energy Product<br>(BH)max<br>kJ/m³ | Max Working<br>Temperature<br>(Tw)<br>°C | Curie<br>Temperature<br>(Tc)<br>°C |
| N33     | 1130-1170                          | 955   | 836                                   | 247-270                                   | 80                                       | 310                                |
| N35     | 1170-1220                          | 955   | 868                                   | 263-287                                   | 80                                       | 310                                |
| N38     | 1220-1250                          | 955   | 899                                   | 287-310                                   | 80                                       | 310                                |
| N40     | 1250-1300                          | 955   | 923                                   | 302-326                                   | 80                                       | 310                                |
| N42     | 1280-1330                          | 955   | 923                                   | 318-342                                   | 80                                       | 310                                |
| N45     | 1330-1380                          | 955   | 876                                   | 342-366                                   | 80                                       | 310                                |
| N48     | 1370-1430                          | 955   | 892                                   | 366-390                                   | 80                                       | 310                                |
| N50     | 1390-1450                          | 876   | 836                                   | 374-406                                   | 80                                       | 310                                |
| N52     | 1420-1470                          | 876   | 836                                   | 390-422                                   | 80                                       | 310                                |
| N33M    | 1130-1170                          | 1114  | 836                                   | 247-270                                   | 100                                      | 310                                |
| N35M    | 1170-1220                          | 1114  | 868                                   | 263-287                                   | 100                                      | 310                                |
| N38M    | 1220-1250                          | 1114  | 899                                   | 287-310                                   | 100                                      | 310                                |
| N40M    | 1250-1300                          | 1114  | 923                                   | 302-326                                   | 100                                      | 310                                |
| N42M    | 1280-1330                          | 1114  | 955                                   | 318-342                                   | 100                                      | 310                                |
| N45M    | 1330-1380                          | 1114  | 995                                   | 342-366                                   | 100                                      | 310                                |
| N48M    | 1370-1430                          | 1114  | 1019                                  | 358-390                                   | 100                                      | 310                                |
| N50M    | 1390-1450                          | 1114  | 1035                                  | 374-406                                   | 100                                      | 310                                |
| N33H    | 1130-1170                          | 1353  | 836                                   | 247-270                                   | 120                                      | 310                                |
| N35H    | 1170-1220                          | 1353  | 868                                   | 263-287                                   | 120                                      | 310                                |
| N38H    | 1220-1250                          | 1353  | 899                                   | 287-310                                   | 120                                      | 310                                |
| N40H    | 1250-1300                          | 1353  | 923                                   | 302-326                                   | 120                                      | 310                                |
| N42H    | 1280-1330                          | 1274  | 955                                   | 318-342                                   | 120                                      | 310                                |
| N45H    | 1330-1380                          | 1274  | 963                                   | 334-358                                   | 120                                      | 310                                |
| N48H    | 1370-1430                          | 1274  | 971                                   | 342-366                                   | 120                                      | 310                                |
| N50H    | 1390-1450                          | 1274  | 1035                                  | 374-406                                   | 120                                      | 310                                |
| N33SH   | 1130-1170                          | 1592  | 844                                   | 247-270                                   | 150                                      | 320                                |
| N35SH   | 1170-1220                          | 1592  | 876                                   | 263-287                                   | 150                                      | 320                                |
| N38SH   | 1220-1250                          | 1592  | 907                                   | 287-310                                   | 150                                      | 320                                |
| N40SH   | 1250-1300                          | 1592  | 939                                   | 302-326                                   | 150                                      | 320                                |
| N42SH   | 1280-1340                          | 1512  | 971                                   | 318-342                                   | 150                                      | 320                                |
| N45SH   | 1320-1380                          | 1512  | 995                                   | 342-366                                   | 150                                      | 320                                |
| N48SH   | 1360-1420                          | 1512  | 995                                   | 358-390                                   | 150                                      | 320                                |
| N28UH   | 1020-1080                          | 1990  | 764                                   | 207-231                                   | 180                                      | 330                                |
| N33UH   | 1130-1180                          | 1990  | 852                                   | 247-270                                   | 180                                      | 330                                |
| N35UH   | 1170-1220                          | 1990  | 860                                   | 263-287                                   | 180                                      | 330                                |
| N38UH   | 1220-1270                          | 1990  | 876                                   | 287-310                                   | 180                                      | 330                                |
| N28EH   | 1040-1090                          | 2388  | 780                                   | 207-231                                   | 200                                      | 330                                |
| N30EH   | 1080-1140                          | 2388  | 812                                   | 223-254                                   | 200                                      | 330                                |
| N33EH   | 1130-1180                          | 2388  | 820                                   | 247-270                                   | 200                                      | 330                                |
| N35EH   | 1170-1220                          | 2388  | 836                                   | 263-287                                   | 200                                      | 330                                |
| N28AH   | 1020-1090                          | 2706  | 780                                   | 199-231                                   | 220-240                                  | 330                                |
| N30AH   | 1070-1130                          | 2706  | 812                                   | 215-247                                   | 220-240                                  | 330                                |
| N33AH   | 1110-1170                          | 2706  | 820                                   | 239-271                                   | 220-240                                  | 330                                |

\*for reference only

Property Table

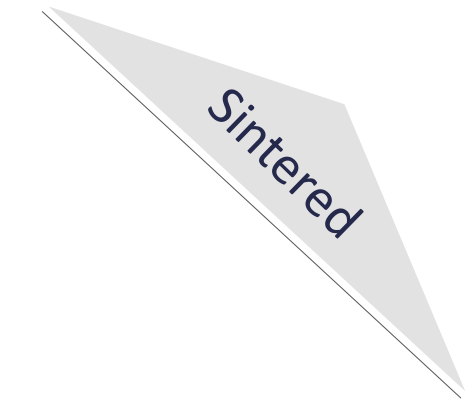


### Self-adhesive Magnet

self-adhesive magnets combine a strong magnetic force Neodymium and the convenience of self-adhesive with a peel away backing tape.

#### Sintered Neodymium with backing Tape

Besides the capability of self-adhesive, the magnets features is same as Neodymium:  
Higher remanence (the strength of the magnetic field);  
Higher coercivity (resistance to being demagnetized);  
Higher energy product (density of magnetic energy).



Property Table Note



#### Applied in

- Fridge magnets
- Book and folder closures
- Craft making
- Packaging

**Remanence (Br)**  
measure the strength of the magnetic field

**Coercivity (Hcb / Hcj)**  
the material's resistance to becoming demagnetized

**Energy product (BHmax)**  
the density of magnetic energy, which relates to the magnetic flux output per unit volume. Higher values indicate stronger magnets

**Curie temperature (Tc)**  
the temperature at which the material loses its magnetism

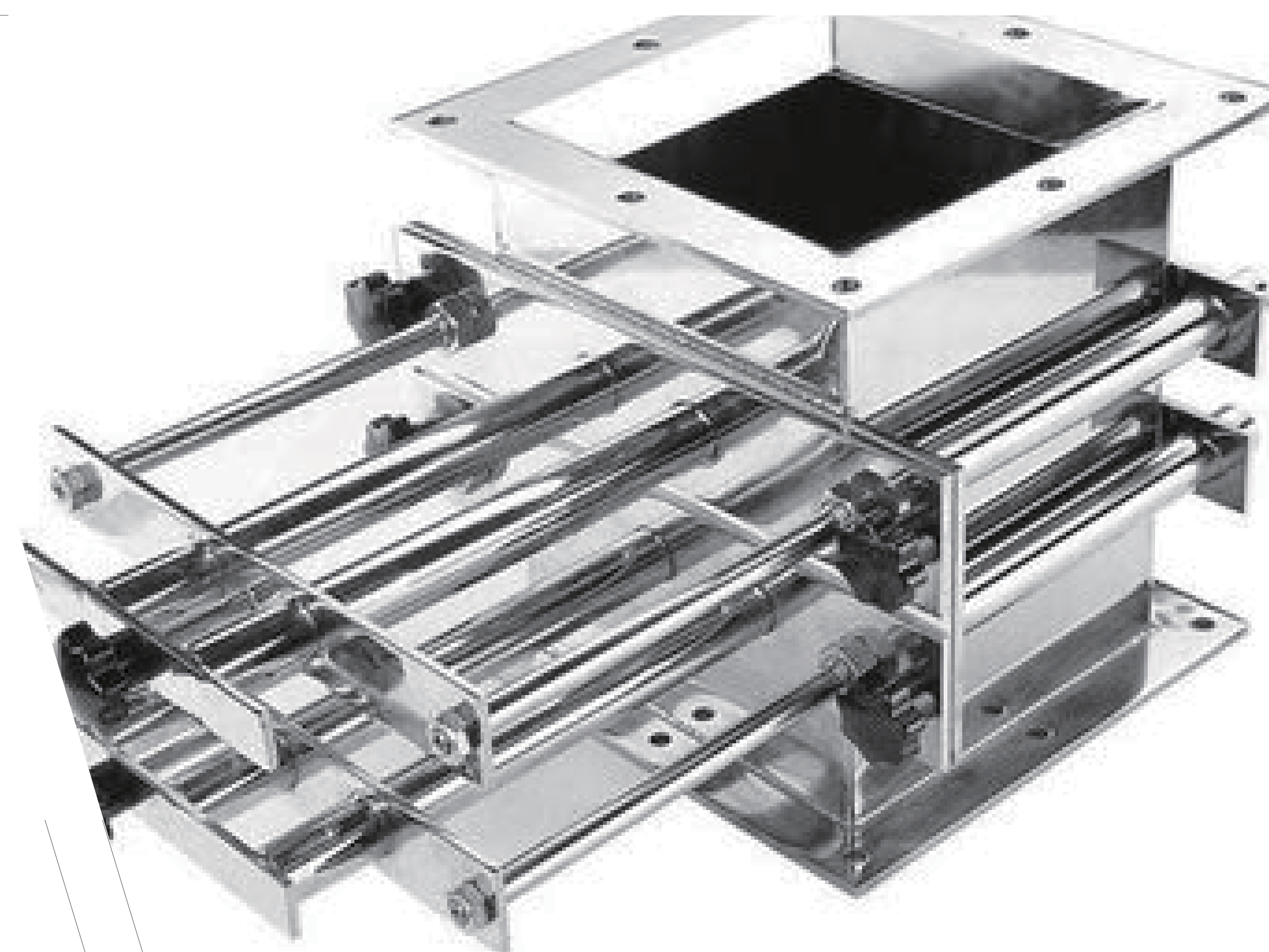




**Pot Magnet** is made by the combination of Neodymium magnet, embedded in a steel pot, with countersunk, or hook, or threaded stem for high attraction strength. If the required attraction strength is lower, ferrite magnet could be used as alternate option.



**Lifting Magnet** is mainly used to fasten or hold iron workpieces during lifting or handling operation. It is able to hold the iron plate and cylindrical steel durably and firmly during moving, which is widely used as hoist devices in factories



**Magnetic Separator** is under the range from simple construction to high gradient one, which covers the wide application in: ceramics, hemicals, pharmacy, food, plastic, rubber, dyestuff, mining, environmental protection, and etc

Magnetic  
Assemblies  
&  
Equipment

Pot  
Magnets

Lifting  
Magnets

Magnetic  
Separator

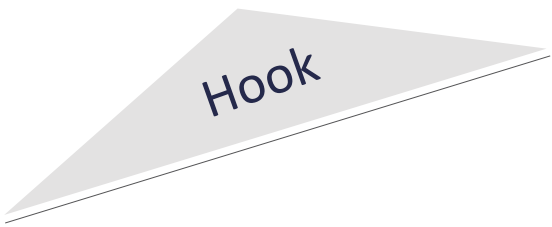




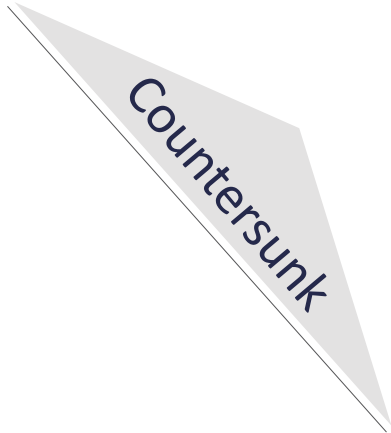
These pot magnets with hook can be used to hang up objects.  
It is also available to unscrew these hooks.



These pot magnets can be fastened with a countersunk screw



Hook



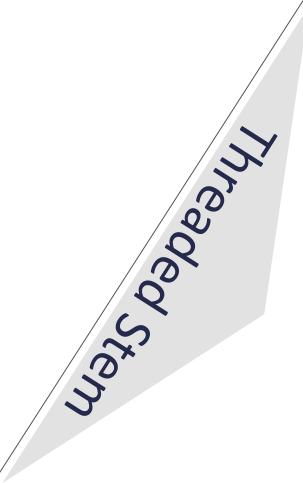
Countersunk

### Pot Magnet

made by the combination of Neodymium magnet, embedded in a steel pot, with countersunk, or hook, or threaded stem for high attraction strength.

The steel pot increases the adhesive force of the magnet on direct contact with iron surface.

If the required attraction strength is lower, ferrite magnet could be used as alternate option.



Threaded Stem

These pot magnets have an external thread.



#### Application

Dry indoor use, moist environment would cause the demagnetization of the magnets in certain extent.

#### Dimension

Dimension is albe to be customized





## Permanent Magnetic Lifter

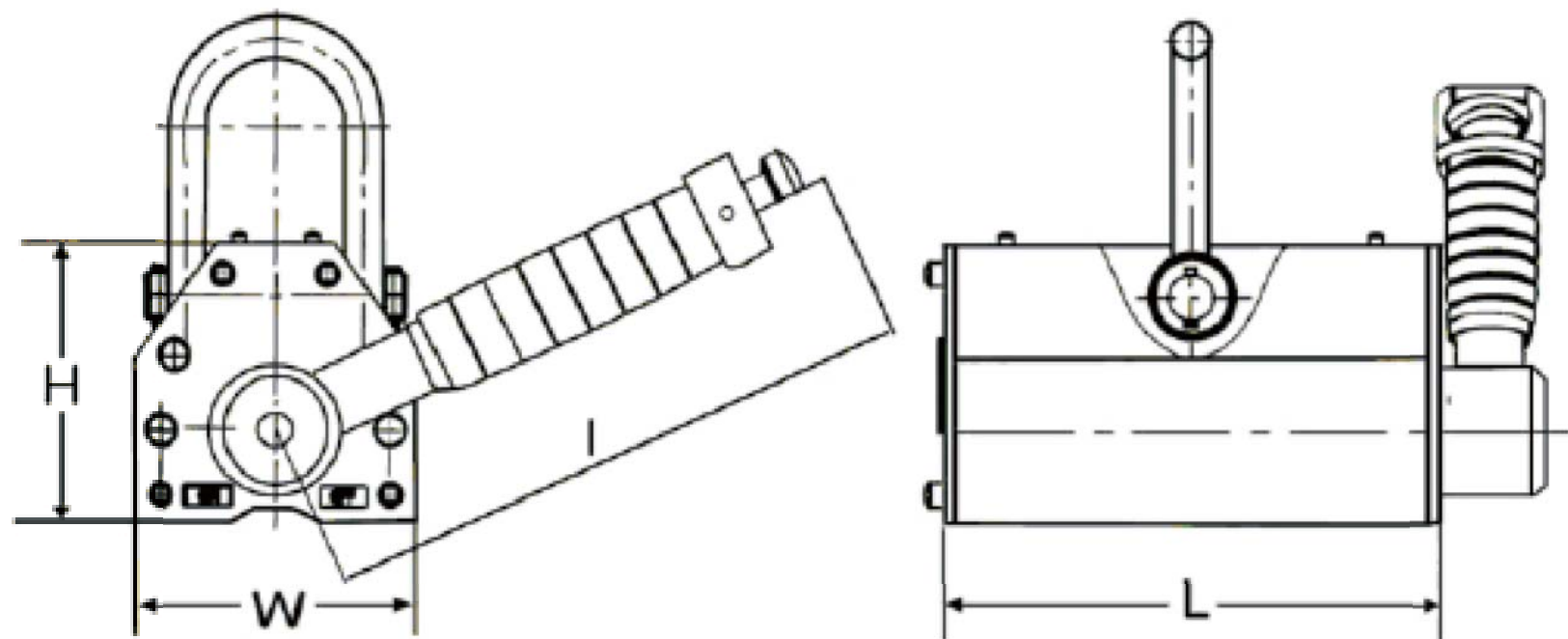
mainly used to fasten or hold iron workpieces during lifting or handling operation.  
It is able to hold the iron plate and cylindrical steel durably and firmly during moving, which is widely used as hoist devices in factories.

Model PML permanent magnetic lifter has  
strong magnetic circuit produced by NdFeB magnetic materials.  
It is easy and safe for operation, convenient for carrying and efficient for use.



You can also scan here

### Specification



check more information about liter at our official website [www.strong-magnets.pl](http://www.strong-magnets.pl)

| Model  | Rated Capacity<br>(plate)<br>kg | Cylindrical<br>Capacity<br>kg | Max Pull-off<br>Strength<br>kg | Max Working<br>Temperature<br>°C | L<br>mm | W<br>mm | H<br>mm | I<br>mm | Net<br>Weight<br>kg |
|--------|---------------------------------|-------------------------------|--------------------------------|----------------------------------|---------|---------|---------|---------|---------------------|
| PML-1  | 100                             | 30                            | 300                            | 80                               | 92      | 64      | 70      | 142     | 3                   |
| PML-2  | 200                             | 60                            | 600                            | 80                               | 114     | 72      | 86      | 142     | 5                   |
| PML-3  | 300                             | 100                           | 900                            | 80                               | 165     | 88      | 96      | 176     | 10                  |
| PML-5  | 500                             | 150                           | 1500                           | 80                               | 210     | 92      | 96      | 208     | 12.5                |
| PML-6  | 600                             | 200                           | 1800                           | 80                               | 216     | 118     | 120     | 219     | 20                  |
| PML-10 | 1000                            | 300                           | 3000                           | 80                               | 264     | 148     | 140     | 266     | 37                  |
| PML-15 | 1500                            | 500                           | 4500                           | 80                               | 308     | 172     | 168     | 285     | 62                  |
| PML-20 | 2000                            | 600                           | 6000                           | 80                               | 397     | 172     | 168     | 380     | 80                  |
| PML-30 | 3000                            | 1000                          | 9000                           | 80                               | 443     | 226     | 217     | 512     | 160                 |
| PML-50 | 5000                            | 1500                          | 15000                          | 80                               | 582     | 290     | 265     | 627     | 320                 |
| PML-60 | 6000                            | 2000                          | 18000                          | 80                               | 713     | 290     | 265     | 707     | 398                 |

Dimension is albe to be customized

- **Rated Capacity (Plate)**  
safety range of holding strength on plate metals
- **Cylindrical Capacity**  
safety range of holding strength on cylindrical metals
- **Max Pull-off Strength,**  
Max pull-off strength for lifter (safety factor), typical safety factor is 3:1, 3.5:1  
(Max pull-off strength : Rated Capacity (plate))
- **Max working temperature**  
restricted by the features of Neodymium magnets

Magnetic  
Assemblies  
&  
Equipment

Lifting  
Magnets

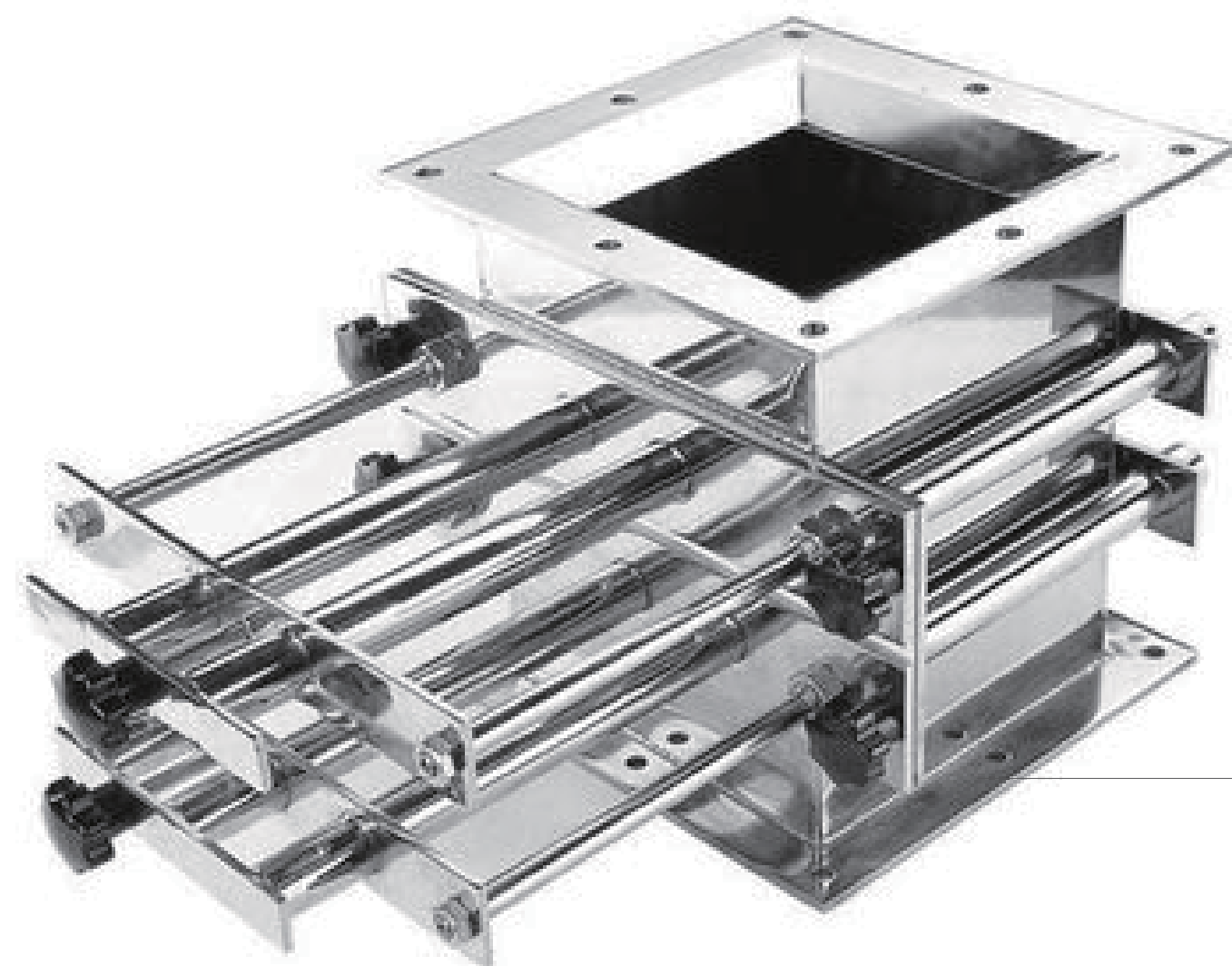




magnetic bar



magnetic grid



magnetic drawer



magnetic plate



separator for mineral

Magnetic  
Assemblies  
&  
Equipment

Magnetic  
Separator

check more information about separator at our official website [www.strong-magnets.pl](http://www.strong-magnets.pl)

you can also scan here



## Magnetic Separator

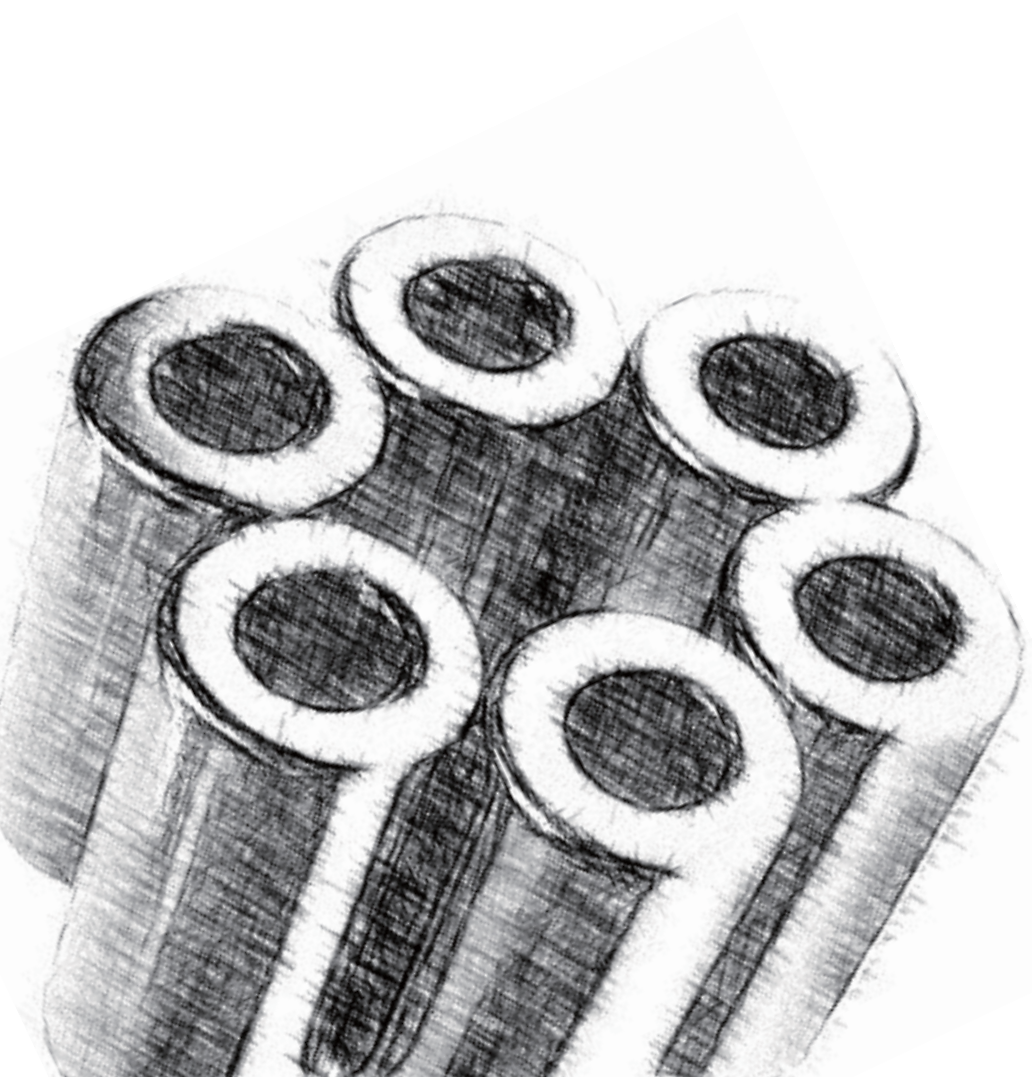
we supply the magnetic separator under the range from simple construction to high gradient one, which covers the wide application in ceramics, hemicals, pharmacy, food, plastic, rubber, dyestuff, mining, environmental protection, and etc.

**Simple construction Iron Separator: magnetic bar, grid, plate, drawer**  
**Magnetic Separator for Mineral**  
**High Gradient Separator**





SOLUTION OF MAGNETIC



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