Magnetic properties of magnets

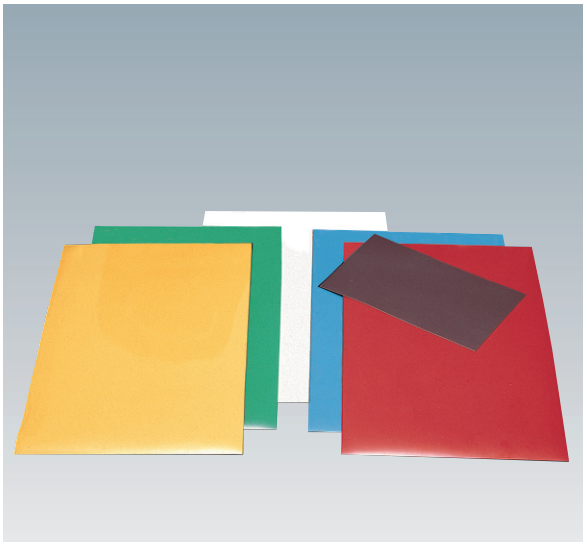
Various types of magnetic materials are available. Many kinds including isotropic and anisotropic ferrites, rare earth magnets, rubber magnet sheets, colored magnet sheets, etc. are available in various sizes.
※The table of main characteristics for comparison.

Kinds of Permanent Magnet	Residual Magnetic Flux Density (Br) T(G)	Holding Power (BHC) kA/m(Oe)
Anisotropic ferrite	0.36—0.42 (3600—4200)	239—271 (3000—3400)
Rare earth magnet samarium-cobalt	0.98—1.06 (9800—10600)	477—637 (6000—8000)
Rare earth magnet neodymium	1.0—1.33 (10000—13300)	836—995 (10500—12500)
Alnico magnet	1.28—1.35 (12800—13500)	52—58 (650—726)

■Rubber magnet sheet

Kinds of Permanent Magnet	Residual Magnetic Flux Density(Br) T(G)	Holding Power (BHC) kA/m(Oe)
Anisotropic	0.22—0.23 (2250—2350)	159—174 (2000—2180)
Isotropic	0.14—0.15 (1400—1550)	100—111 (1250—1400)

No.1 RUBBER MAGNET SHEET



●Flexible rubber magnet sheets having excellent magnetic properties.

[mm(in)]

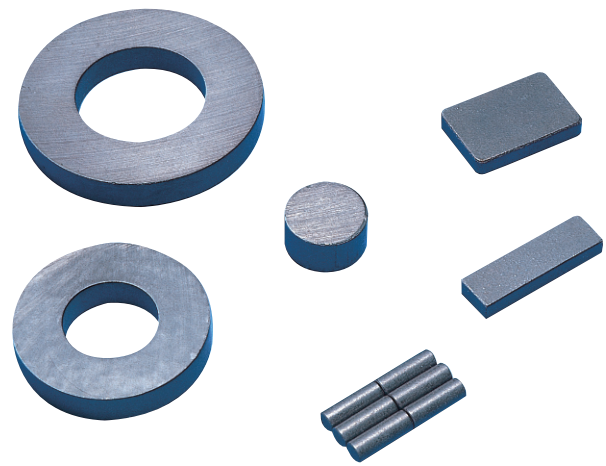
Type		Thickness	Width	Length
Solid color				
Anisotropic	①	0.8(0.031)	100(3.93)	1000(39.3)
	①	1.0(0.039)	100(3.93)	1000(39.3)
	①	1.0(0.039)	200(7.87)	1000(39.3)
	①	1.2(0.047)	200(7.87)	1000(39.3)
	①	1.5(0.059)	200(7.87)	1000(39.3)
	①	1.6(0.063)	100(3.93)	1000(39.3)
	①	2.0(0.078)	100(3.93)	1000(39.3)
	①	2.0(0.078)	200(7.87)	1000(39.3)
	①	3.0(0.118)	100(3.93)	1000(39.3)
	①	3.0(0.118)	200(7.87)	1000(39.3)
	①	2.5(0.098)	200(7.87)	1000(39.3)
	①	3.5(0.137)	200(7.87)	1000(39.3)
	①	4.0(0.157)	200(7.87)	1000(39.3)
	①	3.0(0.118)	20(0.78)	1000(39.3)
	④	5.0(0.197)	61(2.40)	950(37.4)
	④	10.0(0.393)	30(1.18)	1000(39.3)

[mm(in)]

Type		Thickness	Width	Length
Solid color				
Isotropic	②	0.8(0.031)	1000(39.3)	1000(39.3)
	②	1.0(0.039)	1000(39.3)	1000(39.3)
	③	2.0(0.078)	10(0.39)	1000(39.3)
	③	3.0(0.118)	15(0.59)	1000(39.3)
	③	4.0(0.157)	8(0.31)	1000(39.3)
	③	5.0(0.197)	15(0.59)	1000(39.3)
Colored sheets (white, red, yellow, green, blue)				
Isotropic	②	0.8(0.031)	300(11.8)	400S(15.7)
Colored sheets (white, red, yellow, green, blue, orange)				
Isotropic	②	0.8(0.031)	100(3.93)	300S(11.8)
	②	0.8(0.031)	200(7.87)	300S(11.8)
	②	0.8(0.031)	300(11.8)	300S(11.8)
	②	0.8(0.031)	1000(39.3)	1000S(39.3)
Colored sheets (white only)				
Isotropic	②	0.8(0.031)	100(3.93)	300D(11.8)
	②	0.8(0.031)	200(7.87)	300D(11.8)
	②	0.8(0.031)	1000(39.3)	1000D(39.3)

※① : Anisotropic one face multi poles (a lot of N·S on one face only by anisotropic)
※② : Isotropic one face multi poles (a lot of N·S on one face only by Isotropic)
※③ : Isotropic one face 2 poles (N·S on one face only by Isotropic)
※④ : Anisotropic magnetized on both faces (magnetized in the direction of thickness)
※"S" refers to non-lustrous sheets and "D" refers to lustrous sheets.
※Colored sheets have been cut to specific sizes.

No.2 FERRITE MAGNET (ROUND/RECTANGULAR)



●Anisotropic: Ferrite magnets having significantly higher magnetic property than isotropic magnets. In addition to dry types, a wet anisotropic magnet having a particularly high magnetic flux density is also available (made to order).

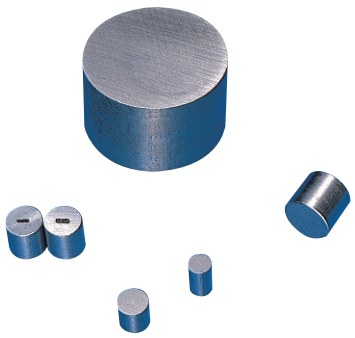
■Anisotropic

[mm(in)]

Shape	Diameter	Thickness	Shape	Size	Thickness
Round (incl. ring)	φ15(0.59)	4.0(0.15)	Rectangular	20(0.78)× 15(0.59)	4.0(0.15)
	φ20(0.78)	4.0(0.15)		20(0.78)× 15(0.59)	7.0(0.27)
	φ27(1.06)×φ17(0.66)	3.0(0.11)		40(1.57)× 25(0.98)	10.0(0.39)
	φ30(1.18)	5.0(0.19)		40(1.57)× 10(0.39)	7.0(0.27)
	φ30(1.18)	8.0(0.31)		40(1.57)× 40(1.57)	10.0(0.39)
	φ100(3.93)×φ60(2.36)	15.0(0.59)		100(3.93)×100(3.93)	10.0(0.39)

※Even if a magnet of a size listed above is to be ordered, a certain quantity of such magnets may in some cases need to be ordered at a time.

No.3 ALNICO MAGNET (ROUND)



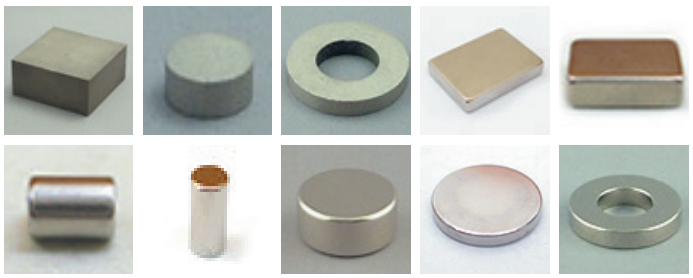
●Cast magnets consisting mainly of iron, aluminum, nickel and cobalt (Fe, Al, Ni, Co). These magnets feature a larger residual magnetic flux density and magnetic stability against changes in temperature.

[mm(in)]

Size (Diameter×Length)					
ϕ 3(0.11)× 8(0.31)	ϕ 3(0.11)× 9(0.35)	ϕ 3(0.11)×12(0.47)	ϕ 3(0.11)×20(0.78)	ϕ 3(0.11)× 22(0.86)	
ϕ 4(0.15)×10(0.39)					
ϕ 5(0.19)× 8(0.31)	ϕ 5(0.19)×10(0.39)	ϕ 5(0.19)×15(0.59)	ϕ 5(0.19)×20(0.78)	ϕ 5(0.19)× 25(0.98)	ϕ 5(0.19)× 60(2.36)
ϕ 6(0.23)× 8(0.31)	ϕ 6(0.23)×12(0.47)	ϕ 6(0.23)×15(0.59)	ϕ 6(0.23)×20(0.78)	ϕ 6(0.23)× 25(0.98)	ϕ 6(0.23)× 60(2.36)
ϕ 8(0.31)×10(0.39)	ϕ 8(0.31)×16(0.62)	ϕ 8(0.31)×50(1.96)			
ϕ10(0.39)×10(0.39)	ϕ10(0.39)×15(0.59)	ϕ10(0.39)×30(1.18)	ϕ10(0.39)×50(1.96)	ϕ10(0.39)×100(3.93)	ϕ10(0.39)×140(5.51)
ϕ13(0.51)×10(0.39)	ϕ13(0.51)×12(0.47)				
ϕ14(0.55)×10(0.39)					
ϕ15(0.59)×70(2.75)					
ϕ20(0.78)×15(0.59)					
ϕ25(0.98)×15(0.59)	ϕ25(0.98)×20(0.78)				

※Sizes not listed above are special sizes.

No.4 RARE EARTH MAGNET (RECTANGULAR/ROUND)



●Very small yet strong magnetic force.

●The samarium-cobalt type having high thermal stability and corrosion resistance and the neodymium type having the highest magnetic force and strong mechanical strength and less susceptible to cracking are available.

As other sizes (not shown) are available, please contact us with your requirements.

Rectangular

[mm(in)]

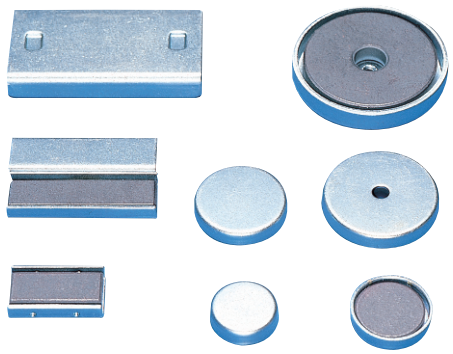
Samarium-Cobalt		Neodymium			
Size	Thickness	Size	Thickness	Size	Thickness
45(1.77)× 25(0.98)	10 (0.39)	12(0.47)× 7(0.27)	4(0.15)	20(0.78)×15(0.59)	5(0.19)
		20(0.78)×12(0.47)	5(0.19)	30(1.18)×30(1.18)	10(0.39)

Round

[mm(in)]

Samarium-Cobalt			Neodymium			
Size (Diameter×Length)			Size (Diameter×Length)			
ϕ 2(0.07)×2 (0.07)	ϕ 2.5(0.09)×3(0.11)		ϕ 2(0.07)× 2(0.07)	ϕ 2(0.07)×3(0.11)		
ϕ 3(0.11)×1.5(0.05)	ϕ 3 (0.11)×2(0.07)	ϕ 3(0.11)× 3(0.11)	ϕ 3(0.11)× 2(0.07)	ϕ 3(0.11)×3(0.11)	ϕ 3(0.11)×10(0.39)	
ϕ 4(0.15)×2 (0.07)	ϕ 4 (0.15)×3(0.11)	ϕ 4(0.15)× 4(0.15)	ϕ 4(0.15)× 2(0.07)			
ϕ 5(0.19)×3 (0.11)	ϕ 5 (0.19)×5(0.19)		ϕ 5(0.19)× 3(0.11)	ϕ 5(0.19)×5(0.19)		
ϕ 6(0.23)×2 (0.07)	ϕ 6 (0.23)×3(0.11)	ϕ 6(0.23)× 4(0.15)	ϕ 6(0.23)× 2(0.07)	ϕ 6(0.23)×3(0.11)	ϕ 6(0.23)× 5(0.19)	
ϕ 7(0.27)×3 (0.11)						
ϕ 8(0.31)×3 (0.11)	ϕ 8 (0.31)×4(0.15)		ϕ 8(0.31)× 3(0.11)	ϕ 8(0.31)×4(0.15)	ϕ 8(0.31)× 5(0.19)	ϕ8(0.31)×8(0.31)
ϕ10(0.39)×3 (0.11)	ϕ10 (0.39)×5(0.19)	ϕ10(0.39)×10(0.39)	ϕ10(0.39)× 3(0.11)	ϕ10(0.39)×5(0.19)	ϕ10(0.39)×10(0.39)	
ϕ12(0.47)×5 (0.19)			ϕ14(0.55)×10(0.39)			
ϕ15(0.59)×5 (0.19)			ϕ15(0.59)× 5(0.19)			
ϕ20(0.78)×3 (0.11)	ϕ20 (0.78)×5(0.19)		ϕ20(0.78)× 5(0.19)			
			ϕ22(0.86)×10(0.39)			

No.5 SIMPLE MAGNETIC HOLDER



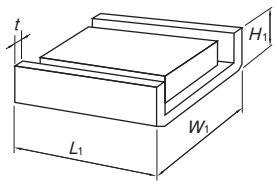
Simple holders consisting of an isotropic ferrite permanent magnet covered by an iron yoke. Dimensionally, the finishing accuracy is not good and these holders are not recommended for incorporation in jigs/fixtures. These holders are recommended for the purpose of attraction only by themselves at low cost.

Round

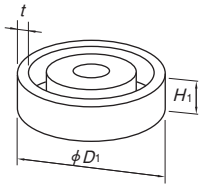
[mm(in)]

Model	Yoke Dimensions			Magnet Dimensions	Magnet Type	Remarks
	D_1	H_1	t			
KM-FC2	ϕ18 (0.70)	5 (0.19)	0.8 (0.03)	ϕ15(0.59)×4(0.15)	Isotropic	
KM-FC4	ϕ24 (0.94)		0.55(0.02)	ϕ20(0.78)×4(0.15)		
KM-FC5	ϕ31.6(1.24)	4.7(0.18)	0.8 (0.03)	ϕ28(1.10)×ϕ5.5(0.21)×3.5(0.13)		ϕ4.3 hole provided
KM-FC6	ϕ36 (1.41)	7 (0.27)	1.6 (0.06)	ϕ30(1.18)×5(0.19)		
KM-FC7	ϕ44 (1.73)	8 (0.31)		ϕ38(1.49)×ϕ9(0.35)×5.7(0.22)	Anisotropic	M4 tapped hole provided
KM-FC8	ϕ86 (3.38)	10 (0.39)	2.3 (0.09)	ϕ80(3.15)×ϕ40(1.57)×8(0.31)	Isotropic	ϕ6 hole provided

Rectangular



Round



Rectangular

[mm(in)]

Model	Yoke Dimensions				Magnet Dimensions	Magnet Type	Remarks
	L_1	W_1	H_1	t			
KM-FK3	20(0.78)	34(1.33)	7(0.27)	1.6(0.06)	20(0.78)×30(1.18)×5(0.19)	Isotropic	
KM-FK5	55(2.16)	30(1.18)	8(0.31)	1.5(0.05)	49(1.92)×24(0.94)×6(0.23)		