

BB Automacao
<http://www.bbautomacao.com>

BB Automacao SmCo Magnets

Samarium Cobalt Magnets

© 2004, ChenYang-Engineering ISM

All rights reserved. No part of this catalogue may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright holder.

General Information



SmCo magnets (Samarium Cobalt) have also a very strong magnetic field. They tend to resist demagnetization extremely well. Unlike Neodymium magnets, it is also very corrosion resistant. SmCo magnets can operate at higher temperatures up to 300°C and are widely used in applications in which higher operating temperature and higher corrosion and oxidation resistance are crucial. The temperature coefficient of remanence is usually less than $\pm 0.05\%$.

Two common compositions of SmCo magnets are SmCo_5 and $\text{Sm}_2\text{Co}_{17}$. They can be sintered and bonded. Generally, the cost of SmCo magnets is higher than NdFeB magnets. But NdFeB magnets are stronger than SmCo magnets.

Material Information

- An alloy composed of $\text{SmCo}_5/\text{Sm}_2\text{Co}_{17}$ produced by powder metallurgical method
- Extremely hard & brittle
- High demagnetization resistance
- Excellent anti-corrosion properties
- More expensive than NdFeB magnets because of limited raw material supply
- Outstanding thermal stability

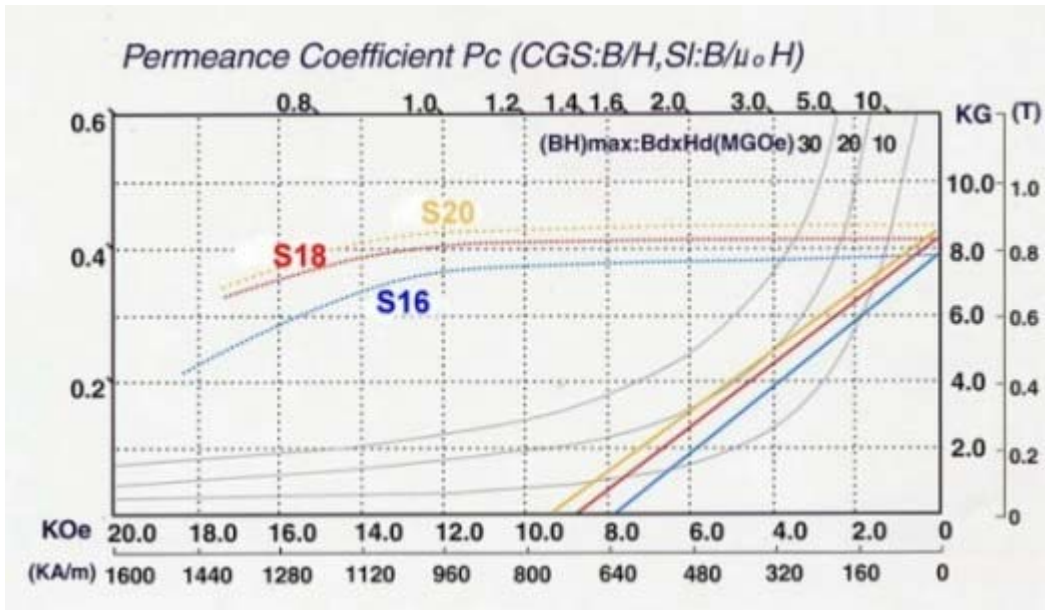
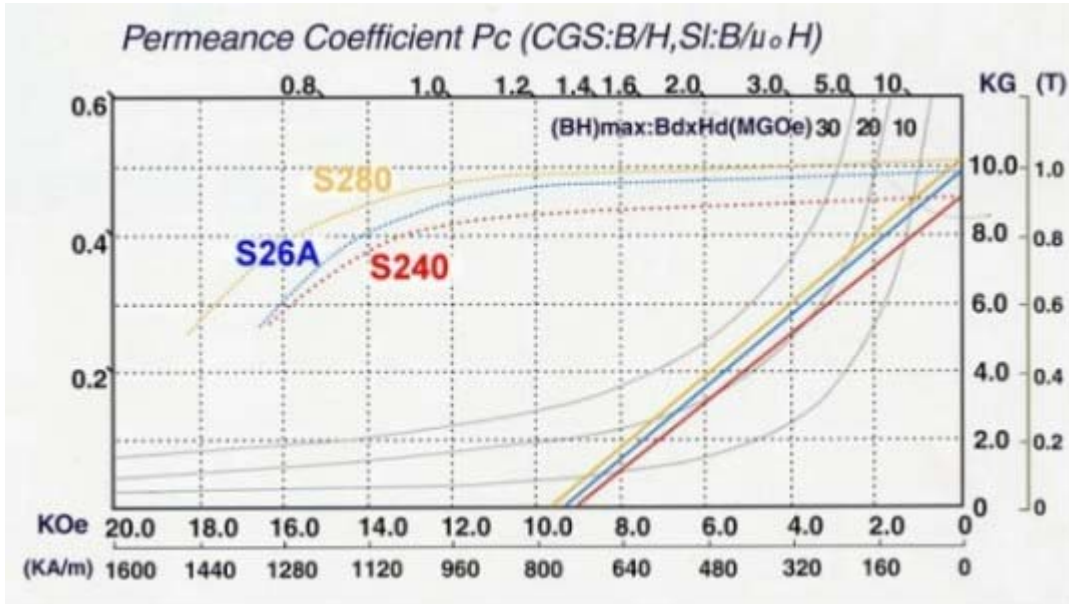
Typical Physical Properties

Curie Temperature (°C)	700-800
Maximum Operating Temperature (°C)	350
Resistivity (μ ohm.cm)	50-90
Hardness (Hv)	450-600
Density (g/cm^3)	8.0-8.5
Relative Recoil Permeability (μ_{rec})	1.10
Saturation Field Strength, kOe (kA/m)	37.5 (3000)
Temperature Coefficient of Br (%/°C)	-0.05 ~ -0.03
Temperature Coefficient of iH_c (%/°C)	-0.25 ~ -0.19

Magnetic Properties of SmCo Magnets (Samarium Cobalt)

Material	Grade	Remanence		Coercivity		Intrinsic Coercivity		Max. Energy Product	
		Br(mT)	Br(kGs)	bHc(kA/m)	bHc(kOe)	iHc (kA/m)	iHc (kOe)	(BH)max (KJ/m ³)	(BH)max (MGOe)
SmCo ₅	S16	750-800	7.5-8.0	557-637	7.0-8.0	1989	25	111-143	14-18
	S18	800-930	8.0-9.3	597-677	7.5-8.5	1432	18	127-159	16-20
	S20	850-980	8.5-9.8	597-677	7.5-8.5	1273	16	143-175	18-22
	S24	1000	10.0	680	8.5	1195	15	175-190	22-24
Sm ₂ Co ₁₇	S180	900-1030	9.0-10.3	597-677	7.5-8.5	1194	15	127-159	16-20
	S22A	900-1030	9.0-10.3	613-693	7.7-8.7	1989	25	159-191	20-24
	S22B	900-1030	9.0-10.3	613-693	7.7-8.7	1432	18	159-191	20-24
	S240	980-1080	9.8-10.8	636-716	8.0-9.0	1432	18	175-207	22-26
	S26A	1000-1130	10.0-11.3	676-756	8.5-9.5	1194	15	191-223	24-28
	S26B	1000-1130	10.0-11.3	676-756	8.5-9.5	796	10	191-223	24-28
	S280	1030-1130	10.3-11.3	716-796	9.0-10.0	1432	18	207-239	26-30
	S270	1000-1100	10.0-11.0	357-516	4.5-6.5	413	5.2	183-223	24-28
	S300	1100-1200	11.0-12.0	438-517	5.5-6.5	454	5.7	223-255	28-32

Typical Demagnetization Curves of SmCo Magnets (Samarium Cobalt Magnets)



Dimension Range / Nominal Tolerance

Ring Magnet	Outer Diameter (mm)	Inner Diameter (mm)	Thickness (mm)
Maximum	100	80	50
Minimum	2.6	1.8	0.5
Tolerance	±0.1	±0.1	±0.1

Block Magnet	Length (mm)	Width (mm)	Thickness (mm)
Maximum	100	80	50
Minimum	2.0	1.5	0.5
Tolerance	±0.1	±0.1	±0.1

Disc Magnet	Diameter (mm)	Thickness (mm)
Maximum	100	50
Minimum	1.2	0.5
Tolerance	±0.1	±0.1

Segment & other irregular shapes can be manufactured according to customer's sample or blue print

BB Automacao supplies various kinds of sintered Samarium Cobalt (SmCo) magnets in specific sizes and shapes according to the customers' requirements. It allows also its customers to customize characteristics of their magnets. The shapes can be discs, rings, blocks, slabs, cylinders, tiles and other specific shapes.



Price List of Sintered SmCo Magnets

The following tables show some available standard block, Disc and Ring magnets. The prices are listed for the material grade S240. They are the average prices. The prices of any other material grade can be more or less than those. The variation is, however, within $\pm 50\%$. For exact prices of magnets with other material grades please contact us.

SmCo Block magnets

Standard magnetization: height (H) direction
Possible magnetization: length (L) and width (W) direction

Ref. No.	Dimensions(mm) L x W x H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2B08-001	3 x 2 x 2	S240	0.15	0.13	0.11	0.10
M2B08-002	3 x 3 x 2	S240	0.21	0.18	0.16	0.14
M2B08-003	4 x 1 x 1	S240	0.11	0.09	0.08	0.07
M2B08-004	4 x 2 x 1.5	S240	0.15	0.13	0.11	0.10
M2B08-005	4 x 2 x 2	S240	0.17	0.15	0.13	0.11
M2B08-006	4 x 3 x 1	S240	0.15	0.13	0.11	0.10
M2B08-007	4 x 3 x 2	S240	0.23	0.20	0.17	0.15
M2B08-008	5 x 2 x 2	S240	0.19	0.17	0.14	0.13
M2B08-009	5 x 3 x 2	S240	0.24	0.21	0.18	0.16
M2B08-010	5 x 4 x 1	S240	0.17	0.15	0.13	0.11
M2B08-011	5 x 4 x 1.5	S240	0.25	0.22	0.19	0.17
M2B08-012	5 x 4 x 2	S240	0.30	0.26	0.23	0.20
M2B08-013	5 x 5 x 1.5	S240	0.30	0.26	0.22	0.20
M2B08-014	5 x 5 x 2	S240	0.34	0.30	0.26	0.23
M2B08-015	5 x 5 x 3	S240	0.49	0.42	0.37	0.32
M2B08-016	6 x 2 x 2	S240	0.20	0.17	0.15	0.13
M2B08-017	6 x 3 x 2	S240	0.27	0.24	0.21	0.18
M2B08-018	6 x 4 x 2	S240	0.34	0.30	0.26	0.23
M2B08-019	6 x 5 x 2	S240	0.42	0.36	0.32	0.28
M2B08-020	7 x 3 x 2	S240	0.27	0.24	0.21	0.18
M2B08-021	7 x 5 x 2	S240	0.43	0.37	0.33	0.28
M2B08-022	7 x 6 x 2	S240	0.51	0.44	0.38	0.33
M2B08-023	8 x 2 x 2	S240	0.23	0.20	0.18	0.15
M2B08-024	8 x 4 x 2	S240	0.38	0.33	0.28	0.25
M2B08-025	8 x 5 x 2	S240	0.45	0.39	0.34	0.29
M2B08-026	8 x 8 x 2	S240	0.66	0.58	0.50	0.44
M2B08-027	10 x 4 x 1.5	S240	0.36	0.31	0.27	0.24
M2B08-028	10 x 4 x 2	S240	0.42	0.36	0.31	0.27
M2B08-029	10 x 5 x 2	S240	0.46	0.40	0.35	0.30
M2B08-030	10 x 5 x 3	S240	0.61	0.53	0.46	0.40
M2B08-031	10 x 5 x 4	S240	0.72	0.63	0.54	0.47
M2B08-032	10 x 6 x 5	S240	1.02	0.88	0.77	0.67
M2B08-033	10 x 10 x 10	S240	3.04	2.65	2.30	2.00

Ref. No.	Dimensions(mm) L x W x H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2B08-034	12 x 4 x 2	S240	0.41	0.36	0.31	0.27
M2B08-035	12 x 6 x 2.5	S240	0.70	0.61	0.53	0.46
M2B08-036	12 x 8 x 3	S240	1.05	0.91	0.79	0.69
M2B08-037	12 x 10 x 5	S240	1.98	1.72	1.49	1.30
M2B08-038	15 x 5 x 2	S240	0.59	0.52	0.45	0.39
M2B08-039	15 x 8 x 2	S240	0.90	0.79	0.68	0.59
M2B08-040	15 x 8 x 4	S240	1.52	1.32	1.15	1.00
M2B08-041	15 x 10 x 2	S240	1.10	0.96	0.83	0.73
M2B08-042	15 x 10 x 4	S240	1.87	1.63	1.41	1.23
M2B08-043	15 x 10 x 5	S240	2.27	1.97	1.71	1.49
M2B08-044	20 x 5 x 2	S240	0.73	0.63	0.54	0.47
M2B08-045	20 x 5 x 4	S240	1.26	1.08	0.93	0.81
M2B08-046	20 x 10 x 2	S240	1.38	1.19	1.03	0.89
M2B08-047	20 x 10 x 5	S240	2.85	2.45	2.12	1.84
M2B08-048	20 x 15 x 5	S240	3.87	3.34	2.88	2.50
M2B08-049	20 x 15 x 10	S240	7.66	6.60	5.69	4.95
M2B08-050	20 x 20 x 20	S240	19.19	16.54	14.26	12.40
M2B08-051	25 x 5 x 2	S240	0.90	0.77	0.67	0.58
M2B08-052	25 x 5 x 4	S240	1.54	1.33	1.15	1.00
M2B08-053	25 x 10 x 4	S240	2.85	2.46	2.12	1.84
M2B08-054	25 x 10 x 8	S240	5.21	4.49	3.87	3.37
M2B08-055	25 x 10 x 10	S240	6.33	5.45	4.70	4.09
M2B08-056	25 x 12 x 3	S240	2.70	2.33	2.01	1.74
M2B08-057	25 x 15 x 2	S240	2.44	2.11	1.82	1.58
M2B08-058	25 x 15 x 5	S240	4.97	4.29	3.70	3.21
M2B08-059	25 x 20 x 8	S240	10.02	8.64	7.45	6.48
M2B08-060	30 x 5 x 2	S240	1.06	0.92	0.79	0.69
M2B08-061	30 x 8 x 5	S240	3.25	2.80	2.41	2.10
M2B08-062	30 x 10 x 4	S240	3.37	2.91	2.51	2.18
M2B08-063	30 x 10 x 5	S240	4.06	3.50	3.01	2.62
M2B08-064	30 x 12 x 4	S240	4.01	3.46	2.98	2.59
M2B08-065	30 x 12 x 6	S240	5.66	4.88	4.21	3.66
M2B08-066	30 x 15 x 5	S240	5.89	5.08	4.38	3.81
M2B08-067	30 x 15 x 8	S240	9.01	7.77	6.70	5.82
M2B08-068	30 x 20 x 5	S240	7.78	6.70	5.78	5.03
M2B08-069	30 x 20 x 10	S240	14.43	12.44	10.72	9.32
M2B08-070	30 x 25 x 5	S240	8.58	7.40	6.38	5.54
M2B08-071	35 x 5 x 2	S240	1.23	1.06	0.91	0.80
M2B08-072	35 x 8 x 2	S240	1.87	1.61	1.39	1.21
M2B08-073	35 x 10 x 2	S240	2.29	1.97	1.70	1.48
M2B08-074	35 x 15 x 4	S240	5.66	4.88	4.21	3.66
M2B08-075	35 x 20 x 5	S240	8.96	7.72	6.66	5.79
M2B08-076	40 x 5 x 2	S240	1.40	1.21	1.04	0.91
M2B08-077	40 x 10 x 4	S240	4.43	3.82	3.29	2.86
M2B08-078	40 x 10 x 5	S240	5.32	4.58	3.95	3.44

Ref. No.	Dimensions(mm) L x W x H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2B08-079	40 x 15 x 5	S240	7.78	6.70	5.78	5.03
M2B08-080	40 x 15 x 8	S240	11.72	10.10	8.71	7.57
M2B08-081	40 x 25 x 5	S240	11.80	10.17	8.77	7.62
M2B08-082	40 x 20 x 8	S240	14.40	12.42	10.70	9.31
M2B08-083	50 x 10 x 5	S240	6.02	5.19	4.52	3.93
M2B08-084	50 x 15 x 5	S240	8.70	7.50	6.53	5.67
M2B08-085	50 x 20 x 5	S240	11.43	9.85	8.57	7.45
M2B08-086	50 x 30 x 5	S240	16.66	14.36	12.49	10.86
M2B08-087	60 x 10 x 2	S240	4.38	3.77	3.28	2.85
M2B08-088	60 x 15 x 4	S240	8.57	7.39	6.43	5.59
M2B08-089	60 x 20 x 5	S240	13.63	11.75	10.22	8.88
M2B08-090	70 x 10 x 3	S240	7.03	6.06	5.27	4.58
M2B08-091	70 x 15 x 4	S240	9.98	8.60	7.48	6.51
M2B08-092	75 x 20 x 5	S240	17.23	14.86	12.92	11.23
M2B08-093	75 x 25 x 5	S240	21.19	18.27	15.88	13.81
M2B08-094	75 x 40 x 5	S240	33.41	28.80	25.04	21.78
M2B08-095	80 x 10 x 4	S240	7.83	6.75	5.87	5.10
M2B08-096	80 x 20 x 5	S240	18.20	15.69	13.64	11.86
M2B08-097	90 x 15 x 5	S240	15.74	13.57	11.80	10.26
M2B08-098	90 x 25 x 5	S240	25.15	21.68	18.85	16.39
M2B08-099	100 x 20 x 5	S240	22.64	19.52	16.97	14.76
M2B08-100	100 x 45 x 5	S240	49.15	42.37	36.84	32.04

The prices are FOB prices Munich/Germany and not inclusive freight fee

Minimum order in value: EURO 100.00

SmCo Disc and Cylinder Magnets

Standard magnetization: height (H) direction
Possible magnetization: diameter (D) direction

Ref. No.	Dimensions (mm) Ø D × H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2D08-001	Ø 1.5 x 2	S240	0.13	0.12	0.10	0.09
M2D08-002	Ø 1.5 x 3	S240	0.15	0.13	0.12	0.10
M2D08-003	Ø 1.5 x 5	S240	0.30	0.26	0.23	0.20
M2D08-004	Ø 1.5 x 10	S240	0.57	0.49	0.43	0.37
M2D08-005	Ø 2 x 1.5	S240	0.13	0.12	0.10	0.09
M2D08-006	Ø 2 x 2	S240	0.15	0.13	0.12	0.10
M2D08-007	Ø 2 x 3	S240	0.19	0.17	0.15	0.13
M2D08-008	Ø 2 x 4	S240	0.25	0.21	0.19	0.16
M2D08-009	Ø 2 x 5	S240	0.28	0.24	0.21	0.18
M2D08-010	Ø 2 x 10	S240	0.55	0.48	0.41	0.36
M2D08-011	Ø 3 x 1	S240	0.15	0.13	0.12	0.10
M2D08-012	Ø 3 x 2	S240	0.24	0.21	0.18	0.16
M2D08-013	Ø 3 x 4	S240	0.37	0.32	0.28	0.24
M2D08-014	Ø 3 x 5	S240	0.43	0.38	0.33	0.29
M2D08-015	Ø 3 x 8.5	S240	0.74	0.64	0.56	0.49
M2D08-016	Ø 3 x 10	S240	0.84	0.73	0.64	0.56
M2D08-017	Ø 3 x 15	S240	1.25	1.09	0.95	0.83
M2D08-018	Ø 4 x 2	S240	0.32	0.28	0.24	0.21
M2D08-019	Ø 4 x 5	S240	0.65	0.56	0.49	0.43
M2D08-020	Ø 4 x 8	S240	0.87	0.76	0.66	0.57
M2D08-021	Ø 4 x 10	S240	0.96	0.83	0.72	0.63
M2D08-022	Ø 4 x 15	S240	1.30	1.13	0.98	0.86
M2D08-023	Ø 4 x 20	S240	1.69	1.47	1.28	1.11
M2D08-024	Ø 4 x 30	S240	2.54	2.21	1.92	1.67
M2D08-025	Ø 5 x 2	S240	0.36	0.31	0.27	0.24
M2D08-026	Ø 5 x 5	S240	0.66	0.57	0.50	0.43
M2D08-027	Ø 5 x 10	S240	1.14	0.99	0.86	0.75
M2D08-028	Ø 5 x 15	S240	1.48	1.29	1.12	0.97
M2D08-029	Ø 5 x 20	S240	1.87	1.63	1.42	1.23
M2D08-030	Ø 5 x 25	S240	2.60	2.26	1.97	1.71
M2D08-031	Ø 5 x 30	S240	4.60	4.00	3.48	3.02
M2D08-032	Ø 6 x 2	S240	0.32	0.28	0.25	0.21
M2D08-033	Ø 6 x 4	S240	0.61	0.53	0.46	0.40
M2D08-034	Ø 6 x 5	S240	0.72	0.63	0.55	0.48
M2D08-035	Ø 6 x 10	S240	1.18	1.03	0.89	0.78
M2D08-036	Ø 6 x 20	S240	2.27	1.97	1.71	1.49
M2D08-037	Ø 6 x 30	S240	3.24	2.81	2.45	2.13
M2D08-038	Ø 7 x 2	S240	0.37	0.32	0.28	0.25
M2D08-039	Ø 7 x 5	S240	0.81	0.71	0.62	0.54
M2D08-040	Ø 7 x 10	S240	1.54	1.34	1.17	1.02

Ref. No.	Dimensions (mm) Ø D × H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2D08-041	Ø 7 × 20	S240	2.74	2.38	2.07	1.80
M2D08-042	Ø 7 × 30	S240	3.90	3.39	2.95	2.56
M2D08-043	Ø 8 × 2	S240	0.43	0.38	0.33	0.28
M2D08-044	Ø 8 × 5	S240	0.96	0.82	0.71	0.62
M2D08-045	Ø 8 × 10	S240	1.80	1.55	1.34	1.16
M2D08-046	Ø 8 × 20	S240	3.26	2.81	2.43	2.11
M2D08-047	Ø 8 × 40	S240	6.41	5.53	4.77	4.14
M2D08-048	Ø 10 × 2	S240	0.61	0.52	0.45	0.39
M2D08-049	Ø 10 × 5	S240	1.24	1.07	0.92	0.80
M2D08-050	Ø 10 × 10	S240	2.48	2.14	1.84	1.60
M2D08-051	Ø 10 × 20	S240	4.41	3.80	3.27	2.85
M2D08-052	Ø 10 × 30	S240	6.65	5.73	4.94	4.30
M2D08-053	Ø 10 × 50	S240	10.82	9.32	8.04	6.99
M2D08-054	Ø 12 × 2	S240	0.82	0.70	0.61	0.53
M2D08-055	Ø 12 × 5	S240	1.69	1.46	1.26	1.09
M2D08-056	Ø 12 × 10	S240	3.15	2.71	2.34	2.03
M2D08-057	Ø 12 × 15	S240	4.69	4.05	3.49	3.03
M2D08-058	Ø 12 × 20	S240	6.09	5.25	4.52	3.93
M2D08-059	Ø 12 × 30	S240	9.10	7.84	6.76	5.88
M2D08-060	Ø 12 × 50	S240	14.67	12.64	10.90	9.48
M2D08-061	Ø 15 × 2	S240	1.28	1.10	0.95	0.83
M2D08-062	Ø 15 × 5	S240	2.74	2.37	2.04	1.77
M2D08-063	Ø 15 × 10	S240	5.17	4.46	3.84	3.34
M2D08-064	Ø 15 × 25	S240	11.55	9.96	8.59	7.47
M2D08-065	Ø 15 × 50	S240	21.37	18.42	15.88	13.81
M2D08-066	Ø 20 × 2	S240	2.16	1.86	1.61	1.40
M2D08-067	Ø 20 × 5	S240	4.43	3.82	3.29	2.87
M2D08-068	Ø 20 × 8	S240	6.70	5.77	4.98	4.33
M2D08-069	Ø 20 × 10	S240	8.28	7.14	6.15	5.35
M2D08-070	Ø 20 × 15	S240	11.98	10.33	8.90	7.74
M2D08-071	Ø 20 × 25	S240	20.36	17.55	15.13	13.16
M2D08-072	Ø 20 × 30	S240	24.00	20.69	17.84	15.51
M2D08-073	Ø 25 × 2	S240	3.32	2.87	2.47	2.15
M2D08-074	Ø 25 × 5	S240	6.75	5.82	5.02	4.37
M2D08-075	Ø 25 × 8	S240	10.29	8.87	7.65	6.65
M2D08-076	Ø 25 × 10	S240	12.56	10.83	9.33	8.12
M2D08-077	Ø 25 × 15	S240	18.25	15.74	13.57	11.80
M2D08-078	Ø 25 × 20	S240	24.16	20.83	17.96	15.62
M2D08-079	Ø 30 × 2	S240	4.69	4.05	3.49	3.03
M2D08-080	Ø 30 × 5	S240	9.49	8.18	7.06	6.14
M2D08-081	Ø 30 × 8	S240	14.46	12.46	10.74	9.34
M2D08-082	Ø 30 × 10	S240	17.72	15.28	13.17	11.45
M2D08-083	Ø 30 × 15	S240	21.45	18.49	19.13	16.64
M2D08-084	Ø 30 × 20	S240	28.36	24.45	25.29	21.99
M2D08-085	Ø 35 × 2	S240	5.91	5.09	4.43	3.85

Ref. No.	Dimensions (mm) Ø D × H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2D08-086	Ø 35 × 5	S240	12.06	10.40	9.04	7.86
M2D08-087	Ø 35 × 10	S240	22.35	19.27	16.76	14.57
M2D08-088	Ø 40 × 2	S240	7.73	6.66	5.79	5.04
M2D08-089	Ø 40 × 5	S240	15.71	13.54	11.77	10.24
M2D08-090	Ø 40 × 8	S240	23.73	20.46	17.79	15.47
M2D08-091	Ø 45 × 2	S240	9.75	8.40	7.31	6.35
M2D08-092	Ø 45 × 5	S240	19.84	17.11	14.88	12.94
M2D08-093	Ø 45 × 8	S240	29.98	25.85	22.48	19.54
M2D08-094	Ø 50 × 2	S240	12.06	10.40	9.04	7.86
M2D08-095	Ø 50 × 3	S240	16.15	13.92	12.11	10.53
M2D08-096	Ø 50 × 5	S240	24.47	21.10	18.34	15.95
M2D08-097	Ø 70 × 2	S240	23.24	20.04	17.42	15.15
M2D08-098	Ø 70 × 5	S240	47.86	41.26	35.87	31.19
M2D08-099	Ø 75 × 3	S240	27.03	23.30	20.26	17.62
M2D08-100	Ø 75 × 5	S240	55.64	47.96	41.71	36.27

The prices are FOB prices Munich/Germany and not inclusive freight fee

Minimum order in value: EURO 100.00

SmCo Ring Magnets

Standard magnetization: height (H) direction

Possible magnetization: diameter direction

Ref. No.	Dimensions (mm) D _o , D _i × H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2R08-001	Ø 5, ø 2 × 3	S240	0.58	0.52	0.45	0.39
M2R08-002	Ø 6, ø 3 × 2	S240	0.45	0.40	0.35	0.31
M2R08-003	Ø 8, ø 3 × 2	S240	0.53	0.47	0.41	0.36
M2R08-004	Ø 8, ø 4 × 3	S240	0.65	0.59	0.51	0.44
M2R08-005	Ø 8, ø 4 × 5	S240	1.03	0.92	0.80	0.70
M2R08-006	Ø 8, ø 5 × 3	S240	0.63	0.56	0.49	0.43
M2R08-007	Ø 8, ø 5 × 5	S240	0.98	0.88	0.77	0.67
M2R08-008	Ø 10, ø 3 × 2	S240	0.91	0.81	0.71	0.62
M2R08-009	Ø 10, ø 4 × 2	S240	0.85	0.77	0.67	0.58
M2R08-010	Ø 10, ø 5 × 3	S240	1.21	1.08	0.94	0.82
M2R08-011	Ø 10, ø 5 × 5	S240	1.86	1.67	1.45	1.26
M2R08-012	Ø 10, ø 6 × 4	S240	1.46	1.31	1.14	0.99
M2R08-013	Ø 15, ø 5 × 3	S240	1.81	1.62	1.41	1.23
M2R08-014	Ø 15, ø 5 × 5	S240	2.87	2.57	2.24	1.94
M2R08-015	Ø 15, ø 8 × 3	S240	1.71	1.53	1.33	1.16
M2R08-016	Ø 15, ø 8 × 5	S240	2.36	2.12	1.84	1.60
M2R08-017	Ø 15, ø 8 × 10	S240	4.57	4.10	3.57	3.10
M2R08-018	Ø 18, ø 4 × 3	S240	2.61	2.34	2.04	1.77
M2R08-019	Ø 18, ø 4 × 5	S240	4.22	3.79	3.29	2.87
M2R08-020	Ø 18, ø 5 × 2	S240	2.01	1.81	1.57	1.37
M2R08-021	Ø 18, ø 5 × 5	S240	4.22	3.79	3.29	2.87
M2R08-022	Ø 18, ø 10 × 4	S240	3.37	3.02	2.63	2.28
M2R08-023	Ø 20, ø 5 × 3	S240	3.25	2.71	2.35	2.05
M2R08-024	Ø 20, ø 8 × 5	S240	5.25	4.56	3.80	3.31
M2R08-025	Ø 20, ø 10 × 4	S240	4.11	3.58	2.98	2.59
M2R08-026	Ø 20, ø 10 × 5	S240	5.14	4.47	3.73	3.24
M2R08-027	Ø 20, ø 10 × 8	S240	7.95	6.91	5.76	5.01
M2R08-028	Ø 25, ø 5 × 3	S240	5.19	4.52	3.76	3.27
M2R08-029	Ø 25, ø 8 × 5	S240	8.01	6.96	5.80	5.05
M2R08-030	Ø 25, ø 10 × 4	S240	6.49	5.65	4.71	4.09
M2R08-031	Ø 25, ø 10 × 5	S240	7.85	6.82	5.69	4.94
M2R08-032	Ø 25, ø 15 × 5	S240	6.67	5.80	4.83	4.20
M2R08-033	Ø 25, ø 15 × 10	S240	12.52	10.89	9.07	7.89
M2R08-034	Ø 30, ø 10 × 5	S240	11.20	9.74	8.11	7.06
M2R08-035	Ø 30, ø 10 × 10	S240	20.94	18.21	15.17	13.19
M2R08-036	Ø 30, ø 15 × 5	S240	10.55	9.17	7.65	6.65
M2R08-037	Ø 30, ø 15 × 8	S240	16.07	13.97	11.64	10.13
M2R08-038	Ø 40, ø 10 × 5	S240	20.12	17.50	14.58	12.68
M2R08-039	Ø 40, ø 10 × 10	S240	36.90	32.09	26.74	23.25
M2R08-040	Ø 40, ø 20 × 5	S240	18.29	15.90	13.25	11.52
M2R08-041	Ø 40, ø 20 × 10	S240	33.65	29.26	24.38	21.20

Ref. No.	Dimensions (mm) D _o , D _i × H	Material Grade	Unit Price (EUR/pc)			
			5-49pcs	50-199pcs	200-999pcs	1k-2kpcs
M2R08-042	Ø 50, ø 20 × 5	S240	26.89	23.38	20.15	17.53
M2R08-043	Ø 50, ø 20 × 10	S240	49.33	42.90	36.98	32.16
M2R08-044	Ø 50, ø 30 × 5	S240	22.65	19.69	16.98	14.76
M2R08-045	Ø 50, ø 30 × 10	S240	42.59	37.04	31.93	27.76
M2R08-046	Ø 60, ø 20 × 5	S240	37.32	32.45	27.98	24.33
M2R08-047	Ø 60, ø 20 × 8	S240	56.62	49.24	42.44	36.91
M2R08-048	Ø 60, ø 25 × 5	S240	35.85	31.17	26.87	23.37
M2R08-049	Ø 60, ø 35 × 5	S240	31.61	27.49	23.69	20.60
M2R08-050	Ø 60, ø 40 × 5	S240	24.72	21.49	18.53	16.11
M2R08-051	Ø 70, ø 40 × 5	S240	42.10	36.61	31.56	27.44
M2R08-052	Ø 70, ø 45 × 5	S240	38.80	33.74	29.09	25.29
M2R08-053	Ø 80, ø 70 × 3	S240	21.07	18.33	15.80	13.74
M2R08-054	Ø 80, ø 50 × 5	S240	50.22	43.67	37.65	32.74

The prices are FOB prices Munich/Germany and not inclusive freight fee (VAT only in Germany)

Minimum order in value: EURO 100.00

The prices will be further reduced if quantity is more than 2000pcs.