

## Samarium Cobalt - Sintered

version June 2015

Material	Grade	Remanence Br (mT)		Normal coercivity Hcb (kA/m)		Intrinsic coercivity HcJ (kA/m)	Energy density (BH)max KJ/m <sup>3</sup>		Max. operating temp.	Temp Coeff. Br	Temp Coeff. Hcj
		min	max	min	max	min - max	min	max	°C	%/°C	%/°C
SmCo5	YX-16s	790	840	620	660	≥1.830	118	135	250	-0.035	-0.28
	YX-18s	840	890	660	700	≥1.830	135	151	250	-0.040	-0.28
	YX-20s	890	930	684	732	≥1.830	150	167	250	-0.045	-0.28
	YX-22s	920	960	710	756	≥1.830	167	183	250	-0.045	-0.28
	YX-24s	960	1.000	740	788	≥1.830	183	199	250	-0.045	-0.28
SmCo5 of low Temp. Coeff. (SmGd)Co5	LTc(YX-10)	620	660	485	517	≥1.830	75	88	20-100 100-200 200-300	+0,0156 +0,0087 +0,0007	
Sm Co2:17 Sm2 (CoFeCuZr)17	YX-12	700	740	358	390	358-478	80	103	200		
	YXG-24H	950	1.020	692	764	≥1.990	175	191	350	-0.025	-0.20
	YXG-26H	1.020	1.050	748	796	≥1.990	191	207	350	-0.030	-0.20
	YXG-28H	1.030	1.080	756	812	≥1.990	207	220	350	-0.035	-0.20
	YXG-30H	1.080	1.100	788	835	≥1.990	220	240	350	-0.035	-0.20
	YXG-32H	1.100	1.130	812	860	≥1.990	230	255	350	-0.035	-0.20
	YXG-22	930	907	676	740	≥1.433	160	183	300	-0.020	-0.20
	YXG-24	950	1.020	692	764	≥1.433	175	191	300	-0.025	-0.20
	YXG-26	1.020	1.050	748	796	≥1.433	191	207	300	-0.030	-0.20
	YXG-28	1.030	1.080	756	812	≥1.433	207	220	300	-0.035	-0.20
	YXG-30	1.080	1.100	788	835	≥1.433	220	240	300	-0.035	-0.20
	YXG-32	1.100	1.130	812	860	≥1.433	230	255	300	-0.035	-0.20
	YXG-26M	1.020	1.050	676	780	955-1.433	191	207	300	-0.035	-0.20
	YXG-28M	1.030	1.080	676	796	955-1.433	207	220	300	-0.035	-0.20
	YXG-30M	1.080	1.100	676	835	955-1.433	220	240	300	-0.035	-0.20
	YXG-32M	1.100	1.130	676	852	955-1.433	230	255	300	-0.035	-0.20
	YXG-24L	950	1.020	541	716	636-955	175	191	250	-0.025	-0.20
	YXG-26L	1.020	1.050	541	748	636-955	191	207	250	-0.035	-0.20
	YXG-28L	1.030	1.080	541	764	636-955	207	220	250	-0.035	-0.20
YXG-30L	1.080	1.150	541	796	636-955	220	240	250	-0.035	-0.20	
YXG-32L	1.100	1.150	541	812	636-955	230	255	250	-0.035	-0.20	
Sm2Co17 of low Temp. Coeff. (SmEr)2 (CoTm)17	LTC(YXG-22)	940	980	668	716	≥1.433	167		-25-25 20-100 100-200 200-300	+0,005 -0,008 -0,008 -0,011	

### Physical properties at room temperature (20°C)

Temp.Coeff. of Br:	See above	Temp.Coeff. of iHc:	See above
Density:	8,3-8,4g/cm <sup>3</sup>	Electrical resistivity:	5-9 x 10 <sup>-5</sup> Ω cm
Vickers Hardness:	450-600Hv	Flexural Strength:	150-180 Mpa
Tensile strength:	350-400 Mpa	Coeff. Of Thermal Expansion	4 x 10 <sup>-6</sup> /°C
Specific heat:		Thermal Conductivity:	
Young's Modulus:		Rigidity:	
Poisson's Ratio:		Compressibility:	800-1000 Mpa
Curie Temperature:	700-800°C		

### The maximum operating temperature

see above

#### Important notice:

Dimensions and shape of the magnet, in combination with required manufacturing processes, may cause the magnetic and physical characteristics to vary from typical values. Therefore, all data presented in this document are for general reference only and should not be relied upon to represent standard characteristics, nor are they guaranteed upon use. Bakker Magnetics reserves the right to change information in this document, including magnet performance standards, specifications, and characteristics without notice.