Sintered SmCo Magnet Magnetic Properties Standard (Customized)

Material	Grade	Br Remanence Br		Hcb Coercivity Force		Hcj Intrinsic Coercivity		(BH)max Max. Magnetic Energy Product		Tc Curie Temperature	Tw Max. Operating Temperature	Temperature Coefficient of Br α(Br)	Temperature Coefficient of Hcj β(Hcj)
		T	KGs	KA/m	KOe	KA/m	KOe	KJ/m^3	MGOe	℃	℃	%/℃	%/℃
SmCo$_5$(SmPr)	YX-16	0.81-0.85	8.1-8.5	620-660	7.8-8.3	1194-1830	15-23	110-127	14-16	750	250	-0.050	-0.30
	YX-18	0.85-0.90	8.5-9.0	660-700	8.3-8.8	1194-1830	15-23	127-143	16-18	750	250	-0.050	-0.30
	YX-20	0.90-0.94	9.0-9.4	676-725	8.5-9.1	1194-1830	15-23	150-167	19-21	750	250	-0.050	-0.30
	YX-22	0.92-0.96	9.2-9.6	710-748	8.9-9.4	1194-1830	15-23	160-175	20-22	750	250	-0.050	-0.30
	YX-24	0.96-1.00	9.6-10.0	730-770	9.2-9.7	1194-1830	15-23	175-190	22-24	750	250	-0.050	-0.30
Ce(CoFeCu)$_5$	YX-12	0.70-0.74	7.0-7.4	358-390	4.5-4.9	358-478	4.5-6	80-103	10-13	450	200		
Isotropic SmCo$_5$	TX 1:5	0.46-0.50	4.6-5.0			≥1433	≥18	40-52	5-6.5	750	250		
Isotropic Sm$_2$Co$_{17}$	TX 2:17	0.53-0.60	5.3-6.0			≥1433	≥18	52-64	6.5-8.0	800	300		

Calculation of Theoretical Values of Br and Hcj at High Temperature	The temperature coefficients of remanence Br and intrinsic coercivity Hcj are measured at 20°C to 150°C, only for reference.
	Theoretical calculation formula (T1 = room temperature (usually 20℃), T2=high temperature): Br@T2=Br@T1-[(T2-T1)*α(Br)*Br@T1] Hcj@T2=Hcj@T1-[(T2-T1)*β(Hcj)*Hcj@T1]
	Taking YX-16, Br=0.81T, Hcj=1200KA/m as an example, the theoretical value at 150℃ is calculated as follows: Br@150℃=0.81-[(150-20)*0.05%*0.81]=0.7573T Hcj@150℃=1200-[(150-20)*0.3%*1200]=732KA/m

Remark:

1）The above special properties can be customized upon request when customers have large quantities of orders.

2) There will be a slight test error during the magnetic performance test, but the error rate is less than 1%. Because the roughcast are not fully inspected, the performance indicators of all grades will have individual deviations. Take the YX-22 grade as an example, Br=9.2-9.6KGs (of which there may be less than 5% of the performance range between 9.15-9.64KGs).

3) The maximum working temperature has a lot to do with the specific working environment, load coil and other factors. Please consult our engineers for details.

4）With the improvement of technology, the performance index may be changed, please refer to the latest version of NGYC property sheet.