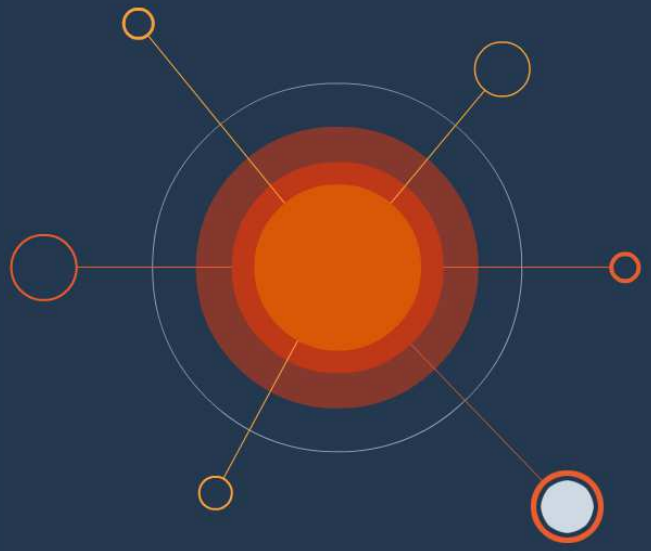
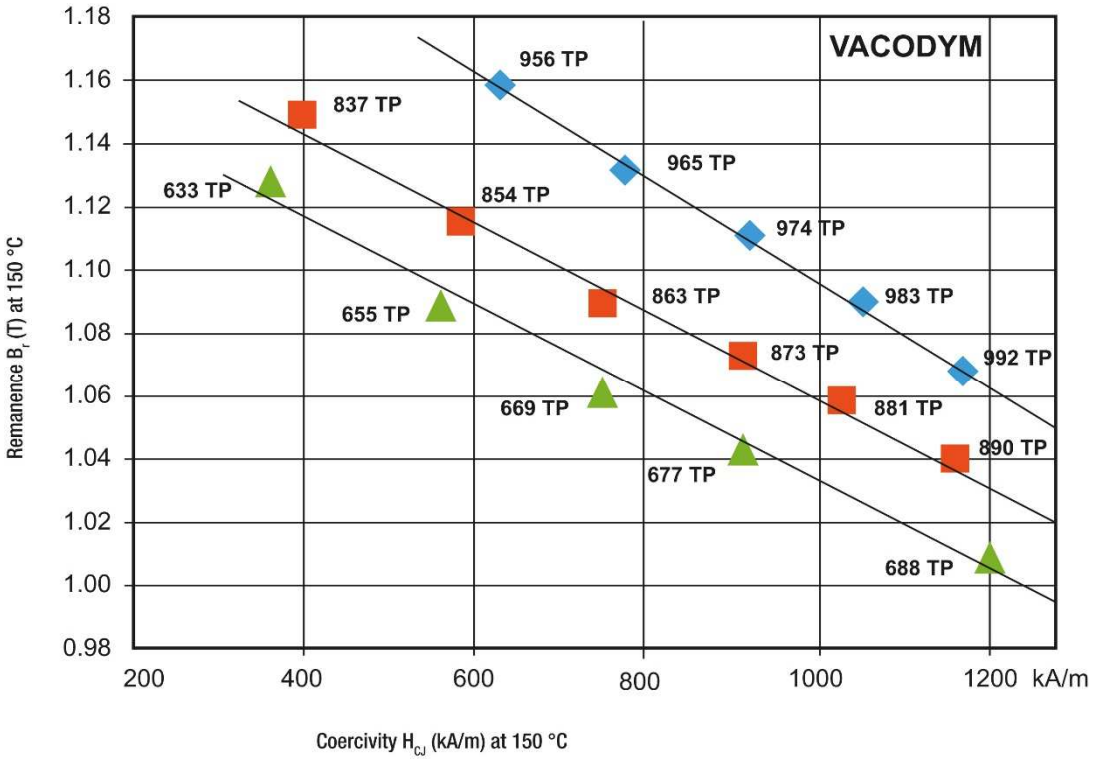


Current VACODYM VACOMAX Activities

VACUUMSCHMELZE

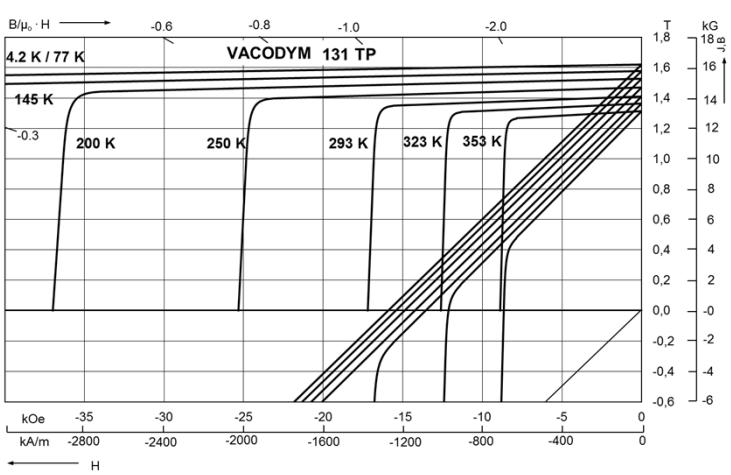
ADVANCED MATERIALS – THE KEY TO PROGRESS

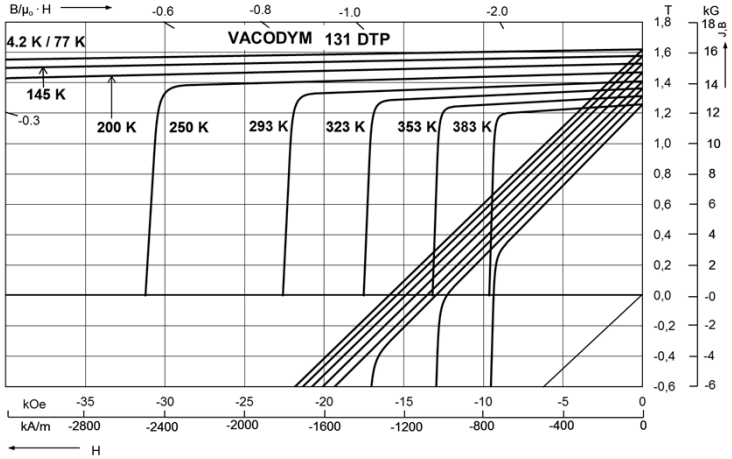
VACODYM 9XX – New series of material grade



1. Improvement of our VACODYM 8XX – Series:
   Higher coercitivity or higher remanence at higher temperatures
2. Available grades VACODYM 956/965/974/983 und 992 for both pressing methods AP and TP
3. Application temperature 160 °C – 240 °C

VACODYM 1XX – Low-temperature alloys

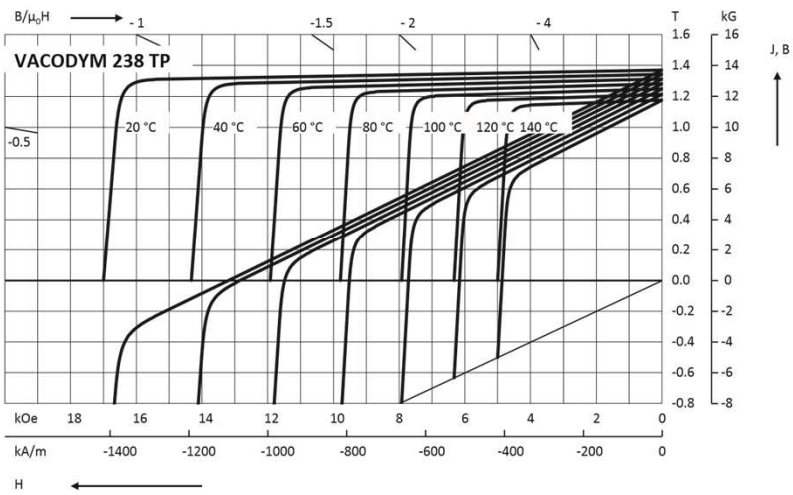


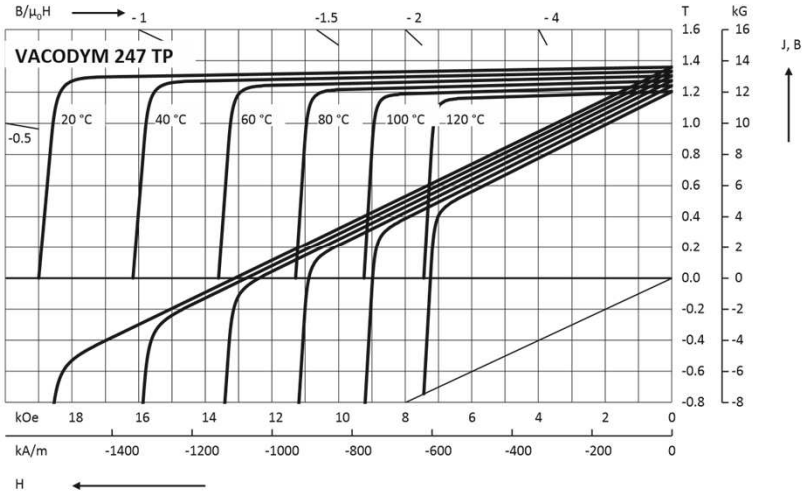


1. Normal VACODYM grades have spin-reorientation around 140 K
2. By standard VACODYM grades below 140K up to 25% reduction of energy density
3. VD 131 TP far below 70K no change in preferred magnetic axis direction

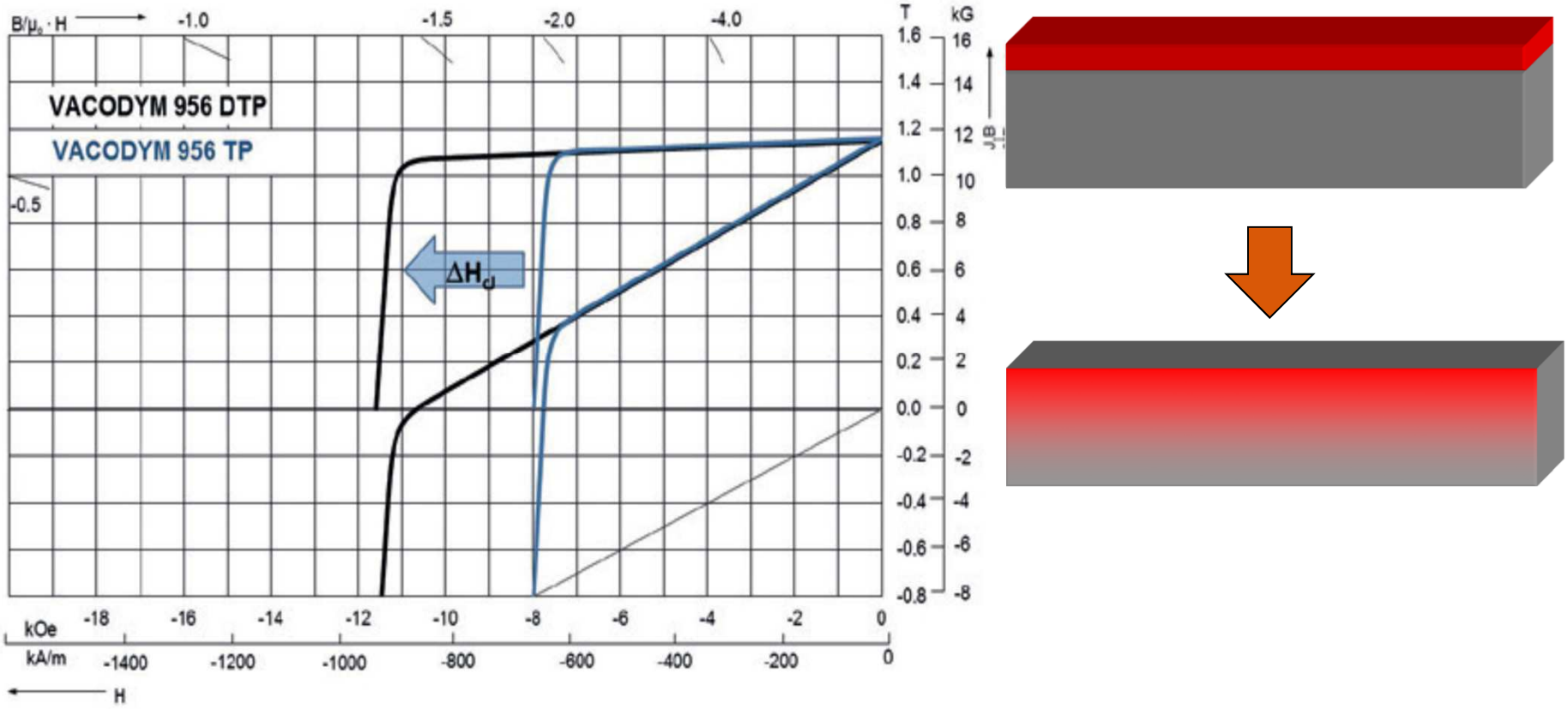
VACODYM 2XX – Dy-free material grades

1. **Free** of Rare-Earth-Metal **Dysprosium**
2. Advantage - reduced dependency of volatile heavy Rare-Earth-Metals
3. Available: VACODYM 238 und 247 as AP and TP material grade
4. Application for servo motors with application temperature up to 130 ° C



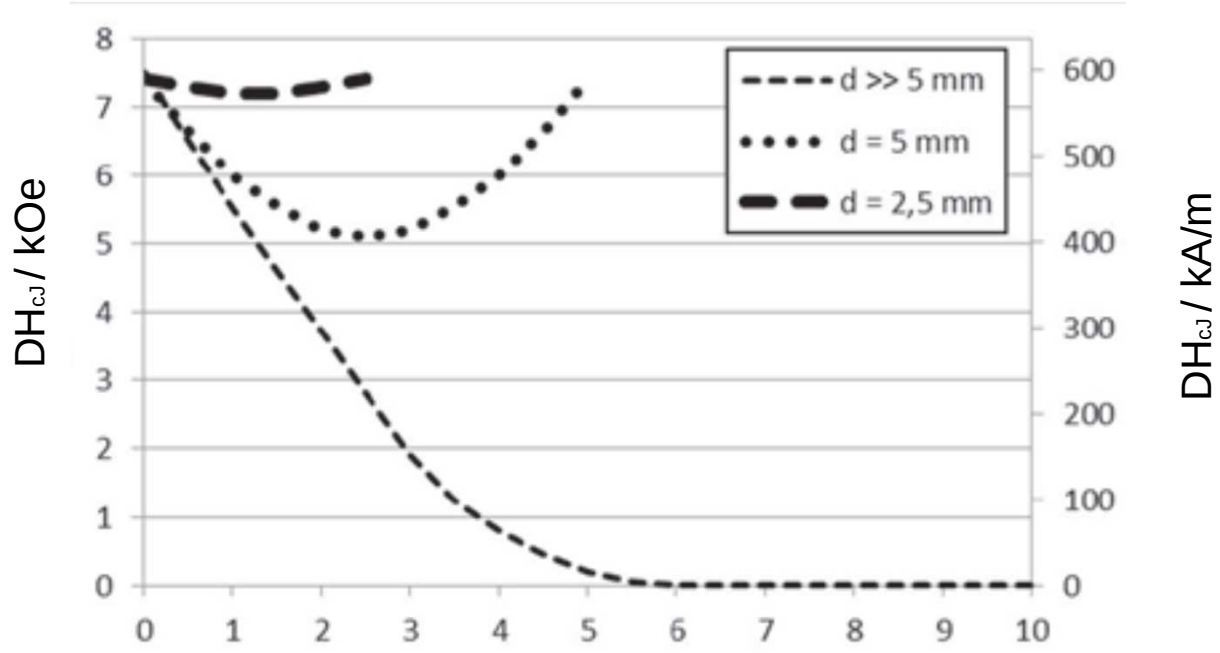


Grain Boundary Diffusion



Demagnetization curves of VACODYM 956 TP and VACODYM 956 DTP at 150 °C

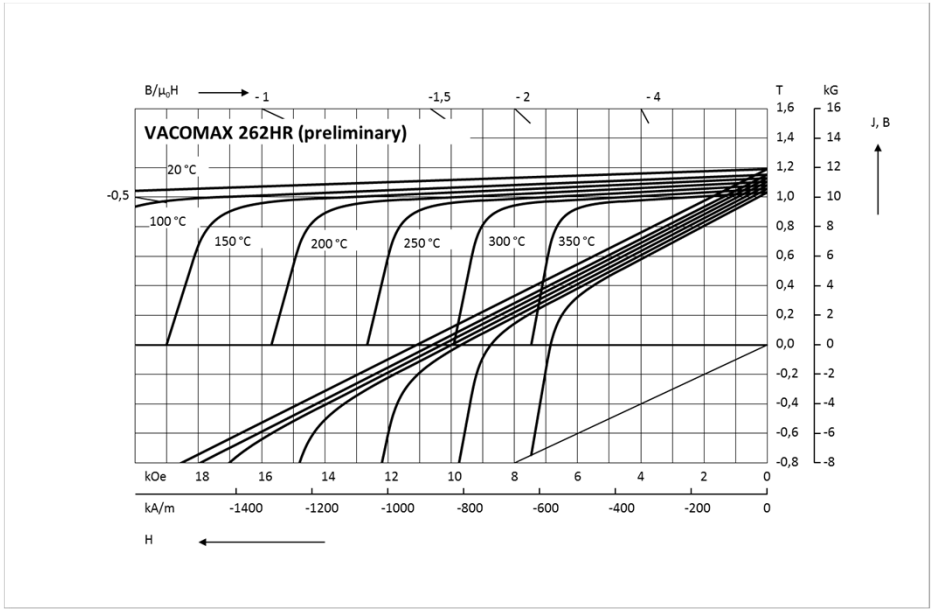
Grain Boundary Diffusion

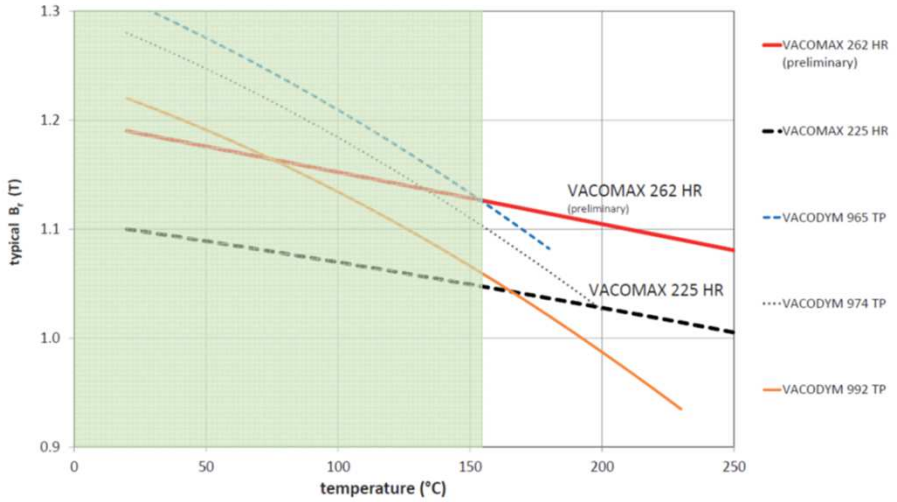


Characteristic dependency of the increase in coercivity ΔHcJ at room temperature with respect to the distance from the magnetic surface for magnets of different thicknesses d that are coated on both sides

VACOMAX 262 HR

Characteristic properties												
Material	Remanence		Coercivity			Energy density		temperature coeff.				T_{max}
								20 - 150°C		20 - 300°C		
	B_r	B_r	H_{cB}	H_{cB}	H_{cJ}	$(BH)_{max}$	$(BH)_{max}$	TK(B_r)	TK(HcJ)	TK(Br)	TK(HcJ)	T_{max}
	typ.	min.	typ.	min.	min.	typ.	min.	typ.	typ.	typ.	typ.	
	Tesla	Tesla	kA/m	kA/m	kA/m	kJ/m³	kJ/m³	%/°C	%/°C	%/°C	%/°C	°C
	kG	kG	kOe	kOe	kOe	MGOe	MGOe					°F
VACOMAX 262HR	1,19	1,15	11	10,6	22	33	30,5	-0,040	-0,265	-0,040	-0,235	350
243/175	11,9	11,5	875	844	1750	262	243					660





VACOMAX 262 HRP and future development targets