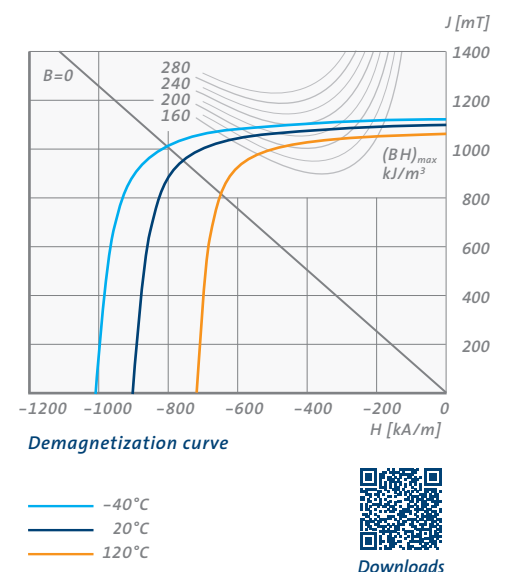
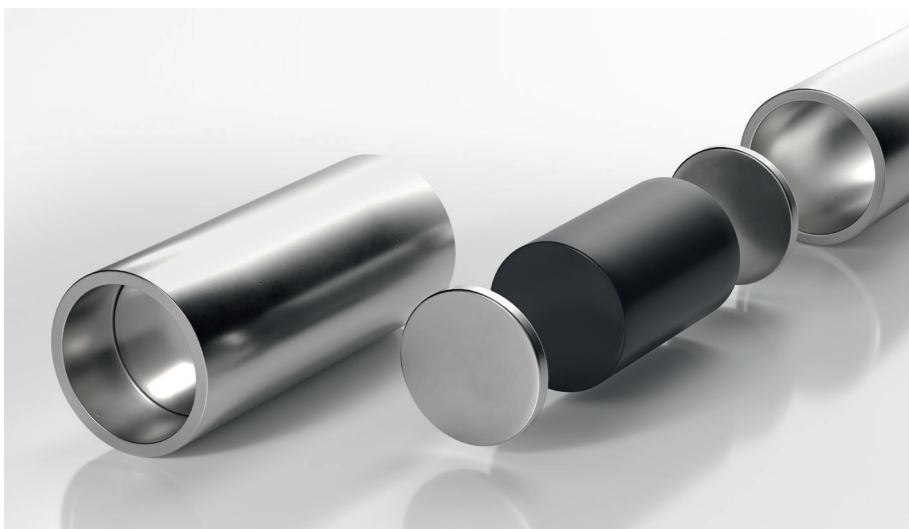


compact

Current Applications and Technologies with Permanent Magnets

Rotors for high-speed application (practical example)



Magnetic Properties	
Magnet material	Sm ₂ Co ₁₇
Magnetisation	diametral
Remanence B _r	1.1 T
Coercivity H _{cb}	650 kA/m
Intrinsic coercivity H _{ci}	900 kA/m
Max. energy product (BH) _{max}	230 kJ/m ³
Density ρ	8.4 g/cm ³
Max. operation temp. θ	300 °C
Magnetisation deviation α	< 5°

Mechanical Properties
• Sleeve and cover discs are made of high-strength, stable Inconel 718 ^[1] .
• Manufacturing tolerances are in the range of micrometres.
• Interference fit between sleeve and magnets = 50 µm ^[1]
• A thermal joining process is used.
• Maximum operating speed ^[1] n = 130,000 rpm

Applications
• Electric motors for automotive applications
• Electric motors for UAVs ^[2] and small airplanes
• Compressors in fuel cells
• Turbochargers in cars
• Medicine, e.g. dental drills, laboratory centrifuges

[1] Geometries, speeds and torques are possible over a wide range.
[2] Unmanned Aerial Vehicles

We'd be happy to work with you to develop your perfect magnet solution. Reaching our goals together. Put us to the test!

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