SCHRAMBERG
magnet and system solutions

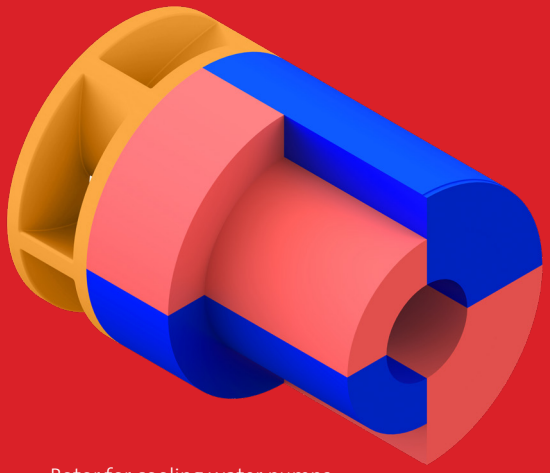
EFFICIENT USE OF RARE EARTH ELEMENTS IN ROTORS

OPTIMUM COMBINATION OF HARD FERRITE AND NEODYMIUM OR SAMARIUM

The growth of electric mobility and the expansion of wind energy have already led to greater demand for the rare earth material neodymium. This development will continue to intensify and rising prices will be the result. The increased power requirements for small drives and pumps, with simultaneous requirements such as miniaturization and weight reduction, necessitate the use of high-performance rare earth elements. That's why neodymium materials must be used as effectively as possible, i.e. with minimum use of materials. The use of samarium iron nitrite must also be pushed. Since the mining of neodymium also produces large quantities of samarium, the availability is higher than the demand. This means that a certain price stability can be expected for samarium for years to come. Material price fixing over project durations is therefore fundamentally conceivable.
Based on this assessment, we have developed a process that can minimize the use of materials through a targeted combination of hard ferrite materials with rare earth materials and optimally adapt the power density according to customer requirements. Depending on the operating temperature ranges and environmental conditions, we use neodymium iron boron or samarium iron nitrite in addition to the hard ferrite base material. In many cases, the magnetic yokes (iron core, laminated core) that are needed can also be replaced by the plastic-bonded hard ferrite magnets.

Industrial and building technology applications
- Circulation pumps in buildings
- Small drives

Applications in vehicles
- Cooling water pumps
- Small drives
- Seat adjustments
- Window regulators



Rotor for cooling water pumps

Benefits/Advantages
- Reduction or elimination of neodymium
- Elimination of laminated cores
- Weight reduction
- Increased power
- High output quantities due to production with multiple cavities
- Active balancing is also possible if required in series production

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BECAUSE OUR AREAS OF EXPERTISE ARE INTERLINKED

IDEAS TRANSFORM INTO A SUCCESS STORY FOR YOU

The requirements expected of permanent magnets and magnet assemblies are becoming ever more individual and, at the same time, ever more complex. We therefore take pleasure in casting light on the entire value-added chain: We are there beside you as a dependable partner, all the way from shared product development to on-schedule delivery. With our unique linked chain of areas of expertise, we can act as a specialist and as an all-rounder, depending on what is required, as a one-stop shop for high-quality processes. Together, we can transform a good idea into a genuine com-petitive advantage. After all, for you, the perfect amalgam of experience, expertise and technical implementation means, above all, one thing – efficiency. This creates results that firmly embed success in your products.

SOLUTION EXPERTISE

PROCESSING COMPETENCE

IMPLEMENTATION EXPERTISE

THE POWER OF THE WHOLE

MS-Schramberg has stood for solution expertise and quality for more than half a century. We are one of Europe's leading manufacturers of permanent magnets and assemblies. With around 500 employees, we develop and produce customer-specific articles in three plants in the Black Forest, which are used successfully by companies from a wide range of industries worldwide.

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