

# POWERFUL AND CUSTOMIZED ROTOR SOLUTIONS

## ENGINEERED BY MS-SCHRAMBERG

The company MS-Schramberg developed the efficient production process 'joint in bushing with shaft' and brought it to series-production readiness in response to customer requirements. In a single 'work step', i.e. in an apparently seamless sequence of operations, a ring magnet is pressed, joined in a bushing, fitted to a shaft or an axis and then heat-treated. Furthermore, through the use of modular automation of further working steps, it is also possible to optionally integrate into the production line the assembly of additional components, the laser welding required to produce dense components, the balancing of rotors with particular requirements in terms of operating characteristics as well as magnetization.

### Advantages/Benefits

- Reduced tolerance chain, often requiring no balancing
- Also suitable for very high rotational speeds
- Resistance to medium and a drinking water test certificate
- Sleeve wall thickness of just 0.2 mm approx.
- Cost-optimised by:
  - Material saving because thin-walled magnet geometries are possible
  - Short cycle times
  - Elimination of gluing
- Can operate at temperatures of up to 150 °C
- Metallic or ceramic axis variants
- Reduced eddy current losses through use of CRP or GRP

### Variety of applications

- Drinking water solutions with an official release (e.g. KTW)
- Encapsulated in stainless steel or overmolded with plastic
- Adhesive-free integration in the motor housing
- Versatile rotor solutions in aggressive media
- High-speed rotors operating at up to > 100,000 rpm
- Magnet joined directly to metal carrier (e.g. sensor magnets or drive solutions (rotors))

### What does „joint in bushing/Pot“ entail?

- NdFeB pw magnet joined in sleeve
- NdFeB pw magnet joined in metal carrier
- Additional mounting, e.g. of axle, covers and other assembly components is possible
- Additional balancing is possible
- Media seal integrity test is possible
- Sleeve made of stainless steel, titanium, CRP or GRP



Magnet press-fitted into motor housing

Stainless steel sleeve tightly overmolded

Stainless steel sleeve tightly welded

CRP-wrapped

# 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. Thanks to our expertise from design to production, which has always distinguished us, we provide top-quality processes from a single source – either as a specialist or an all-rounder. Together, we can transform a good idea into a genuine competitive 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 550 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.