

Permanent Magnet Technology

Magnet e Motion combines most innovative permanent magnet technology with expertise and market knowledge. This with the objective to create the most optimized magnetic solution for demanding applications in automotive, high-tech systems and medical.

High Tech Systems

The market of High Tech Systems, including motors and generators is continuously developing technical solutions which are more and more acting on the edge of technology. This also requires innovative magnetic technology which is able to follow these requirements. By intensive cooperation during the design phase, Magnet e Motion makes expertise available to the customers to develop the magnetic solution which is required for the application.

Automotive

There is a strong focus to develop cars being more environmental friendly, to reduce emission and to increase safety. Due to this the automotive market must be highly innovative with new technologies. Cleaner and more fuel saving engines, exhaust gas recycling, start-stop engines, hybrid, electric and self-driving cars are only few examples of developments in modern cars. Magnet e Motion can create the optimum magnet solution for a wide range of demanding applications in automotive.

Plastic Bonded NdFeB Magnets (MQ1)

Plastic Bonded NdFeB magnets are manufactured by binding nanocrystalline NdFeB powder with polymer binders. Different types of binders can be used depending on the requirements.



Compression moulding

After mixing the nanocrystalline NdFeB powder with a polymer binder the material is filled into a mould and pressed. Different magnet shapes can be produced with this technology. Several coating techniques are available.

Injection Moulding

This manufacturing technique is particular effective for larger volume production and more severe applications. As almost any shape can be obtained, this technique is especially suitable for complex shapes.

Overmoulding

Using this technique inserts can be overmoulded with magnetic material and/or technical plastic. Magnets can be combined with shaft, lamination stack or other functional elements.

Hot Formed NdFeB Magnets (MQ3)

Hot Formed NdFeB radially oriented ring magnets are produced by a unique hot extrusion process. Nanocrystalline powder material is hot pressed and then hot extruded into ring-shaped magnets. During this advanced hot extrusion process the radial orientation is created mechanically. Resulting in a full-dense, nanocrystalline structure with highest radial orientation level.



- Due to the nanocrystalline structure a substantially lower amount of Dy is used compared to sintered NdFeB magnets.
- Dy-free magnets can be made even with high coercivity level.
- Also block shape magnets can be produced.
- Various magnetization patterns possible (multi-pole to uni-pole, various skew angles).
- Precise magnetization waveform control (f.e. rectangular, trapezoidal, sinusoidal) for high power and low cogging.
- Ring magnets with very small outer diameter are possible.