



高性能铁氧体磁体 NMF™-12, 15系列

High-performance Ferrite Magnets NMF™-12, 15 Series

常规的应用之外，针对新能源汽车驱动电机，提供替代稀土磁体的应用方案。

Proposing for applications using rare-earth magnet such as xEV traction motors in addition to conventional applications for ferrite magnets.



电机技术应用领域

概要

磁性能*达到全世界量产同类产品中的领先水平，在汽车辅助电机和家电等领域之外，针对新能源驱动电机提出替代传统稀土磁体的材料解决方案

*2024年7月止

Highest-level of magnetic properties among mass-produced ferrite magnets*, which enable us to propose for application conventionally using rare-earth magnets such as traction motors for xEVs in addition to auxiliary motors for automotive, motors for home appliance, etc. (*As of July 2024)

特点

全世界量产铁氧体磁体的范围内，磁性能为优秀水准
Highest-level of magnetic properties among mass-produced ferrite magnets.

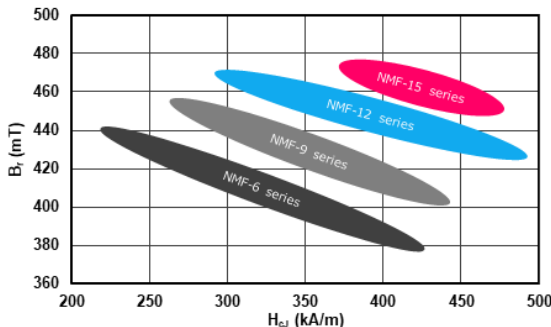
与稀土磁体**相比，电阻高出其数百倍、可以有效抑制涡电流的产生 **与烧结磁体的对比

Suppressing generation of eddy currents due to that resistivity is three digits higher than that of rare-earth sintered magnets.

用途 马达 Motors

NMF™系列特性图

Magnetic properties of NMF™ series



驱动电机设计案例

Example of Simulation Results
for Traction Motors

| | | 比较基准 (使用稀土磁体) Reference (Using Rare-earth Magnets) | 提案① (电机性能同等) Proposal① (Equivalent Motor Performance) | 提案② (电机尺寸同等・高转速化) Proposal② (Equivalent Motor Size, High Speed Rotation) |
|----------------------------|---|--|--|---|
| 使用磁体 | Magnets in simulation | 稀土磁体 Rare-earth Magnets | 高性能铁氧体磁体 NMF-15 series High performance Ferrite magnets | 高性能铁氧体磁体 NMF-15 series High performance Ferrite magnets |
| 电机样本 1/8 部分 | Motor model “1/8” | | | |
| 最大输出 | Max. Output | 110 kW | 110 kW | 105 kW |
| 最大转速 | Max. Rotation Speed | 10,000 rpm | 10,000 rpm | 15,000 rpm |
| 磁体B _r (相对 值) | Magnet B _r (relative value) | 1.0 (ref.) | 0.37 | 0.37 |
| 磁体重量 (相对值) | Magnet Weight (relative value) | 1.0 (ref.) | 1.7 | 1.2 |
| 轴方向积厚 (相对值) | Motor Length (relative value) | 1.0 (ref.) | 1.4 | 1.0 |
| 电机重量 (相对值) | Motor Weight (relative value) | 1.0 (ref.) | 1.3 | 1.0 |