EagleBurgmann
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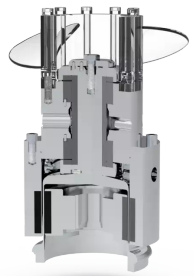
RELY ON EXCELLENCE

RMAK

Magnetic Couplings | Couplings



Features

Magnetic couplings (MAK) are a hermetic, low-maintenance sealing solution for pumps, agitators, and aerators. Dangerous or precious media remains isolated in the closed system circuit. In turn, nothing penetrates to contaminate the medium.

- For agitators and mixers with top, bottom and side entry drive
- Customized solution
- Compact design
- Available with single- and double walled can
- High temperature version possible
- With sliding or roller bearing

Functional description

Power is transmitted contact-free by magnets from the drive shaft to the product-contacting output shaft. Between the two rotating parts is the containment can, the sealing element, which is bolted to the container. It separates the product space from the atmosphere and hermetically seals it statically.

Notes

Different variants are available to meet specific requirements:

Advantages

The RMAK is a custom solution for agitators in refineries and in the chemical, petrochemical, and oil & gas industries. This magnetic coupling is highly customizable and can be designed for high temperature ranges, to name just one example. Further options include the scope of delivery regarding shaft, bearing, housing, cooling flanges and measurement technology (speed, temperature monitoring, vibration monitoring).

- Hermetically sealed / leakage-free
- High customizable
- Maintenance-free in trouble-free operation
- FDA compliant materials

Operating range

Shaft diameter: d = ... 100 mm (4") (Special version possible)
Pressure: customer specific
Temperature: t = -40 °C ... +250 °C (-40 °F ... +482 °F)

- Samarium cobalt (SmCo/MA3) max. +250 °C (+482 °F)
- Neodymium iron boron (NdFeB/MA8) max. +120 °C (+248 °F)

Speed: n = 3,600 min-1 (bottom and side entry drive); n = 400 min-1 (top entry drive)
Chemical resistance: pH 0 ... 14
viscosity: 0.3 ... 5,000 mPas (SiC)
Torque: max. 300 Nm (bottom and side entry drive)
Torque: max. 10,000 Nm (top entry drive)
Solids: max. 0.1 mm; max. 5 % by weight; grain hardness max. 700 HV

Materials

Sliding faces: Silicon carbide SiC (Q1) or SiC-C-Si (Q3) (bottom or side entry drive),
Customized design of rolling bearings for top drive (e.g. ceramics, hybrid)
Magnets: SmCo (MA3), NdFeB (MA8)
Metal parts: CrNiMO steel 1.4404 (G), CrNiMo steel 1.4462 (G1), Inconcel®, Hastelloy®; further materials on request

Standards and approvals

- ISO 2858
- ATEX on request
- FDA on request
- Compliant to TA Luft (German Clean Air Act)

Recommended applications

- Mixer, agitators
- Chemical industry
- Petrochemical industry
- Refining industry
- Oil and Gas

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All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications means, however, that they can serve only as guide values.
We must be notified of the exact conditions of application before we can provide any guarantee for a specific case. Subject to change.

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- Coolable/ heatable bearing arrangements
- Sliding bearings for bottom or side entry drives
- Heating/cooling flange
- Vertical drive with roller bearing (dry running, permanently lubricated)
- High temperature version (+350 °C)
- Sensors for temperature, speed or vibration monitoring

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