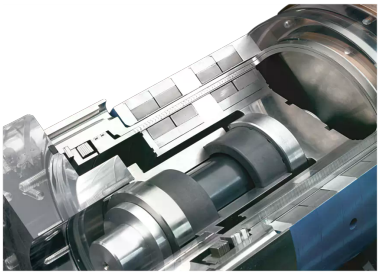
RELY ON EXCELLENCE

NMB High Efficiency

Magnetic Couplings | Couplings



Features

TechnicalData>The NMB series is used successful in many applications worldwide. The can is made from PTFE-seal insulated rings and a slotted outer can, what reduces EC-losses to a minimum. They are designed for increased safety and energy savings. Thus they can handle large motor torques, high speed and high pressure.

Functional description

The power transmission occurs contact-free through magnets from the drive shaft to the product wetted output shaft. Between the two rotating parts is the can which is bolted to the container.

Notes

Different variants are available to meet specific requirements:

- Version with integrated sliding bearing
- Dry running roller bearing
- High temperature variant

Advantages

- Magnetic coupling for applications acc. to API 685 (similar to API 610)
- Hermetically sealed
- No contact of torque transmitting elements
- No maintenance necessary
- High efficiency can (Insulated rings and slotted outer can) for lowest eddy current losses (approx. 2 % of motor power)
- Increased safety and energy savings compared to solid Hastelloy® cans
- Sliding bearing optional

Operating range

Pressure: p = 45 bar (653 PSI)
Temperature: t = -40 °C ... +250 °C (-40 °F ... +482 °F) (SmCo),
+120 °C (+248 °F) (NdFeB)
Torque: 18 ... 1,879 Nm

Materials

Magnets: Samarium cobalt (MA3), Neodymium iron boron (MA8)
Metal parts: CrNiMo-Steel 1.4401/1.4436, PTFE Polytetrafluorethylen (T)

Standards and approvals

- API 685
- Compliant to TA Luft (German Clean Air Act)

Recommended applications

- Chemical industry
- Oil and gas industry
- Refining technology
- Pharmaceutical industry
- Food processing industry
- Centrifugal pumps
- Gear pumps
- Top drive mixers/agitators
- Fans
- Blowers
- Autoclaves

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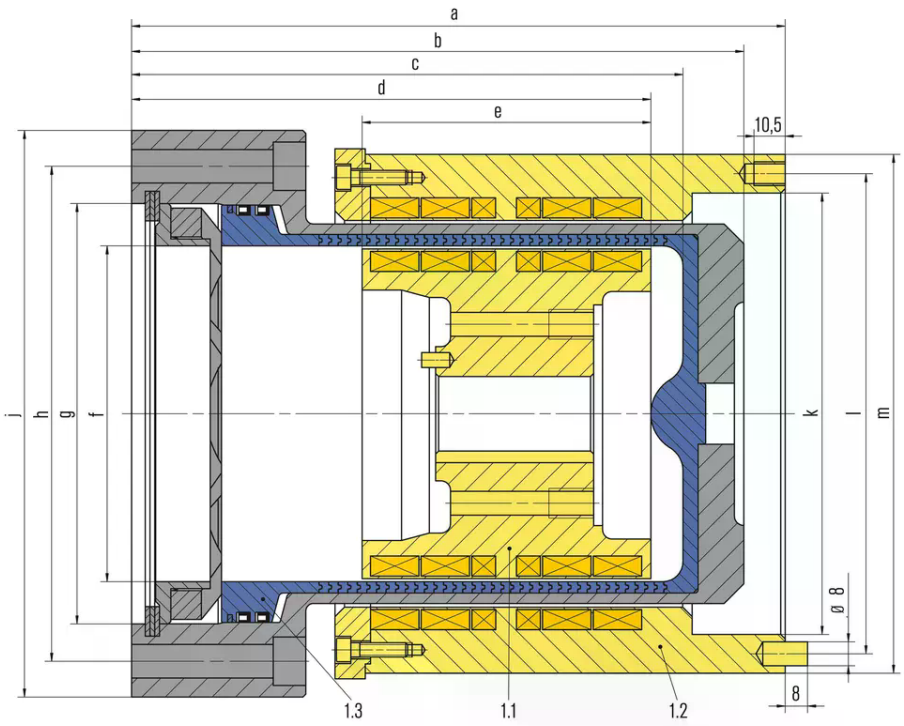
All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications means, however, that they can serve only as guide values.
We must be notified of the exact conditions of application before we can provide any guarantee for a specific case.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



Item	Description
1.1	Inner rotor
1.2	Outer rotor
1.3	Can

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Charts

Static break-away torque (Nm)

Samarium cobalt (SC2) Neodymium iron boron (ND2)
Static Eddy current Static Eddy current
Version break-away torque losses break-away
torque losses
at 20 °C at 3,000 min-1 at 20 °C at 3,000 min-1
Nm kW Nm kW
16P-2R-45 114 0.60 153 0.78
16P-3R-45 204 1.10 252 1.43
16P-4R-45 291 1.60 370 2.08
16P-5R-45 370 2.10 475 2.73
16P-6R-45 451 2.60 589 3.38
16P-7R-45 544 3.10 703 4.03
16P-8R-45 628 3.60 805 4.68
22P-4R-40 460 1.70 649 2.60
22P-5R-40 604 2.33 857 3.37
22P-6R-40 748 2.97 1019 4.13
22P-7R-40 875 3.60 1199 4.90
22P-8R-40 1028 4.24 1416 5.67
22P-9R-40 1205 4.87 1680 6.44
22P-10R-40 1348 5.50 1879 7.20

Dimensions

	a	b	c	d	e	f	g	h	j	k	l
16P-2R	226.1	200.1	174.7	160	88.9	156.6	184.9	217.5	250	192	205
16P-3R	253.3	229.1	203.7	187.1	116.1	156.6	184.9	217.5	250	192	205
16P-4R	278.7	254.9	229.5	212.5	141.5	156.6	184.9	217.5	250	192	205
16P-5R	305.9	280.7	255.3	239.7	168.7	156.6	184.9	217.5	250	192	205
16P-6R	331.3	306.5	281.1	265.1	194.1	156.6	184.9	217.5	250	192	205
16P-7R	358.5	332.3	306.9	292.3	221.2	156.6	184.9	217.5	250	192	205
16P-8R	400	358.1	332.7	317.7	246.6	156.6	184.9	217.5	250	192	205
22P-4R	316.6	269.3	363.3	219	141.5	205.8	235.7	276.5	310	243	254
22P-5R	339.4	295.1	262.1	246.2	168.7	205.8	235.7	276.5	310	243	254
22P-6R	365.2	320.9	287.9	271.6	194.1	205.8	235.7	276.5	310	243	254
22P-7R	395	349.9	316.9	298.8	221.2	205.8	235.7	276.5	310	243	254
22P-8R	420.1	375.7	342.7	324.2	246.6	205.8	235.7	276.5	310	243	254
22P-9R	445.9	401.6	368.5	351.3	273.8	205.8	235.7	276.5	310	243	254
22P-10R	470	427.4	394.3	376.7	299.2	205.8	235.7	276.5	310	243	254

Dimensions in millimeter

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