RELY ON EXCELLENCE

MAK685

Magnetic Couplings | Couplings

Features

Magnetic couplings (MAK) are a hermetic sealing solution for pumps and agitators. Dangerous or precious media remain isolated in the closed system circuit.

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 wich is bolted to the container.

Notes

Different variants are available to meet specific requirements:

- High temperature variant
- High pressure can
- PEEK carbon fiber can

Advantages

- Magnetic coupling for applications acc. to API 685 (similar to API610)
- Hermetically sealed
- No contact of torque transmitting elements
- No maintenance necessary
- Hastelloy® can available
- High efficiency can optional
- Product-lubricated sliding bearings included

Operating range

Shaft diameter: d = ... 40 mm (1,57")
Pressure: p = 40 bar (580 PSI)
Temperature: t = -40 °C ... +250 °C (-40 °F ... +482 °F) (SmCo),
+120 °C (+248 °F) (NdFeB)
Speed: n = 3,600 min-1
Chemical resistance: pH 0 ... 14
Viscosity: 0.3 ... 5,000 mPas (SiC)
Torque: 434 Nm
Solids: max. 0.1 mm; max. 5 % by weight; grain hardness max. 700 HV

Materials

Sliding faces: Silicon carbide SiC (Q1), Carbon silicon impregnated SiC-C-Si (Q3), Carbon graphite resin impregnated (B)
Magnets: Samarium Cobalt (MA3), Neodymium-Iron-Boron (MA8)
Metal parts: CrNiMo steel 1.4571 (G), CrNiMo steel 1.4462 (G1), Hastelloy® C-4 2.4610 (M)

Standards and approvals

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

Recommended applications

- Oil and gas industry
- Refining technology
- CCUS
- Centrifugal pumps

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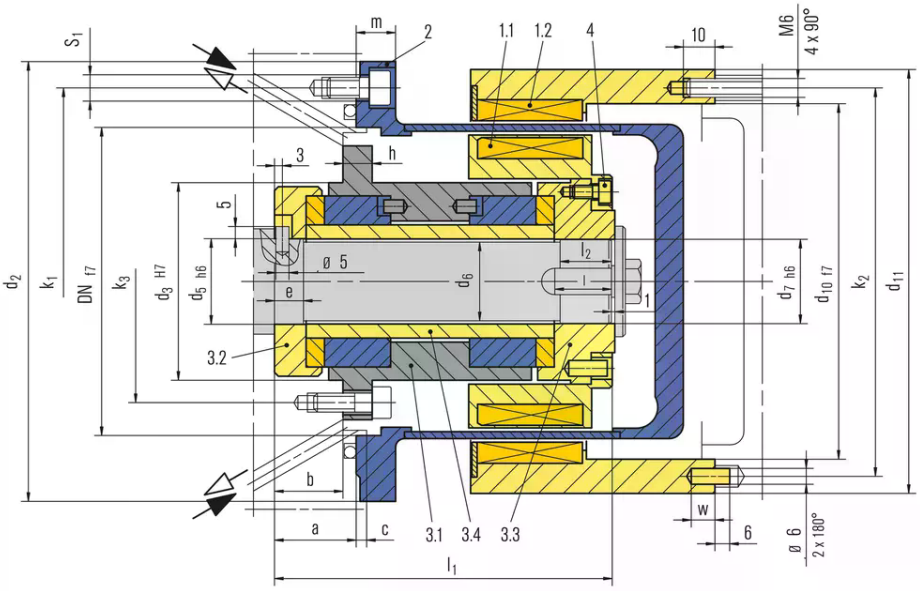

Item	Description
1	Coupling
1.1	Inner rotor
1.2	Outer rotor
2	Can
3	Bearing assembly
3.1	Radial journal bearing
3.2	Axial journal bearing
3.3	Axial journal bearing
3.4	Shaft sleeve
4	HSH cap screw

Product variants

PEEK carbon fiber can variant

Dimensions

d_{10}	d_{11}	V	W	k_2
90	110	0	5	100
125	145	4	5	135
150	170	4	5	160
178	198	5	8	188

Outer rotor - Dimensions in millimeter

DN	DNL	d3	d5	d6	b	e	l1	l2	h	k3	d7	l	t	u
75	22	44	16.5	15.8	21	8	103	29	7	55	16	16	18	5
110	43	75	32.5	31.5	26	11	128.5	20	8	87	32	22	35	10
135	43	75	32.5	31.5	26	11	138.5	20	8	87	32	22	35	10
165	55	92	40.5	39.5	27	12	169.5	30	10	103	40	32	46	12

Bearing arrangement - Dimensions in millimeter

DN	LK	L	d1	d2	a	c	m	k1	s1
75	2-6	119	75	118	17	4	13	100	9
110	2-6	156	110	168	31	4	22	133	13.5
135	4-8	156	135	188	17	4	20	158	11
165	4-10	198.5	163.5	218	17	5	22	192	11

Can - Dimensions in millimeter