

RELY ON EXCELLENCE

SMAK

Magnetic Couplings | Couplings



Features

Magnetic couplings of the SMAK series are used to transfer torque into mixers and agitators. Top drive, bottom drive or lateral drive. Dangerous or precious media remain isolated in the closed vessel.

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

Top drive coupling with dry running roller bearings available.

Advantages

- Magnetic coupling for mixers and agitators
- Hermetically sealed
- Sterile design
- Parts in contact with the medium are electro-polished
- No contamination by buffer media
- No contact of torque transmitting elements
- No maintenance necessary
- Sliding bearing for bottom drives included
- Speed monitoring optional
- Weld-in or screw-in flanges available

Operating range

Shaft diameter: $d = \dots 40 \text{ mm (1,57")}$
 Pressure: vacuum $\dots 7 \text{ bar (102 PSI)}$
 Temperature: $t = -40 \text{ °C} \dots +150 \text{ °C}$
 ($-40 \text{ °F} \dots +302 \text{ °F}$)
 Speed: $n = \dots 400 \text{ min}^{-1}$
 Chemical resistance: $\text{pH } 0 \dots 14$
 Viscosity: $0.3 \dots 5,000 \text{ mPas (SiC)}$
 Torque: max. $270 \text{ Nm (bottom drive)}$,
 $330 \text{ Nm (top drive)}$
 Solids: max. 0.1 mm ; max. $5 \text{ \%}$ by weight; grain
 hardness max. 700 HV

Materials

Sliding bearings: Silicon carbide or zirconia, FDA-compliant
 Bearings: Silicon nitride
 Magnets: Samarium cobalt
 Secondary seals and metal parts according to application and customer's specifications.

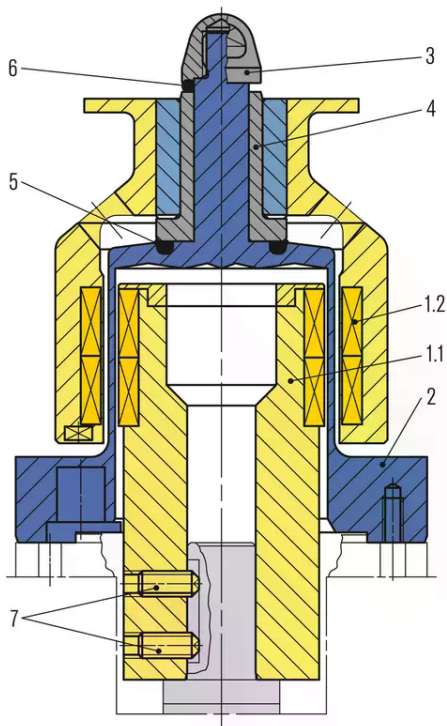
Standards and approvals

- QHD
- GMP
- FDA
- Compliant to TA Luft (German Clean Air Act)

Recommended applications

- Chemical industry
- Pharmaceutical industry
- Food processing industry
- Agitators
- Mixers

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SMAK for bottom drives

Item	Description
1.1	Inner rotor
1.2	Outer rotor
2	Can
3	Nut
4	Bearing bushing
5, 6	O-Ring
7	Set screw

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Product variants

SMAK4-75-4/40

for top drives

Max. torque: 16 Nm

Rotational speed: 0 ... 400 min⁻¹

Temperature: (max.) 130 °C (266 °F)

Pressure: 25 bar (363 PSI)

Overall height (agitator element connection to top edge of flange): 340 mm

Diameter (outer magnetic rotor): 110 mm

Materials:

1.4435, EPDM (FDA), Si₃N₄, PEEK

Surface finish: Ra <0.5

SMAK4-135-6/75

for top drives

Max. torque: 100 Nm

Rotational speed: 0 ... 400 min⁻¹

Temperature (max.): 130 °C (266 °F)

Pressure: 25 bar (363 PSI)

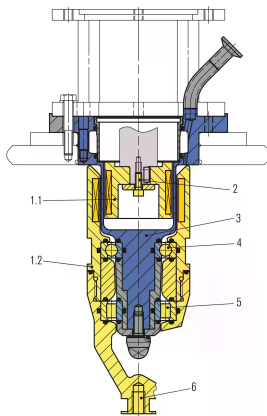
Overall height (agitator element connection to top edge of flange): 515 mm

Diameter (outer magnetic rotor): 110 mm

Materials:

1.4435, EPDM (FDA), Si₃N₄, PEEK

Surface finish: Ra <0.5



SMAK for top drives

Item Description

1.1 Inner rotor

1.2 Outer rotor

2 Motor connection

3 Can

4, 5 Bearing

6 Agitator blade connection

SMAK4-75-6/-40

for top drives

Max. torque: 24 Nm

Rotational speed: 0 ... 400 min⁻¹

Temperature (max.) 130 °C (266 °F)

Pressure 25 bar: (363 PSI)

Overall height (agitator element connection to top edge of flange): 360 mm

Diameter (outer magnetic rotor): 110 mm

Materials:

1.4435, EPDM (FDA), Si₃N₄, PEEK

Surface finish: Ra <0.5