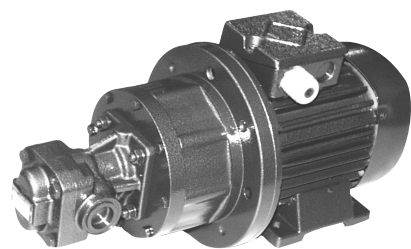


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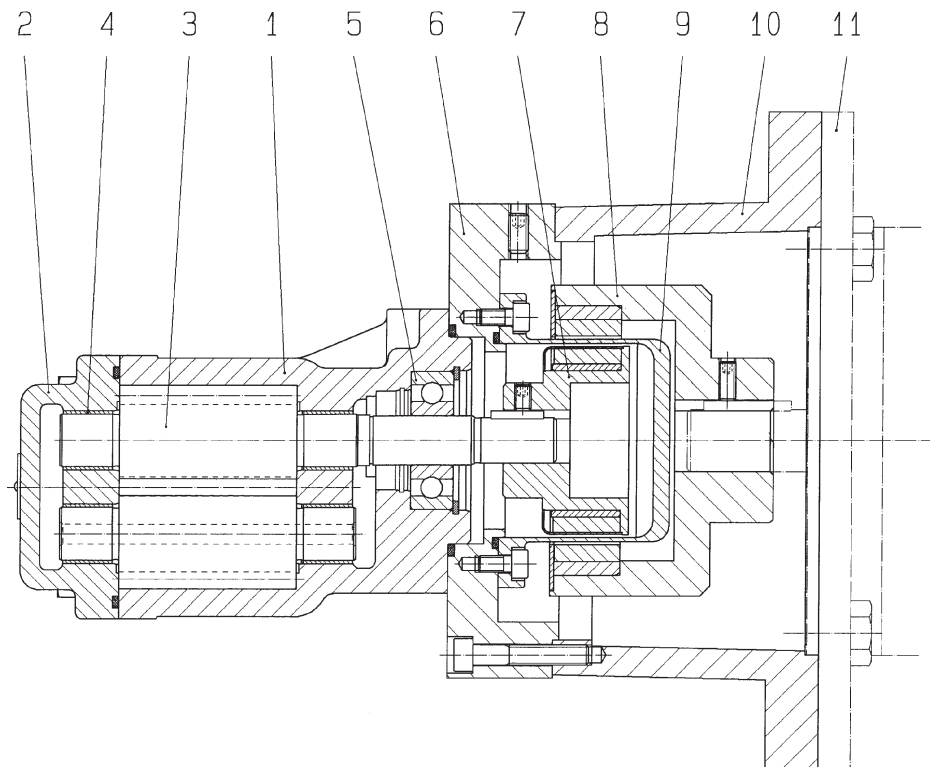


Transfer Gear Pumps

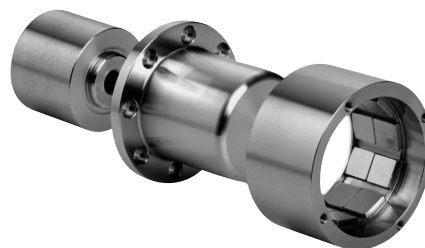
KF 4...80

with magnetic coupling

Construction



- | | |
|----------------------|-----------------|
| 1 Housing | 7 Inner rotor |
| 2 Cover | 8 Outer rotor |
| 3 Gear | 9 Split case |
| 4 Plain bearing bush | 10 Bell housing |
| 5 Outboard bearing | 11 Drive motor |
| 6 Adapter flange | |



Function

Conventional sealing gaskets are pushed to their limits with different applications. Typical applications are found in polyurethane facilities, refrigerating machines and vacuum facilities. For these applications, you have the possibility to equip the KF 4...80 with a magnetic coupling.

The magnetic coupling serves as a shaft seal and for the transmission of the torque. The outer rotor of the magnetic coupling is assembled on the engine shaft and the inner rotor is assembled directly on the pumping shaft. The torque is transmitted through the magnetic forces between the outer and inner rotor. Between the two rotors, you have the split case which hermetically seals the pump.

The magnetic coupling is used when an absolute sealing is required between the pumping room and the atmosphere, for example, in the case of a dosage of isocyanate, where the contact with air would lead to an unwanted cure of the medium.

It can be used in vacuum operation – for example, filling brake fluid – in which an intrusion of air into the system is steadily prevented.

Also, a leak-free operation is ensured when operating in closed systems with high pressure on the pump inlet side. The magnetic coupling is predestined for dispensing dangerous and health hazardous mediums.

General Characteristics

Fixing type	Flange type	
Pipe connection	KF4... 25 KF32... 80	Pipe thread Flange connection
Direction of rotation	clockwise or anticlockwise	
Fitting position	Horizontal, vertical (shaft end facing downward/at the bottom)	

Operation Characteristics

Nominal displacement	$V_g =$	4 / 5 / 6 / 8 / 10 / 12 / 16 / 20 / 25 / 32 / 40 / 50 / 63 / 80 cm ³ /r
Working pressure	Inlet port	
	$p_{e \min}$	- 0.4 bar, vacuum facility - 0.92 bar
	$p_{e \max}$	16 bar (SN1 / SS1 / NN1)
	$p_{e \max}$	25 bar (SN2 / SS2 / NN2)
	$p_{e \max}$	40 bar (SN3 / SS3 / NN3)
	Standstill	
	$p_{e \min}$	- 1 bar
	$p_{e \max}$	16 bar (SN1 / SS1 / NN1)
Working pressure	Outlet port	
	$p_{n \max}$	DU bearing: 25 bar
		Iglidur bearing: 10 bar via p_e

Operation Characteristics

Speed	n_{\min}	=	200 1/min		
	n_{\max}	=	3000 1/min		
Viscosity	v_{\min}	=	10 mm ² /s		
	v_{\max}	=	5000 mm ² /s		
Fluid temperature pump	$\vartheta_{m \min}$	=	-10 °C		
	$\vartheta_{m \max}$	=	130 °C (EPDM)		
	$\vartheta_{m \max}$	=	100 °C (CR)		
	$\vartheta_{m \max}$	=	100 °C (HNBR)		
	$\vartheta_{m \max}$	=	130 °C (FKM), Magnet material NdFeB		
	$\vartheta_{m \max}$	=	150 °C (FKM), Magnet material SmCo		
	$\vartheta_{m \max}$	=	200 °C (FEP), Magnet material SmCo		
Fluid temperature magnetic coupling	$\vartheta_{m \max}$	=	130 °C Magnet material NdFeB		
	$\vartheta_{m \max}$	=	250 °C Magnet material Sm2Co17		
Ambient temperature	$\vartheta_{u \min}$	=	-20 °C		
	$\vartheta_{u \max}$	=	60 °C		
Nominal torque magnetic coupling	MSA 46/6	3 Nm	MSB 75/10	20 Nm	
	MSA 60/8	7 Nm	MSC 75/10	30 Nm	
	MSB 60/8	14 Nm	MSB 110/16	50 Nm	
	MSA 75/10	10 Nm	MSC 110/16	80 Nm	
Materials pump	Housing and cover	EN-GJL-250 (GG 25) EN-GJS-400-15 (GGG 40) on request			
	Gear	16 Mn Cr 5			
	Bearing bushes	DU, optional Iglidur (sealing number 12, 16)			
	Seals	EPDM, CR, HNBR, FKM, FEP			
Materials magnetic coupling	Inner rotor	Hub made of stainless steel 1.4571 Magnets made of SM2Co17 Magnet covering made of stainless steel 1.4571			
	Split case	Flange made of stainless steel 1.4571 Pot made of stainless steel 1.4571 From construction size 75, alternatively made of Hastelloy			
	Outer rotor	Hub made of 355J2G3 (St 52) Magnet made of Sm2Co17 oder NdFeB			

Selection Assistance

Pump	Coupling size	Permitted torque at 20 °C [Nm]	Permitted power consumption [kW] at n = 750 1/min	Motor size	Permitted power consumption [kW] at n = 950 1/min	Motor size	Permitted power consumption [kW] at n = 1450 1/min	Motor size
KF 4-25	MSA 46	3	–	–	0.18	71	0.18	63
							0.25	71
	MSA 60	7	0.18	80	0.25	71	0.37	71
			0.25	80	0.37	80	0.55	80
	MSB 60	14	0.37	90	0.55	80	0.75	80
			0.55	90	0.75	90	1.1	90
	MSB 75	24	0.75	100	1.1	90	1.5	90
			1.1	100	1.5	100	2.2	100
KF 32-80	MSB 75	24	0.75	100	1.1	90	1.5	90
			1.1	100	1.5	100	2.2	100
	MSC 75	40	1.5	112	2.2	112	3.0	100
			2.2	132	3.0	132	4.0	112
	MSB 110	60	3.0	132	4.0	132	5.5	132
	MSC 110	95	4.0	160	5.5	132	7.5	132
			5.5	160	7.5	160	11.0	160

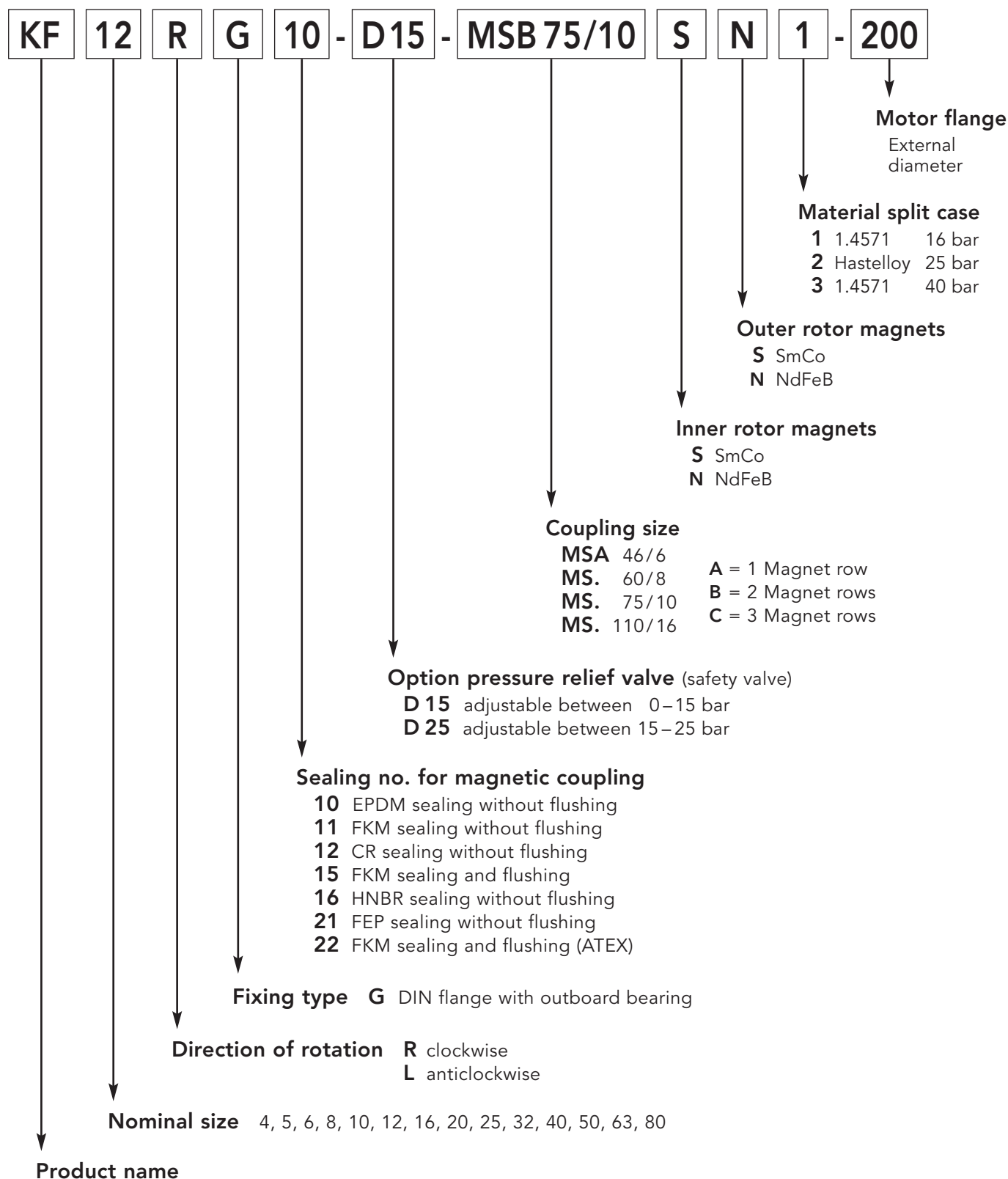
The values stated in the table refer to a maximum media temperature of 80 °C.
At media temperatures > 80 °C are to be selected if necessary stronger magnetic couplings.

To design the magnetic coupling, the following information needs to be available:

- Pump size
- Pump pressure (working and starting pressure)
- Working and starting viscosity
- Precise name of media – required static seals (if possible) – possibly main media characteristics
- Drive motor power
- Speed or speed range
- Switch on type – direct or with frequency inverter
- Media and ambient temperature

Type Key

Ordering example



ATEX-Design

Permitted Medias

Mineral oil
according to DIN 51524/25
Engine oil
according to DIN 51511
Other medias on request.

Operating instructions / Basics

- The media must ensure a certain minimum amount of lubrication, not contain any solid matter and be chemically compatible. Benzins, solvents, etc. are never permitted.
- In electrostatic chargeable fluids, it is important to follow the instructions provided by the respective fluid manufacturer in order to prevent electrostatic charges.
- The operator must comply with the flash point, minimum ignition temperature and media-specific properties.
- Never have explosive mixtures inside the device.
- Dry running is not permissible.

ATEX-Characteristics

Transfer gear pump	KF4 ... 80 with magnetic coupling
In Ex-area max. suitable for category	⊕ II 2G T4
Perm. working pressure inlet port in bar	– 0.92 ... + 40
Perm. working pressure outlet port in bar	40 but max. 10 bar over working pressure inlet port (max. 25 bar depending on type of bearing)
Perm. viscosity in mm ² /s	12 ... 5000
Max. speed in rpm (affected by viscosity)	3000
Perm. mounting position	arbitrary
Perm. media temperatures in °C	– 10 ... + 80
Perm. ambient temperatures in °C	– 20 ... + 60
Comments	Not suitable for dust-Ex. The temperature on the split case must be monitored with a temperature sensor. Pressures > 25 bar only after approval from Kracht

ATEX-Design

Additional information for the product design in explosion-proof version according to ATEX 95/100a:	
Medium:	Please provide us with the safety data sheet and the technical data sheet for the medium.
Device group I:	<input type="checkbox"/> M2
Device group II:	<input type="checkbox"/> 2G, 2D, 3G, 3D
Explosion group:	<input type="checkbox"/> IIA <input type="checkbox"/> IIB <input type="checkbox"/> IIC (only for 2G or 3G)
Temperature level:	<input type="checkbox"/> T1 (450 °C) <input type="checkbox"/> T2 (300 °C) <input type="checkbox"/> T3 (200 °C) <input type="checkbox"/> T4 (135 °C)

Product Portfolio

Transfer Pumps

Transfer pumps for lubricating oil supply equipment, low pressure filling and feed systems, dosing and mixing systems.

Mobile Hydraulics

Single and multistage high pressure gear pumps, hydraulic motors and valves for construction machinery, vehicle-mounted machines.

Flow Measurement

Gear and turbine flow meters and electronics for volume and flow metering technology in hydraulics, processing and laquering technology.

Industrial Hydraulics / Test Bench Construction

Cetop directional control and proportional valves, hydraulic cylinders, pressure, quantity and stop valves for pipe and slab construction, hydraulic accessories for industrial hydraulics (mobile and stationary use).

Technology Test benches / Fluid Test benches.



KF4...80 m.Magnk./GB/03.09

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