

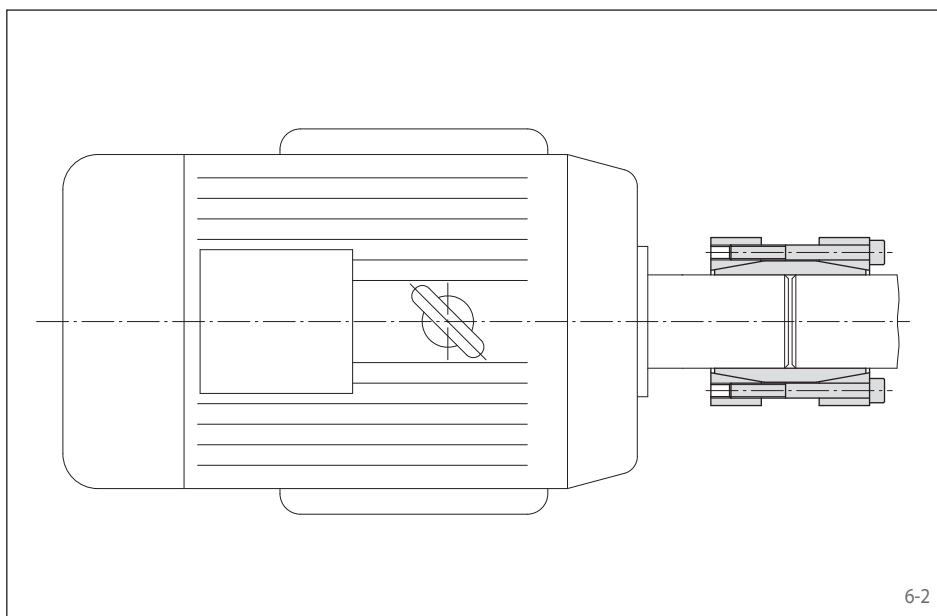
Rigid Shaft Couplings RWK 500

for backlash free connection of two shaft ends



Features

- Compact design
- Easy to release
- For shaft diameters between 14 mm and 100 mm
- Rigid and backlash free connection of shaft ends
- No weakening of shafts by feather keys
- No fretting corrosion as with keyway connections
- Transmission of torques and axial forces



Application example

Simple and cost-effective connection of two shaft ends with a Rigid Shaft Coupling RWK 500.

Shaft coupling RWK 500 (for smaller torques and larger axial mounting distances) is particularly suitable for coupling freely suspended motor gear units on a rocker with a torque support.

However, they can neither compensate radial-angle nor axial shaft misalignments. If this is required, then please use the Flexible Couplings L... described from page 8 onwards.

Transmissible torques and axial forces

The transmissible torques and axial forces listed on page 7 are subject to the following tolerances, surface characteristics and material requirements. Please contact us in the case of deviations.

Tolerances

- h8 for shaft diameter d

Surfaces

Average surface roughnesses at the contact surfaces of the shafts $R_z = 10 \dots 25 \mu\text{m}$.

Materials

The following apply to the shaft and the hub:

- E-module $\geq 170 \text{ kN/mm}^2$

Simultaneous transmission of torque and axial force

The transmissible torques M which are shown in the tables apply for axial forces $F = 0 \text{ kN}$ and conversely, the indicated axial forces F apply to torques $M = 0 \text{ Nm}$. If torque and axial force are to be transmitted simultaneously, the transmissible torque and the transmissible axial force are reduced.

For a given axial force F_A , the reduced torque M_{red} is calculated as:

$$M_{\text{red}} = \sqrt{M^2 - (F_A \cdot \frac{d}{2})^2}$$

For a given torque M_A , the reduced axial force F_{red} is calculated as:

$$F_{\text{red}} = \frac{2}{d} \sqrt{M^2 - M_A^2}$$

Formula symbols

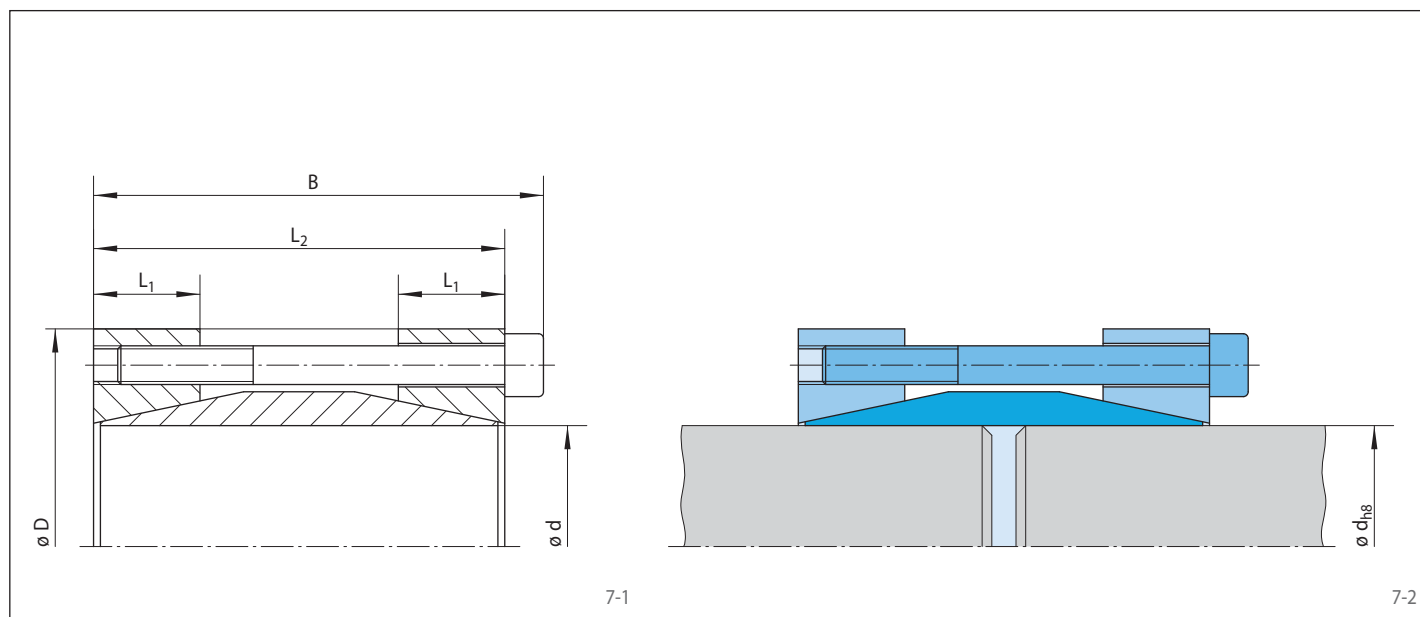
M	=	Max. transmissible torque according to table [Nm]
M_A	=	Maximum actual application torque [Nm]
M_{red}	=	Reduced torque [Nm]

F_A	=	Maximum actual application axial force [kN]
F_{red}	=	Reduced axial force [kN]
d	=	Shaft diameter [mm]

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Size d mm	Max. transmissible torque or axial force		Clamping screws				D mm	B mm	L ₁ mm	L ₂ mm	Weight kg
	M Nm	F kN	Tightening torque M _S Nm	Number	Size	Length					
14	130	18	16	4	M 6	45	45	56	15	50	0,38
15	140	18	16	4	M 6	45	45	56	15	50	0,35
16	150	18	16	4	M 6	45	45	56	15	50	0,37
17	160	18	16	4	M 6	45	45	56	15	50	0,40
18	160	17	16	4	M 6	45	50	56	15	50	0,45
19	170	17	16	4	M 6	45	50	56	15	50	0,44
20	180	18	16	4	M 6	45	50	56	15	50	0,44
22	310	28	16	6	M 6	55	55	66	18	60	0,50
24	330	27	16	6	M 6	55	55	66	18	60	0,63
25	350	28	16	6	M 6	55	55	66	18	60	0,61
28	340	24	16	6	M 6	55	60	66	18	60	0,75
30	370	24	16	6	M 6	55	60	66	18	60	0,71
32	520	32	37	4	M 8	70	75	83	20	75	0,14
35	570	32	37	4	M 8	70	75	83	20	75	1,33
38	620	32	37	4	M 8	70	75	83	20	75	1,20
40	650	32	37	4	M 8	70	75	83	20	75	1,19
42	990	47	37	6	M 8	80	85	93	22	85	1,80
45	1050	46	37	6	M 8	80	85	93	22	85	1,72
50	1200	48	37	6	M 8	80	90	93	22	85	1,80
55	1700	61	37	8	M 8	80	95	93	22	85	2,00
60	1950	65	37	8	M 8	80	100	93	22	85	2,17
65	2150	66	37	8	M 8	80	105	93	22	85	2,60
70	2800	80	73	6	M 10	80	115	110	35	100	4,10
75	2900	77	73	6	M 10	80	120	110	35	100	4,30
80	4200	100	73	8	M 10	80	125	110	35	100	4,48
90	4700	100	73	8	M 10	80	135	110	35	100	5,20
100	7600	150	126	8	M 12	100	155	132	40	120	6,00

Bending moments

Where there are bending moments in the application in addition to the torque M_A or the axial force F_A , the transmissible torque or transmissible axial force is reduced compared to the values for M or F as listed in the tables. Please contact us.

Example for ordering

Rigid Shaft Coupling RWK 500 for shaft diameter $d = 50$ mm:

- RWK 500, $d = 50$

Mounting

Please request our installation and operating instructions for Rigid Shaft Coupling RWK 500.

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