



KBK Couplings

Metal Bellows, Flexible Spider & Adjustable
Overload-Protection-Clutch Safety Couplings



Francis and Francis Limited

The Stables Works, Station Road, Kenley, Surrey, CR8 5JA.

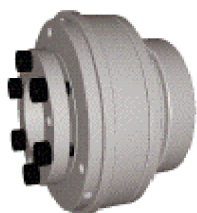
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Safety Couplings



KBK - L

KBK - L KBK - LL
for mounting tooth belt pulleys,
sprocket wheels, spur gears
Torque range 0,5 - 1600 Nm



KBK - B

KBK - BI KBK - BK
with metal bellows to connect two shafts
for compensation of misalignment
Torque range 0,5 - 1600 Nm



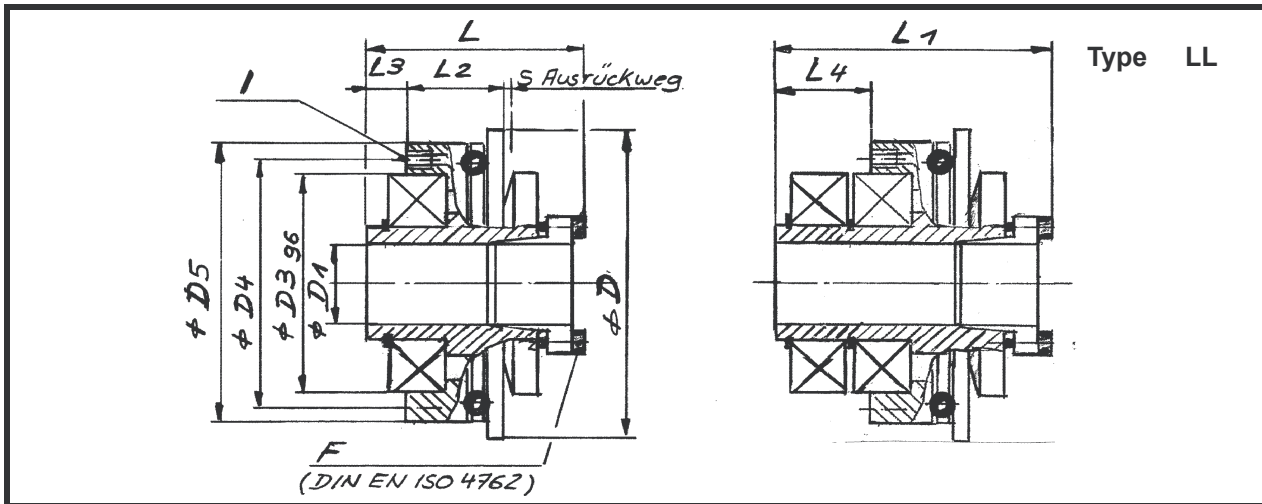
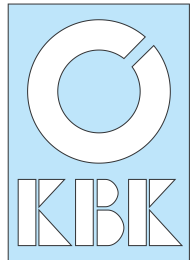
KBK - E

plug in solution with elastomere gear ring to connect two shafts,
damp vibrations, and compensate misalignment
Torque range 5 - 500 Nm

Versions of engagement

single position - multiposition - loadholding - full disengagement

Safety coupling Type KBK/L (LL)



Dimensions [mm]

Type	D	L	D1	D3	D4	D5	F	I	L1	L2	L3	L4	S
KBK/L-7-10	50	36	6-16	37	42	47	M4	M3	46	15	5	15	0,7
							3						
KBK/L-30	65	43	8-20	47	53	60	M5	M4	60	18	6	20	1,2
							6						
KBK/L-60	80	58	12-25	62	69	75	M6	M5	75	25	8	26	1,2
							8,5						
KBK/L-80	95	60	15-35	68	80	90	M6	M6	76	26	10	27	2,0
							14						
KBK/L-150	95	60	15-35	68	80	90	M6	M6	76	26	10	27	2,0
							14						
KBK/L-200	110	66	20-40	80	90	105	M6	M6	85	30	10	28	2,0
							14						
KBK/L-300	120	75	30-46	90	102	115	M8	M8	95	32	10	31	2,0
							20						
KBK/L-500	130	75	35-50	100	112	125	M8	M8	95	32	10	31	2,0
							26						
KBK/L-800	170	110	40-60	110	125	165	M16	M12	133	50	15	38	2,0
							45						
KBK/L-1400	170	110	40-60	110	125	165	M16	M12	133	50	15	38	2,0
							80						
KBK/L-1600	195	125	60-90	150	168	190	M12	M12	153	60	19	47	2,0
							100						

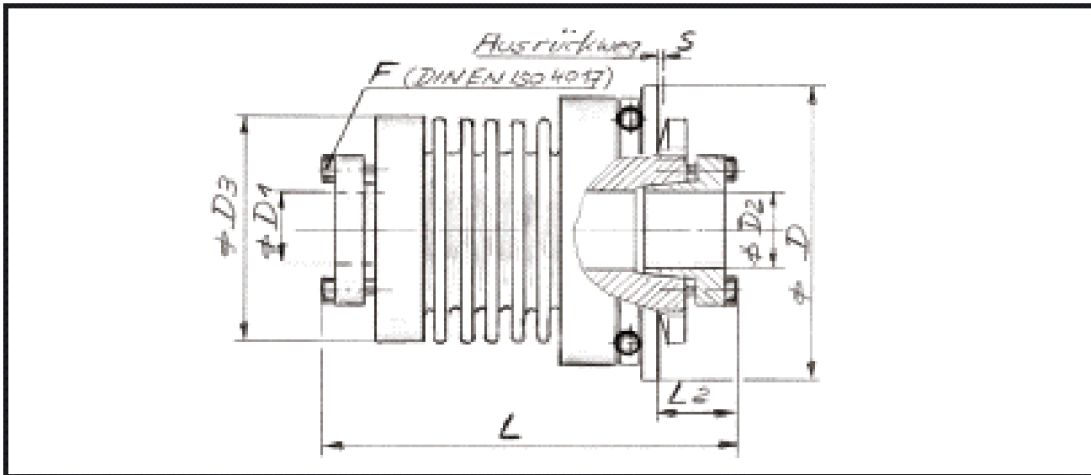
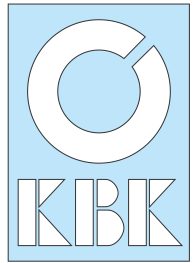
Technical Ratings

Type	Overload Torque adjustable		Maximum Speed rpm 1/ min	Weight m kg	Moment of inertia J kgcm ²
	Range 1 M Nm	Range 2 M Nm			
KBK/L-10	2 - 5	5 - 10	12000	0,25	1
KBK/L-30	5 - 15	10 - 30	9400	0,5	3
KBK/L-60	15 - 35	20 - 65	7800	1	6
KBK/L-80	15 - 40	30 - 80	6400	1,6	17
KBK/L-150	50 - 130	65 - 150	5500	1,7	17
KBK/L-200	30 - 90	60 - 200	5500	2,6	27
KBK/L-300	60 - 200	100 - 300	5000	3,6	39
KBK/L-500	80 - 250	200 - 500	4500	4,4	80
KBK/L-800	260-600	500-900	3500	12	278
KBK/L-1400	450-900	800-1400	3500	12	278
KBK/L-1600	500-100	900-1600	3000	16	325

Keyways optional: according to standard DIN 6885
 Temperature range: minus 30 °C to 120 °C
 Customized solutions: on request

Order code: **KBK / L 60 - 20H7 - 20Nm - C - 2**
 Type; size _____
 bore _____
 Disengagement torque _____
 C=single position engagement
 D=multiposition engagement
 Overload torque range _____

Safety Coupling Type KBK/BI



Dimensions [mm]

Type	D	L	D1	D2	D3	F	L2	S
KBK/BI-7-10	50	68	6-14	6-14	40,5	M 3	10	0,70
		78				1,5		
KBK/BI-30	65	85	10-20	10-20	56	M 5	12	1,20
		94				6		
KBK/BI-60	80	100	15-25	15-25	66	M 6	13	1,20
		110				8,5		
KBK/BI-80	95	115	20-35	20-35	82	M 6	15	2
		128				14		
KBK/BI-150	95	115	20-35	20-35	82	M 6	15	2
		128				14		
KBK/BI-200	110	125	20-40	20-40	90	M 6	15	2
		135				14		
KBK/BI-300	120	135	30-50	30-46	110	M 8	19	2
		145				18		
KBK/BI-500	130	150	35-55	35-50	122	M 8	18,5	2
		162				26		
KBK/BI-800	169	235	40-70	40-60	157	M 16	30	2
						45		
KBK/BI-1400	169	235	40-70	40-60	157	M 16	30	2
						80		
KBK/BI-1600	195	250	60-90	70-90	157	M 12	32	2
						90		

Permissible Misalignment

Size	10	30	60	80	150	200	300	500	800	1400	1600
radial [mm]	0,15/0,3	0,15/0,25	0,15/0,25	0,2/0,25	0,2/0,25	0,2/0,25	0,2/0,25	0,2/0,25	0,2	0,2	0,2
axial [mm]	0,4/0,6	0,6/1	0,6/1	0,5/0,8	0,5/0,8	0,5/0,8	0,5/0,8	0,5 / 1,0	0,8	0,8	0,8
angular [°]	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,8	1,8	1,5

Technical Ratings

Type	Overload torque adjustable		Torsional Stiffness 10 ³ C _T Nm/rad	Maximum Speed rpm 1/ min	Weight m kg	Spring Stiffness		Moment of Inertia J kgcm ²
	Range 1 M Nm	Range 2 M Nm				radial C _R N/mm	axial C _A N/mm	
KBK/BI-10	3 - 7	5 - 10	8,1/6,8	11650	0,25	120/29	27/17	0,7
KBK/BI-30	5 - 15	10 - 30	38/28	9540	0,7	720/225	50/28	3,2
KBK/BI-60	12 - 35	20 - 60	75/50	8180	1,4	1150/340	90/50	8
KBK/BI-80	15 - 40	30 - 80	128/75	6220	2,3	1200/400	80/50	19
KBK/BI-150	50 - 130	65 - 150	155/105	6220	2,4	2020/595	145/85	20
KBK/BI-200	30 - 90	60 - 200	175/116	5720	3	2500/460	147/82	33
KBK/BI-300	60 - 200	100 - 300	502/285	5200	5,3	6300/1400	280/145	65
KBK/BI-500	80 - 250	200 - 500	690/320	4470	7	7790/970	100/85	170
KBK/BI-800	240-600	500-800	700	3350	19	500	185	540
KBK/BI-1400	360-1000	900-1400	1270	3350	20	700	275	560
KBK/BI-1600	360-100	900-1600	2810	3000	22	2945	305	600

Keyways optional:

according to standar DIN 6885

Materials:

bellows made of stainless steel
Hubs made of steel

Temperature range:

minus 30 °C to 120 °C

Customized solutions:

on request

Order Code: KBK/BI 60 - 85 - 15H7 - 18 H7 - 20Nm - C - 1

Type, Size

Length

Bore 1

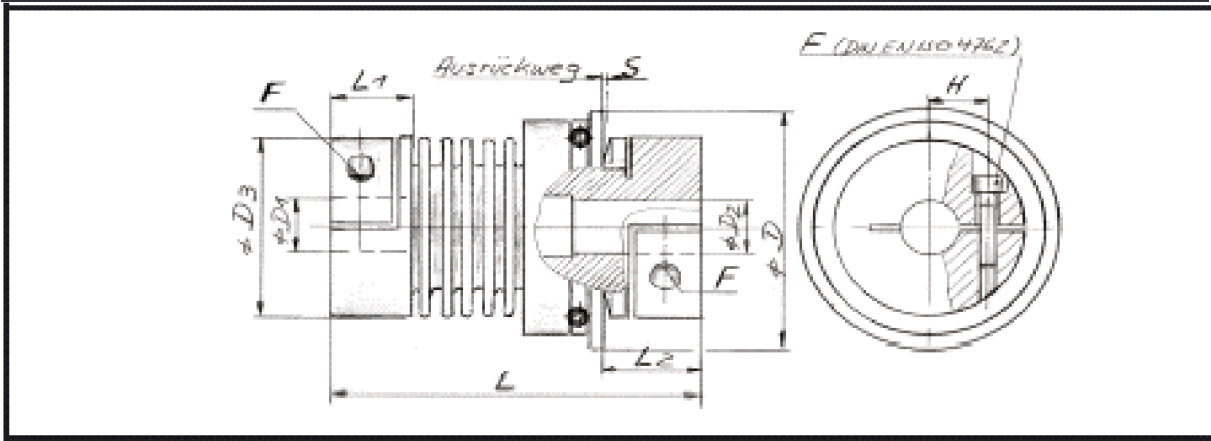
Bore 2

Disengagement torque

C = Single position; D = multiposition engagement

Overload torque range

Safety Coupling Type KBK/BK



Dimensions [mm]

Type	D	L	D1	D2	D3	H	F	L1	L2	S
KBK/BK-7-10	50	65	6-25	6-19	40	15,5	M 4	16	20	0,7
		75					5,1			
KBK/BK-30	65	85	10-25	10-20	56	24,5	M 6	25	22	1,2
		94					15			
KBK/BK-60	75	105	14-35	14-23	66	29	M 8	30	28	1,2
		115					36			
KBK/BK-80	95	113	20-40	20-35	82	33,5	M 10	33	42	2,0
		125					72			
KBK/BK-150	95	113	20-40	20-35	82	33,5	M 10	33	42	2,0
		125					72			
KBK/BK-200	105	125	25-42	35-32	90	38	M 12	38	42	2,0
		138					125			
KBK/BK-300	115	140	32-50	32-40	110	38	M 12	38	38	2,0
		150					125			
KBK/BK-500	128	158	40-60	35-50	122	42	M 12	42	56	2,0
		170					125			

Permissible Misalignment

Size	7	10	30	60	80	150	200	300	500
radial [mm]	0,15/0,3	0,15/0,3	0,15/0,25	0,15/0,25	0,2/0,25	0,2/0,25	0,2/0,25	0,2/0,25	0,2/0,25
axial [mm]	0,4/0,6	0,4/0,6	0,6/1	0,6/1	0,5/0,8	0,5/0,8	0,5/0,8	0,5/0,8	0,5 / 1,0
angular [°]	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2	1,5/2

Technical Ratings

Type	Overload Torque adjustable		Torsional stiffness 1000 CT Nm/rad	Maximum Speed rpm 1/ min	Weight m kg	Spring Stiffness		Moment of Inertia J kgcm ²
	Range 1 M Nm	Range 2 M Nm				radial CR N/mm	axial CA N/mm	
KBK/BK-7*	1 - 4	3 - 7	8,1/6,8	11690	0,25	120/29	27/17	0,7
KBK/BK-10	3 - 7	5 - 10	8,1/6,8	11690	0,25	120/29	27/17	0,7
KBK/BK-30	5 - 15	10 - 30	38/28	9540	0,7	720/225	50/28	3,2
KBK/BK-60	12 - 35	20 - 60	75/50	8180	1,4	1150/340	90/50	8
KBK/BK-80	15 - 40	30 - 80	128/75	6220	2,3	1200/400	80/50	19
KBK/BK-150	50 - 130	65 - 150	155/105	6220	2,4	2020/595	145/85	30
KBK/BK-200	30 - 90	60 - 200	175/116	5720	3	2500/460	147/82	33
KBK/BK-300	60 - 200	100 - 300	502/285	5200	5,3	6300/1400	280/145	65
KBK/BK-500	80 - 250	200 - 500	690/320	4470	6,2	7790/970	100/85	130

* range 3: 0,4 - 2 Nm

Keywys optional :

according to standard DIN 6885

Materials

Bellows made of stainless steel
Hubs up to size 60 made of aluminium alloy
Hub sizes larger than 60 are made of steel

Temperature Range:

minus 30 °C to 120 °C

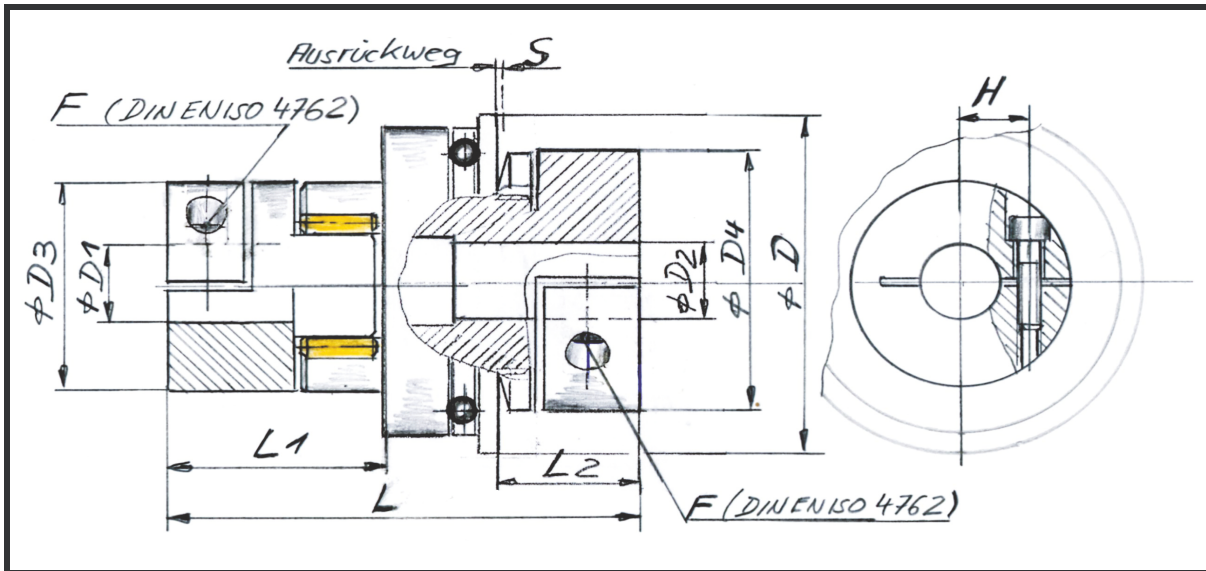
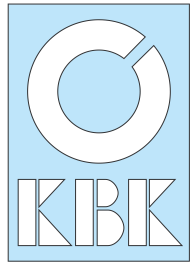
Customized Solutions :

On request

Order Code: KBK / BK 60 - 105 - 16H7 - 14H7 - 20 Nm - C - 1 - S

Type;size _____
Length _____
Bore 1 _____
Bore 2 _____
Disengagement Torque _____
C=single position engagement _____
Overload torque range _____
(D=multiposition engagement) _____
Keyways, material etc. _____

Safety Coupling Type KBK/E



Dimensions [mm]

Type	D	L	D1	D2	D3	D4	H	F	L1	L2	S
KBK/EK-14	50	75	4 - 14	6-19	30	40	15,5	M 4	16	20	0,7
								5,1			
KBK/EK-19	65	100	10 - 20	10-20	40	56	24,5	M 6	25	22	1,2
								15			
KBK/EK-24	75	115	15 - 28	14-23	55	66	29	M 8	30	28	1,2
								36			
KBK/EK-28	95	142	19 - 35	20-35	65	82	33,5	M 10	33	42	2,0
								72			
KBK/EK-38	115	160	20 - 45	32-40	80	110	38	M 12	38	38	2,0
								125			
KBK/EK-42	128	195	28 - 45	35 - 50	95	122	42	M 12	42	56	2,0
								125			

Permissible Misalignment

Size	14	19	24	28	38	42
radial [mm]	0,06	0,06	0,08	0,1	0,11	0,12
axial [mm]	1,2	1,2	1,3	1,4	1,5	1,8
angular [°]	0,9	0,9	0,9	0,9	0,9	0,9

Technical Ratings

Type	Overload Torque adjustable		Maximum Speed n 1/ min	Weight m kg	Torque insert T Nm	Moment of inertia J kgcm ²
	Range 1 M Nm	Range 2 M Nm				
KBK/EK 14	3 - 7	5 - 10	11690	0,3	12,5	1,4
KBK/EK 19	5 - 15	10 - 19	8950	0,5	17	3
KBK/EK 24	12 - 35	20 - 60	7630	0,7	60	5,4
KBK/EK 28	50 - 130	65 - 150	6030	1,4	160	9,7
KBK/EK 38	60 - 200	100 - 300	4980	2,2	325	23
KBK/EK 42	80 - 250	200 - 500	4440	4,6	450	80

* Range 3: 0,4 - 2 Nm

Keyways optional :

according to standard DIN 6885

Materials:

Insert made of polyurethan Sh 98 A

Hubs up to size 38 made of aluminium alloy

Hubs larger than size 38 made of steel

Temperature Range:

minus 30 °C to 90 °C

Customized solutions:

on request

alternative shore hardness 92 A or 64 D

Order Code: KBK/ EK 24 - 16H7 - 14H7 - 20 Nm - C - 2

Type; size

Bore 1

Bore 2

Disengagement torque

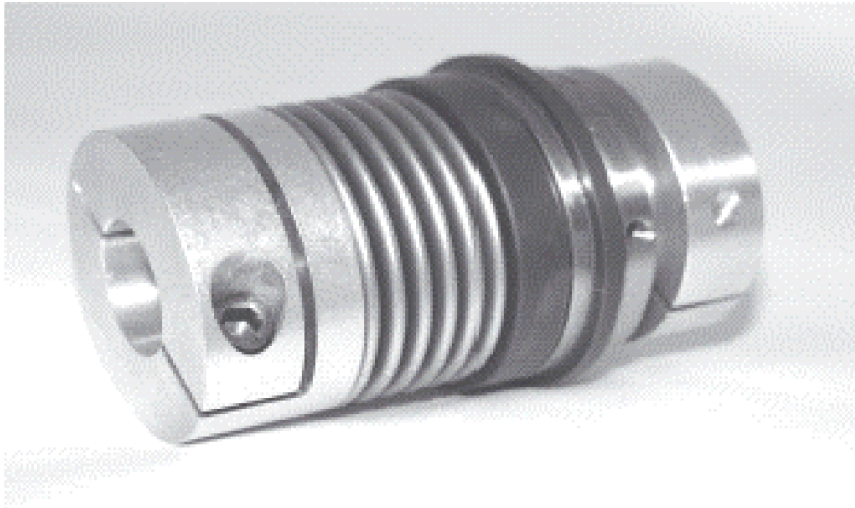
C = single position engagement

(D = multiposition engagement)

Overload torque range

Safety Clutches

- Non-wearing and therefore maintenance free
- Minimal residual friction through degressive cup spring
- High-speed cut out time within 2-4 milliseconds
- Exact limitation of torque
- Progressive adjustment of cut out torque
- Compact construction, low moment of inertia, high speeds possible
- Automatic return to an operational state after an overload

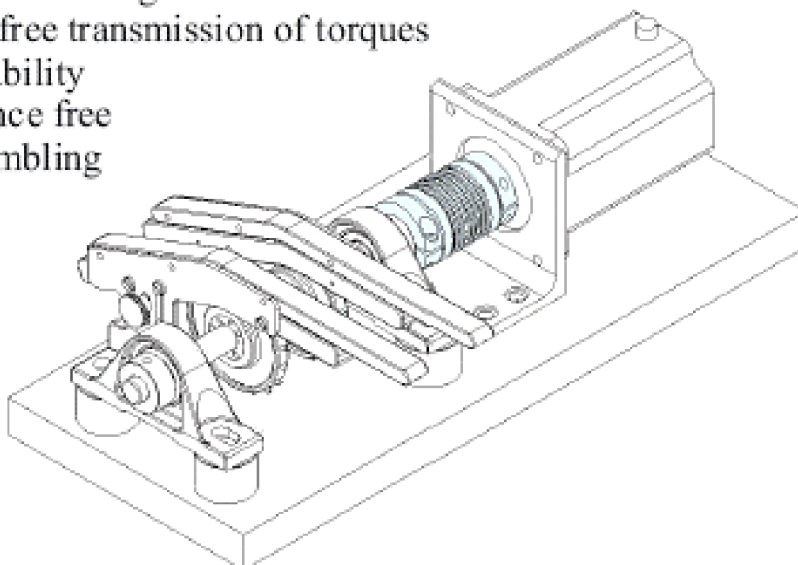


Safety clutch Type KBK/BK - 30

Metal Bellows Couplings

Metal Bellows Couplings

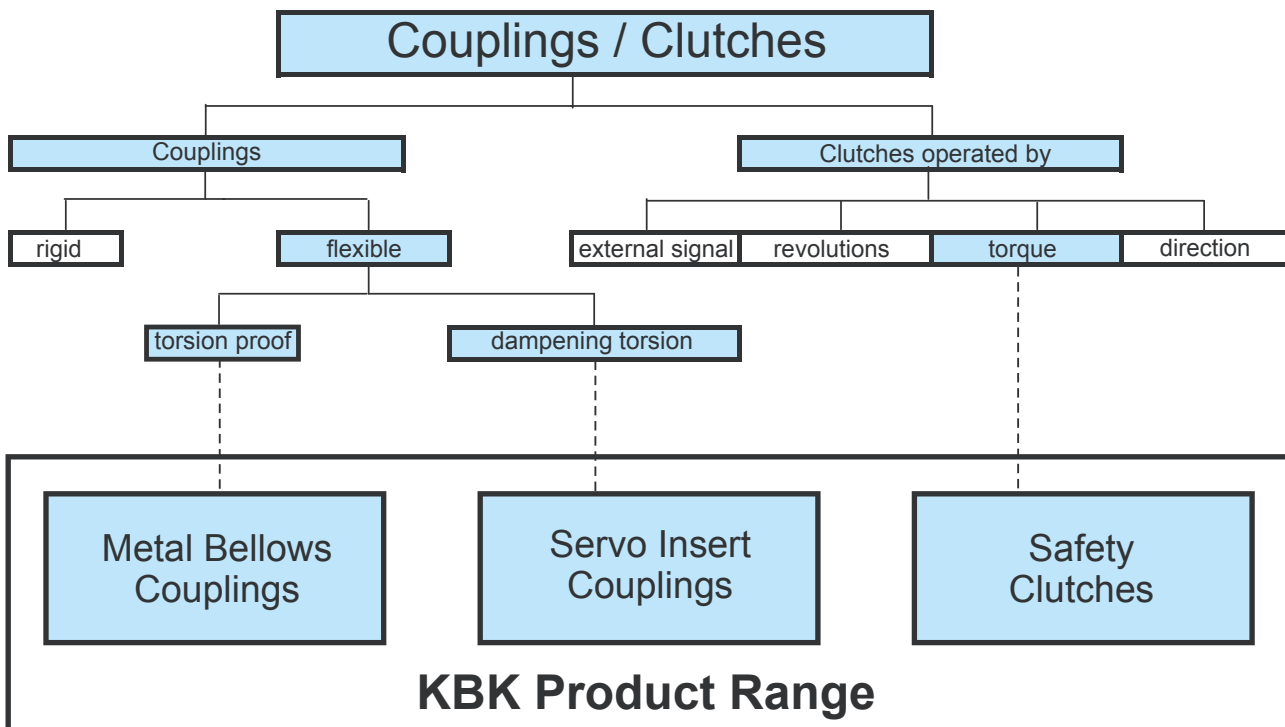
- Compensate misalignment of shafts
- Backlash-free transmission of torques
- Long durability
- Maintenance free
- Easy assembling



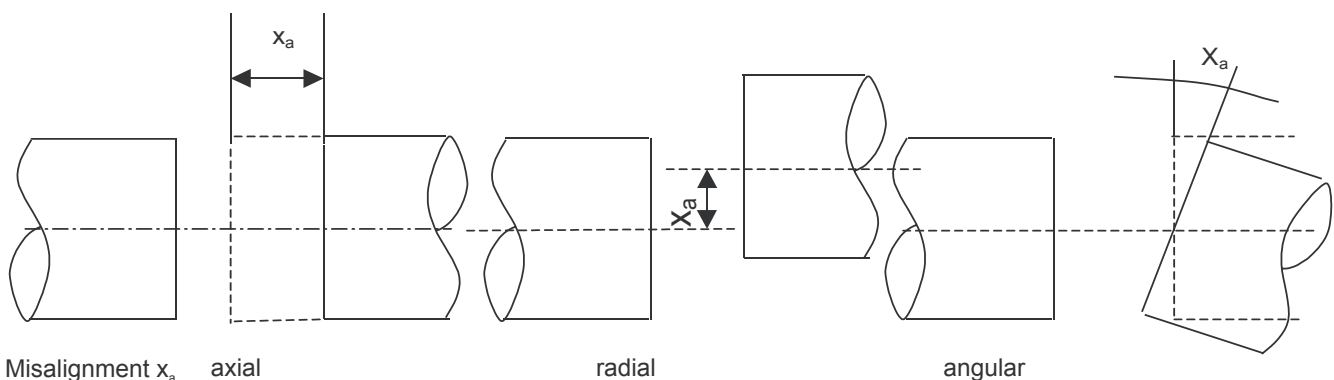
Example for the application of Metal Bellows Couplings

Product Information

Couplings connect shafts. According to their function, the VDI-Standard 2240 divides couplings and clutches.



Flexible couplings compensate axial, radial and angular misalignment of shafts.



Safety Clutches, operated by a change of torque switch off the drive in case of an overload.