

BoWex[®] -
Curved-tooth gear couplings[®]
Shaft couplings

BoWex[®] FLE-PA_{DBGM}
Torsionally rigid flange
couplings

BoWex-ELASTIC[®]_{DBP}
Highly flexible
flange couplings

MONOLASTIC[®]_{EP 0853203}
Single parted, flexible
flange couplings



Quality Approval

**Development
Partnership**



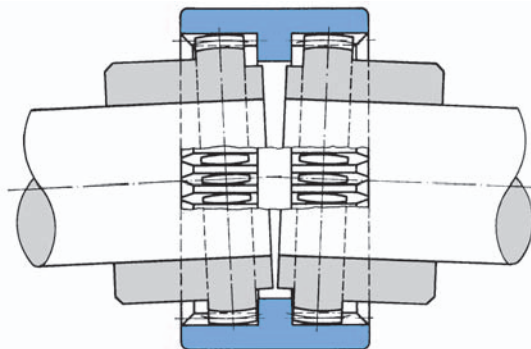
**Research
Service**



www.ktr.com

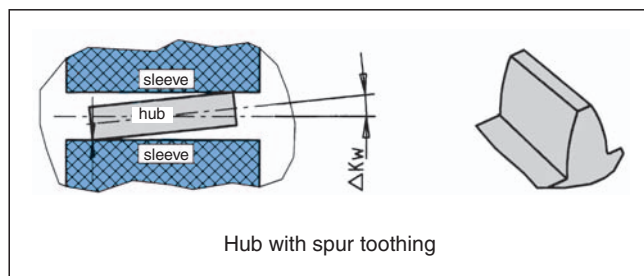
INDUSTRIE FORUM
DESIGN HANNOVER

Operating description

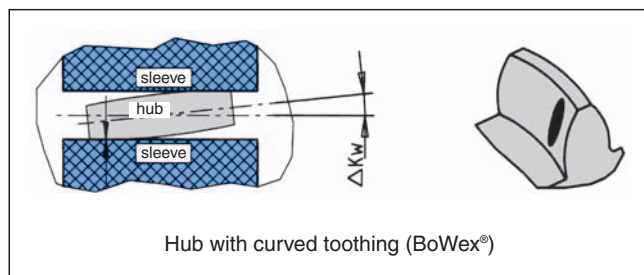


BoWex curved-tooth gear couplings are flexible shaft connections for a positive torque transmission and specifically suitable to compensate for axial, radial and angular shaft misalignment.

According to the well-known effect of curved-tooth gear couplings any edge pressure in the spline in case of angular and radial displacements is avoided so that BoWex couplings are almost free from wear.



On couplings with spur tothing high edge pressure along with considerable wear arises at the contact surfaces in case of misalignment.



The curved teeth avoid any edge pressure on the coupling in case of angular and radial misalignment.

The material combination of steel hubs and polyamide sleeves allows for maintenance-free continuous operation with very low friction on the teeth.

Due to the double cardanic operation of BoWex couplings restoring forces may be neglected in case of angular and radial displacements and periodic fluctuations in angular velocity do not arise.

BoWex couplings can be assembled both vertically or horizontally with no need for any special assembly tools.

The standard polyamide material is characterized by the following positive features:

- high mechanical consistency
- high stiffness
- high thermal stability (+ 100° C)
- good viscosity even in case of low temperatures
- favourable slide-friction behaviour
- very good electrical insulating property
- good resistance to chemicals
- good dimensional accuracy

Behaviour of friction and wear of the BoWex sleeve

The smooth and hard surface (crystalline structure) and the high thermal stability and resistance to lubricants, fuels, hydraulic fluids, dissolvents, etc. make polyamide an ideal material for components stressed by sliding, particularly for the coupling production. While any metallic materials tend to "corrode" in case of dry running, slide combinations with polyamide and steel are operative without any lubrication and maintenance.

Explosion protection use

BoWex® couplings type M until size 65 incl. with an electrically conductive nylon sleeve (PA-CF) are suitable for power transmission in hazardous areas. The couplings are approved according to EC Standard 94/9/EC (ATEX 95) as units of category 2G/2D and are thus suitable for the use in hazardous areas in zones G1, G2, D21 and D22. Please see our Certificate and our operating and mounting instructions on our web site www.ktr.com.



Technical data

Determination of coupling size Selection according to torque

The coupling has to be selected in a way that the maximum starting torque of driving or driven machine does not exceed the maximum torque of the coupling.

With a smooth load curve and well-aligned shafts the coupling can be loaded up to the maximum torque.

In case of uneven torque course with short-term peaks the BoWex coupling may be overloaded three times the rated torque mentioned.

For small shaft dimensions please take into account the permissible surface pressure on the keyway connection.

Design and size		Power Rated	$\frac{P}{n}$ kW 1/min Maximum	Torque T_K [Nm]			Max. speed [1/min]
				T_{KN}	$T_{K \max}$	T_{KW}	
Type plug-in coupling / junior-M	junior 14 / M-14	0,0005	0,0010	5	10	2,5	6000
	junior 19 / M-19	0,0008	0,0017	8	16	4	6000
	junior 24 / M-24	0,0013	0,0025	12	24	6	6000
Type M/I AS Spec.-I SG SSR	14	0,0010	0,0021	10	20	5	14000
	19	0,0017	0,0033	16	32	8	11800
	24	0,0021	0,0042	20	40	10	10600
	28	0,0047	0,0094	45	90	23	8500
	32	0,0063	0,013	60	120	30	7500
	38	0,0084	0,017	80	160	40	6700
	42	0,010	0,021	100	200	50	6000
	45 u. 48	0,015	0,029	140	280	70	5600
	65	0,040	0,080	380	760	190	4000
	80	0,073	0,15	700	1400	350	3150
	100	0,13	0,25	1200	2400	600	3000
125	0,26	0,52	2500	5000	1250	2120	
Type M...C	14	0,0015	0,0047	15	45	7,5	14000
	19	0,0025	0,0075	24	72	12	11800
	24	0,003	0,009	30	90	15	10600
	28	0,007	0,022	70	210	35	8500
	32	0,009	0,028	90	270	45	7500
	38	0,013	0,038	120	360	60	6700
	48	0,021	0,063	200	600	100	5600
65	0,058	0,18	560	1680	280	4000	
Type FLE-PA	28	0,0078	0,014	75	185	37,5	6000
	32	0,014	0,028	135	335	67,5	6000
	48	0,025	0,050	240	600	120	5000
	T 48	0,03	0,078	300	750	150	5000
	T 55	0,047	0,12	450	1125	225	4500
	65	0,068	0,14	650	1600	325	3600
	T 65	0,084	0,21	800	2000	400	3600
	T 70	0,105	0,262	1000	2500	500	3400
	80	0,13	0,25	1200	3000	600	3000
	T 80	0,16	0,039	1500	3750	750	3000
	100	0,21	0,43	2050	5150	1025	2500
	125	0,44	0,89	4250	10700	2125	2500
Type ELASTIC HE HEW	W42HE 40Sh	0,0009	0,028	90	270	25	6200
	40Sh	0,014	0,041	130	390	39	
	42HE 50Sh	0,016	0,047	150	450	45	6200
	65Sh	0,019	0,057	180	540	54	
	40Sh	0,021	0,063	200	600	60	
	48HE 50Sh	0,024	0,072	230	690	69	5600
	65Sh	0,029	0,088	280	840	84	
	40Sh	0,037	0,110	350	1050	105	
	65HE 50Sh	0,042	0,126	400	1200	120	4500
	65Sh	0,052	0,157	500	1500	150	
	40Sh	0,089	0,267	750	2250	225	
	80HE 50Sh	0,096	0,298	950	2850	285	3600
	65Sh	0,126	0,372	1200	3600	360	
	40Sh	0,130	0,39	1250	3750	375	
	G80HE 50Sh	0,16	0,50	1600	4800	480	3000
	65Sh	0,21	0,62	2000	6000	600	
	40Sh	0,21	0,62	2000	6000	600	
	100HE 50Sh	0,26	0,78	2500	7500	750	2500
	65Sh	0,36	1	3200	9600	960	
	40Sh	0,31	0,942	3000	9000	900	
125HE 50Sh	0,41	1,256	4000	12000	1200	2300	
70Sh	0,52	1,570	5000	15000	1500		

BoWex® Curved-tooth gear couplings®

Cylinder, taper, inch bores

Basic programme



BoWex
BoWex-FLE-PA
BoWex-ELASTIC

BoWex® size	Finish bores (mm) H7 keyway DIN 6885 sheet 1 (JS9) and setscrew																															
	un-pilot bored	8	9	10	11	12	13	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70	75
14	●	●	●	●	●	●	●	●	●																							
19	●			●	●	●		●	●	●	●	●	●	●	●	●																
24	●			●	●	●		●	●	●	●	●	●	●	●	●																
28	●							●	●	●	●	●	●	●	●	●																
32	●											●	●	●	●	●	●	●	●	●	●	●	●	●								
38	●											●	●	●	●	●	●	●	●	●	●	●	●	●	●							
42	●												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
48	●																●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
65	●																								●	●	●	●	●	●	●	●
80	●																															

● standard length ■ standard lengthened

Code d +0.05 b JS9 t +0.2	Taper 1 : 5						Taper 1 : 8					Inch bores																				
	A-10 9,85 2	B-17 16,85 3	C-20 19,85 4	D-25 24,85 5	E-30 29,85 6	N/1 9,7 2,4	N1d 14 3	N/2 17,28 3,2	N/2a 17,28 4	N/3 22 3,99	Ta 12,7 3,17 14,3	DNC 13,45 3,17 14,9	Ed 15,87 4,75 18,1	A 19,05 4,78 21,3	G 22,22 4,75 24,7	F 22,22 6,38 25,2	Bs 25,38 6,37 28,3	Hs 25,4 6,35 28,3	K 31,75 7,93 35,4													
14	●					●							●																			
19		●				●						●																				
24	●	●				●	●	●	●		●		●	●																		
28	●	●	●			●	●	●	●		●		●	●																		
32		●	●																													
38		●	●											●												●	●					●
42		●	●	●										●	●										●	●	●	●				●
48																									●							●
65																																

Further dimensions on request

BoWex® couplings for IEC-motors (protection type IP 54 / IP 55)

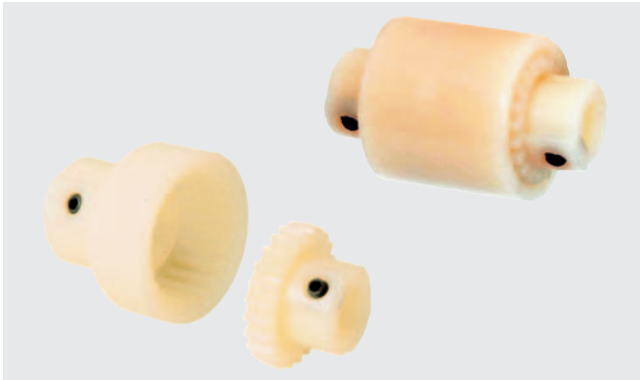
A. C. motor Size	Motor output with 50 Hz n = 3000 [1/min]		BoWex®-coupling	Motor output with 50 Hz n = 1500 [1/min]		BoWex®-coupling	Motor output with 50 Hz n = 1000 [1/min]		BoWex®-coupling	Cylindric shaft end d x l [mm] 3000 ≤ 1500	
	kW	T [Nm]		kW	T [Nm]		kW	T [Nm]			
56	0,09 0,12	0,32 0,41		0,06 0,09	0,43 0,64		0,037 0,045	0,43 0,52		9 x 20	
63	0,18 0,25	0,62 0,86	14	0,12 0,18	0,88 1,3	14	0,06 0,09	0,72 1,1	14	11 x 23	
71	0,37 0,55	1,3 1,9		0,25 0,37	1,8 2,5		0,18 0,25	2,0 2,7		14 x 30	
80	0,75 1,1	2,5 3,7	19	0,55 0,75	3,7 5,1	19	0,37 0,55	3,9 5,8	19	19 x 40	
90 S	1,5	5,0	24	1,1	7,5	24	0,75	8,0	24	24 x 50	
90 L	2,2	7,4		1,5	10		1,1	12		28 x 60	
100 L	3	9,8	28	2,2 3	15 20	28	1,5	15	28	28 x 60	
112 M	4	13		4	27		2,2	22		38 x 80	
132 S	5,5 7,5	18 25	38	5,5	36	38	3	30	38	38 x 80	
132 M				7,5	49		4	40		55 x 110	
160 M	11 15	36 49	42	11	72	42	7,5	75	42	42 x 110	
160 L	18,5	60		15	98		11	108		48 x 110	
180 M	22	71	48	18,5	121	48			48	48 x 110	
180 L				22	144		15	148		55 x 110	
200 L	30 37	97 120		30	196		18,5 22	181 215		55 x 110	
225 S				37	240	65			65	55 x 110	
225 M	45	145	65	45	292		30	293		55 x 110	60 x 140
250 M	55	177		55	356		37	361		60 x 140	65 x 140
280 S	75	241		75	484		45	438			75 x 140
280 M	90	289		90	581	80	55	535	80	75 x 140	
315 S	110	353		110	707		75	727		80 x 170	
315 M	132	423		132	849		90	873		80 x 170	
315 L	160 200	513 641	80	160 200	1030 1290	100	110 132	1070 1280	100	65 x 140	
315	250 315	801 1010	100	250 315	1610 2020	125	160 200	1550 1930	125	85 x 170	
355	355 400	1140 1280	125	355 400	2280 2560		315	3040	-	75 x 140	

Torque T_△ rated torque according to Siemens catalogue.

BoWex® Curved-tooth gear couplings®

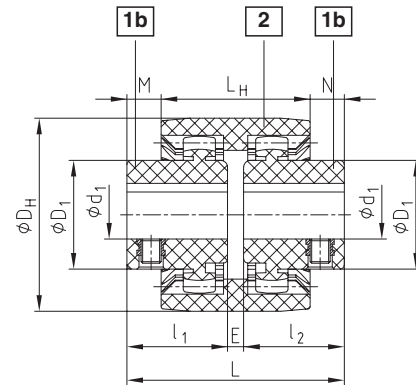
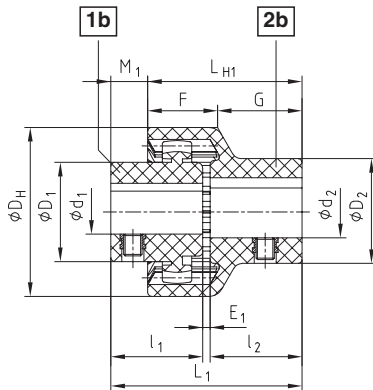
Junior basic programme from nylon

Type plug-in coupling No. 001 a. type M No. 002



- Curved-tooth gear coupling plug-in design (2 parts) from nylon
- Double cardanic curved-tooth gear coupling type M (3 parts) from nylon
- Maintenance-free due to material combination nylon
- Compensating for axial, radial and angular shaft misalignment
- Low weight and small flywheel effect
- Axial plug-in – easy assembly
- Operating range - 25 °C to + 100 °C
- Available from stock with finish bore for standard shafts including keyway to DIN 6885 sheet 1 and thread for set screws, bore tolerance + 0,05 - 0,1 keyway tolerance ± 0,08, H7 fit for steel hubs only

Components



Type junior plug-in coupling (2 parts)

Type junior M coupling (3 parts)

Size	Torque TK		Finish bores				Dimensions [mm]											Max. speed [1/min]	
			Hub, part 1b		Plug-in-sleeve part 2b		DH	li;l2	E1	L1	LH1	M1	F	G	E	L	LH		M;N
	TKN	TKmax	d1	D1	d2	D2													
BoWex® junior 14			Ø6, Ø7, Ø8, Ø9	22	Ø8	22													
BoWex® junior M-14	5	10	Ø10, Ø11	25	Ø10, Ø11	25	40	23	2	48	40	8	23	17	4	50	37	6,5	6000
BoWex® junior 19			Ø12, Ø14	26	Ø12, Ø14	26													
BoWex® junior M-19	8	16	Ø12, Ø14	27	Ø14, Ø15	29	48	25	2	52	42	10	23	19	4	54	37	8,5	6000
BoWex® junior 24			Ø10, Ø11, Ø12	26	Ø14, Ø16	32													
BoWex® junior M-24	12	24	Ø14, Ø15, Ø16	32	Ø14, Ø16	32	53	26	2	54	45	9	25	20	4	56	41	7,5	6000
			Ø18, Ø19, Ø20	36	Ø19, Ø20	36													
			Ø24	38	Ø24	40													

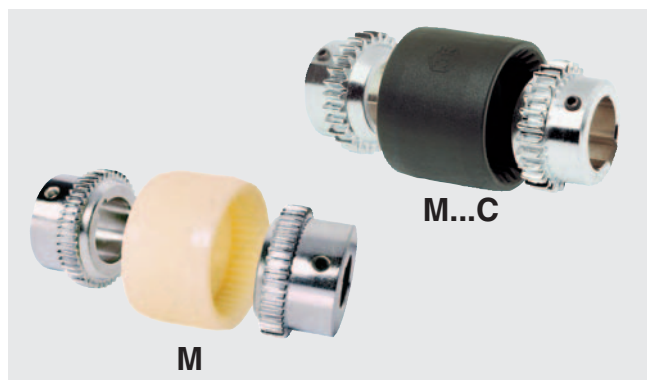
Order form:

BoWex® junior 19	d1 Ø 19	d2 Ø 14
Coupling size 2-parted design or BoWex® junior M-19 3-parted design	Finish bore	Finish bore

BoWex® Curved-tooth gear couplings®

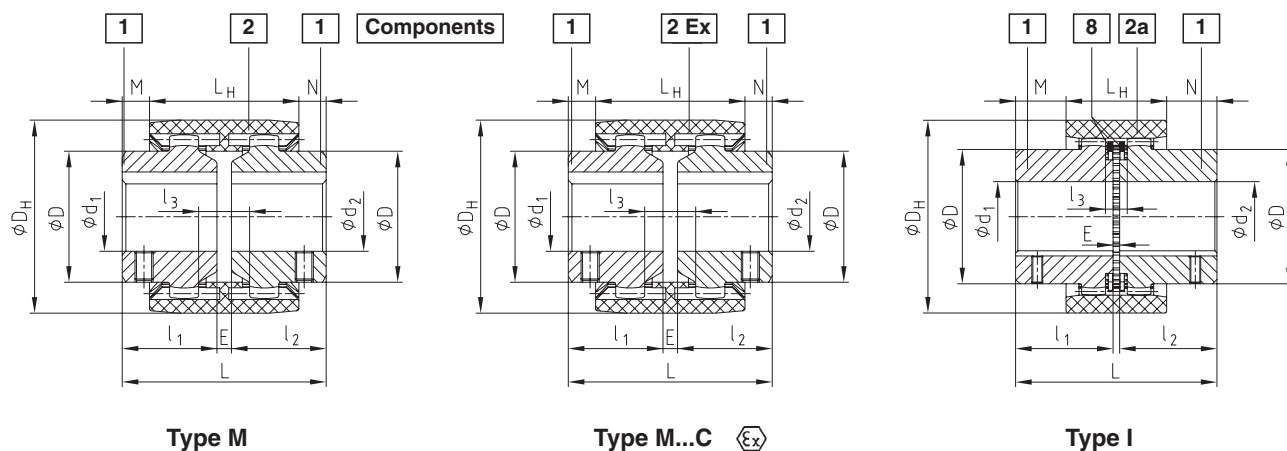


Type M No. 003 / I No. 006 / M...C



- Double cardanic curved-tooth gear coupling
- For all applications in the range of general engineering and hydraulics
- Maintenance-free due to the material combination of nylon and steel
- Compensating for axial, radial and angular shaft misalignment
- Axial plug-in - easy assembly
- Available with finish bore to ISO H7 fit, keyway to DIN 6885 sheet 1 - JS9 as well as taper and inch bores
- Type M...C with carbon fiber reinforced PA, low backlash, higher torques and approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)
- For finish bores available from stock see KTR stock programme on page 71
- For performance data see page 70

BoWex
BoWex-FLE-PA
BoWexELASTIC

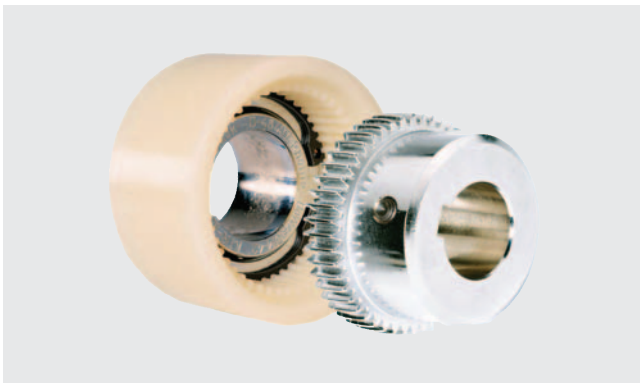


Size	Finish bore d1; d2	Dimensions [mm]												Weight with max. bore-Ø			Massmoment of inertia J with max. bore-Ø			
		Pilot bored	Max.	$l_1; l_2$	E	L	L_H	M;N	l_3	D	D_H	Tip circle Ø D_z of hub	Lengthened $l_1; l_2$ max.	Sleeve (kg)	Hub (kg)	Total (kg)	Sleeve (kgcm ²)	Hub (kgcm ²)	Total (kgcm ²)	
M-14	M-14 C	-	15	23	4	50	37	6,5	10	25	40	33	40	0,03	0,07	0,1	0,08	0,09	0,26	
M-19	M-19C	-	20	25	4	54	37	8,5	10	32	47	39	40	0,03	0,1	0,23	0,15	0,16	0,47	
M-24	M-24C	-	24	26	4	56	41	7,5	14	36	53	45	50	0,04	0,14	0,32	0,21	0,36	0,93	
M-28	M-28C	-	Finish bores see KTR stock programme	28	40	4	84	46	19	13	44	65	54	0,08	0,33	0,74	0,65	1,22	3,09	
M-32	M-32C	-		32	40	4	84	48	18	13	50	75	63	55	0,09	0,43	0,95	1,14	2,17	5,48
M-38	M-38C	-		38	40	4	84	48	18	13	58	83	69	60	0,13	0,55	1,23	1,58	3,55	8,68
M-42		-		42	42	4	88	50	19	13	65	92	78	60	0,14	0,68	1,50	2,32	5,98	14,28
M-48	M-48C	-		48	50	4	104	50	27	13	68	95	78	60	0,23	0,79	1,81	3,90	7,22	18,34
M-65	M-65C	²⁶ 70 lg.	65	55	4	114	68	23	16	96	132	110	70	0,55	1,90	4,35	21,2	31,8	84,8	
I-80		31	80	90	6	186	93	46,5	20	124	175	145	-	1,13	5,20	11,53	68,9	150,8	370,5	
I-100		35	100	110	8	228	102	63	22	152	210	176	-	1,78	9,37	20,52	158,6	401,3	961,2	
I-125		45	125	140	10	290	134	78	30	192	270	225	-	3,88	19,44	42,76	562,9	1362,3	3287,5	

Order form:

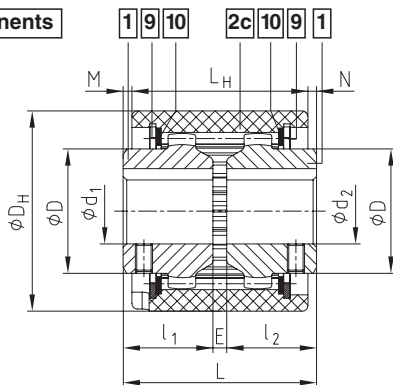
BoWex® M-28	d_1 Ø 20	d_2 Ø 28
Size and type of coupling	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

Type AS No. 004 and Spec.-I No. 005



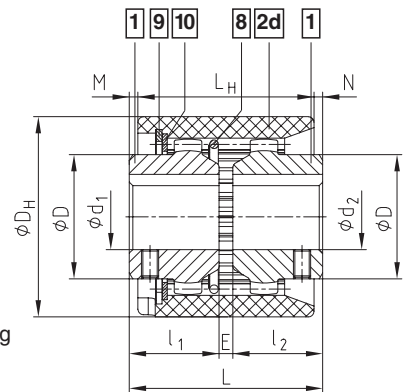
- Double cardanic curved-tooth gear coupling
- Maintenance-free due to material combination of nylon and steel
- Compensating for axial, radial and angular shaft misalignment
- Type AS – separable coupling design - axially movable sleeve when assembled
- Type Spec.-I – axial plug-in for blind assembly
- Application range from - 25 °C to + 100 °C
- Available with finish bore acc. to ISO H7 fit, keyway to DIN 6885, sheet 1 - JS9 and thread for setscrews (page 82)
- For finish bores available from stock see KTR stock programme on page 71
- For performance data see page 70

Components



Type AS

- Components 1 Hub
- Components 2c AS-sleeve
- Components 2d Spec.-I-sleeve
- Components 8 Internal snap ring
- Components 9 Circlip
- Components 10 Wearing ring



Type Spec. - I

Size	Pilot bore		Finish bore d ₁ ; d ₂	Dimensions [mm]								Weight with max. bore Ø			Mass moment of inertia J with max. bore Ø			
	Un-bored	Pilot bored		Max.	l ₁ ; l ₂	E	L	L _H	M; N	D	D _H	Leng-thened l ₁ ; l ₂ max.	Sleeve (kg)	Hub (kg)	Total (kg)	Sleeve (kgcm ²)	Hub (kgcm ²)	Total (kgcm ²)
24	x	–	Finish bores see KTR stock programm	24	26	4	56	51	2,5	36	58	50	0,11	0,14	0,39	0,38	0,36	1,10
28	x	–		28	40	4	84	56	14	44	70	55	0,16	0,33	0,82	1,54	1,22	3,98
32	x	–		32	40	4	84	58	13	50	84	55	0,21	0,43	1,07	2,75	2,17	7,09
45	x	–		45	42	4	88	60	14	65	100	60	0,27	0,63	1,53	5,49	5,66	16,81
65	x	²⁶ / ₇₀ lg.		65	55	4	114	84	15	96	140	70	0,84	2,10	5,00	29,83	43,96	117,75
80	–	31		80	90	6	186	93	46,5	124	175	–	1,30	5,20	11,70	83,20	150,8	384,8
100	–	35		100	110	8	228	102	63	152	210	–	2,05	9,40	20,80	184,4	401,3	987,0
125	–	45		125	140	10	290	134	78	192	270	–	4,32	19,44	43,10	620,0	1362,3	3344,6

Order form:

BoWex® 32 AS	d ₁ Ø 32	d ₂ Ø 32
Size and type of coupling AS or Spec.-I	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

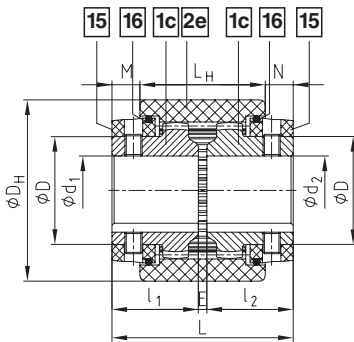
BoWex® Curved-tooth gear couplings®

Other types

SG No. 007, SSR No. 008, Spec.-I/CD No. 010



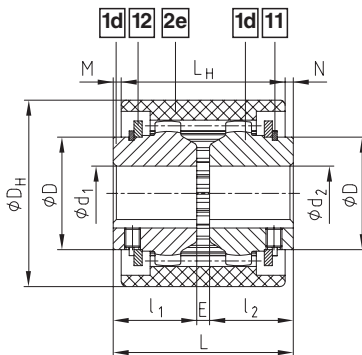
Type SG No. 007 with dust protection circlips



Size	Pilot bore		Finish bore		Dimensions (mm)							
	Un-bored	Pilot bored	min.	max.	$l_1; l_2$	E	L	L_H	M; N	D	D_H	Lengthened hub $l_1; l_2$ max.
24 SG	x	-	10	24	36	4	76	51	12,5	36	58	50
28 SG	x	-	10	28	40	4	84	56	14	44	70	55
32 SG	x	-	12	32	40	4	84	58	13	50	84	55
45 SG	x	-	20	45	42	4	88	60	14	65	100	60
65 SG	-	26	30	65	70	4	144	84	30	96	140	-
80 SG	-	31	35	80	90	6	186	93	46,5	122	175	-
100 SG	-	35	40	100	110	8	228	102	63	150	210	-
125 SG	-	45	50	125	140	10	290	134	78	190	270	-

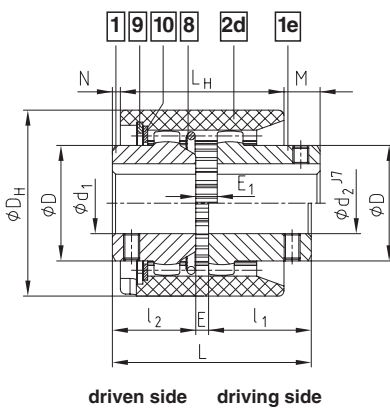
Thread for setscrews only for finish bored hubs.

Type SSR Nr. 008 with supporting circlips



Size	Pilot bore		Finish bore		Dimensions (mm)							
	Un-bored	Pilot bored	min	max	$l_1; l_2$	E	L	L_H	M; N	D	D_H	Lengthened hub $l_1; l_2$ max.
24 SSR	x	-	10	22	26	4	56	51	2,5	35	58	50
28 SSR	x	-	10	26	40	4	84	56	14	42	70	55
32 SSR	x	-	12	30	40	4	84	58	13	48	84	55
45 SSR	x	-	20	42	42	4	88	60	14	63	100	60
65 SSR	x	$\frac{26}{70} l_g$	30	65	55	4	114	84	15	95	140	70
80 SSR	-	31	35	80	90	6	186	93	46,5	120	175	-
100 SSR	-	35	40	100	110	8	228	102	63	150	210	-
125 SSR	-	45	50	125	140	10	290	134	78	190	270	-

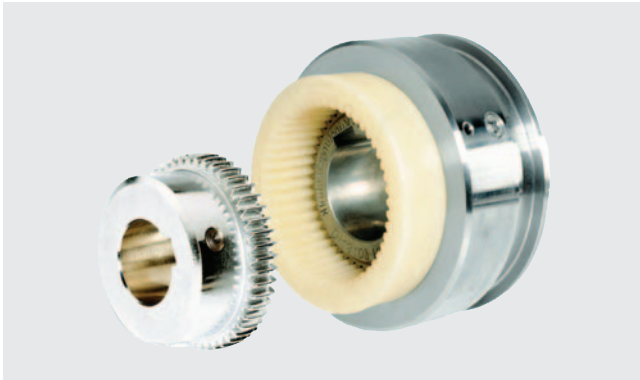
Type Spec.-I/CD No. 010



Size Spec.-I	Pilot bore		Finish bore		Dimensions (mm)										
	Un-bored	Pilot bored	min.	max.	L	L_1	L_H	E	E_1	l_2	l_1	D_H	D	M	N
24 CD	x	-	10	24	70	73,5	51	4	7,5	26	40	58	36	20	2,5
28 CD	x	-	10	28	94,5	98	56	4	8,5	40	50,5	70	44	28	14
32 CD	x	-	12	32	94,5	-	58	4	8,5	40	50,5	84	50	27	13
45 CD	x	-	20	45	101,5	-	60	4	8,5	42	55,5	100	65	32	14
65 CD	-	26	30	65	123	-	84	4	10	55	64	140	96	28,5	15
80 CD	-	31	35	80	179	-	93	6	13	90	83	175	124	44	46,5

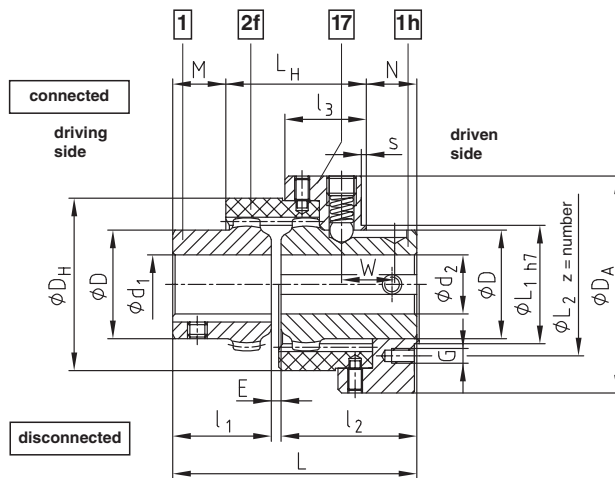
Please order dimension sheet of design Spec.-I/CDB with shear pins.

Type SD No. 009 – shiftable standstill



- For all applications in the range of general engineering to quickly connect or disconnect power packs at standstill
- Maintenance-free due to material combination nylon and steel
- Application range from - 25 °C to + 100 °C
- Available with finish bore according to ISO fit H7, keyway to DIN 6885 sheet 1 - JS9, thread for setscrews see on page 82
- For performance data please see page 70, compare to design M/I
- max. circumferential speed $v = 20$ m/s, referring to ϕD_A

Components



Connection dimensions of BoWex SD shifting ring (part 17) for mounting of: slip ring SD1 - see catalogue on page 77, shifting disk etc.

Size	Dimensions (mm)			
	L ₁	L ₂	z x G	s
24 SD	48	58	4 x M6	2
28 SD	48	58	4 x M6	2
32 SD	64	75	4 x M6	2
45 SD	75	90	4 x M8	2
65 SD	100	114	4 x M8	2
80 SD	130	145	4 x M8	3
100 SD	180	196	6 x M10	4
125 SD	220	236	6 x M10	4

Size	Pilot bore		Finish bore d ₁ ; d ₂			Dimensions [mm]												Weight with max. bore		Mass moment of inertia J with max. bore		Shifting force (N)
	Un-bored	Pilot bored	d ₁	d ₁ max.	d ₂ max.	E	I ₁	I ₂	L	L _H	I ₃	M	W	N	D	D _H	D _A	Shifting hub with sleeve (kg)	Driving hub (kg)	Shifting hub with sleeve (kgcm ²)	Driving hub (kgcm ²)	
24 SD	x	-	For finish bores please see KTR stock programme	24	24	4	26	50	80	52	31	10	19	18	36	58	78	1,08	0,14	8,23	0,36	140
28 SD	x	-		28	28	4	40	55	99	57	33	21,5	21,5	20,5	44	70	88	1,50	0,33	15,62	1,22	180
32 SD	x	-		32	32	4	40	55	99	58	33	20,5	21,5	20,5	50	84	100	1,85	0,43	22,87	2,17	180
45 SD	x	-		45	45	4	42	60	106	63	37	21,5	22,5	21,5	65	100	125	2,56	0,68	46,07	5,66	250
				48			50															
65 SD	x	²⁶ / ₇₀ lg.		65	65	4	55	70	129	79	37	26	25	24	95	140	156	5,07	2,30	158,99	43,96	250
80 SD	-	31		80	80	6	90	90	186	96	47	56	35	34	124	175	195	10,60	5,20	523,7	150,8	350
100 SD	-	35		100	100	8	110	110	228	113	55	72	43	43	152	210	235	18,87	9,37	1350	401,3	400
125 SD	-	45	125	125	10	140	140	290	149	70	89	52	52	192	270	298	40,40	9,44	4919	1362,3	450	

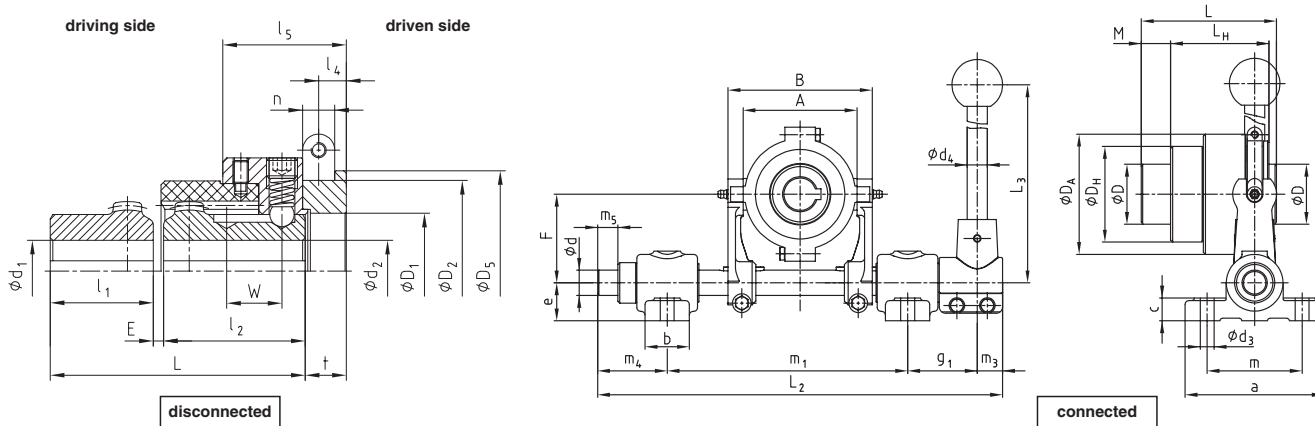
Order form:

BoWex® 32 SD	d ₁ Ø 32	d ₂ Ø 32
Coupling size and design	Finish bore H7 keyway DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway DIN 6885 sheet 1 (JS9)

Type SD1 with slip ring and shiftable linkage



- For all applications in the range of general engineering to quickly connect or disconnect power packs at standstill
- Maintenance-free due to material combination nylon and steel
- Application range from - 25 °C to + 100 °C
- Available with finish bore according to ISO fit H7, keyway to DIN 6885 sheet 1 - JS9, thread for setscrews see on page 82
- Available with slip ring and shiftable linkage for manual operation
- For performance data please see page 70, compare to design M/I
- max. circumferential speed $v = 20 \text{ m/s}$, referring to $\varnothing D_A$



Size	Finish bore			Dimensions of BoWex® coupling type SD1																	Shifting force (N)
	d ₁	d ₁ max.	d ₂ max.	E	l ₁	l ₂	L	L _G	l ₄	l ₅	M	W	t	D	D _H	D _A	D ₁	D ₂ ± 0.1 (keyway)	D ₅	n ± 0.1 (keyway)	
24 SD1	24	24	24	4	26	50	80	67	11	46	10	19	16	36	58	78	45	70,5	78	12,5	140
28 SD1	28	28	28	4	40	55	99	72	11	48	21,5	21,5	16	44	70	88	45	70,5	78	12,5	180
32 SD1	32	32	32	4	40	55	99	78	13,5	53	20,5	21,5	21	50	84	100	60	89,5	100	17,5	180
45 SD1	45	45	45	4	42	60	106	84	14	58	21,5	22,5	22	65	100	125	70	112,5	125	18	250
	50				29,5																
65 SD1	65	65	65	4	55	70	129	103	16	61	26	25	25	96	140	156	96	130,5	145	20,5	350
80 SD1	80	80	80	6	90	90	186	124	18,5	75	56	35	29	124	175	195	125	164,5	182	25,5	350
100 SD1	100	100	100	8	110	110	228	152	28	94	72	43	39	152	210	235	174	210,5	230	30,5	400
125 SD1	125	125	125	10	140	140	290	193	30,5	114	89	52	44	192	270	298	214	250,5	275	35,5	450

Size	Shiftable linkage Size	Slip ring Size	Dimensions of shifting device															Dimensions with m ₁ max			
			a	b	c	d	d ₃	d ₄	e	F	g ₁	L ₂	L ₃	m	m ₁ min.	m ₁ max.	A	B	m ₃	m ₄	m ₅
24 SD1	1	1,1	110	35	18	20	11	16	30	70	55	320	400	75	180	190	90	114	20	55	16
28 SD1	1	1,1	110	35	18	20	11	16	30	70	55	320	400	75	180	190	90	114	20	55	16
32 SD1	2	2,2	140	40	25	25	13,5	20	40	97,5	60	430	450	100	240	270	111	151	20	80	34
45 SD1	3	3,3	140	40	25	30	13,5	20	40	120	70	490	600	100	280	310	140	180	20	90	44
65 SD1	3	4,4	140	40	25	30	13,5	20	40	120	70	490	600	100	280	310	170	210	20	90	44
80 SD1	4	5,5	160	45	25	35	13,5	30	50	147,5	70	565	750	120	321	365	200	244	30	100	54
100 SD1	5	6,6	160	45	25	40	13,5	30	50 ¹⁾	190	80	630	1068	120	365	410	250	300	30	110	62
125 SD1	5	7,7	160	45	25	40	13,5	30	50 ¹⁾	190	80	630	1068	120	-	410	300	350	30	110	62

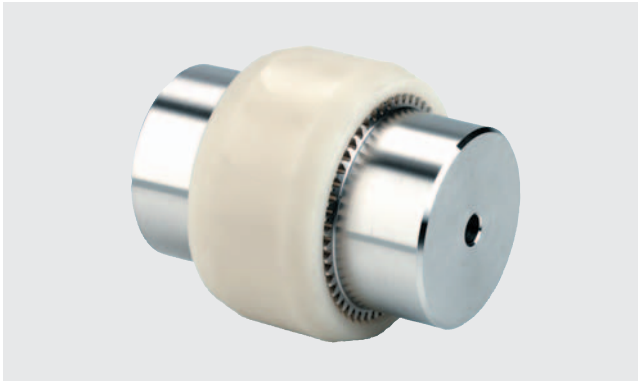
1) = For a continuous base plate the dimension "e" has to be increased by at least 10 mm. The brackets have to be adapted to the driving and driven sides accordingly.

Order form:

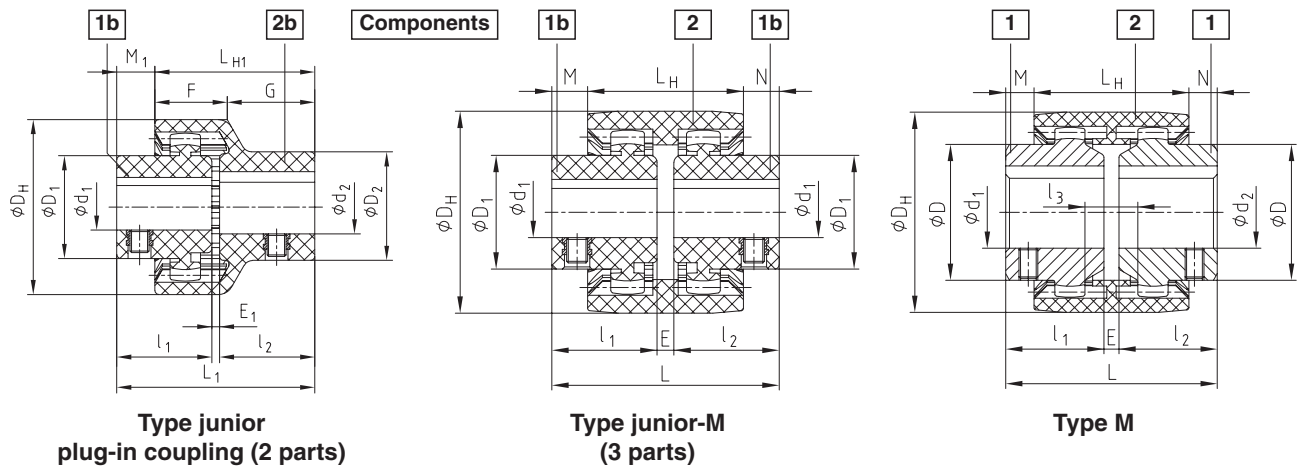
BoWex® 65 SD1	d ₁ Ø 32	d ₂ Ø 32	4,4	3
Coupling size and design	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Slip ring size	Shiftable linkage size

BoWex® Curved-tooth gear couplings®

made from corrosion-proof material



- BoWex®-Shaft couplings made from polyamid or special steel (1.4571)
- Designs: **BoWex® junior** - plug-in coupling (2 parts) and Type M (3 parts) from polyamide finish bore see page 72
- BoWex® M** - with sleeve made from polyamide and hubs from stainless steel (1.4571), available with finish bore according to ISO-H7, feather keyway according to DIN 6885 thread for set screws see page 82
- For performance data please see page 70



BoWex® Size	Dimensions (mm)											
	d ₁ ; d ₂	l ₁ ; l ₂	E	L _H	L _{H1}	L	D _H	D ₁	D ₂	D	M;N	M ₁
junior 14	max. 14	23	2	-	40	48	40	22/25/26	22/25/26	-	-	8
junior M-14	max. 14	23	4	37	-	50	40		-	-	6,5	-
junior 19	max. 19	25	2	-	42	52	48	27/30/32	29/35	-	-	10
junior M-19	max. 19	25	4	37	-	54	48		-	-	8,5	-
junior 24	max. 24	26	2	-	45	54	52	26/32/ 36/38	32/36/40	-	-	9
junior M-24	max. 24	26	4	41	-	56	52		-	-	7,5	-
M-24	max. 24	26	4	41	-	56	53	-	-	36	7,5	-
M-38	max. 38	40	4	48	-	84	83	-	-	58	18	-
M-48	max. 48	50	4	50	-	104	95	-	-	68	27	-

Further sizes on request.

Application areas:

Food processing industry, print and paper, textile industry, sewage technology, wash-mobiles, chemical and pharmaceutic industry, offshore units ...

For applications in aggressive atmospheres (air, water, chemicals etc.).

Order form:

	BoWex® 24 V4A	d ₁ Ø 20	d ₂ Ø 24
Coupling size and design		Finish bore H7 keyway DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway DIN 6885 sheet 1 (JS9)

BoWex® Curved-tooth gear couplings®

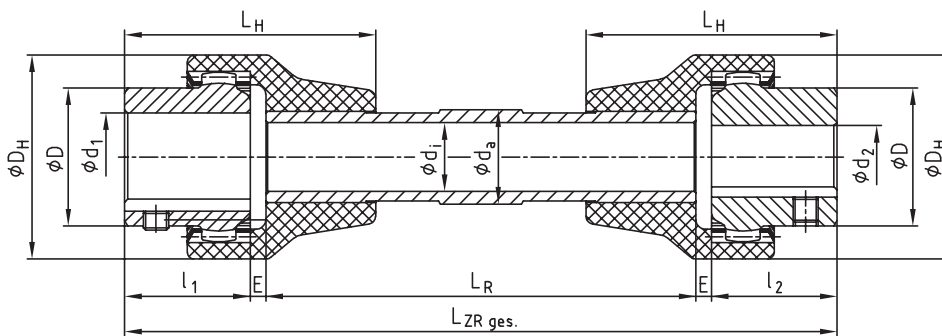
For connection of larger shaft distances

Type ZR, Spec. I



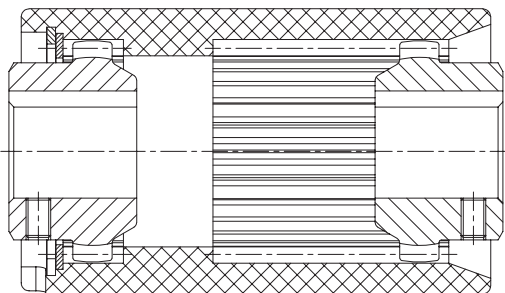
- Double cardanic curved-tooth gear coupling
- For all applications to connect larger shaft distances
- Low-cost for serial production
- Compensating for larger shaft displacements
- Axial plug-in
- Intermediate tubes variable in length (max. 2000 mm; on consultation with KTR)
- Hubs available with finish bores acc. to ISO fit H7 as well as taper and inch bores
- Application range from - 25° C to + 100° C

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BoWex-ELASTIC



Type ZR

Size	Pilot bore	Finish bore	Dimensions (mm)										Torque T _K		
			d ₁ /d ₂ max.	l ₁ /l ₂	Hub lengthened l ₁ /l ₂ max.	L _H	E	L _{ZR total}	L _R	D	D _H	d _i	d _a	T _{KN}	T _{Kmax}
14	-	14	23	40	40	3	as indicated by the customer	25	40	21	25	10	20	5	
28	-	28	40	55	60	3		44	66	30	26	45	90	23	
42	-	42	42	60	85	3		65	95	40	50	100	200	50	
48	-	48	50	60	85	3		68	95	40	50	140	280	70	



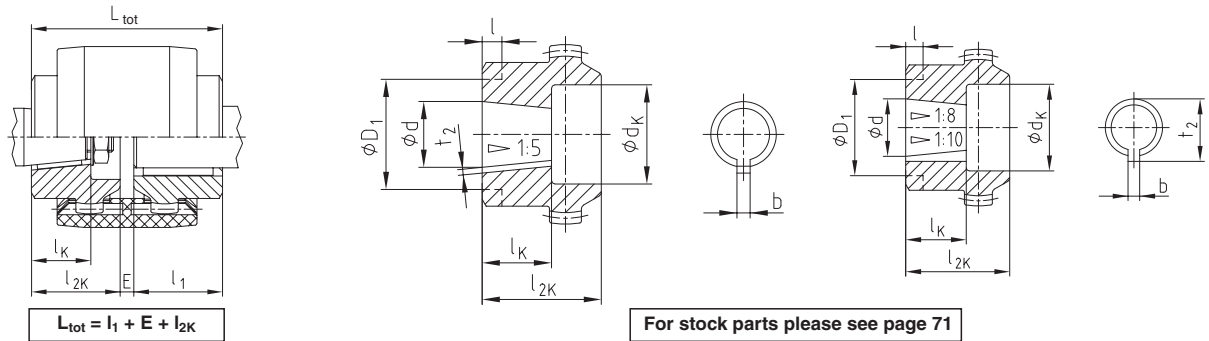
Type Spec. I with a long PA-sleeve

- Lengthened special sleeves available on request
- Connecting larger shaft distances
- Axial shifting of driving and driven shaft at standstill
- Maintenance-free
- Compensating for larger displacements
- Axial plug-in
- Application range from - 25° C to + 100° C

- BoWex ZR couplings are available up to a length of 2000 mm only for serial applications (n_{max} = 1000 min/1)
- BoWex Spec. I with lengthened sleeve on request

Taper bores

BoWex® with taper bores



Dimensions taper 1:5					Counterbore d_K and hub length l_{2K} (mm) Recess on hub collar $D_1 \times l$ (mm)																	
Code	Details of bores				14		19		24		28		32		38		42		48		65	
	$d^{+0,05}$	b^{JS9}	$t_2^{+0,1}$	l_K	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}
A-10	9,85	2	1,0	11,5	18	23	18	25	25	26	25	26	25	26	25	26						
					-		30 x 7		30 x 7		30 x 5		-		30 x 5							
B-17	16,85	3	1,8	18,5			25	30	28	30	36	40	36	40	36	40	45	42	45	42	45	50
C-20	19,85	4	2,2	21,5					28	36	36	40	36	40	36	40	45	42	45	42	45	50
Cs-22	21,95	3	1,8	21,5					28	36	36	40	36	40	36	40	45	42	45	42		
D-25	24,85	5	2,9	26,5							36	40	36	40	36	40	45	42	45	42	45	50
E-30	29,85	6	2,6	31,5											45	55	45	55	45	55	45	55
F-35	34,85	6	2,6	36,5															52	60	55	60
G-40	39,85	6	2,6	41,5															52	60	65	70

Dimensions taper 1:8					Counterbore d_K and hub length l_{2K} (mm) Recess on hub collar $D_1 \times l$ (mm)																	
Code	Details of bores				14		19		24		28		32		38		42		48		65	
	$d^{+0,05}$	$b^{+0,05}$	$t_2^{+0,2}$	l_K	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}
N/1	9,7 $\pm 0,015$	2,4	10,85	17	18	26	18	25	25	26	25	30	25	30	25	30						
					23 x 8		23 x 8		23 x 8		23 x 8		-		23 x 8							
N/1c	11,6	3 ^{JS9}	12,90	16,5	18	23			25	26	25	30										
N/1e	13	2,4	13,80	21					25	30	25	30			25	30						
N/1d	14	3 ^{JS9}	15,50	17,5	20	23	25	30	28	30	28	30	28	40								
					-		-		-		28 x 10		-		-		-		-		-	
N/2	17,287	3,2	18,24	24					28	35	36	40	36	40	36	40	45	42	45	42	45	50
									-		35 x 12		-		-		-		-		-	
N/2a	17,287	4 ^{JS9}	18,94	24					28	35	36	40	36	40	36	40	45	42	45	42	45	50
									-		35 x 12		-		-		-		-		-	
N/2b	17,287	3 ^{JS9}	18,34	24					28	35					36	40	45	42	45	42		
									-		-		-		-		-		-		-	
N/3	22,002	4 ^{JS9}	23,40	28							36	40	36	40	36	40	45	42	45	42	45	50
											-		-		-		-		-		48 x 14	
N/4	25,463	4,78	27,83	36							36	50	36	50	36	50	45	50	45	50	45	62
											-		-		-		58 x 10		58 x 10		-	
N/4b	25,463	5 ^{JS9}	28,23	36							36	50					45	50	45	50	45	62
N/4a	27	4,78	28,80	32,5											36	50						
N/4g	28,45	6 ^{JS9}	29,32	38,5											36	60	45	60	45	60		
N/5	33,176	6,38	35,39	44											45	60	45	60	45	60	45	62
N/5a	33,176	7 ^{JS9}	35,39	44											45	60	45	60	45	60	45	62

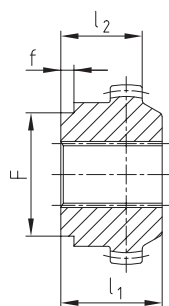
Dimensions taper 1:10					Counterbore d_K and hub length l_{2K} (mm)																	
Code	Details of bores				14		19		24		28		32		38		42		48		65	
	$d^{+0,05}$	b^{JS9}	$t_2^{+0,1}$	l_K	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}	d_K	l_{2K}
CX-20	19,85	5	22,08	32							36	50			36	50	45	50	45	50		
DX-25	24,95	6	26,68	45									36	50			45	60	45	60	45	60
EX-30	29,75	8	31,88	50													45	60	45	60	45	70

Order form:

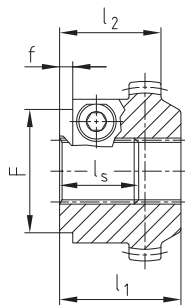
BoWex® M-28	$d_1 \text{ } \varnothing \text{ B17 1:5}$	$d_2 \text{ } \varnothing \text{ 28}$
Coupling size and design	Finish bore taper bore $\varnothing 16,85 \rightarrow 1:5$	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

Spline hubs · Inch bores

Stock programme of BoWex® spline hubs



Spline hub (N)



Clamping hub (K)

If it is not possible to secure the hubs of pump shafts with involute spline by means of an end plate and a screw, we recommend our spline clamping hub. The radial clamping ensures a backlash-free tight fit on the pump shaft.

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BoWex® coupling size	Spline and clamping hubs to DIN 5480							Order designation Indicate coupling size	BoWex® coupling size	Spline and clamping hubs to SAE J498							Order designation Indicate coupl. size
	Type	Spline size	l ₁	l ₂	l _s	F	f			Type	Spline size	l ₁	l ₂	l _s	F	f	
42	N	25x1,25x18	42	-	-	-	-	P000205	42	K	PH-S 5/8" 16/32DP; z = 9	42	-	-	-	-	P558101
	K	25x1,25x18	42	-	-	-	-	P500202		K	PI-S 3/4" 16/32DP; z = 11	-	35	-	-	-	P559101
	K	30x2x14	42	-	-	60	6	P500203			PB-S 7/8" 16/32DP; z = 13	42	-	-	60	3	P567101
48	N	30x2x14	50	-	-	60	6	P000206	48	K	PB-BS 1" 16/32DP; z = 15	42	-	27	50	6	P660201
	K	30x2x14	50	-	-	60	6	P500203		K	PA-S 1 3/8" 16/32DP; z = 21	50	-	45	52	7	P663301
	N	35x2x16	55	-	-	60	6	P000303			PA-S 1 3/8" 16/32DP; z = 21	55	-	48	52	5	P663301
65	K	35x2x16	60	-	-	60	6	P500301	65	K	PC-S 1 1/4" 12/24DP; z = 14	55	-	44	52	5	P656201
	N	40x2x18	55	-	-	78	6	P000304									
	K	40x2x18	60	-	-	78	6	P500302									
	K	45x2x21	55	-	-	78	6	P500401									

Inch bores – For the stock parts please see the KTR stock programme														
Code	Ø d	Ø d inch	b ^{+0.05}	t ₂ ^{+0.2}	Code	Ø d	Ø d inch	b ^{+0.05}	t ₂ ^{+0.2}	Code	Ø d	Ø d inch	b ^{+0.05}	t ₂ ^{+0.2}
Tb	9,5 ^{+0.03}	3/8	3,17	11,1	F	22,22 ^{+0.03}	7/8	6,38	25,2	M	34,92 ^{+0.03}	1 3/8	7,93	38,6
DNB	11,11 ^{M7}	7/16	2,4	12,5	Gd	22,225 ^{M7}	7/8	4,76	24,7	RH1	34,93 ^{M7}	1 3/8	9,55	37,8
T	12,69 ^{H7}	1/2	4,75	14,6	Gf	23,80 ^{+0.03}	15/16	6,35	26,8	Cb	36,50 ^{+0.03}	17/16	9,55	40,9
Ta	12,7 ^{+0.03}	1/2	3,17	14,3	B	25,37 ^{+0.03}	1	4,78	27,8	Ca	38,07 ^{+0.03}	1 1/2	7,93	42,0
DNC	13,45 ^{M7}	17/32	3,17	14,9	Ba	25,37 ^{+0.03}	1	6,35	27,6	C	38,07 ^{+0.03}	1 1/2	9,55	42,5
E	15,87 ^{+0.03}	5/8	3,17	17,5	Bs	25,38 ^{+0.03}	1	6,37	28,3	N	41,25 ^{+0.03}	1 5/8	9,55	45,6
S	15,87 ^{+0.03}	5/8	3,97	17,9	H	25,40 ^{+0.03}	1	4,78	27,8	Nb	41,275 ^{M7}	1 5/8	9,55	45,8
Es	15,88 ^{+0.03}	5/8	4,0	17,7	DNF	25,38 ^{H7}	1	6,35	28,4	Ls	44,42 ^{+0.03}	1 3/4	9,55	48,8
DND	15,852 ^{H7}	5/8	4,75	18,1	Hs	25,40 ^{+0.03}	1	6,35	28,7	L	44,45 ^{K7}	1 3/4	11,11	49,4
Ed	15,87 ^{+0.03}	5/8	4,75	18,1	Sa	28,575 ^{M7}	1 1/8	6,35	31,7	Lu	47,625 ^{M7}	1 7/8	12,7	53,5
DNH	17,465 ^{H7}	11/16	4,75	19,6	Sb	28,58 ^{+0.03}	1 1/8	6,35	31,5	Da	49,20 ^{+0.03}	1 15/16	12,7	55,0
Ad	19,02 ^{+0.03}	3/4	3,17	20,7	Sd	28,58 ^{+0.03}	1 1/8	7,93	32,1	Ds	50,77 ^{+0.03}	2	12,7	56,4
As	19,02 ^{+0.03}	3/4	4,78	21,3	Ja	31,70 ^{H7}	1 1/4	7,93	34,4	D	50,80 ^{+0.03}	2	12,7	55,1
A	19,05 ^{+0.03}	3/4	4,78	21,3	Jc	31,71 ^{+0.03}	1 1/4	7,93	35,3	P	53,95 ^{+0.03}	2 1/8	12,7	59,6
Fa	22,20 ^{+0.03}	7/8	6,35	25,2	Js	31,75 ^{+0.03}	1 1/4	6,35	34,6	Pa	53,975 ^{M7}	2 1/8	12,7	60,0
Ga	22,21 ^{H7}	7/8	4,75	24,8	J	31,75 ^{+0.03}	1 1/4	7,93	34,4	Ub	60,325 ^{M7}	2 3/8	15,875	67,6
DNI	22,228 ^{H7}	7/8	6,35	25,0	K	31,75 ^{K7}	1 1/4	7,93	35,5	Wa	73,025 ^{M7}	2 7/8	19,05	81,7
Gs	22,22 ^{+0.03}	7/8	4,78	24,4	DNK	31,755 ^{H7}	1 1/4	7,93	35,3	Wd	85,725 ^{M7}	3 3/8	22,225	95,8
G	22,22 ^{+0.03}	7/8	4,75	24,7	Ma	34,925 ^{M7}	1 3/8	7,93	38,7	Wf	92,075 ^{M7}	3 5/8	22,225	101,9

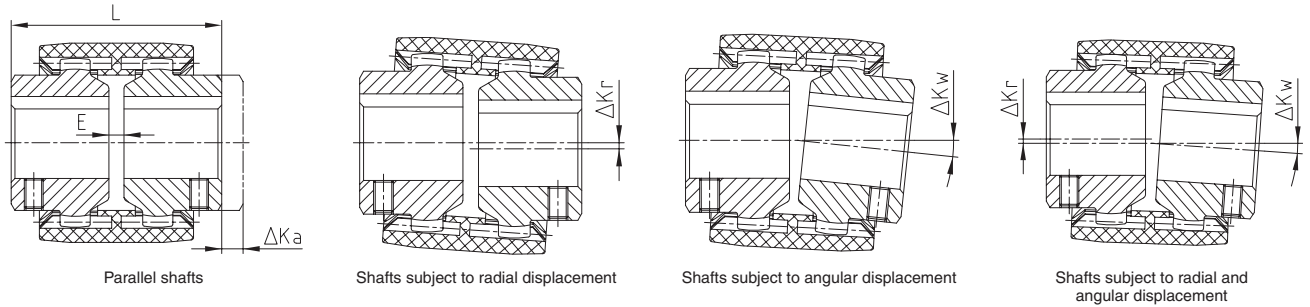
Order form:

BoWex® M-42	P 500203	Ø G
Coupling size and design	Clamping hub with spline 30x2x14 DIN 5480	Finish bore Ø 22.22 keyway 4,75 x 24,7 code G

Displacements · Threads for setscrews

BoWex couplings are double cardanic and in addition to transmitting the power compensate for axial, radial and angular shaft displacements in a way to prevent damages from the driving or driven machine, respectively.

Types of displacement



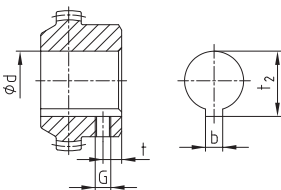
Type and size	Overall length L of the coupling assembled (standard design) ²⁾ [mm]	Can the coupled power pack be disassembled vertically without axial displacement?	Shift distance dimension E ¹⁾ [mm]	Max. axial displacement ΔKa [mm]	Max. permissible displacements	
					ΔKr radial [mm]	or ΔKw angular [a°]
junior 14 (plug-in coupling)	48					
junior 19 (plug-in coupling)	52	no	2	±1	± 0,1	
junior 24 (plug-in coupling)	54					
junior M-14; M-14	50				± 0,3	
junior M-19; M-19	54	no				
junior M-24; M-24; Special I-24						
24 AS; 24 SSR	56					
24 SG	76	yes				
M-28; Special I-28		no				
28 AS; 28 SG; 28 SSR		yes				
M-32; Special I-32	84	no				
32 AS; 32 SG; 32 SSR		yes	4		± 0,4	
M-38		no				
M-42		no				
45 AS; 45 SG; 45 SSR	88	yes		± 1		± 1° each hub
Special I-45		no				
M-48	104					
M-65, Special I-65		no				
65 AS; 65 SG; 65 SSR	114				± 0,6	
80 AS; 80 SSR		yes				
I-80; Special I-80; 80 SG	186	no	6		± 0,7	
100 AS; 100 SSR		yes				
I-100; Special I-100; 100 SG	228	no	8		± 0,8	
125 AS; 125 SSR		yes				
I-125; Special I-125; 125 SG	290	no	10		± 1,1	

The assembled hubs must in every case be flush with the shaft ends. If it is difficult to determine the distance dimension E, reference may be made to the overall assembled length. The shaft ends to be connected should be supported close to each coupling half.

- 1) The listed distance dimension E for the different couplings must be observed in every case, particularly for radial and angular misalignments.
- 2) If the coupling hubs have been shortened or lengthened on the outside, the overall length of the coupling assembled will be reduced by the corresponding figure.
- 3) The permissible displacement figures depend on speed and performance. We shall be glad to send you a displacement diagramme if required.

Prior to operation of the BoWex coupling please make sure that the coupling sleeves are readily capable of axial movement.
The customer must provide guards in order to ensure that rotating parts cannot cause injury (Safety of Machines, DIN EN 292 part 2).

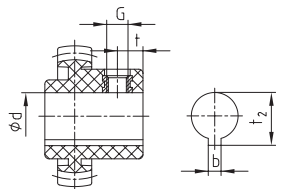
Threads for setscrews



Position of the thread for setscrews BoWex M-14 to M-24 opposite to the keyway

BoWex M-28 to I-125 on the keyway

Thread dimensions for setscrews BoWex® coupling hubs with cylindrical bores



Position of the thread for BoWex junior plug-in coupling and junior M-coupling

Size Dimensions	14 19 24	28 32 38	42 45 48	65	80	100	125
Thread G	M5	M8	M10	M10	M12	M16	
Distance t	6	10	15 ¹⁾ 20	20	30	40	
Tightening torque T _A [Nm]	2	10	17	17	40	80	

1) Hub length 55 mm t = 15 mm, 70 mm t = 20 mm

Size	14	19	24
Thread G	M5	M5	M5
Hub 1b Distance t	6	6	6
Plug-in sleeve 2b Distance t	8	10	10
Tightening torque T _A [Nm]	2	2	2