Coupling selection

The BoWex® coupling is selected in accordance with DIN 740 part 2. The coupling has to be dimensioned in a way that the permissible coupling load is not exceeded in any operating condition. For this purpose the actual loads have to be compared to the permissible parameters of the coupling.

1 **Drives without periodical load**
The coupling has been selected by checking the rated torques T_{KN} and maximum torque $T_{K\,max}$.

2 **Load produced by rated torque**

$$T_{KN} \geq T_N \cdot S_t$$

$$T_N\,[Nm] = 9550 \cdot \frac{P_{AN/LN}\,[kW]}{n\,[1/min]}$$

Taking into consideration the ambient temperature, the permissible rated torque T_{KN} of the coupling has to correspond at least to the rated torque T_N of the machine.

3 **Load produced by torque shocks**

$$T_{K\,max} \geq T_S \cdot S_Z \cdot S_t + T_N \cdot S_t$$

Drive-sided shock
$T_S = T_{AS} \cdot M_A \cdot S_A$

Load-sided shock
$T_S = T_{LS} \cdot M_L \cdot S_L$

$$M_A = \frac{J_L}{J_A + J_L} \qquad M_L = \frac{J_A}{J_A + J_L}$$

The permissible maximum torque of the coupling has to correspond at least to the total of peak torque T_S and the rated torque T_N of the machine, taking into account the shock frequency Z and the ambient temperature.

This applies in case if the rated torque T_N of the machine is at the same time subject to shocks.

Knowing the mass distribution, shock direction and shock mode, the peak torque T_S can be calculated.

For drives with A. C.-motors with high masses on the load side we would recommend to calculate the peak driving torque with the help of our simulation programme.

Service factor S_t for temperature

Material of sleeve	-40 °C +60 °C	+70 °C	+80 °C	+90 °C	+100 °C	+110 °C	+120 °C
PA 6.6	1,0	1,2	1,4	1,6	1,8	-	-
PA-CF	1,0	1,1	1,2	1,4	1,6	1,9	2,2

Service factor S_Z for starting frequency

starting frequency/h	100	200	400	800
S_Z	1,0	1,2	1,4	1,6

Service factor S_A / S_L for shocks

	S_A/S_L
gentle shocks	1,5
average shocks	1,8
heavy shocks	2,5

Permissible load on feather key of the coupling hub

The shaft-hub-connection has to be verified by the customer.
Permissible surface pressure according to DIN 6892 (method C).

Polyamide	30 N/mm² (up to + 40 °C)
Powder metal steel	180 N/mm²
Material steel S355J2G3 (St 52.3)	250 N/mm²
for other steel materials $p_{perm.}$ =	$0{,}9 \cdot R_e$ ($R_{p0.2}$)

Description	Symbol	Definition or explanation
Rated torque of coupling	T_{KN}	Torque that can continuously be transmitted over the entire permissible speed range.
Maximum torque of coupling	$T_{K\,max.}$	Torque that can be transmitted as dynamic load $\geq 10^5$ times or 5 x 10^4 as vibratory load, respectively, during the entire operating life of the coupling.
Vibratory torque of coupling	T_{KW}	Torque amplitude of the permissible periodical torque fluctuation with a frequency of 10 Hz and a basic load of T_{KN} or dynamic load up to T_{KN}, respectively.
Damping power of coupling	P_{KW}	Permissible damping power with an ambient temperature of + 30 °C.
Rated torque of machine	T_N	Stationary rated torque on the coupling
Peak torque of machine	T_S	Peak torque on the coupling
Peak torque on the driving side	T_{AS}	Peak torque with torque shock on the driving side, e. g. breakdown torque of the electric motor.

Description	Symbol	Definition or explanation
Peak torque of load side	T_{LS}	Peak torque with torque shock on load side, e. g. braking.
Vibratory torque of machine	T_W	Amplitude of the vibratory torque effective on the coupling.
Damping power of the machine	P_W	Damping power which is effective on the coupling due to the load produced by the vibratory torque.
Moment of inertia of driving side Moment of inertia of load side	J_A J_L	Total of moments of inertia existing on the driving or load side referring to the coupling speed.
Rotational inertia coefficient of driving side Rotational inertia coefficient of load side	M_A M_L	Factor taking into account the mass distribution with shocks and vibrations produced on the driving or load side. $M_A = \frac{J_L}{J_A + J_L}$ $M_L = \frac{J_A}{J_A + J_L}$

Cylindrical bores, taper/inch bores and selection of standard IEC motors

Stock programme cylindrical finish bores [mm] H7 keyway to DIN 6885 sheet 1 [JS9] with thread for setscrew

BoWex® size	un-/pilot bored	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16	Ø17	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75
14	●■	●	●	●	●	●	●	●■	●																							
19	●■			●	●	●		●	●	●	●	●	●■	●																		
24	●■			●	●	●		●■	●	●	●	●	●■	●	●	●■																
28	●■							●	●	●	●	●	●	●	●	●■	●	●■														
32	●■											●	●	●	●	●	●	●	●	●												
38	●■											●	●	●	●	●	●	●	●	●	●	●■										
42	●■													●	●	●	●	●	●	●	●	●	●	●								
48	●■																●	●	●	●	●	●	●	●■	●	●■						
65	●■																		●	●	●	●	●	●	●■	●■	●■	●■	●■	●■		
80	●																										●	●	●	●	●	●

● standard length ■ standard lengthened

Stock programme taper and inch bores

	Taper 1:5					Taper 1:8					Inch bores									
Code d +0,05 b JS9 t +0,2	**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 standard IEC-motors, protection type IP 54/IP 55

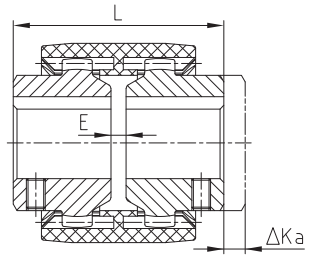
A. C. motor size	Motor output with 50 Hz n = 3000 [1/min]			Motor output with 50 Hz n = 1500 [1/min]			Motor output with 50 Hz n = 1000 [1/min]			Cylindric shaft end d x l [mm]	
	kW	T [Nm]	BoWex®-coupling	kW	T [Nm]	BoWex®-coupling	kW	T [Nm]	BoWex®-coupling	3000 ≤ 1500	
56	0,09 0,12	0,32 0,41		0,06 0,09	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			
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			
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 5,5	40 55			
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			
180 M	22	71	48	18,5	121	48			48	48 x 110	
180 L				22	144		15	148			
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	60 x 140
225 M	45	145	65	45	292		30	293			
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		
315 S	110	353		110	707		75	727			
315 M	132	423		132	849		90	873			80 x 170
	160	513	80	160	1030	100	110	1070	100	65 x 140	
315 L	200	641		200	1290		132	1280			
							160	1550			
315	250 315	801 1010	100	250 315	1610 2020	125	200 250	1930 2420	125		85 x 170
355	355 400	1140 1280	125	355 400	2280 2560		315	3040	-	75 x 140	95 x 170

Torque T ≙ rated torque according to Siemens catalogue.

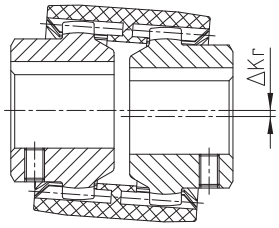
Displacements and threads for setscrews

Displacements

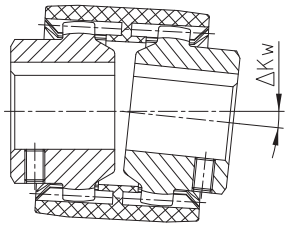
BoWex® couplings are double cardanic and in addition to transmitting the power compensate for axial, radial and angular shaft displacements in a way to prevent damages from the driving or driven machine, respectively.



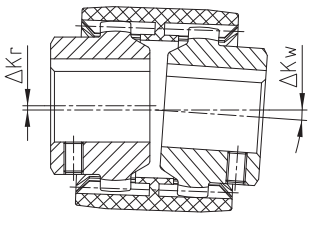
Parallel shafts



Shafts subject to radial displacement



Shafts subject to angular displacement

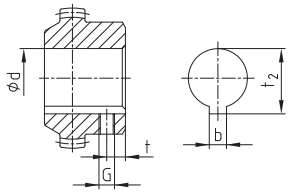


Shafts subject to radial and angular displacement

Displacements						
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 [°]
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	56					
24 AS; 24 SSR		yes				
24 SG	76					
M-28; Special I-28		no				
28 AS; 28 SG; 28 SSR		yes				
M-32; Special I-32	84	no	4		± 0,4	
32 AS; 32 SG; 32 SSR		yes				
M-38		no				
M-42		no		± 1		± 1° each hub
45 AS; 45 SG; 45 SSR	88	yes				
Special I-45		no				
M-48	104					
M-65; Special I-65	114	no			± 0,6	
65 AS; 65 SG; 65 SSR		yes				
80 AS; 80 SSR	186		6		± 0,7	
I-80; Special I-80; 80 SG		no				
100 AS; 100 SSR	228	yes	8		± 0,8	
I-100; Special I-100; 100 SG		no				
125 AS; 125 SSR	290	yes	10		± 1,1	
I-125; Special I-125; 125 SG		no				

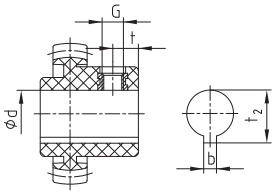
The assembled hubs must in every case be flush with the shaft ends. If it is difficult to determine the distance dimension E, reference may be made to the overall assembled length.
The shaft ends to be connected should be supported close to each coupling half.
1) The listed distance dimension E for the 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 (Thread dimensions for setscrews. BoWex® coupling hubs with cylindrical bores.)



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



Position of the thread for BoWex®

junior plug-in coupling and junior M-coupling

BoWex® – coupling hubs							
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

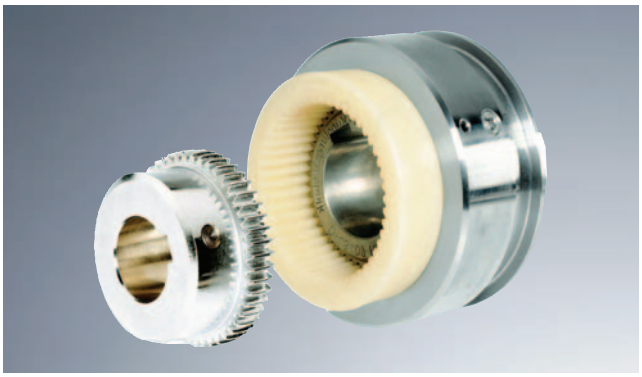
1) Hub length 55 mm t = 15 mm, 70 mm t = 20 mm

BoWex® junior – coupling hubs			
Size Dimensions	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]	1,4	1,4	1,4

Technical data

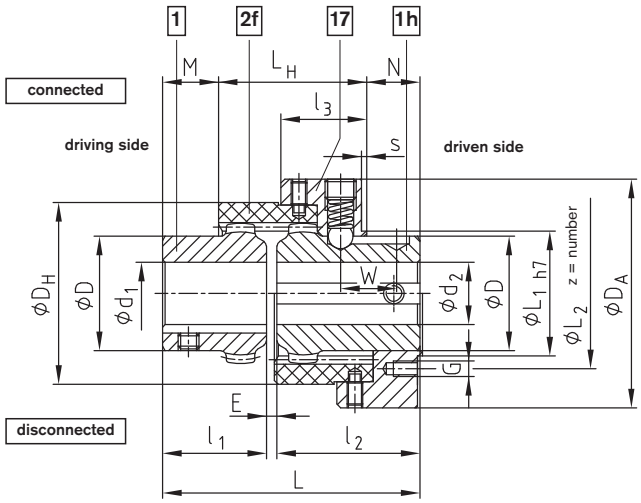
Power, Torque and Speed							
Design and size		Power P [kW] / n [1/min]		Torque T_K [Nm]			Max. speed [1/min]
		Rated	Maximum	T_{KN}	$T_{K\,max.}$	T_{KW}	
Type plug-in coupling / junior M	junior 14 / M-14	0,0005	0,010	5	10	2,5	6000
	junior 19 / M-19	0,0008	0,0017	8	16	4	6000
	junior 24 / M-24	0,0013	0,0025	12	24	6	6000
Type M, I, AS, Spez.-I, SG, SSR	14	0,0010	0,003	10	30	5	14000
	19	0,0017	0,005	16	48	8	11800
	24	0,0021	0,006	20	60	10	10600
	28	0,0047	0,014	45	135	23	8500
	32	0,0063	0,019	60	180	30	7500
	38	0,0084	0,025	80	240	40	6700
	42	0,010	0,031	100	300	50	6000
	45 / 48	0,015	0,044	140	420	70	5600
	65	0,040	0,119	380	1140	190	4000
	80	0,073	0,22	700	2100	350	3150
	100	0,13	0,38	1200	3600	600	3000
	125	0,26	0,78	2500	7500	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	0,030	0,078	300	750	150	5000
	T 55	0,047	0,012	450	1125	225	4500
	65	0,068	0,140	650	1600	325	3600
	T 65	0,084	0,210	800	2000	400	3600
	T 70	0,105	0,262	1000	2500	500	3400
	80	0,13	0,250	1200	3000	600	3000
	T 80	0,16	0,039	1500	3750	750	3000
	100	0,21	0,43	2050	5150	1025	2500
	T 100	0,26	0,65	2500	6250	1250	2500
	125	0,44	0,89	4250	10700	2125	2500
Type ELASTIC HE, HEW, HEW-ZS, HE-ZS, HEG	42 HE 40Sh	0,014	0,041	130	390	36	
	42 HE 50Sh	0,016	0,047	150	450	45	6200
	42 HE 65Sh	0,019	0,057	180	540	54	
	48 HE 40Sh	0,021	0,063	200	600	60	
	48 HE 50Sh	0,024	0,072	230	690	69	5600
	48 HE 65Sh	0,029	0,088	280	840	84	
	65 HE 40Sh	0,037	0,110	350	1050	105	
	65 HE 50Sh	0,042	0,126	400	1200	120	4500
	65 HE 65Sh	0,052	0,157	500	1500	150	
	G 65 HE 40Sh	0,045	0,135	430	1290	129	
	G 65 HE 50Sh	0,052	0,157	500	1500	150	4300
	G 65 HE 65Sh	0,065	0,195	620	1860	186	
	80 HE 40Sh	0,089	0,267	750	2250	225	
	80 HE 50Sh	0,096	0,298	950	2850	285	3600
	80 HE 65Sh	0,126	0,372	1200	3600	360	
	G 80 HE 40Sh	0,130	0,39	1250	3750	375	
	G 80 HE 50Sh	0,16	0,50	1600	4800	480	3000
	G 80 HE 65Sh	0,21	0,62	2000	6000	600	
	100 HE 40Sh	0,21	0,62	2000	6000	600	
	100 HE 50Sh	0,26	0,78	2500	7500	750	2700
	100 HE 65Sh	0,36	1,00	3200	9600	960	
	125 HE 40Sh	0,31	0,942	3000	9000	900	
	125 HE 50Sh	0,41	1,256	4000	12000	1200	2300
	125 HE 70Sh	0,52	1,570	5000	15000	1500	
	G 125 HE 40Sh	0,42	1,26	4000	12000	1200	
	G 125 HE 50Sh	0,54	1,63	5200	16000	1600	2100
	G 125 HE 70Sh	0,68	2,04	6500	20000	2000	
	150 HE 40Sh	0,58	1,73	5500	16500	1650	
	150 HE 50Sh	0,73	2,20	7000	21000	2100	1800
	150 HE 70Sh	0,94	2,83	9000	27000	2700	

Type SD



- For all applications in the range of general engineering to quickly connect or disconnect power packs at standstill
- Maintenance-free due to the material combination nylon/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 74
- For performance data please see page 72, compare to design M/I
- max. circumferential speed v = 20 m/s, referring to ØD$_A$

Components



BoWex® type SD

Size	Pilot bore		Finish bore d_1, d_2			Dimensions [mm]												Weight with max. bore-Ø		Massmoment of inertia J with max. bore-Ø		Shifting force [N]
	Un-bored	Pilot bored	d_1	d_1 max.	d_2 max.	E	l_1	l_2	L	L_H	l_3	M	W	N	D	D_H	D_A	Shifting hub with sleeve [kg]	Driving hub [kg]	Shifting hub with sleeve [kgcm²]	Driving hub [kgcm²]	
24 SD	x	-	Finish bores see stock programme on page 75	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		114			29,5							0,79			
65 SD	x	26 70 lg.		65	65	4	55	70	129	77	37	28	25	24	95	140	156	5,07	2,30	158,99	43,96	350
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

Connection dimensions of BoWex® SD shifting ring (part 17) for mounting of: slip ring SD1 (s. catalogue page 81), shifting disk etc.

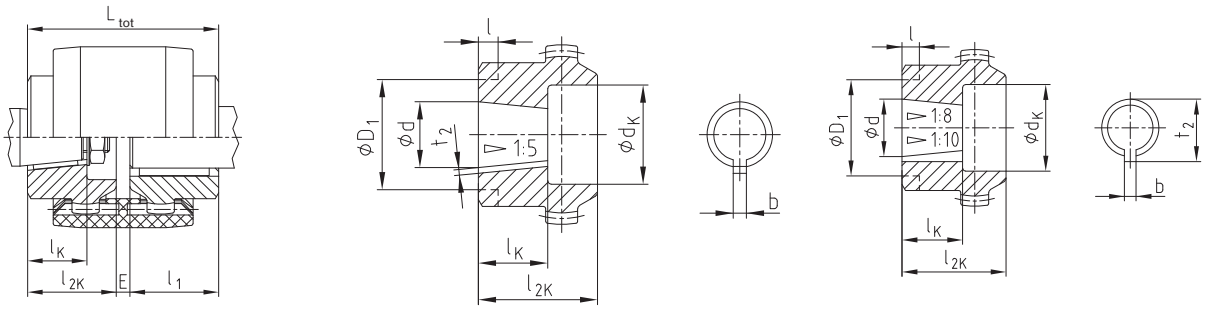
Size	Dimensions [mm]			
	L_1	L_2	z x G	s
24 SD	48	58	4 x M6	2
28 SD	48	58	4 x M6	2
32 SD	64	75	4 x M6	2
45 SD	75	90	4 x M8	2
65 SD	100	114	4 x M8	2
80 SD	130	145	4 x M8	3
100 SD	180	196	6 x M10	4
125 SD	220	236	6 x M10	4

Order form:

BoWex® 32 SD	d_1 Ø 32	d_2 Ø 32
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)

Taper bores

BoWex® with taper bores



$L_{tot} = l_1 + E + l_{2K}$

For stock parts please see page 75

Taper bores 1:5

Code	Dimensions [mm] Details of bores $d^{+0,05}$	b^{JS9}	$t_2{}^{+0,1}$	l_K	Counterbore d_K and hub length l_{2K} [mm] Recess on hub collar D_1 x l [mm] 14 d_K	14 l_{2K}	19 d_K	19 l_{2K}	24 d_K	24 l_{2K}	28 d_K	28 l_{2K}	32 d_K	32 l_{2K}	38 d_K	38 l_{2K}	42 d_K	42 l_{2K}	48 d_K	48 l_{2K}	65 d_K	65 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

Taper bores 1:8

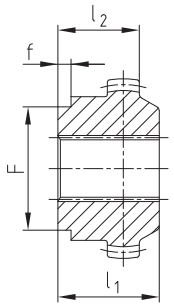
Code	Dimensions [mm] Details of bores $d^{+0,05}$	b^{JS9}	$t_2{}^{+0,1}$	l_K	Counterbore d_K and hub length l_{2K} [mm] Recess on hub collar D_1 x l [mm] 14 d_K	14 l_{2K}	19 d_K	19 l_{2K}	24 d_K	24 l_{2K}	28 d_K	28 l_{2K}	32 d_K	32 l_{2K}	38 d_K	38 l_{2K}	42 d_K	42 l_{2K}	48 d_K	48 l_{2K}	65 d_K	65 l_{2K}
N/1	9,7 ±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	62

Taper bores 1:10

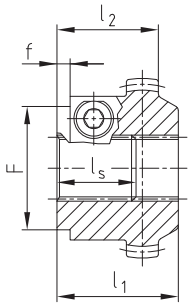
Code	Dimensions [mm] Details of bores $d^{+0,05}$	b^{JS9}	$t_2{}^{+0,1}$	l_K	Counterbore d_K and hub length l_{2K} [mm] 14 d_K	14 l_{2K}	19 d_K	19 l_{2K}	24 d_K	24 l_{2K}	28 d_K	28 l_{2K}	32 d_K	32 l_{2K}	38 d_K	38 l_{2K}	42 d_K	42 l_{2K}	48 d_K	48 l_{2K}	65 d_K	65 l_{2K}
CX-20	19,85	5	22,08	32							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

Spline hubs and inch bores

Basic 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.

Spline and clamping hubs to DIN 5480

Size	Dimensions [mm]							Order designation Indicate coupling size
	Type	Spline size	l_1	l_2	l_S	F	f	
	N	25x1,25x18	42	-	-	-	-	P000205
42	K	25x1,25x18	42	-	-	-	-	P500202
	K	30x2x14	42	-	-	60	6	P500203
48	N	30x2x14	50	-	-	60	6	P000206
	K	30x2x14	50	-	-	60	6	P500203
	N	35x2x16	55	-	-	60	6	P000303
	K	35x2x16	60	-	-	60	6	P500301
65	N	40x2x18	55	-	-	78	6	P000304
	K	40x2x18	60	-	-	78	6	P500302
	K	45x2x21	55	-	-	78	6	P500401

Spline and clamping hubs to SAE J498

Size	Dimensions [mm]							Order designation Indicate coupling size
	Type	Spline size	l_1	l_2	l_S	F	f	
	K	PH-S 5/8" 16/32DP, z=9	42	-	-	-	-	P558101
42	K	PI-S 3/4" 16/32DP, z=11	-	35	-	-	-	P559101
	K	PB-S 7/8" 16/32DP, z=13	42	-	-	60	3	P567101
	K	PB-BS 1" 16/32DP, z=15	42	-	27	50	6	P660201
48	K	PA-S 3/8" 16/32DP, z=21	50	-	45	52	7	P663301
65	K	PA-S 3/8" 16/32DP, z=21	55	-	48	52	5	P663301
	K	PC-S 1 1/4" 16/32DP, z=14	55	-	44	52	5	P656201

Inch bores – For the stock parts please see the stock programme on page 75

Code	Dimensions [mm]				Code	Dimensions [mm]				Code	Dimensions [mm]			
	Ød	Ød [inch]	$b^{+0,05}$	$t_2{}^{+0,2}$		Ød	Ød [inch]	$b^{+0,05}$	$t_2{}^{+0,2}$		Ød	Ød [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	$36,50^{+0,03}$	1 7/16	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