



DENTEX®/DENTEX® FL the flexible coupling

- Compensation of axial, radial and angular misalignment of shafts through double cardanic action
- Simple and easy assembly
- High electrical insulating property
- High thermal stability
- No maintenance

Technical description

The DENTEXR coupling is a flexible gear coupling whose typical features are two congruent hubs with crowned teeth which transmit torque by meshing with the internal toothing of a housing component.

The coupling sleeve with axially parallel involute gearing is centered at the tooth flanks of the coupling hub. The coupling design fulfills the requirement for compensation of radial, angular and axial shaft displacements in order to relieve the neighbouring shaft bearings from non-controlled, additional loads.

Even with the maximum permissible displacement, edge contact of the teeth is excluded and there will be no periodic variation of the angular velocity. The high internal cushioning properties of the plastic material used for the coupling sleeve reduce the effect of shock loading.

DENTEXR couplings are suitable both for horizontal and vertical shaft connection, for reversing and intermittent service. The steel/plastic combination also has the advantage that no lubrication by oil or grease is required;

the coupling, therefore, does not need any maintenance. The 6.6-polyamide used for the coupling sleeve is distinguished by its excellent sliding properties and wear resistance; it is also resistant to all market-standard lubricants and hydraulic fluids. However, substances of strongly polar character such concentrated mineral acids, formic acid, cresol, glycol, benzyl alcohol can dissolve 6.6-polyamide at high temperature.

Maximum service reliability is guaranteed at temperatures between -25 °C and +80 °C. A coupling sleeve in heat-stabilised polyamide is required for temperatures up to +140 °C.

Model type

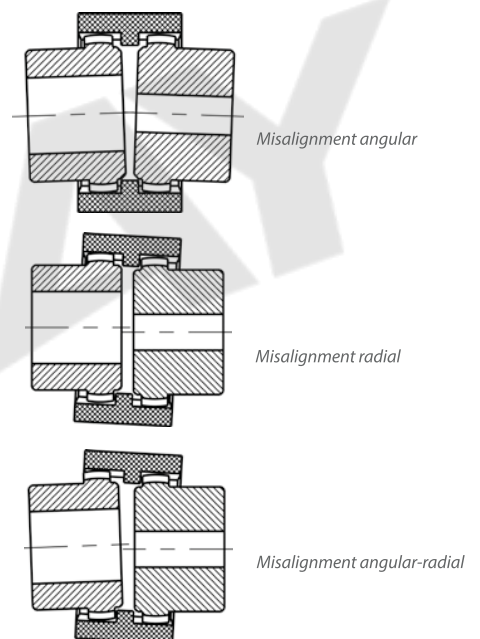
KL		B 42 . 38 H 7		L = 60		SO																																																							
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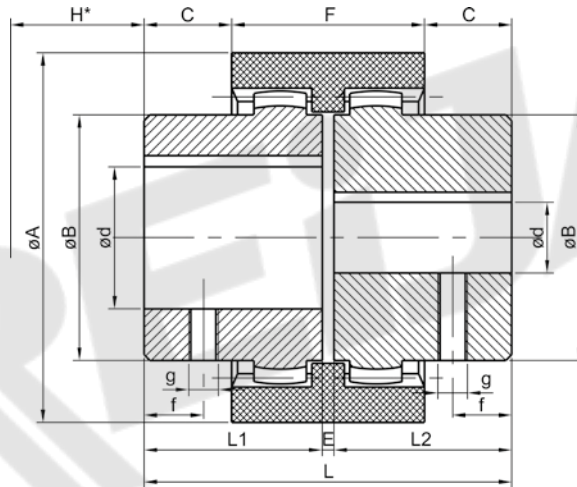
DENTEX® couplings for IEC-standard motors

Motor size	Welle Shaft D x l [mm]		n = 750 [1/min]		DENTEX®		n = 1000 [1/min]		DENTEX®		n = 1500 [1/min]		DENTEX®		n = 3000 [1/min]		DENTEX®	
	1500 [1/min]	3000 [1/min]	Power P		T _K max [Nm]	Power P		T _K max [Nm]	Power P		T _K max [Nm]	Power P		T _K max [Nm]	Power P		T _K max [Nm]	
		[kW]	T _{AN} [Nm]	[kW]		T _{AN} [Nm]	[kW]		T _{AN} [Nm]	[kW]		T _{AN} [Nm]	[kW]		T _{AN} [Nm]	[kW]		T _{AN} [Nm]
56	9 x 20				14	20	0.037	0.43	14	20	0.06	0.40	14	20	0.09	0.30	14	20
							0.045	0.52			0.09	0.60			0.12	0.40		
63	11 x 23				14	20	0.060	0.70	14	20	0.12	0.90	14	20	0.18	0.60	14	20
							0.090	1.10			0.18	1.20			0.25	0.90		
71	14 x 30		0.09	1.4	14	20	0.180	2.00	14	20	0.25	1.80	14	20	0.37	1.30	14	20
			0.12	1.8			0.250	2.80			0.37	2.50			0.55	1.90		
80	19 x 40		0.18	2.5	19	32	0.370	3.70	19	32	0.55	3.70	19	32	0.75	2.50	19	32
			0.25	3.5			0.550	5.50			0.75	5.00			1.10	3.70		
90 S	24 x 50		0.37	5.3	24	40	0.750	7.90	24	40	1.10	7.50	24	40	1.50	4.90	24	40
90 L			0.55	7.9			1.100	11.00			1.50	10.00			2.20	7.40		
100 L	28 x 60		0.75	11.0	28	90	1.500	15.00	28	90	2.20	15.00	28	90	3.00	9.80	28	90
			1.10	16.0			1.500	15.00			3.00	20.00			4.00	13.00		
112 M	28 x 60		1.50	21.0	28	90	2.200	22.00	28	90	4.00	27.00	28	90	4.00	13.00	28	90
132 S	38 x 80		2.20	29.0	38	160	3.000	30.00	38	160	5.50	36.00	38	160	5.50	18.00	38	160
132 M			3.00	40.0			4.000	39.00			7.50	49.00			7.50	25.00		
							5.500	55.00										
160 M	42 x 110		4.00	54.0	42	200	7.500	74.00	42	200	11.00	72.00	42	200	11.00	35.00	42	200
			5.50	74.0			7.500	74.00			15.00	98.00			15.00	49.00		
160 L			7.50	100.0			11.000	108.00			15.00	98.00			18.50	60.00		
180 M	48 x 110				48	280			48	280	18.50	121.00	48	280	22.00	72.00	48	280
180 L			11.00	147.0			15.000	147.00			22.00	144.00						
200 L	55 x 110		15.00	196.0	55	500	18.500	185.00	55	500	30.00	195.00	55	500	30.00	97.00	55	500
							22.000	215.00			30.00	195.00			37.00	117.00		
225 S	60 x 140		18.50	245.0	65	780			65	780	37.00	245.00	65	780			65	780
225 M			22.00	294.0			30.000	292.00			45.00	294.00			45.00	146.00		
250 M	65 x 140	60 x 140	30.00	390.0	65	780	37.000	361.00	65	780	55.00	357.00	65	780	55.00	176.00	65	780
280 S	75 x 140		37.00	490.0	80	1400	45.000	440.00	80	1400	75.00	487.00	80	1400	75.00	245.00	80	1400
280 M			45.00	585.0			55.000	536.00			90.00	584.00			90.00	294.00		
315 S	80 x 170		55.00	715.0	80	1400	75.000	730.00	80	1400	110.00	714.00	80	1400	110.00	350.00	80	1400
315 M			75.00	970.0			90.000	876.00			132.00	857.00			132.00	420.00		
315 L			90.00	1170.0	100	2400	110.000	1070.00	100	2400	160.00	1030.00	100	2400	160.00	513.00	80	1400
			110.00	1420.0			132.000	1280.00			200.00	1290.00			200.00	641.00		

Technical data

Type	Rotation n max [1/min]	Torque [Nm]		Power P [kW/min-1]		Misalignment max		
		T _{KN}	T _K max	Nenn	max	axial axial [mm]	radial radial [mm]	winklig angular [Grad]
B-14	8000	10	20	0.0010	0.0021	± 1	± 1 per hub	± 0.3
B-19	8000	16	32	0.0017	0.0033			
B-24	8000	20	40	0.0021	0.0042			
B-28	8000	45	90	0.0047	0.0094			
B-32	7000	60	120	0.0063	0.0130			
B-38	6000	80	160	0.0084	0.0170			
B-42	5400	100	200	0.0100	0.0200			
B-48	5000	140	280	0.0150	0.0290			
B-55	4000	250	500	0.0260	0.0520			
B-65	3800	390	780	0.0410	0.0800			
B-80	3000	700	1400	0.0730	0.1500			
B-100	2400	1250	2400	0.1300	0.2500			
B3R	24	10200	20	40	0.0020	0.0040	± 0.4	± 0.6
	28	8300	45	90	0.0045	0.0095		
B3R	32	7000	80	160	0.0084	0.0170		
B4R	45	5000	140	280	0.0150	0.0290		
	65	3800	390	780	0.0410	0.0800		
	80	3000	700	1400	0.0730	0.1500		
	100	2400	1250	2400	0.1300	0.2500	± 0.7	± 0.8



DENTEX® couplings, series B

Technical data

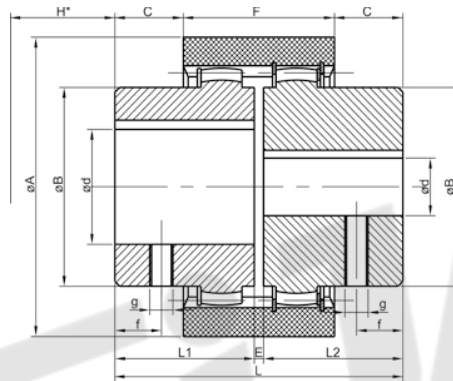
Type	Prebored	Finish bore d [mm]		Dimensions [mm]										Extended hub length L1/L2	Weight [kg]	Moment of inertia J [kg m ²]
		min	max	A	B	L	L1/L2	E	H*	C	F	g	f			
B-14	5	6	14	40	25	50	23	4	15	6.5	37	M5	6	40	0.175	0.000030
B-19	8	9	19	48	30	54	25	4	17	7.0	37	M5	6		0.320	0.000470
B-24	9	10	24	52	36	56	26	4	17	7.5	41	M5	6	50	0.316	0.000093
B-28	9	10	28	66	44	84	40	4	20	19.0	46	M8	10	55	0.739	0.000310
B-32	11	12	32	76	50	84	40	4	20	18.0	48	M8	10	55	0.950	0.000550
B-38	12	14	38	83	58	84	40	4	20	18.0	48	M8	10	60	1.220	0.000870
B-42	16	20	42	92	65	88	42	4	22	19.0	50	M8	10	60	1.490	0.001400
B-48	16	20	48	100	68	104	50	4	22	27.0	50	M8	10	60	1.810	0.001800
B-55		25	55	125	83	124	60	4	30	30.0	65	M10	20		3.450	0.004600
B-65	0/30	10/32	65	140	96	144	70	4	32	36.0	72	M10	20		5.180	0.009900
B-80		30	80	175	124	186	90	6	45	46.5	93	M10	20		11.500	0.037000
B-100	35	40	100	210	152	228	110	8	55	63.0	102	M12	30		20.500	0.115600

H* is the minimum dimension required for the disassembly of the aggregates in a radial direction. Finish bore acc. to ISO standard H7, keyway acc. to DIN 6885, sheet 1 (J59). Weight and moment of inertia values refer to maximum diameter d without keyway.

Assembly instruction

On assembly it is important that the hubs are correctly fitted on the shafts and that the dimension E is maintained. The dimension E can be checked by the total assembly length L. An inexact dimension E has a negative influence on the performance of the coupling. Check that axial movement of the coupling sleeve can be effected easily before operating the coupling for the first time. The permissible displacement values are dependent on rotation and transmitted power.

DENTEX® couplings, series B3R with inner and outer Seeger circlips



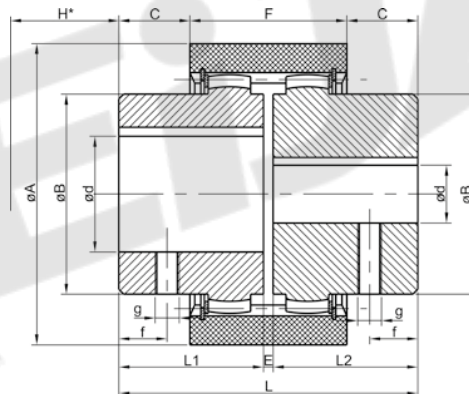
Type B3R

Technical data

Type	Finish bore d [mm]		Dimensions [mm]										Weight [kg]	Moment of inertia J [kg m ²]
	min	max	A	B	L	L1/L2	E	H*	C	F	g	f		
B3R 24	10	24	58	36	56	26	4	23.5	2.5	51	M5	6	0.3	0.0001
B3R 28	10	28	70	44	84	40	4	26.0	14.0	56	M8	10	0.8	0.0004
B3R 32	12	32	84	50	84	40	4	27.0	13.0	58	M8	10	1.1	0.0007
B3R 45	20	42	100	65	88	42	4	28.0	14.0	60	M8	10	1.5	0.0016
B3R 65	25	65	140	96	144	70	4	40.0	30.0	84	M10	20	5.4	0.0115
B3R 80	30	80	175	124	186	90	6	45.0	46.5	93	M10	20	11.6	0.0378
B3R 100	40	100	210	152	228	110	8	49.0	63.0	102	M12	30	20.7	0.0974

H* is the minimum dimension required for the disassembly of the aggregates in a radial direction. Finish bore acc. to ISO standard H7, keyway acc. to DIN 6885, sheet 1 (J59). Weight and moment of inertia values refer to maximum diameter d without keyway.

DENTEX® couplings, series B4R with outer bearing rings and Seeger circlips



Type B4R

Technical data

Type	Finish bore d [mm]		Dimensions [mm]										Weight [kg]	Moment of inertia J [kg m ²]
	min	max	A	B	L	L1/L2	E	H*	C	F	g	f		
B4R 32	12	32	84	50	84	40	4	18.0	13.0	58	M8	10	1.1	0.0007
B4R 45	20	42	100	65	88	42	4	18.0	14.0	60	M8	10	1.5	0.0017
B4R 65	25	65	140	96	144	70	4	15.0	30.0	84	M10	20	5.4	0.0118
B4R 80	30	80	175	124	186	90	6	3.5	46.5	93	M10	20	11.7	0.0385
B4R 100	40	100	210	152	228	110	8	63.0	102	M12	30	20.8	0.0987	

H* is the minimum dimension required for the disassembly of the aggregates in a radial direction. Finish bore acc. to ISO standard H7, keyway acc. to DIN 6885, sheet 1 (J59). Weight and moment of inertia values refer to maximum diameter d without keyway.

Standard metric bores and standard inch bores

Standard metric bores

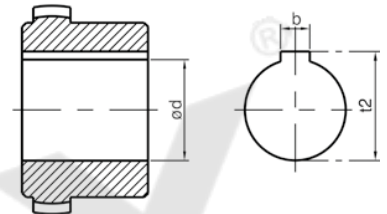
Type	Finish bore acc. to ISO standard H7, keyway acc. to DIN 6885, sheet 1 (JS9)																																				
	6	7	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70	75	80	85	90	100	
B-14	x	x	x	x	x	x	x	x																													
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Standard inch bores

Type	V	TA	DNC	DNH	Ad	AS	A	G	GS	F	B	Bs	H	Hs	Sb	Sd	Js	K	M	C	N	L	KS	NM	D	P	W										
B-14																																					
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B-100																																					

Dimensions inch bores

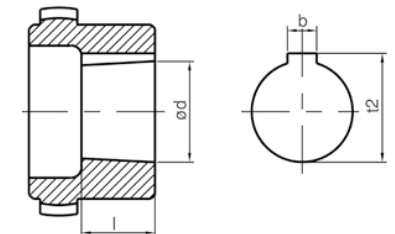
Code	Ø d [mm]	b [mm]		Code	Ø d [mm]	b [mm]		Code	Ø d [mm]	b [mm]	
		+0.05	+0.2			+0.05	+0.2			+0.05	+0.2
V	11.110 H7	3.18	12.34	G	22.22 +0.030	4.75	24.70	C	38.070 +0.030	9.55	43.0
TA	12.700 +0.030	3.17	14.30	F	22.22 +0.030	6.35	25.20	N	41.290 +0.030	9.55	46.1
DNC	13.450 H7	3.17	14.90	B	25.37 +0.030	4.78	27.80	L	44.450 +0.030	11.11	49.5
S	15.870 +0.030	3.97	17.90	BS	25.38 +0.030	6.37	28.30	NM	47.625 +0.030	12.73	53.4
E	15.870 +0.030	3.17	17.50	H	25.40 +0.030	4.78	27.80	DS	50.770 +0.030	12.73	56.4
ES	15.880 +0.030	4.00	17.70	SB	28.60 +0.020	6.35	32.10	D	50.800 +0.030	12.73	55.1
Ed	15.890 +0.020	4.75	18.30	SD	28.58 +0.030	7.93	32.10	P	53.950 +0.030	12.73	59.6
DNH	17.465 H7	4.75	19.60	JS	31.75 +0.030	6.35	34.62	W	60.370 +0.030	15.87	68.8
Ad	19.020 +0.030	3.17	20.70	K	31.75 K7	7.93	35.50	WN	73.025 +0.030	19.05	83.0
AS	19.020 +0.030	4.78	21.30	KS	31.75 +0.030	7.93	36.60	WA	85.780 +0.030	22.22	97.3
A	19.050 +0.030	4.78	21.30	M	34.94 +0.030	7.93	39.00	WK	92.080 +0.030	22.22	103.3



Tapered bores

Code	Taper 1:8			
	Ø d	b	t2	l
N/1	9.75	2.40	10.7	17.0
N/1c	11.60	3.00	12.9	16.5
N/1e	13.00	2.40	13.8	21.0
N/1d	14.00	3.00	15.5	17.5
N/1b	14.30	3.20	15.7	19.5
N/2	17.28	3.20	18.2	24.0
N/2a	17.28	4.00	18.9	24.0
N/3	22.00	4.00	23.4	28.0
N/4	25.46	4.78	27.8	36.0
N/4b	25.46	5.00	28.2	36.0
N/4a	27.00	4.78	28.8	32.5
N/4g	28.45	6.00	29.3	38.5
N/5	33.17	6.38	35.4	44.0
N/5a	33.17	7.00	35.4	44.0
N/6	43.05	7.95	46.5	51.0
N/6a	41.15	8.00	44.2	42.5

Code	Taper 1:5			
	Ø d	b	t2	l
A10	9.85	2	10.9	11.5
B17	16.85	3	18.9	18.5
C20	19.85	4	22.0	21.5
Cs22	21.95	3	23.8	21.5
D25	24.85	5	27.9	26.5
E30	29.85	6	32.5	31.5
F35	34.85	6	37.5	36.5
G40	39.85	6	45.5	41.5



Hubs with spline acc. to DIN 5480, DIN 5482 and SAE available.