

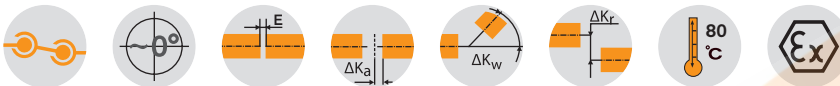
GEARex® FA, FB and FAB

All-steel gear couplings

Coupling in accordance with AGMA 9008-B00, high power density



For legend of pictogram please refer to flapper on the cover



Dimensions																	
Size	Pilot bore	Max. finish bore		Dimensions [mm]													
		d ₁ , d ₂	l ₁ , l ₂	Hub lengthened max. l ₁ , l ₂ ²⁾	EFA	EFB	EFAB	LFA	LFB	LFAB	L ₃	D	DA1	DA2	F ¹⁾	d ₃ ¹⁾	
10	26	50	43	105	3	21	12	89	107	98	55	67	111	83	74	52	
15	26	64	50	115	3	15	9	103	115	109	59	87	142	106	84	68	
20	31	80	62	130	3	31	17	127	155	141	79	108	174	129	104	85	
25	38	98	76	150	5	29	17	157	181	169	93	130	213	157	123	110	
30	44.5	112	90	170	5	33	19	185	213	199	109	153	240	181	148	130	
35	46	133	105	185	6	40	23	216	250	233	128	180	280	213	172	150	
40	52	158	120	215	6	42	24	246	282	264	144	214	318	249	192	175	
45	80	172	135	245	8	50	29	278	320	299	164	233	347	273	216	190	
50	80	192	150	295	8	56	32	308	356	332	182	260	390	308	241	220	
55	90	210	175	300	8	70	39	358	420	389	214	283	425.5	333	275	250	
60	100	232	190	305	8	84	46	388	464	426	236	312	457	364.5	316	265	
70	100	276	220	310	10	76	43	450	516	483	263	371	527	424	360	300	

Technical data										
Size	Torque [Nm] ³⁾		Max. speed [rpm]	Weight with max. bore [kg]			Mass moment of inertia with max. bore [kgm ²]	Dowel screw (10.9)		
	T _{KN}	T _{KN} (42CrMo4)		Sleeve	Hub	Total		z	M	T _A [Nm]
10	930	1580	8500	0.75	0.55	2.75	0.004	6	M6	15
15	2000	3300	6400	1.50	1.10	5.60	0.015	8	M8	36
20	3500	6300	5400	2.40	2.10	9.50	0.037	6	M10	72
25	6500	11000	4500	4.30	3.60	16.60	0.096	6	M12	125
30	10000	17400	4000	5.70	6.20	25.00	0.178	8	M12	125
35	17000	28800	3500	9.50	9.90	40.90	0.410	8	M14	200
40	28500	48500	3100	11.60	16.00	57.50	0.746	8	M14	200
45	37000	62000	3000	15.40	21.40	76.40	1.163	10	M14	200
50	51000	86000	2500	25.30	29.50	113.50	2.229	8	M18	430
55	65000	110000	2300	31.00	40.20	149.00	3.415	14	M18	430
60	85000	145000	2100	32.10	52.80	175.70	4.514	14	M18	430
70	135000	240000	1850	42.50	85.50	265.50	9.212	16	M20	610

■ = Standard

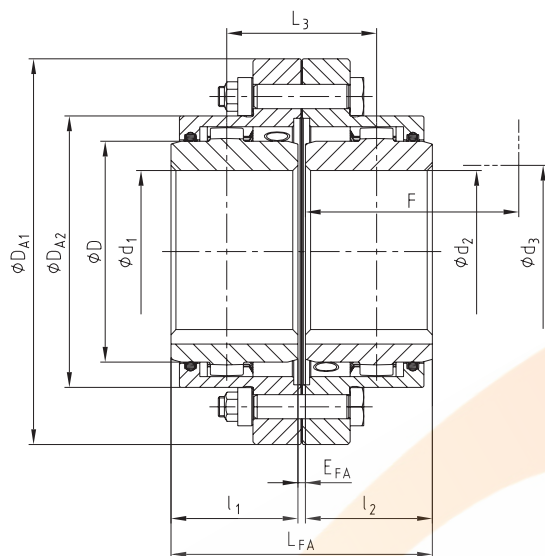
¹⁾ Space required to align the coupling and replace the gasket

²⁾ Lengthened hubs available as a standard for type FA only. For type FB and FAB lengthened hubs are available on request only.

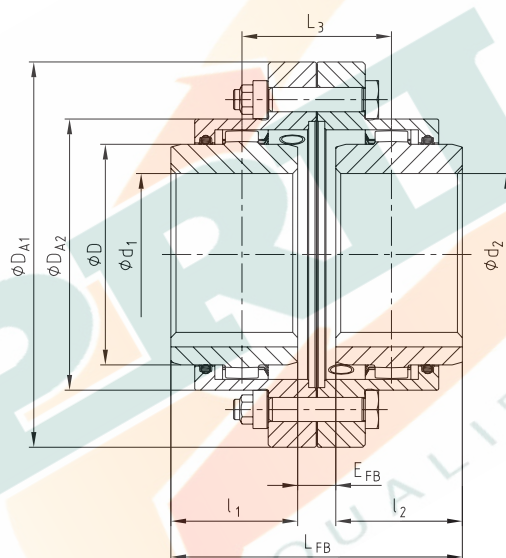
³⁾ Maximum torque of the coupling T_{K max} = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

Ordering example:	GEARex® FA 10	d ₁ Ø50	d ₂ Ø50
	Type and size of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1

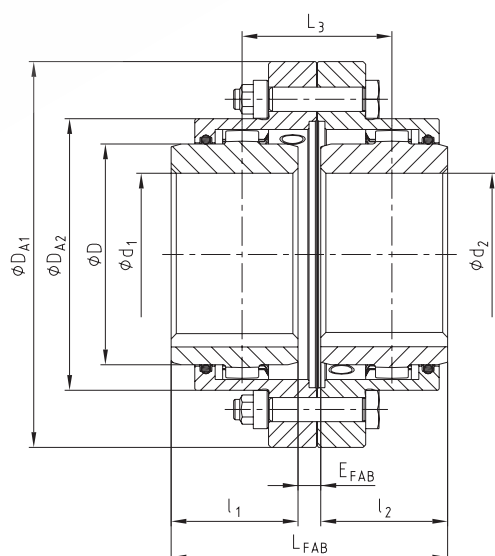
Type FA



Type FB

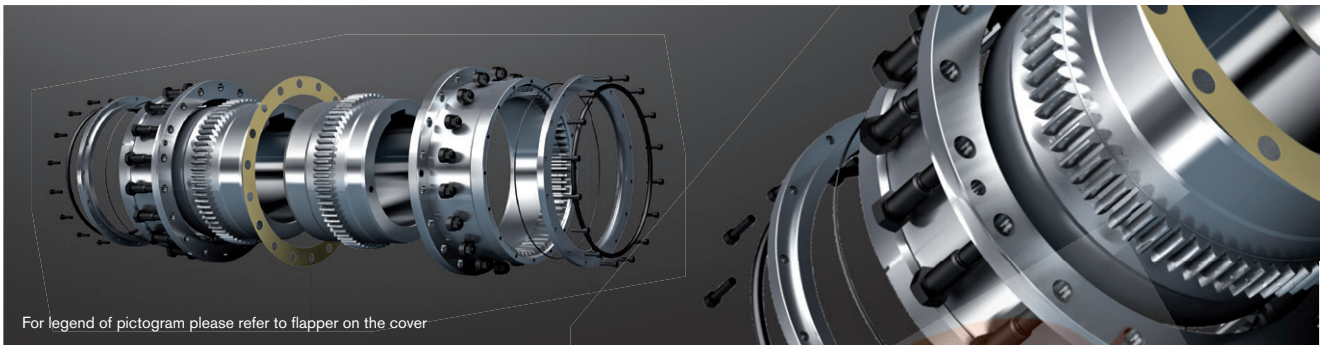


Type FAB

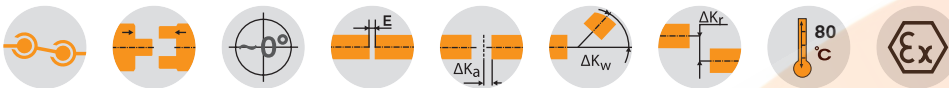


GEARex® DA, DB and DAB All-steel gear couplings

Easy to assemble, high power density



For legend of pictogram please refer to flapper on the cover



Dimensions																
Size	Pilot bore	Max. finish bore d ₁ , d ₂	Dimensions [mm]													
			l ₁ , l ₂	Hub lengthened max. l ₁ , l ₂ ²⁾	E _{DA}	E _{DB}	E _{DAB}	L _{DA}	L _{DB}	L _{DAB}	L ₃	D	D _{A1}	D _{A2}	F ¹⁾	d ₃ ¹⁾
20	31	80	62	130	3	31	17	133	155	144	79	108	187	146	105	85
25	38	98	76	150	5	29	17	157	181	169	93	130	220	172	115	105
30	44.5	112	90	170	5	33	19	185	213	199	109	153	248	194	140	120
35	46	133	105	185	6	40	23	216	250	233	128	180	285	228	165	145
40	52	158	120	215	6	42	24	246	282	264	144	214	335	270	180	160
45	80	172	135	245	8	50	29	278	320	299	164	233	358	294	195	185
50	80	192	150	295	8	56	32	388	356	332	182	260	390	332	215	205
55	90	210	175	300	8	70	39	358	420	389	214	283	425.5	354	240	220
60	100	232	190	305	8	84	46	388	464	426	236	312	457	380	260	245
70	100	276	220	310	10	76	43	450	516	483	263	371	527	445	300	290
80	140	300	280	-	10	50	30	570	610	590	310	394	545	475	340	310
85	160	325	292	-	13	53	33	597	637	617	325	430	585	515	352	330
90	180	350	305	-	13	83	48	623	693	658	353	464	640	560	365	360
100	220	390	330	-	13	93	53	673	753	713	383	512	690	612	390	400
110	220	420	350	-	20	296	158	720	996	858	508	560	765	665	410	420
120	260	450	420	-	25	421	223	864	1261	1063	643	608	825	720	480	470
130	300	500	440	-	25	415	220	905	1295	1100	660	684	980	805	520	520
140	380	550	460	-	20	430	225	940	1350	1145	685	750	1055	875	570	590
150	460	630	520	-	30	460	245	1070	1500	1285	765	850	1180	975	630	670

Technical data										
Size	Torque [Nm] ³⁾		Max. speed [rpm]	Weight with max. bore [kg]			Mass moment of inertia with max. bore [kgm ²]	Dowel screw (10.9)		
	T _{KN}	T _{KN} (42CrMo4)		Sleeve	Hub	Total		z	M	T _A [Nm]
20	3500	6300	5400	3.6	2.1	12.8	0.056	6	M10	72
25	6500	11000	4500	5.5	3.6	20.3	0.125	6	M12	125
30	10000	17400	4000	6.9	6.2	28.9	0.219	8	M12	125
35	17000	28800	3500	11.2	9.8	46.6	0.488	8	M14	200
40	28500	48500	3100	16.3	15.9	70.9	1.011	8	M14	200
45	37000	62000	3000	20.2	21.4	90.7	1.482	10	M14	200
50	51000	86000	2500	27.0	29.5	123.5	2.474	8	M18	430
55	65000	110000	2300	32.6	40.2	159.1	3.714	14	M18	430
60	85000	145000	2100	32.0	52.8	184.4	4.810	14	M18	430
70	135000	240000	1850	43.8	85.5	280	9.907	16	M20	610
80	175000	300000	1750	64	117	362	14.214	18	M20	610
85	225000	380000	1650	75	148	446	20.320	20	M20	610
90	-	500000	1550	101	183	568	31.036	20	M24	1000
100	-	650000	1500	117	232	698	45.358	24	M24	1000
110	-	820000	1250	140	295	940	73.880	20	M30	1700
120	-	1050000	1150	188	430	1312	118.40	24	M30	1700
130	-	1450000	1000	330	595	1965	235.431	20	M36	2800
140	-	1950000	950	391	751	2411	343.432	24	M36	2800
150	-	2750000	850	488	1057	3242	575.453	30	M36	2800

■ = Standard

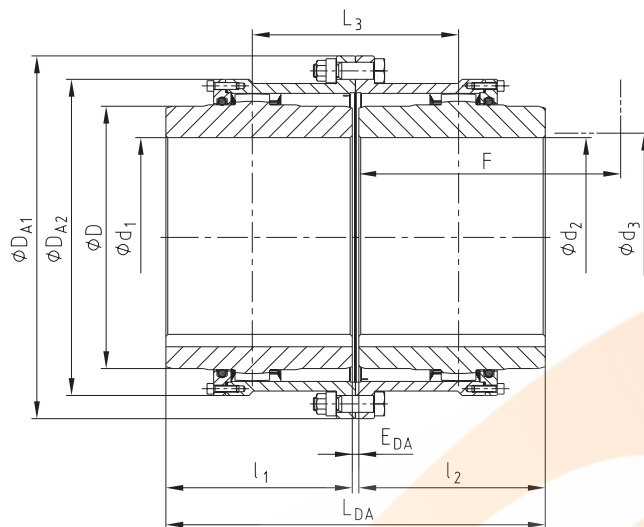
¹⁾ Space required to align the coupling and replace the gasket

²⁾ Lengthened hubs as a standard available for type DA only. For type DB and DAB lengthened hubs available on request only.

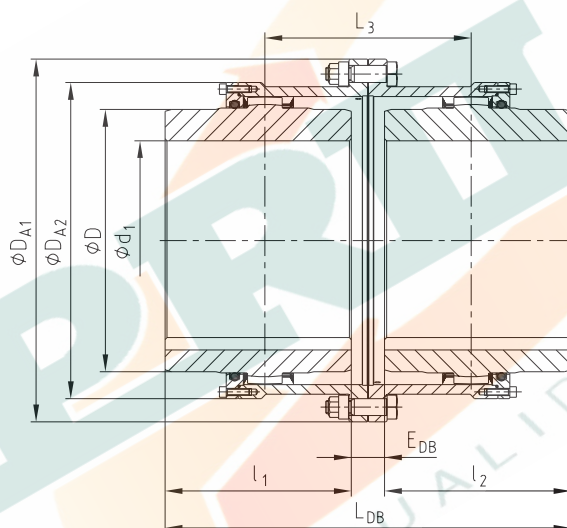
³⁾ Maximum torque of the coupling T_{K max} = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

Ordering example:	GEARex® DA 80	d ₁ Ø300	d ₂ Ø300
	Type and size of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1

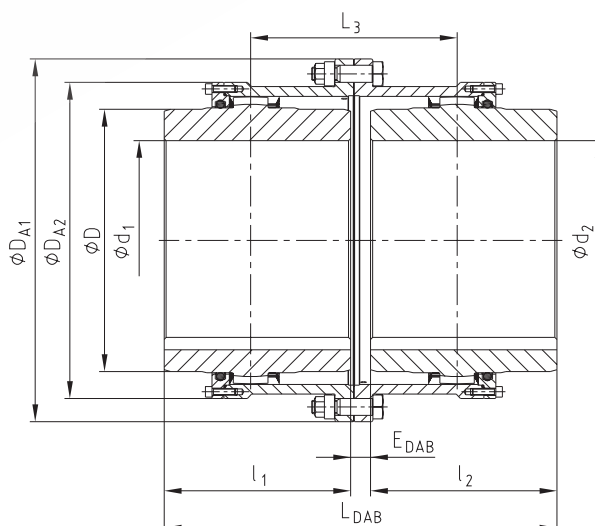
Type DA



Type DB

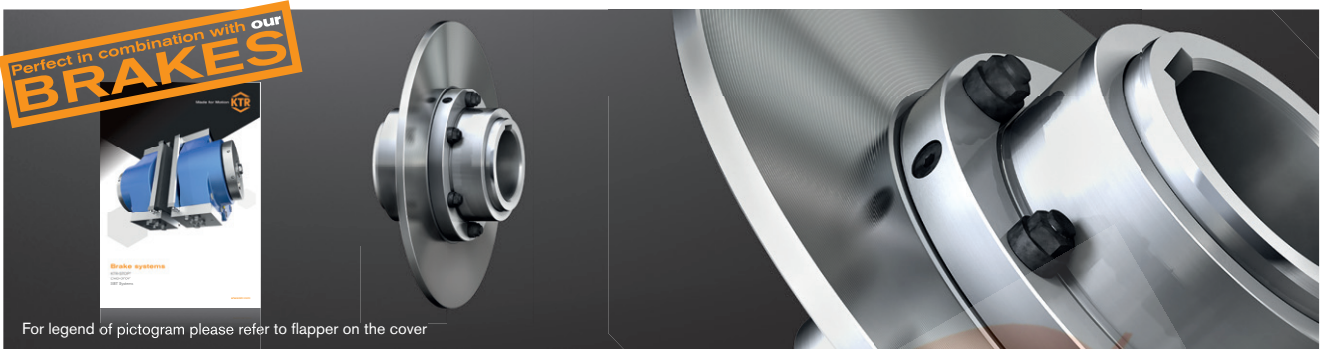


Type DAB

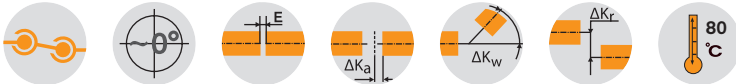


GEARex® FBR and DBR All-steel gear coupling

All-steel gear coupling with brake disk



For legend of pictogram please refer to flapper on the cover



Dimensions																	
Size	Pilot bore	Max. finish bore		Dimensions [mm]													
		d ₁ , d ₂	l ₁ , l ₂	Hub lengthened max. l ₁ , l ₂ ³⁾	E _A	E _B	L _A	L _B	L ₃	N	D	DA1 ⁴⁾	DA2 ⁴⁾	F ²⁾	d ₃ ²⁾	a	
10 ¹⁾	26	50	43	105	16	34	102	120	68	N = L _A • 0.5 or L _B • 0.5	67	111	83	74	52	1.8	
15 ¹⁾	26	64	50	115	23	35	123	135	79		87	142	106	84	68	2.3	
20	31	80	62	130	20	48	144	172	96		108	174	129	104	85	2.3	
25	38	98	76	150	26	50	178	202	114		130	213	157	123	110	2.3	
30	44.5	112	90	170	25	53	205	233	129		153	240	181	148	130	2.3	
35	46	133	105	185	33	67	243	277	155		180	280	213	172	150	3.3	
40	52	158	120	215	21	57	261	297	159		214	318	249	192	175	3.3	
45	80	172	135	245	26	68	296	338	182		233	347	273	216	190	3.3	
50	80	192	150	295	27	75	327	375	201		260	390	308	241	220	3.3	

Technical data									
Size	Torque [Nm] ⁵⁾		Dowel screw (10.9)			Weight with max. bore excluding brake disk [kg]		Max. speed ⁶⁾	
	T _{KN}	T _{KN} (42CrMo4)	z	M	TA [Nm]	FBR	DBR	ØA x b [mm]	n [rpm]
10 ¹⁾	930	1580	6	M6	15	2.75	-	250 x 12.7	3900
15 ¹⁾	2000	3300	8	M8	36	5.60	-	300 x 12.7	3300
20	3500	6300	6	M10	72	9.50	12.8	315 x 12.7	3100
25	6500	11000	6	M12	125	16.60	20.3	350 x 12.7	2800
30	10000	17400	8	M12	125	25.00	28.9	400 x 12.7	2400
35	17000	28800	8	M14	200	40.90	46.6	460 x 12.7	2100
40	28500	48500	8	M14	200	57.50	70.9	515 x 12.7	1900
45	37000	62000	10	M14	200	76.40	90.7	610 x 12.7	1600
50	51000	86000	8	M18	430	113.50	123.5	710 x 12.7	1400

Recommended selection of coupling/brake disk										
Size	Brake disk ØA x b ⁷⁾									
	250 x 12.7	300 x 12.7	315 x 12.7	350 x 12.7	400 x 12.7	460 x 12.7	515 x 12.7	610 x 12.7	710 x 12.7	810 x 12.7
10 ¹⁾	x	x	x							
15 ¹⁾		x	x	x						
20			x	x	x	x				
25					x	x	x	x		
30						x	x	x	x	
35							x	x	x	
40								x	x	x
45								x	x	x
50								x	x	x

■ = Standard

¹⁾ Size 10 and 15 available as type F only.

²⁾ Space required to align the coupling and replace the gasket

³⁾ Hubs lengthened as a standard available in connection with hub configuration A only.

⁴⁾ Dimensions of type F For dimensions of type D see page 110.

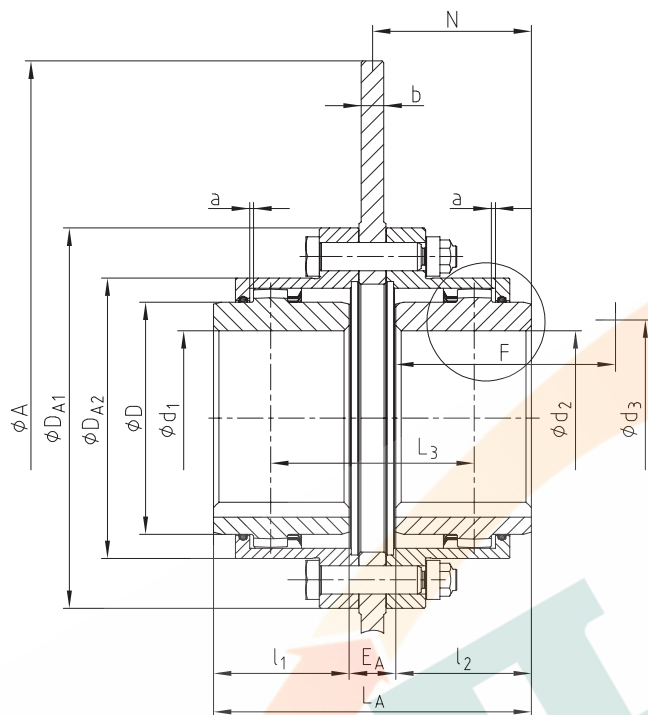
⁵⁾ Maximum torque of the coupling T_{K max.} = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

⁶⁾ The maximum speed depends on the size of brake disk and the maximum perm. circumferential speed. Please observe specifications of the brake manufacturer.

⁷⁾ Other sizes of brake disks on request. Cranked brake disks are available on request of the customer, too.

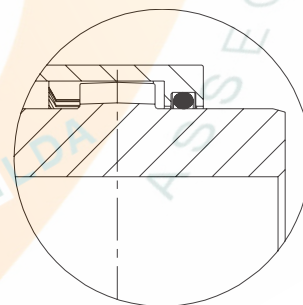
Ordering example:	GEARex® FBR 10	d ₁ Ø50	d ₂ Ø50	E _A = 16	Ø300 x 12.7
	Type and size of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1	Configuration of hubs with shaft distance dimension E	Brake disk ØA x width b

Type FBR
with hub configuration A

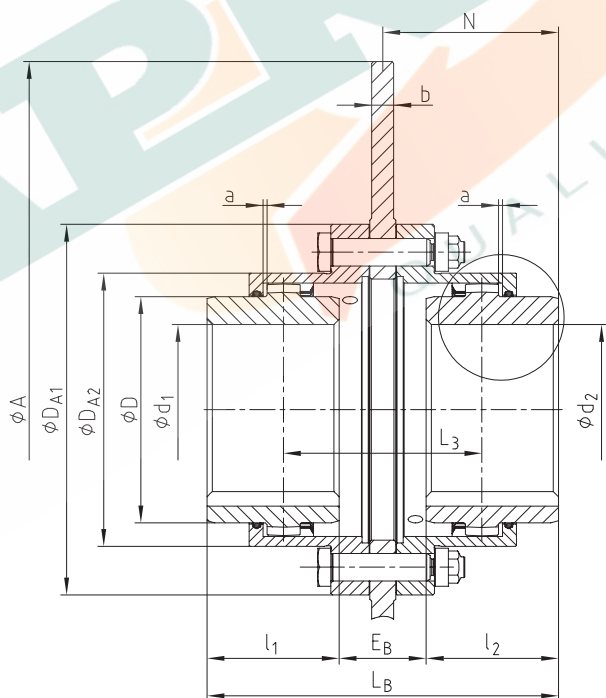


Types:

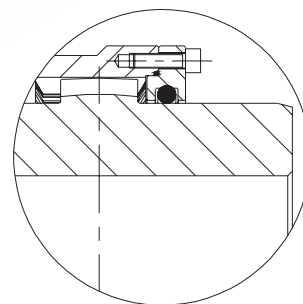
Type FBR



Type FBR
with hub arrangement B



Type DBR



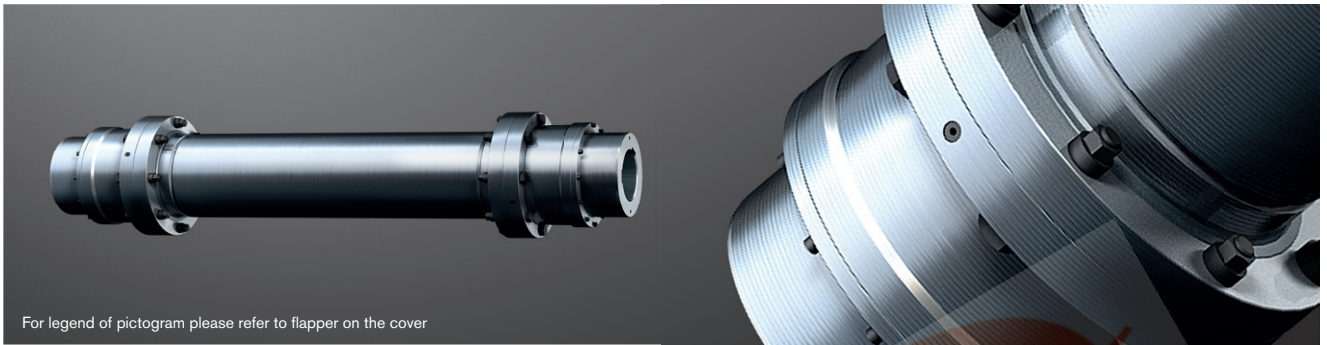
BoWex®

GEARex®

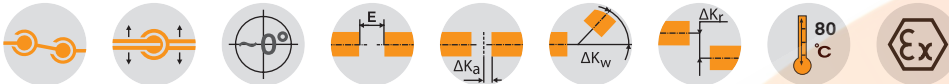
GEARex® FH and DH

All-steel gear couplings

Large shaft distance dimension, high power density



For legend of pictogram please refer to flapper on the cover



Dimensions																	
Size ³⁾	Torque [Nm] ⁴⁾		Pilot bore	Max. finish bore		Dimensions [mm]							Dowel screw (10.9)				
	TKN	TKN (42CrMo4)		d ₁ , d ₂	l ₁ , l ₂	Hub lengthened max. l ₁ , l ₂	D	DA1 ²⁾	DA2 ²⁾	LH	E _H	F ¹⁾	d ₃ ¹⁾	z	M	T _A [Nm]	
10	930	1580	26	50	43	105	67	111	83			74	52	6	M6	15	
15	2000	3300	26	64	50	115	87	142	106			84	68	8	M8	36	
20	3500	6300	31	80	62	130	108	174	129			104	85	6	M10	72	
25	6500	11000	38	98	76	150	130	213	157			123	110	6	M12	125	
30	10000	17400	44.5	112	90	170	153	240	181			148	130	8	M12	125	
35	17000	28800	46	133	105	185	180	280	213			172	150	8	M14	200	
40	28500	48500	52	158	120	215	214	318	249			192	175	8	M14	200	
45	37000	62000	80	172	135	245	233	347	273			216	190	10	M14	200	
50	51000	86000	80	192	150	295	260	390	308			241	220	8	M18	430	
55	65000	110000	90	210	175	300	283	425.5	333			275	250	14	M18	430	
60	85000	145000	100	232	190	305	312	457	364.5			316	265	14	M18	430	
70	135000	240000	100	276	220	310	371	527	424			360	300	16	M20	610	
80	175000	300000	140	300	280	-	394	545	475			340	310	18	M20	610	
85	225000	380000	160	325	292	-	430	585	515			352	330	20	M20	610	
90	-	500000	180	350	305	-	464	640	560			365	360	20	M24	1000	
100	-	650000	220	390	330	-	512	690	612			390	400	24	M24	1000	
110	-	820000	220	420	350	-	560	765	665			410	420	20	M30	1700	
120	-	1050000	260	450	420	-	608	825	720			480	470	24	M30	1700	
130	-	1450000	300	500	440	-	684	980	805			520	520	20	M36	2800	
140	-	1950000	380	550	460	-	750	1055	875			570	590	24	M36	2800	
150	-	2750000	460	630	520	-	850	1180	975			630	670	30	M36	2800	

■ = Standard

¹⁾ Space required to align the coupling and replace the gasket

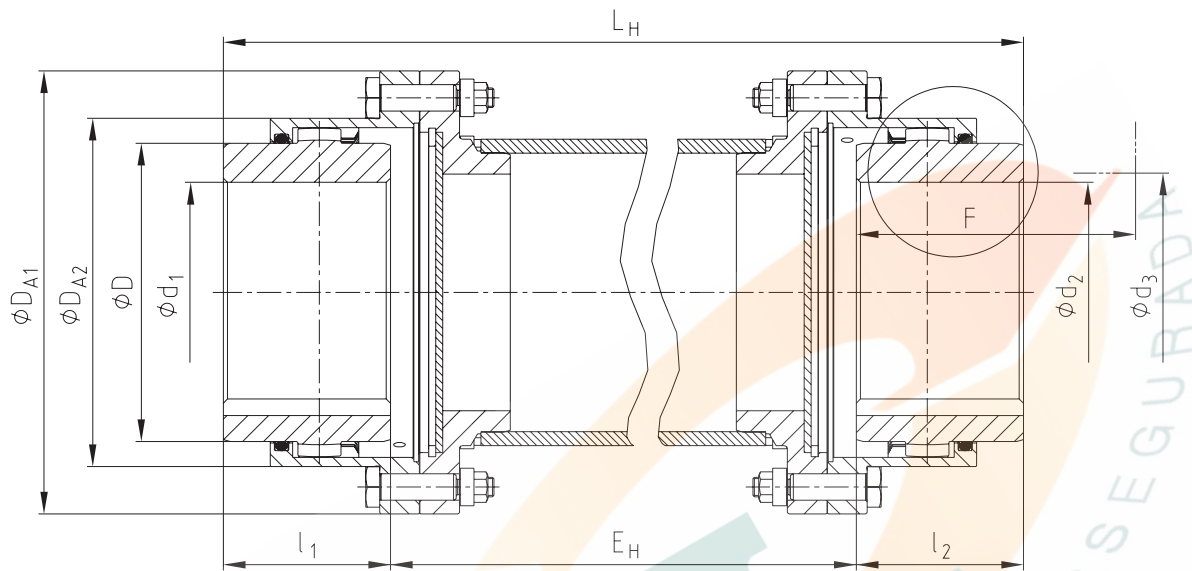
²⁾ For dimensions of type F see page 108. For type D see page 110.

³⁾ Size 10 and 15 available as type F only. From size 80 available as type D only.

⁴⁾ Maximum torque of the coupling $T_{K \max} = \text{rated torque of the coupling } T_{KN} \times 2$. For selection see page 14 et seqq.

Ordering example:	GEARex® FH 10	d ₁ Ø50	d ₂ Ø50	250
	Type and size of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1	Shaft distance dimension E _H

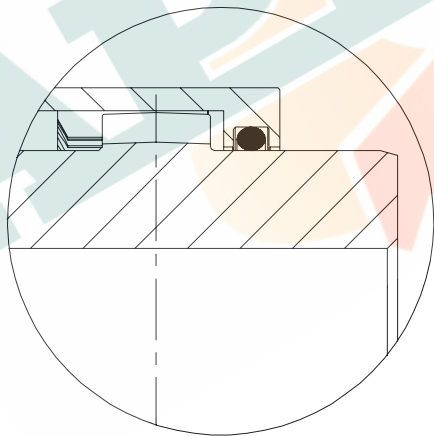
Components



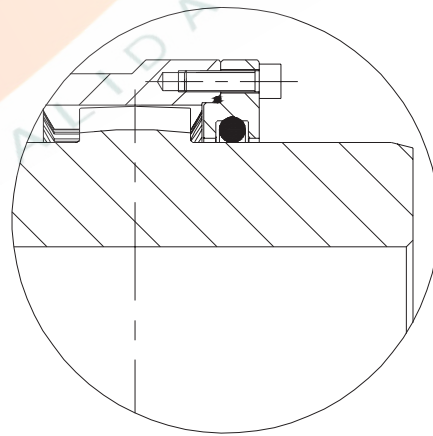
BoWex®

Types

Type FH



Type DH



GEARex®

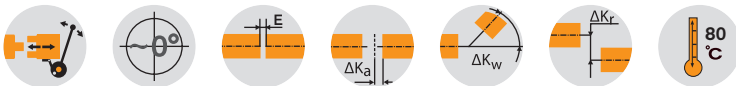
GEARex® SD

All-steel gear coupling

Shiftable coupling with shiftable linkage (at standstill)



For legend of pictogram please refer to flapper on the cover



Dimensions												
Size	Torque T_{KN} [Nm] ¹⁾	Max. finish bore		Dimensions [mm]								
		d_1, d_2	E	l_1	l_2	l_3	L	n	D	D_n	DA_1	DA_2
10	1580	50	3	50	50	14	103	18	67	112.5	110	125
15	3300	64	3	60	60	20	123	20	87	131	132	145
20	6300	80	3	70	70	18	143	25	108	165	152	185
25	11000	98	5	80	80	20.5	165	30	130	210.5	183	230
30	17400	112	6	100	100	20	206	30	153	210.5	208	230
35	28800	133	6	110	110	22.5	226	35	180	250.5	238	270
40	48500	160	6	140	140	27.5	286	38	214	300.5	282	320
45	62000	175	8	150	150	27.5	308	38	233	300.5	302	320
50	86000	195	8	170	170	30	348	40	260	362	330	386
55	110000	210	10	190	190	40	390	40	283	362	354	386

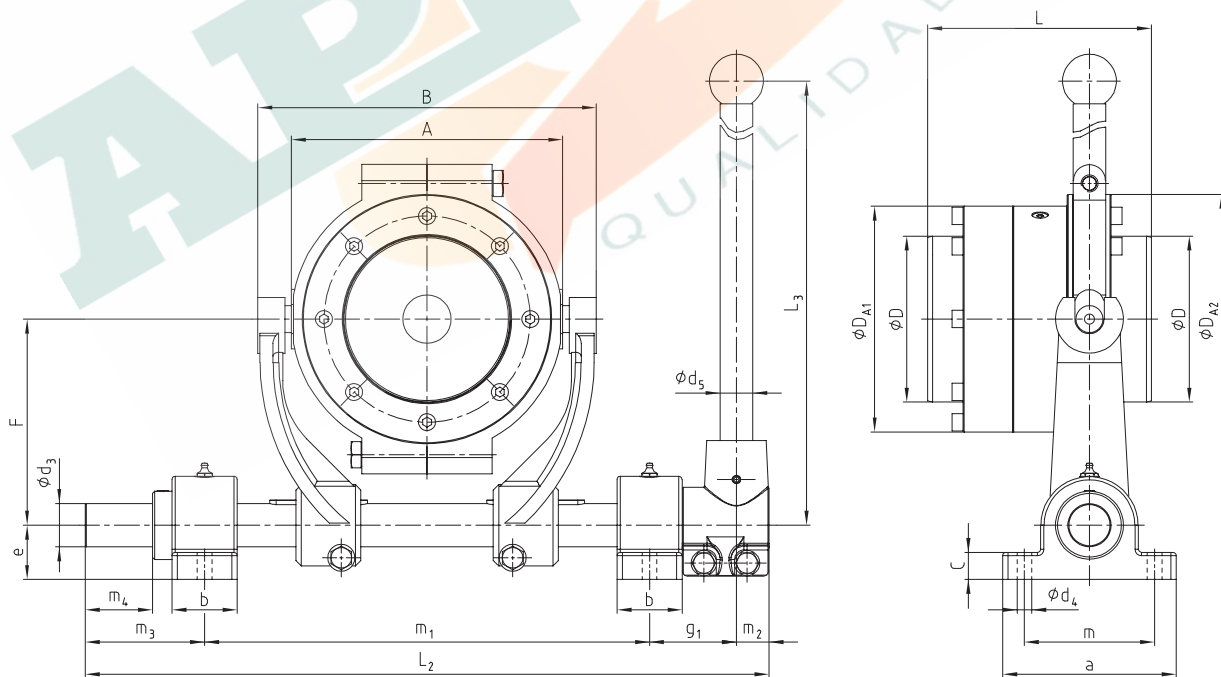
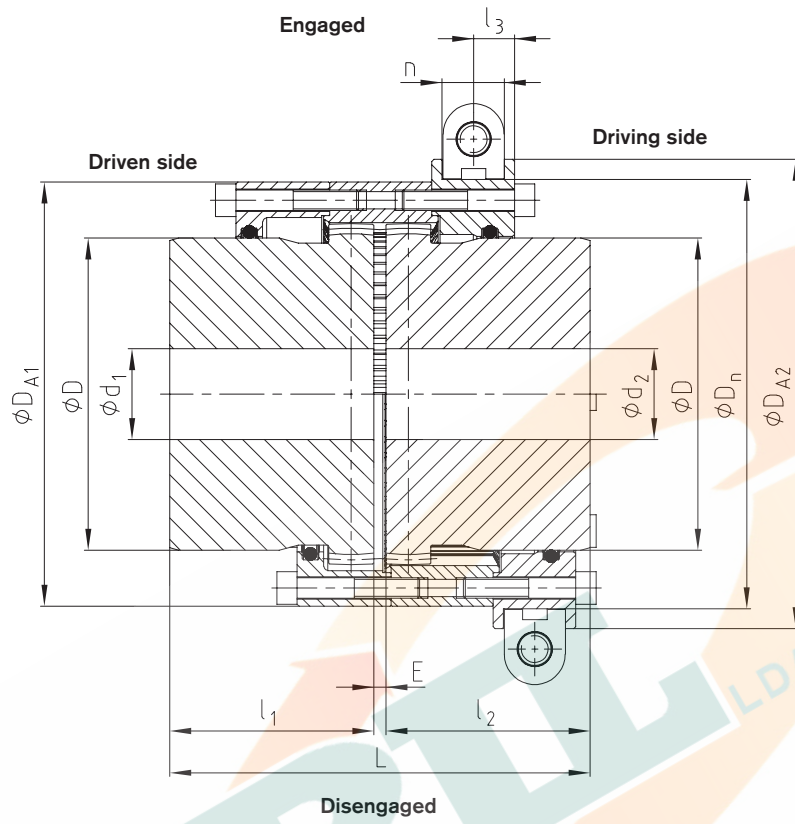
Dimensions																				
Size	Shiftable linkage Size	Slip ring Size	Dimensions [mm]																	
			a	b	c	d_3	d_4	d_5	e	F	g_1	L_2	L_3	m	m_1	m_2	m_3	m_4	A	B
10	3	3.3	140	60	25	30	13.5	20	40	120	70	490	600	100	310	20	90	44	140	180
15	3	4.4	140	60	25	30	13.5	20	40	120	70	490	600	100	310	20	90	44	170	210
20	4	5.5	160	60	25	35	13.5	30	50	147.5	70	565	750	120	365	30	100	54	200	244
25	5	6.6	160	60	25	40	13.5	30	50	190	80	630	1025	120	410	30	110	62	250	300
30	5	6.6	160	60	25	40	13.5	30	50	190	80	630	1025	120	410	30	110	62	300	350
35	5	7.7	160	60	25	40	13.5	30	50	190	80	630	1085	120	410	30	110	62	300	350
40	6	8.8	160	60	25	40	13.5	30	50	265	80	760	1068	120	540	30	110	62	360	420
45	6	8.8	160	60	25	40	13.5	30	50	265	80	760	1068	120	540	30	110	62	360	420
50	6	9.9	160	60	25	40	13.5	30	50	265	80	760	1068	120	540	30	110	62	420	480
55	6	9.9	160	60	25	40	13.5	30	50	265	80	760	1068	120	540	30	110	62	420	480

¹⁾ Maximum torque of the coupling $T_{K \max}$ = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

Max. circumferential speed $v = 20$ m/s, referring to D_n .
Standard GEARex® SD couplings are not designed for continuous operation.
For displacement figures of the coupling refer to KTR standard 40311.

On request:
Other sizes or types for continuous operation available.
Shiftable linkage available with locking pins, locking devices and retrieval of shift position.

Ordering example:	GEARex® 30 SD	d_1 Ø50	d_2 Ø55	6.6	5
	Size and type of coupling	Finish bore with keyway to DIN 6885 sheet 1		Slip ring Size	Shiftable linkage Size



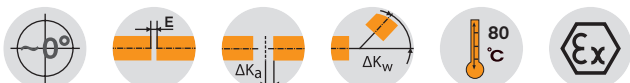
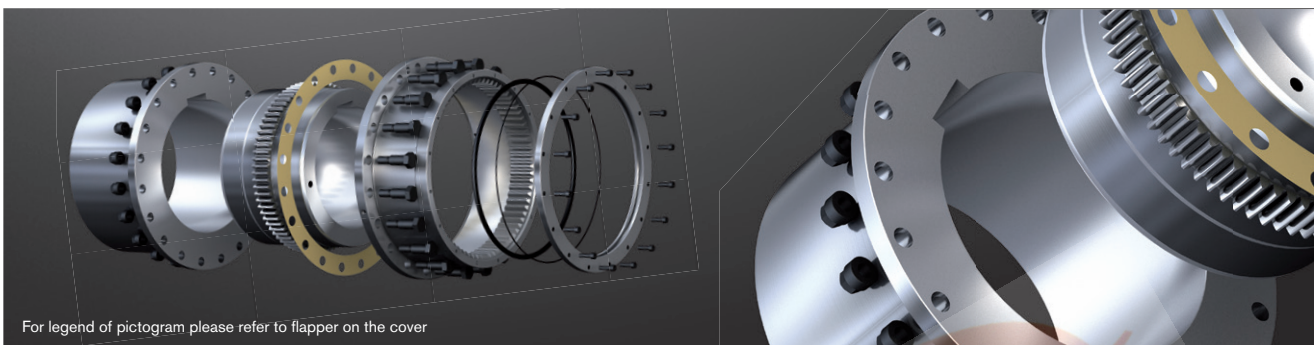
BoWex®

GEARex®

GEARex® FR and DR

All-steel gear couplings

Single-cardanic, high power density



Dimensions																
Size ³⁾	Torque [Nm] ⁴⁾		Max. finish bore		Dimensions [mm]										Dowel screw (10.9)	
	T _{KN}	T _{KN} (42CrMo4)	d ₁	d ₄	l ₁ , l ₂	Hub lengthened max. l ₁ , l ₂	D	DA1 ²⁾	DA2 ²⁾	DF	LR	F ¹⁾	d _g ¹⁾	z	M	T _A [Nm]
10	930	1580	50	60	43	105	67	111	83	83	88	74	52	6	M6	15
15	2000	3300	64	78	50	115	87	142	106	106	103	84	68	8	M8	36
20	3500	6300	80	95	62	130	108	174	129	129	127	104	85	6	M10	72
25	6500	11000	98	115	76	150	130	213	157	157	157	123	110	6	M12	125
30	10000	17400	112	135	90	170	153	240	181	181	185	148	130	8	M12	125
35	17000	28800	133	155	105	185	180	280	213	213	216	172	150	8	M14	200
40	28500	48500	158	185	120	215	214	318	249	249	244	192	175	8	M14	200
45	37000	62000	172	200	135	245	233	347	273	273	276	216	190	10	M14	200
50	51000	86000	192	225	150	295	260	390	308	308	305	241	220	8	M18	430
55	65000	110000	210	245	175	300	283	425.5	333	333	356	275	250	14	M18	430
60	85000	145000	232	265	190	305	312	457	364.5	364.5	386	316	265	14	M18	430
70	135000	240000	276	310	220	310	371	527	424	424	450	360	300	16	M20	610
80	175000	300000	300	340	280	-	394	545	475	462	570	340	310	18	M20	610
85	225000	380000	325	370	292	-	430	585	515	500	597	352	330	20	M20	610
90	-	500000	350	400	305	-	464	640	560	546	623	365	360	20	M24	1000
100	-	650000	390	440	330	-	512	690	612	594	673	390	400	24	M24	1000
110	-	820000	420	480	350	-	560	765	665	647	710	410	420	20	M30	1700
120	-	1050000	450	520	420	-	608	825	720	700	852	480	470	24	M30	1700
130	-	1450000	500	560	440	-	684	980	805	760	890	520	520	20	M36	2800
140	-	1950000	550	610	460	-	750	1055	875	835	930	570	590	24	M36	2800
150	-	2750000	630	690	520	-	850	1180	975	935	1055	630	670	30	M36	2800

■ = Standard

¹⁾ Space required to align the coupling and replace the gasket

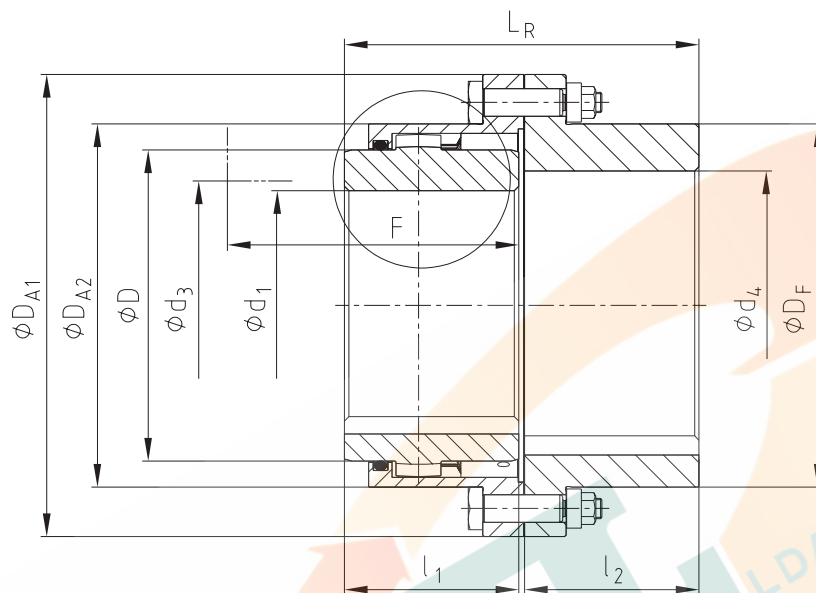
²⁾ For dimensions of type F see page 108. For type D see page 110.

³⁾ Size 10 and 15 available as type F only. From size 80 available as type D only.

⁴⁾ Maximum torque of the coupling T_{K max} = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq.

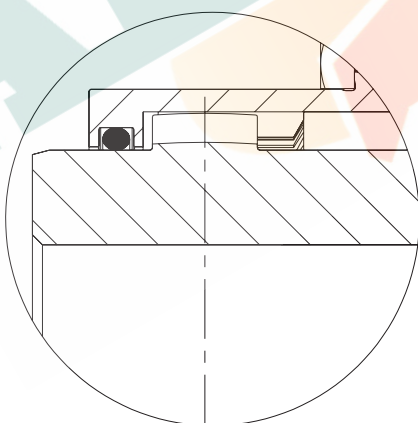
Ordering example:	GEARex® FR 10	d ₁ Ø50	d ₄ Ø60
	Type and size of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1

Components

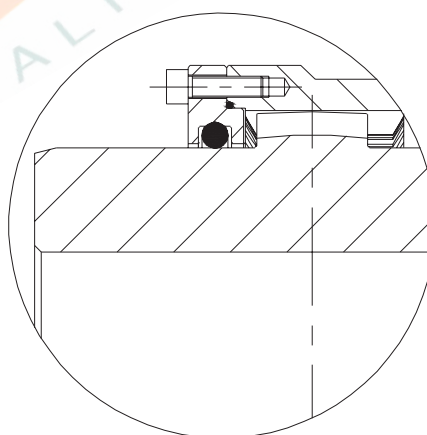


Types

Type FR



Type DR

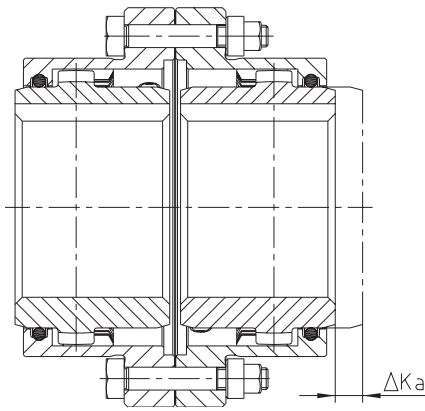


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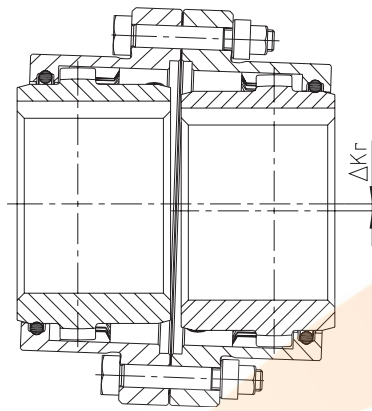
GEARex®

Displacements

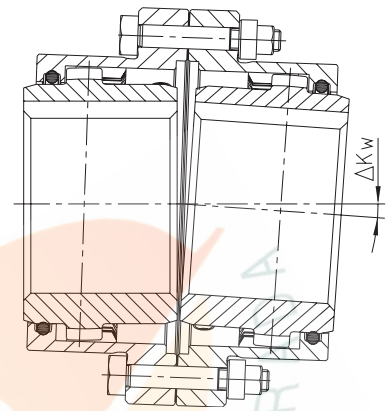
Axial displacement



Radial displacement



Angular displacement

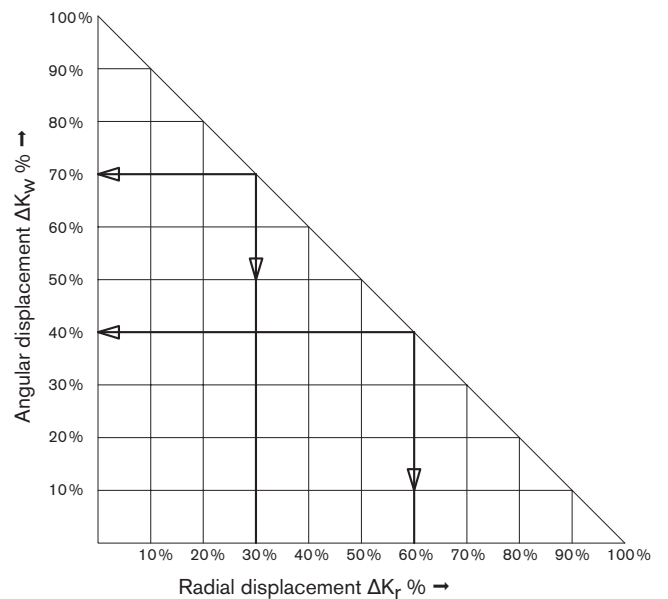


Displacements			
Size	Max. axial displacement ΔK_a [mm]	Max. permissible displacements ¹⁾	
		ΔK_r [mm]	ΔK_w [°]
10		± 0.4	
15		± 0.5	
20		± 0.6	
25	± 1.0	± 0.8	
30		± 1.0	
35		± 1.0	
40		± 1.2	
45		± 1.4	
50		± 1.6	
55	± 1.5	± 1.8	
60		± 2.0	0.5° each hub
70		± 2.2	
80		± 2.5	
85		± 2.8	
90	± 2.0	± 3.0	
100		± 3.2	
110		± 4.4	
120		± 5.5	
130		± 5.7	
140	± 2.5	± 6.0	
150		± 6.6	

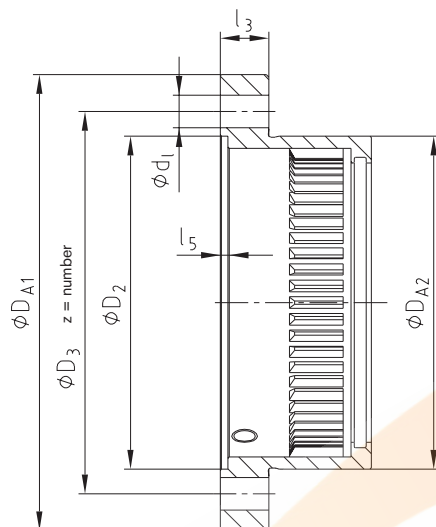
¹⁾ The displacement figures are maximum figures which must not arise in parallel. If radial and angular displacements arise in parallel, the figures need to be reduced (see examples of calculation and diagramme).

Example 1:
 $\Delta K_r = 30\%$
 $\Delta K_w = 70\%$

Example 2:
 $\Delta K_r = 60\%$
 $\Delta K_w = 40\%$



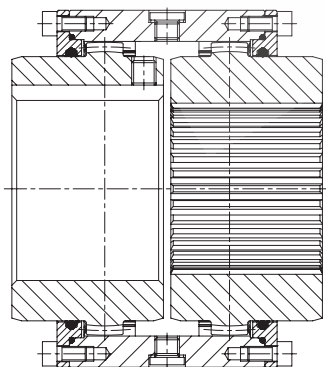
Flange dimensions in accordance with AGMA 9008-B00



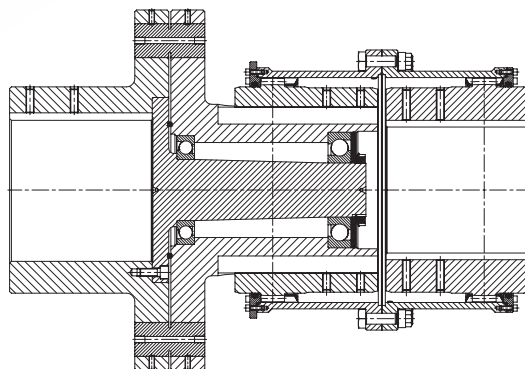
Flange dimensions								
Size	Dimensions [mm]							
	D_{A1}	D_{A2}	D_2	D_3	d_1	$z = \text{number}$	l_3	l_5
10	111	83	82	95.25	6.35	6	14	3
15	142	106	105	122.24	9.52	8	19	3
20	174	129	130	149.23	12.70	6	19	3
25	213	157	153	180.97	15.87	6	22	4
30	240	181	178	206.38	15.87	8	22	4
35	280	213	205	241.30	19.05	8	28.5	5
40	318	249	243	279.40	19.05	8	28.5	4
45	347	273	265	304.80	19.05	10	28.5	5.5
50	390	308	302	342.90	22.22	8	38	6
55	425.5	333	320	368.30	22.22	14	38	6
60	457	364.5	353	400.05	22.22	14	26	6
70	527	424	412	463.55	25.40	16	28.5	8

Other types

Type I (with one-piece sleeve)



Type BK (with shear pins)



Type VD (for vertical assembly)

