

POLY-NORM® Flexible couplings

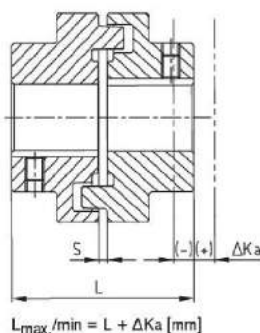
Technical data

POLY-NORM® Technical data													
Size	Torque [Nm]			Max. speed [1/min] with V=35 m/s	Twist angle with		Torsion spring stiffness C _{dyn} [Nm/rad]				Max. permissible displacement [mm] ¹⁾		
	Rated torque T _{KN}	Maximum torque T _{Kmax}	Vibratory torque T _{KW}		T _{KN}	T _{Kmax}	1.0 T _{KN}	0.75 T _{KN}	0.5 T _{KN}	0.25 T _{KN}	axial ΔKa	radial ΔKr	angular ΔKw
28	40	80	16	9650	4,5	6,0	5200	3318	1867	897	± 1,0	0,20	1,2
32	60	120	24	8550			7820	4989	2821	1349	± 1,0	0,25	1,4
38	90	180	36	7650			13540	8639	4885	2336	± 1,0	0,25	1,5
42	150	300	60	6950			26250	16748	9471	4528	± 1,0	0,25	1,7
48	220	440	88	6300			29896	19074	10786	5157	± 1,5	0,30	1,8
55	300	600	120	5650	4,0	5,5	38500	24563	13891	6641	± 1,5	0,30	2,0
60	410	820	164	5150			67600	43129	23200	11661	± 1,5	0,30	2,2
65	550	1100	220	4750			81800	52188	26994	14111	± 1,5	0,35	2,4
75	850	1700	340	4200			122900	78410	40557	21200	± 1,5	0,40	2,7
85	1350	2700	540	3650			243045	155063	74958	41925	± 1,5	0,40	3,0
90	2000	4000	800	3300	2,5	3,5	361571	230682	111364	62371	± 1,5	0,45	3,4
100	2900	5800	1160	2950			548200	349752	168846	94565	± 3,0	0,50	3,9
110	3900	7800	1560	2650			792300	505487	244028	136672	± 3,0	0,60	4,3
125	5500	11000	2200	2350			1023240	652827	315158	178509	± 3,0	0,60	4,8
140	7200	14400	2880	2100			1640430	1046594	508533	282974	± 3,0	0,60	5,5
160	10000	20000	4000	1800			2090930	1334013	648188	360685	± 3,0	0,65	6,1
180	13400	26800	5360	1650			2670700	1703907	827917	460696	± 3,0	0,65	6,0
200	19000	38000	7600	1450							± 4,0	0,65	7,8
220	30000	60000	12000	1300							± 4,0	0,70	8,7
240	43000	86000	17200	1200					on request				± 4,0
260	55000	110000	22000	1000							± 4,0	0,85	11,3
280	67000	134000	26800	950							± 4,0	0,95	12,2

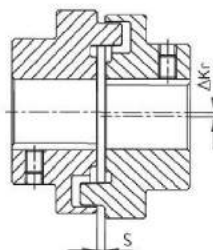
¹⁾ Displacement with $n = 1500$ rpm

Radial and angular displacements may occur simultaneously. The combined sum of displacements must not exceed the values listed in the table. If requested, coupling is dynamically balanced (semi-key balancing G 6.3 with 1500 rpm). For circumferential speeds exceeding $V = 20$ m/s, dyn. balancing is recommended.

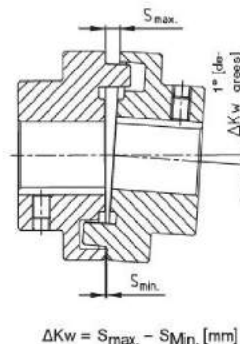
Axial displacement ΔK_a



Radial displacement ΔK_r



Angular displacement ΔK_w



Assembly instructions

With assembly the coupling halves must be mounted such that the coupling and shaft are flush. Alignment has to be done such that the radial and angular displacement is as small as possible. The service life of coupling and bearings is extended by accurate alignment. Steps must be taken to ensure that the alignment will not change during all operating conditions. Shaft displacement which cannot be avoided must not exceed the figures specified in the table. Winkelliger und radialer Versatz können zugleich auftreten. The combined sum of displacements must not exceed the values listed in the table. See KTR mounting instructions, KTR standard 49510 at our homepage www.ktr.com.

General information about the elastomer

Material/Hardness	Perbunan (NBR)/78 Shore-A
Permanent temperature range [°C]	-30 to + 80
Max. temperature (short time) [°C]	-50 to + 120
Operating range	General engineering Pump industry ATEX applications Chemical industry Standard applications of average elasticity
Resistant to	Gasoline, diesel Acids, bases Tropics (Salt) water (hot/cold) Oils, greases Propane, butane Natural gas, city gas

Elastomer ring Viton [FKM] 60 Shore-A for the high-temperature range on request

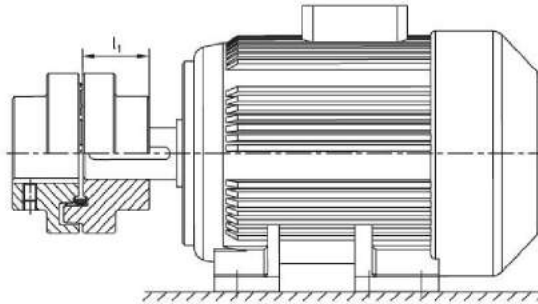


Elastomer ring NBR 78 Shore-A

POLY-NORM®

Flexible couplings

Selection of standard IEC motors



POLY-NORM®-Couplings for standard IEC motors, protection IP 54/IP 55 (elastomer ring 78 Shore-A)															
A. C. motor 50 Hz			Motor output n=3000 rpm 2 poles		POLY®-NORM coupling size	Motor output n=1500 rpm 4 poles		POLY®-NORM coupling size	Motor output n=1000 rpm 6 poles		POLY®-NORM coupling size	Motor output n=750 rpm 8 poles		POLY®-NORM coupling size	
Size	Shaft end dkl [mm]		Output P [kW]	Torque T [Nm]		Output P [kW]	Torque T [Nm]		Output P [kW]	Torque T [Nm]		Output P [kW]	Torque T [Nm]		
56	9 x 20		0,09	0,32		0,06	0,43		0,037	0,43					
			0,12	0,41		0,09	0,84		0,045	0,52					
63	11 x 23		0,18	0,62		0,12	0,88		0,06	0,7					
			0,25	0,86		0,18	1,3		0,09	1,1					
71	14 x 30		0,37	1,3		0,25	1,8		0,18	2		0,09	1,4		
			0,55	1,9		0,37	2,5		0,25	2,8		0,12	1,8		
80	19 x 40		0,75	2,5	28/32	0,55	3,7	28/32	0,37	3,9	28/32	0,18	2,5	28/32	
			1,1	3,7		0,75	5,1		0,55	5,8		0,25	3,5		
90S	24 x 50		1,5	5		1,1	7,5		0,75	8		0,37	5,3		
90L			2,2	7,4		1,5	10		1,1	12		0,55	7,9		
100L	28 x 60		3	9,8		2,2	15		1,5	15		0,75	11		
						3	20					1,1	16		
112M			4	13		4	27		2,2	22		1,5	21		
132S			5,5	18		5,5	36		3	30		2,2	30		
	38 x 80		7,5	25	38			38	4	40	38	3	40	38	
132M						7,5	49		5,5	55					
160M	42 x 110		11	36		11	72	42	7,5	75	42	4	54	42	
			15	49	42							5,5	74		
160L			18,5	60		15	98		11	109		7,5	100		
180M	48 x 110		22	71	48	18,5	121	48			48			48	
180L						22	144		15	148		11	145		
200L	55 x 110		30	97		30	198	55	18,5	181	55	15	198	55	
			37	120	55				22	215					
225S	55 x 110	60 x 140				37	240				60	18,5	244		
225M			45	145		45	292	60	30	293		22	290	60	
250M	55		177	60	55	356	65	37	361	65	30	392	65		
280S			75	241		75	484		45	438		37	483		
260M			90	289	65	90	581	75	55	535	75	45	587	75	
315S			110	353		110	707		75	727		55	712	85	
315M	65 x 140	80 x 170	132	423	75	132	849	85	90	873	85	75	871		
			160	513		160	1030		110	1070		90	1170	90	
315L			200	641		200	1290	90	132	1280	90	110	1420		
					85				160	1550		132	1710		
315	85 x 170		250	802		250	1600		200	1930	100	160	2070	100	
			315	1010		315	2020	100	250	2410	110	200	2580	110	
			355	1140	90	355	2280		315	3040	125	250	3220	125	
355	75 x 140	95 x 170	400	1280		400	2570	110	400	3850		315	4060		
			500	1600		500	3210								
			560	1790	100	560	3580	125	450	4330	140	355	4570	140	
400	80 x 170	110 x 210	630	2020		630	4030		500	4810		400	5150		
			710	2270	110	710	4540	140	560	5390		450	5790	160	
			800	2560		800	5120	160	630	6060	160	500	6420		
450	90 x 170	120 x 200	900	2880	125	900	5760		710	6830	180	560	7190		
			1000	3200		1000	6400		800	7690	180	630	8090	180	

The coupling selection is based on an ambient temperature up to 30 °C. For the selection there is a minimum safety factor of 2 of the max. coupling torque (TKmax.). A detailed selection is possible according to catalogue, page 11 et seqq. Drives with periodical torque curves must be selected according to DIN 740 part 2. If requested, KTR will perform the selection.

Torque T = rated torque according to Siemens catalogue M 11 · 1994/95..

POLY-NORM® AR

Flexible couplings

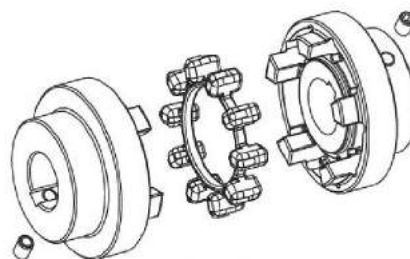
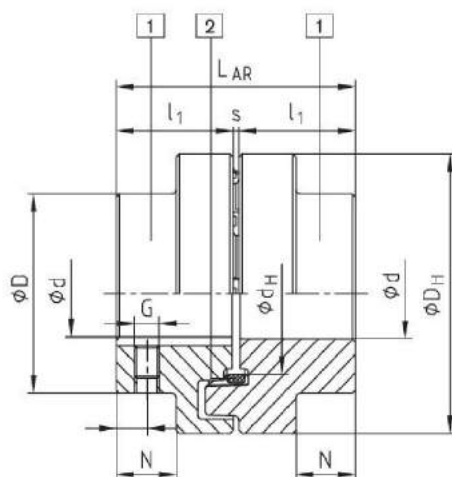
Two-part



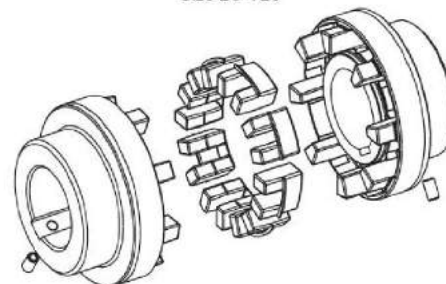
For legend of pictogram please refer to flapper on the cover



Components



Size 28-125



Size 140-280

Components of type AR 1 = standard hub (GIL) 2 = elastomer ring (up to size 180: NBR 78 Sh-A; from size 200: T-PUR® 84 Sh-A)

POLY-NORM® Type AR														
Size	Elastomer ring (part 2) 1) torque [Nm]		Max. finish bore Ød 2)	Dimensions [mm]									Mass moment of inertia [kgm² 3)	AR 3) weight [kg]
				General							Thread for setscrews			
	LAR	l ₁		s	D _H	D	d _H	N	G	t				
28	40	80	30	59	28	3	69	46	36,5	12	M5	7	0,0004	0,9
32	60	120	35	68	32	4	78	53	41,5	14	M6	7	0,0008	1,4
38	90	180	40	80	38	4	87	62	50	19,5	M6	10	0,0016	2,0
42	150	300	45	88	42	4	96	69	55,5	20	M8	10	0,0026	2,7
48	220	440	50	101	48	5	106	78	64	24	M8	15	0,0042	3,7
55	300	600	60	115	55	5	118	90	73	29	M8	14	0,0070	5,5
60	410	820	65	125	60	5	129	97	81	33	M8	15	0,0112	6,9
65	550	1100	70	135	65	5	140	105	86	36	M10	20	0,0174	8,8
75	850	1700	80	155	75	5	158	123	100	42,5	M10	20	0,028	13,5
85	1350	2700	90	175	85	5	182	139	116	48,5	M10	25	0,052	19,5
90	2000	4000	95	185	90	5	200	148	128	49	M12	25	0,090	23,2
100	2900	5800	110	206	100	6	224	165	143	55	M12	25	0,160	31,9
110	3900	7800	50-120	226	110	6	250	185	158	60	M16	30	0,317	38,0
125	5500	11000	55-140	256	125	6	280	210	178	70	M16	35	0,570	55,2
140	7200	14400	65-155	286	140	6	315	235	216	76,5	M20	35	1,030	92,6
160	10000	20000	75-175	326	160	6	350	265	246	94,5	M20	45	1,746	126,9
180	13400	26800	75-200	366	180	6	400	300	290	111,5	M20	50	3,239	181,8
200	19000	38000	85-200	408	200	8	450	335	-	126	M24	50	5,728	263,7
220	30000	60000	95-220	448	220	8	500	370	-	140	M24	50	9,489	355,9
240	43000	86000	105-240	488	240	8	550	405	-	154	M24	50	14,963	466,3
260	55000	110000	115-260	530	260	10	650	440	-	158	M24	60	29,504	672,2
280	67000	134000	125-280	570	280	10	700	475	-	172	M24	60	42,451	836,6

1) Standard material Perbunan (NBR) 78 Shore-A, size 140-280 double tooth elastomers. For selection see page 10 et seqq.

2) Bores H7 with keyway to DIN 6885 sheet 1 [JS9] and thread for setscrews on the feather keyway

3) Referring to average bore

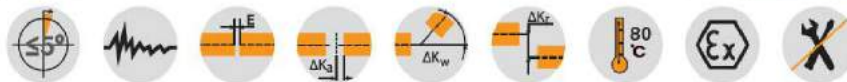
POLY-NORM® AR

Flexible couplings

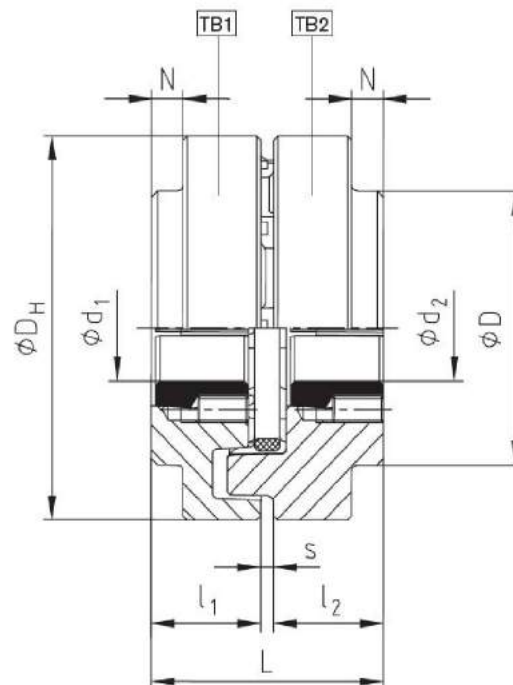
For taper clamping bush



For legend of pictogram please refer to flapper on the cover



Components



POLY-NORM® for taper clamping bush											
Size	Taper clamping bush	Dimensions [mm]		Fixing screws 1) for taper clamping bush				Size	Taper clamping bush	Dimensions [mm]	
		max. d ₁ :d ₂	l ₁ :l ₂	Size [inch]	Length [mm]	SW [mm]	TA [Nm]			max. d ₁ :d ₂	l ₁ :l ₂
32	1108	25	25,5	1/4"	13	3	5,7	75	2517	60	52,5
42	1210	32	31,0	3/8"	16	5	20	85	2517	60	46,5
48	1610	40	30,0	5/16"	16	5	20	90	3030	75	82
	1615	40	42,5	3/8"	16	5	20		3020	75	52,0
60	2012	50	38,5	7/16"	22	6	31	100	3535	90	98,0
65	2517	60	62,5	1/2"	25	6	49	125	4040	100	111,5

1) Each 2 fastening screws except for 3535/4040 3 fixing screws.
Coupling type TB1 screwing on cam side - TB2 screwing on collar side
Combination possible! Please order our separate data sheet M407045.

Ordering example:

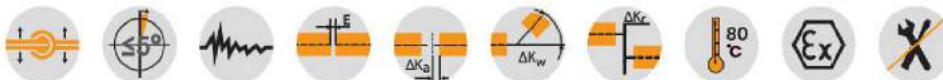
POLY-NORM® 38	AR	Ø38	Ø30
Coupling size	Type	Finish bore	Finish bore

POLY-NORM® ADR Flexible couplings

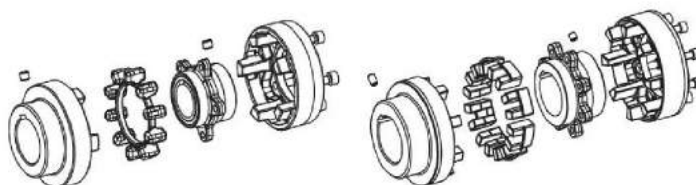
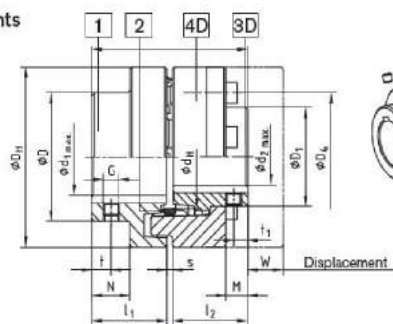
Three-part



For legend of pictogram please refer to flapper on the cover



Components



Size 38-125

Size 140-280

Components:

Type ADR (Three-part)

1 = Standard hub* (GIL)

2 = Elastomer ring (up to size 180 NBR 78 Sh-A; from size 200: T-PUR® 84 Sh-A)

3D = Flange hub (up to size 180: GJS; from size 200: steel) 4D = cam ring (GIL)

* To be preferably used on driving side

POLY-NORM® Type ADR																		
Size	Torque of elastomer ring [Nm] ¹⁾		Dimensions [mm]															
	TKN	TK _{max}	Max. finish bore ²⁾		General										Thread for setscrew			
			d1	d2	L _{ADR}	l ₁ :l ₂	s	D _H	D	D ₁	d _H	N	M	W	G	t	t ₁	T _A [Nm]
38	90	180	40	34	80	38	4	87	62	48	50	19,5	11,0	12	M8	10	7	10
42	150	300	45	38	88	42	4	96	69	54	55,5	20	12,0	16	M8	10	7	10
48	220	440	50	44	101	48	5	106	78	62	64	24	13,7	16	M8	15	7	10
55	300	600	60	50	115	55	5	118	90	72	73	29	18,7	15	M8	14	14	10
60	410	820	65	56	125	60	5	129	97	80	81	33	22,2	14	M8	15	15	10
65	550	1100	70	60	135	65	5	140	105	86	86	36	26,7	11	M10	20	20	17
75	850	1700	80	68	155	75	5	158	123	98	100	42,5	27,8	16	M10	20	20	17
85	1350	2700	90	78	175	85	5	182	139	112	116	48,5	33,7	18	M10	25	25	17
90	2000	4000	95	85	185	90	5	200	148	122	128	49	31,5	26	M12	25	25	40
100	2900	5800	110	95	206	100	6	224	165	136	143	55	37,5	28	M12	25	25	40
110	3900	7800	50-120	105	226	110	6	250	185	150	158	60	39,5	30	M16	30	30	80
125	5500	11000	55-140	115	256	125	6	280	210	168	178	70	48,0	35	M16	35	35	80
140	7200	14400	65-155	55-135	286	140	6	315	235	195	216	76,5	47,0	59	M20	35	35	140
160	10000	20000	75-175	65-155	326	160	6	350	265	225	246	94,5	65,0	43	M20	45	45	140
180	13400	26800	75-200	65-175	366	180	6	400	300	255	290	111,5	79,0	33	M20	50	50	140
200	19000	38000	85-200	200	408	200	8	450	335	290	-	126	95	7	M24	50	50	240
220	30000	60000	95-220	220	448	220	8	500	370	320	-	140	103	8	M24	50	50	240
240	43000	86000	105-240	240	488	240	8	550	405	350	-	154	119	1	M24	50	50	240
260	55000	110000	115-260	260	530	260	10	650	440	390	-	158	109	34	M24	60	60	240
280	67000	134000	125-280	280	570	280	10	700	475	410	-	172	109	29	M24	60	60	240

Classification of cylinder screws DIN EN ISO 4762-12.9										
Size	M x l [mm]	Number z	Pitch z x angle	D ₄ [mm]	T _A [Nm] ³⁾	Size	M x l [mm]	Number z	Pitch z x angle	D ₄ [mm]
38	M6x16	5	5x72	62	10	110	M16x40	8	8x45	183
42	M8x16	5	5x72	69	25	125	M20x40	8	8x45	202
48	M8x20	6	6x80	78	25	140	M20x50	8	8x45	237
55	M8x20	6	6x80	88	25	160	M20x55	9	9x40	267
60	M8x20	6	6x80	98	25	180	M20x60	10	10x36	304
65	M10x20	6	6x80	104	49	200	M20x60	10	10x36	342
75	M10x25	6	6x80	120	49	220	M24x70	10	10x36	378
85	M12x25	6	6x80	138	86	240	M27x70	10	10x36	416
90	M16x30	6	6x80	149	210	260	M30x90	10	10x36	480
100	M16x30	6	6x80	163	210	280	M30x90	10	10x36	520

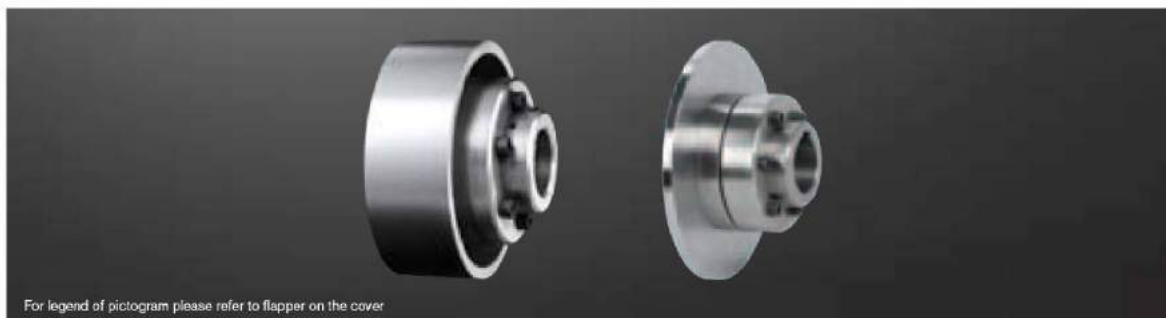
¹⁾ Standard material Perbunan (NBR) 78 Shore-A, size 140-280 double tooth elements. For selection see page 10 at seqq.

²⁾ Bore H7 with feather keyway DIN 6895 sheet 1 [JS9] with thread for setscrews: 3) Screw tightening torques acc. to 8.8

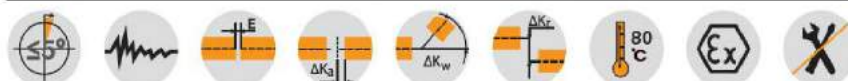
Ordering example:	POLY-NORM® 65	ADR	d ₁ =Ø55	d ₂ =Ø60
	Coupling size	Type	Finish bore	Finish bore

POLY-NORM® BTA and SBA Flexible couplings

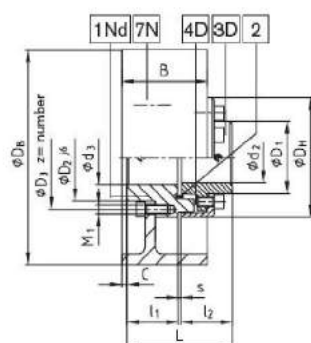
With brake drum/brake disk for brake stop



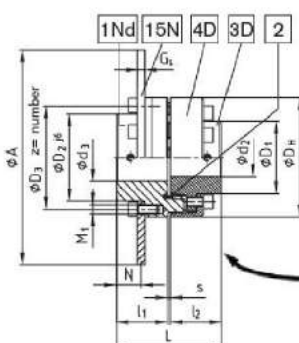
For legend of pictogram please refer to flapper on the cover



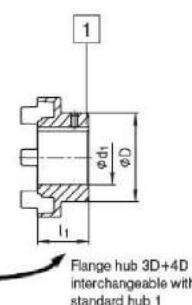
Components



Brake drum type ADR-BTA



Brake disk type ADR-SBA



With standard hub
type WAR-BTA or AR-SBA

POLY-NORM® Type AR-BTA, AR-SBA, ADR-BTA and ADR-SBA														
Size	Torque of elastomer ring [Nm] ¹⁾		D; D ₁	Dimensions [mm]										
	TKN	TK _{max.}		Maximum finish bore			D _H	D ₂	D ₃	z	M ₁	l ₁ ; l ₂	s	L
				d ₁	d ₂	d ₃								
38	90	180	For dimension ØD, ØD ₁ please refer to our company catalogue on page 64 and 65	40	34	38	87	61	75	5 x 72°	M8	38	4	80
42	150	300		45	38	42	96	68	82	5 x 72°	M8	42	4	90
48	220	440		50	44	48	106	77	92	6 x 60°	M8	48	5	101
55	300	600		60	50	55	118	88	104	6 x 60°	M8	55	5	115
60	410	820		65	56	60	129	96	114	6 x 60°	M8	60	5	125
65	550	1100		70	60	65	140	104	122	6 x 60°	M10	65	5	135
75	850	1700		80	68	75	158	121	140	6 x 60°	M10	75	5	155
85	1350	2700		90	78	85	182	137	160	6 x 60°	M12	85	5	175
90	2000	4000		95	85	90	200	148	174	6 x 60°	M16	90	5	185
100	2900	5800		110	95	100	224	164	195	6 x 60°	M16	100	6	206
110	3900	7800		50-120	105	50-110	250	184	218	8 x 45°	M16	110	6	226
125	5500	11000		55-140	115	55-125	280	208	245	8 x 45°	M20	125	6	256
140	7200	14400		65-155	55-135	65-140	315	233	276	8 x 45°	M20	140	6	286
160	10000	20000		75-175	65-155	75-160	350	263	308	9 x 40°	M20	160	6	326
180	13400	26800		75-200	65-175	75-180	400	298	349	10 x 36°	M20	180	6	366

POLY-NORM® Type BTA																	POLY-NORM® Type SBA																					
POLY-NORM® size	38	42	48	55	60	65	75	85	90	100	110	125	140	160	180	Speed rpm with v= 60 m/s ²⁾	POLY-NORM® size	38	42	48	55	60	65	75	85	90	100	110	125	140	160	180	Speed rpm with v= 60 m/s ²⁾					
ØD _{ax} B brake drum ²⁾	Dimensions [mm] C																ØA _G brake disk ²⁾	Dimensions [mm] N																				
160x60	4															7150	200x12,5	13,75														5725						
200x75	9	8	4													5725	250x12,5	13,75	14,75	18,75													4575					
250x95	17	16	20	7	3	0										4575	315x16		13	17	22	26	29	35,5									3625					
315x118		25	21	16	12	9	2,5	-3,5								3625	400x16			17	22	26	29	35,5	41,5	42	48						2850					
400x150				34	28	25	22	15,5	9,5	9	3					2850	500x16				22	26	29	35,5	41,5	42	48	54	64				2275					
500x190												18	12	-2		2275	630x20													46	52	62	69	86	1800			
630x236														20	13	-4	1800	710x20												46	52	62	69	86	104	1600		
710x265															24	7	-11	1600	800x25													43,5	49,5	59,5	66,5	83,5	101,5	1425
																	900x25															49,5	59,5	66,5	83,5	101,5	1200	

¹⁾ Standard material Perbunan [NBR], for selection see page 10 et seqq.

²⁾ Steel ³⁾ Dynamic balancing required

Other sizes on request

Ordering example:	POLY-NORM® 38	ADR-BTA	Ø200 x 75	d ₂ =Ø32 NnD	d ₃ =Ø25 NnD
	Coupling size	Type	Ø brake drum	Component with finish bore	Component with finish bore

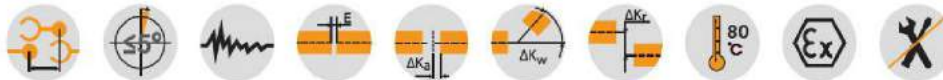
POLY-NORM® AZR

Flexible couplings

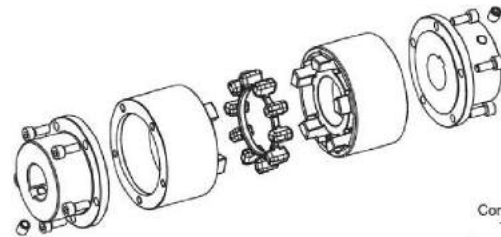
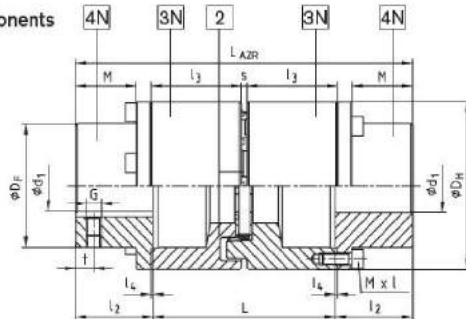
Standard drop-out center design coupling



For legend of pictogram please refer to flapper on the cover



Components



Components:

Type AZR

2 = Elastomer ring (NBR 78 Sh-A)

3N = Driving flange (GJL)

4.N = Coupling flange (Steel)

POLY-NORM® Type AZR																		
Size	Drop-out center length* L [mm]	Elastomer ring (Teil 2) ¹⁾ Torque [Nm]		Max. finish bore ²⁾ Ød ₁	Dimensions [mm]												Mass moment of inertia ³⁾ [kgm ²]	AZR weight ⁴⁾ [kg]
					General													
		T _{KN}	T _{Kmax}		L-AZR	l ₂	l ₃	s	l ₄	D _H	D _F	M	MxI	T _A [Nm]	G	t		
28	100	40	80	30	170	35	49,5	3	1	69	46	26	M6x18	14	M5	7	0,0020	2,4
	210				69,5		0,0030										2,9	
32	100	60	120	35	170	35	49	4	1	78	53	26	M6x18	14	M8	7	0,0042	3,2
	210				69		0,0062										3,9	
38	100	90	180	40	184	42	49	4	1	87	62	33	M6x20	14	M8	10	0,0048	4,3
	224				69		0,0088										5,1	
42	100	150	300	45	190	45	49	4	1	96	69	35	M6x20	14	M8	10	0,0094	5,1
	230				69		0,0128										6,0	
48	100	220	440	50	204	52	49	5	1,5	106	78	41,5	M6x20	14	M8	15	0,0170	8,6
	244				69		0,0216										7,5	
	100				210		49										0,0188	9,4
55	140	300	600	60	250	55	69	5	1,5	118	88	43,5	M8x25	35	M8	14	0,0240	10,8
	180				290		89										0,0232	12,2
	100				220		49										0,0326	11,2
60	140	410	820	65	260	60	69	5	1,5	129	97	47,5	M8x25	35	M8	15	0,0414	13,0
	180				300		89										0,0504	14,6
	100				230		49										0,0564	14,0
65	140	550	1100	70	270	65	69	5	1,5	140	105	51,5	M8x25	35	M10	20	0,0730	15,8
	180				310		89										0,0894	17,5
	140				290		69										0,0824	23,2
75	180	850	1700	80	330	75	89	5	1,5	158	123	60,5	M10x30	69	M10	20	0,1008	25,6
	250				400		124										0,1332	29,8
	140				310		69										0,1570	32,1
85	180	1350	2700	90	350	85	89	5	1,5	182	139	69,5	M10x30	69	M10	25	0,1658	35,2
	250				420		124										0,1812	40,7
	140				320		69										0,2466	38,2
90	180	2000	4000	100	360	90	89	5	1,5	200	148	73,5	M12x35	120	M12	25	0,2880	42,2
	250				430		124										0,3566	49,3
	140				340		69										0,3988	50,0
100	180	2900	5800	110	380	100	89	6	2	224	165	83	M12x35	120	M12	25	0,4450	54,8
	250				450		124										0,5465	63,2