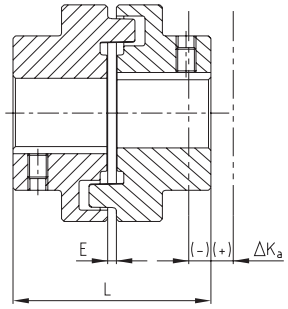
Technical data

POLY-NORM® Technical data

Size	Torque [Nm]			Max. speed [rpm] with v = 35 m/s	Torsion angle with		Torsion spring stiffness C dyn. [Nm/rad]				Max. perm. displacement [mm] 1)		
	Rated torque T_{KN}	Maximum torque T_K max	Vibratory torque T_{KW}		T_{KN}	T_K max	1.0 T_{KN}	0.75 T_{KN}	0.5 T_{KN}	0.25 T_{KN}	Axial ΔK_a	Radial ΔK_r	Angular ΔK_w
28	40	80	16	9650	4.5	6.0	$0.52x10^4$	$0.332x10^4$	$0.187x10^4$	$0.09x10^4$	± 1.0	0.20	1.2
32	60	120	24	8550			$0.782x10^4$	$0.499x10^4$	$0.282x10^4$	$0.135x10^4$	± 1.0	0.25	1.4
38	90	180	36	7650			$1.35x10^4$	$0.864x10^4$	$0.489x10^4$	$0.234x10^4$	± 1.0	0.25	1.5
42	150	300	60	6950			$2.63x10^4$	$1.68x10^4$	$0.947x10^4$	$0.453x10^4$	± 1.0	0.25	1.7
48	220	440	88	6300	4.0	5.5	$2.99x10^4$	$1.91x10^4$	$1.08x10^4$	$0.516x10^4$	± 1.5	0.30	1.8
55	300	600	120	5650			$3.85x10^4$	$2.46x10^4$	$1.39x10^4$	$0.664x10^4$	± 1.5	0.30	2.0
60	410	820	164	5150			$6.76x10^4$	$4.31x10^4$	$2.32x10^4$	$1.17x10^4$	± 1.5	0.30	2.2
65	550	1100	220	4750			$8.18x10^4$	$5.22x10^4$	$2.7x10^4$	$1.41x10^4$	± 1.5	0.35	2.4
75	850	1700	340	4200			$12.29x10^4$	$7.84x10^4$	$4.06x10^4$	$2.12x10^4$	± 1.5	0.40	2.7
85	1350	2700	540	3650			$24.31x10^4$	$15.51x10^4$	$7.49x10^4$	$4.19x10^4$	± 1.5	0.40	3.0
90	2000	4000	800	3300			$36.16x10^4$	$23.07x10^4$	$11.14x10^4$	$6.24x10^4$	± 1.5	0.45	3.4
100	2900	5800	1160	2950			$54.82x10^4$	$34.98x10^4$	$16.89x10^4$	$9.46x10^4$	± 3.0	0.50	3.9
110	3900	7800	1560	2650			$79.23x10^4$	$50.55x10^4$	$24.4x10^4$	$13.67x10^4$	± 3.0	0.60	4.3
125	5500	11000	2200	2350	2.5	3.5	$102.3x10^4$	$65.28x10^4$	$31.52x10^4$	$17.65x10^4$	± 3.0	0.60	4.8
140	7200	14400	2880	2100			$164x10^4$	$104.7x10^4$	$50.85x10^4$	$28.3x10^4$	± 3.0	0.60	5.5
160	10000	20000	4000	1900			$209.1x10^4$	$133.4x10^4$	$64.82x10^4$	$36.07x10^4$	± 3.0	0.65	6.1
180	13400	26800	5360	1650			$267.1x10^4$	$170.4x10^4$	$82.79x10^4$	$46.07x10^4$	± 3.0	0.65	6.0
200	19000	38000	7600	1450			$159.5x10^4$	$126.2x10^4$	$96.24x10^4$	$60.2x10^4$	± 4.0	0.65	7.8
220	30000	60000	12000	1300			$218.8x10^4$	$174x10^4$	$128.7x10^4$	$77.84x10^4$	± 4.0	0.70	8.7
240	43000	86000	17200	1200	1.5	2.1	$567.9x10^4$	$438.3x10^4$	$301.6x10^4$	$161.9x10^4$	± 4.0	0.70	9.6
260	55000	110000	22000	1000			$663.8x10^4$	$539.4x10^4$	$382.2x10^4$	$195.5x10^4$	± 4.0	0.85	11.3
280	67000	134000	26800	950			$773.1x10^4$	$628.1x10^4$	$467.9x10^4$	$266.2x10^4$	± 4.0	0.95	12.2

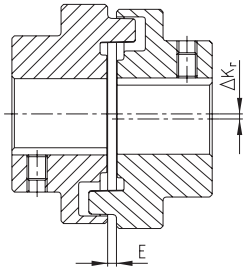
1) Displacement with n = 1500 rpm
Radial and angular displacements may occur simultaneously. The combined sum of displacements must not exceed the values listed in the table. If requested, coupling is dynamically balanced (semi-key balancing G 6.3 with 1500 rpm). For circumferential speeds exceeding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

Axial displacement ΔKa

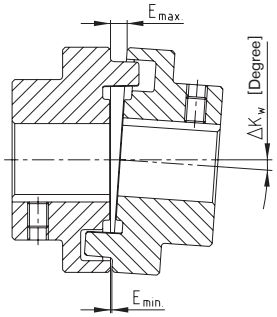


$L_{max./min.} = L + \Delta K_a$ [mm]

Radial displacement ΔK_r



Angular displacement ΔK_W



$\Delta K_W = E_{max.} - E_{min.}$ [mm]

Advice for assembly

With assembly the coupling halves must be mounted such that coupling and shaft are flush. Alignment must be made such that 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 does not change during all operating conditions. Shaft displacement which cannot be avoided must not exceed the figures specified in the table. Angular and radial displacement may occur simultaneously. The combined sum of displacements must not exceed the values listed in the table. See KTR assembly 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 with average elasticity
Resistant to	Gasoline, diesel
	Acids, bases
	Tropics
	(Salt) water (hot/cold)
	Oils, greases
	Propane, butane
	Natural gas, city gas

Elastomer ring NBR 78 Shore A

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

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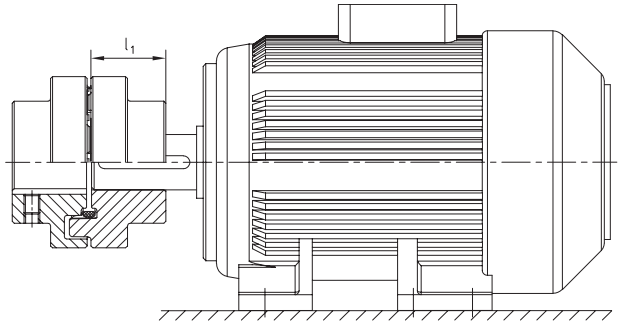
Selection of standard IEC motors

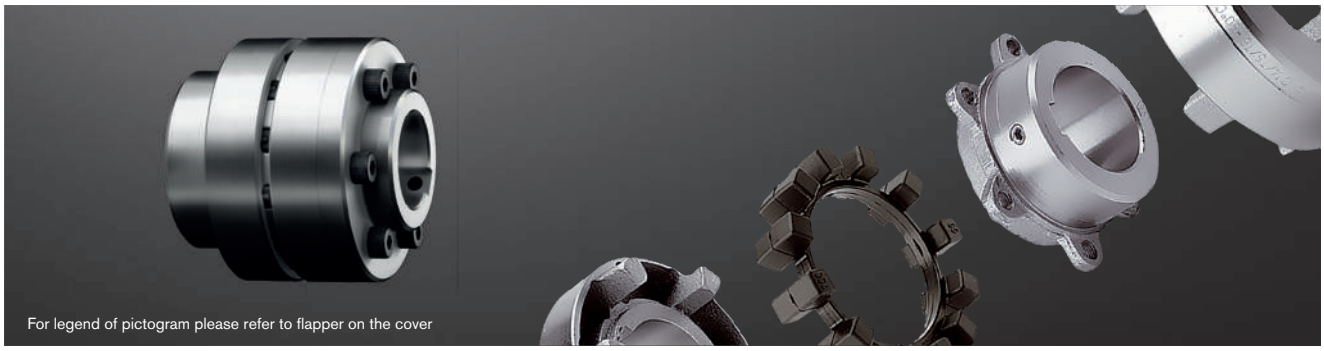


POLY-NORM® couplings for standard IEC motors, protection class IP 54/IP 55 (elastomer ring 78 Shore A)

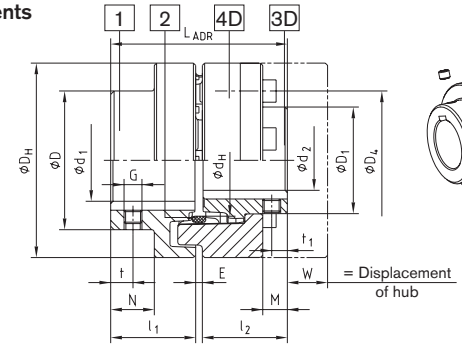
A. C. motor 50 Hz			Motor power n= 3000 rpm 2 poles		POLY-NORM® coupling size	Motor power n= 1500 rpm 4 poles		POLY-NORM® coupling size	Motor power n= 1000 rpm 6 poles		POLY-NORM® coupling size	Motor power n= 750 rpm 8 poles		POLY-NORM® coupling size
Size	Shaft end dxl [mm]													
	2 poles	4, 6, 8 poles	Power P [kW]	Torque T [Nm]		Power P [kW]	Torque T [Nm]		Power P [kW]	Torque T [Nm]		Power 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	0.64		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	38 x 80		5.5	18		5.5	36		3	30		2.2	30	
			7.5	25	38			38			38			38
132M						7.5	49		4	40		3	40	
									5.5	55				
160M	42 x 110		11	36		11	72		7.5	75	42	4	54	42
			15	49	42			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	196	55	18.5	181	55	15	198	55
			37	120	55				22	215				
225S	55 x 110	60 x 140				37	240	60			60	18.5	244	60
225M			45	145		45	292		30	293		22	290	
250M	60 x 140	65 x 140	55	177	60	55	356	65	37	361	65	30	392	65
280S	65 x 140	75 x 140	75	241		75	484	75	45	438	75	37	483	75
280M			90	289	65	90	581		55	535		45	587	
315S		80 x 170	110	353		110	707	85	75	727	85	55	712	85
315M			132	423	75	132	849		90	873		75	971	
			160	513		160	1030		110	1070	90	90	1170	90
315L			200	641		200	1290	90	132	1280		110	1420	
					85				160	1550	100	132	1710	100
315		85 x 170	250	802		250	1600	100	200	1930		160	2070	
			315	1010		315	2020		250	2410	110	200	2580	110
			355	1140	90	355	2280	110	315	3040	125	250	3220	125
355	75 x 140	95 x 170	400	1280		400	2570		400	3850		315	4060	
			500	1600		500	3210	125			140			140
			560	1790	100	560	3580		450	4330		355	4570	
400	80 x 170	110 x 210	630	2020		630	4030		500	4810		400	5150	
			710	2270	110	710	4540	140	560	5390	160	450	5790	160
			800	2560		800	5120	160	630	6060		500	6420	
450	90 x 170	120 x 200	900	2880	125	900	5760		710	6830	180	560	7190	180
			1000	3200		1000	6400		800	7690		630	8090	

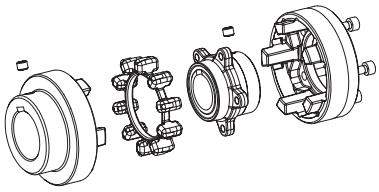
The coupling selection is based on an ambient temperature up to +30 °C. The selection is based on a minimum safety factor of 2 versus the max. coupling torque ($T_{K\ max}$). A detailed selection is possible according to catalogue, page 15 et seqq. Drives with periodical torque curves must be selected 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.

Three-part

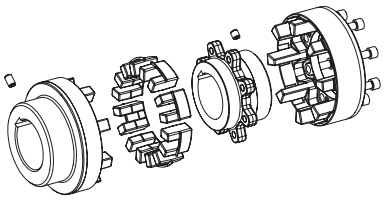


Components





Size 38 - 125



Size 140 - 280

Components of type ADR (three-part):
1 = Standard hub* (GJL)
2 = Elastomer ring (up to size 180: NBR 78 ShA; from size 200: T-PUR® 84 ShA)
3D = Flange hub (GJS); 4D = Cam ring (GJL)
* To be used preferably on driving side

POLY-NORM® Type ADR

Size	Elastomer ring [1] (part 2) Torque [Nm]		Dimensions [mm]																
			Max. finish bore [2]		General										Thread for setscrews			
	T_{KN}	$T_{K\,max}$	d_1	d_2	L_{ADR}	l_1, l_2	E	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	73-200	408	200	8	450	335	290	-	126	95	7	M24	50	50	240
220	30000	60000	95-220	83-220	448	220	8	500	370	320	-	140	103	8	M24	50	50	240
240	43000	86000	105-240	93-240	488	240	8	550	405	350	-	154	119	1	M24	50	50	240
260	55000	110000	115-260	103-260	530	260	10	650	440	380	-	158	109	34	M24	60	60	240
280	67000	134000	125-280	113-280	570	280	10	700	475	410	-	172	109	29	M24	60	60	240

Selection of cap screws DIN EN ISO 4762 - 12.9

Size	M x l [mm]	z = number	Pitch z x angle	D_4 [mm]	T_A [Nm] [3]	Size	M x l [mm]	z = number	Pitch z x angle	D_4 [mm]	T_A [Nm] [3]
38	M6x16	5	5x72	62	10	110	M16x40	8	8x45	183	210
42	M8x16	5	5x72	69	25	125	M20x40	8	8x45	202	410
48	M8x20	6	6x60	78	25	140	M20x50	8	8x45	237	410
55	M8x20	6	6x60	88	25	160	M20x55	9	9x40	267	410
60	M8x20	6	6x60	98	25	180	M20x60	10	10x36	304	410
65	M10x20	6	6x60	104	49	200	M20x60	10	10x36	342	580
75	M10x25	6	6x60	120	49	220	M24x70	10	10x36	378	1000
85	M12x25	6	6x60	138	86	240	M27x70	10	10x36	416	1500
90	M16x30	6	6x60	149	210	260	M30x90	10	10x36	480	2000
100	M16x30	6	6x60	163	210	280	M30x90	10	10x36	520	2000

[1] Standard material Perbunan [NBR] 78 Shore A, size 140 - 280 double tooth elastomers, for selection see page 14 et seqq.
[2] Bores H7 with keyway to DIN 6885 sheet 1 [JS9] and thread for setscrew [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

Morskate®

Any questions? Please contact us.

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