

Coupling selection

SPIDEX® Couplings (92° Shore) for IEC Standard Motors DIN 42677 (Protective Type IP 54)

a. c. Motor	Cyl. shaft end d x l		Output at 50 Hz n=750 rpm		SPIDEX® coupling		Output at 50 Hz n=1000 rpm		SPIDEX® coupling		Output at 50 Hz n=1500 rpm		SPIDEX® coupling		Output at 50 Hz n=3000 rpm		SPIDEX® coupling	
	Size	1500 rpm	3000 rpm	KW	T _{AN} [Nm]	Type	TK max. [Nm]	KW	T _{AN} [Nm]	Type	TK max. [Nm]	KW	T _{AN} [Nm]	Type	TK max. [Nm]	KW	T _{AN} [Nm]	Type
56	9x20				14 15	15			14 15	15	0,06	0,4	14 15	15	0,09	0,3	14 15	15
63	11x23						0,12	0,9			0,18	1,2			0,18	0,6		
71	14x30						0,25	1,8			0,37	2,5			0,37	1,3		
80	19x40				19 24	20	0,37	3,7	19 24	20	0,55	3,7	19 24	20	0,75	2,5	19 24	20
90 S	24x50						0,75	7,9			1,1	7,5			1,1	4,9		
90 L	24x50						1,1	11			1,5	10			2,2	7,4		
100 L	28x60		0,75	11	24/32	70	1,5	15	24/32	70	2,2	15	24/32	70	3	9,8	24/32	70
112 M	28x60		1,1	16			2,2	22			3	20			4	13		
132 S	38x80		2,2	29			3	30			5,5	36			5,5	18		
132 M	38x80		3	40	28/38	190	4	39	28/38	190	7,5	49	28/38	190	7,5	25	28/38	190
160 M	42x110		4	54			5,5	55			11	72			11	35		
160 L	42x110		5,5	74			11	108			15	98			15	49		
180 M	48x110		7,5	100	38/45	380	11	108	38/45	380	18,5	121	38/45	380	22	72	38/45	380
180 L	48x110		11	147			15	147			22	144			22	97		
200 L	55x110		15	196			18,5	185			30	195			30	117		
225 S	60x140		18,5	245	42/55	530	22	215	42/55	530	37	245	42/55	530	37	117	42/55	530
225 M	60x140		22	294			30	292			45	294			45	146		
250 M	65x140		30	390			37	361			55	357			55	176		
280 S	75x140		37	490	48/60	620	45	440	48/60	620	75	487	48/60	620	75	245	48/60	620
280 M	75x140		45	585			55	536			90	584			90	294		
315 S	80x170		55	715			75	730			110	714			110	350		
315 M	80x170		75	970	75/90	1950	90	876	75/90	1950	132	857	75/90	1950	132	420	75/90	1950
355 S	90x170		145	1870	90	4800	160	1570	90	4800	200	1300	90	4800	210	675		
355 M	70x140		165	2130			190	1840			240	1540			260	835		
400 S	70x140		220	2840			250	2450			300	1920			290	930		
400 M	100x210		250	3230	90/100		285	2750	90/100		350	2240	90/100		340	1090	90/100	

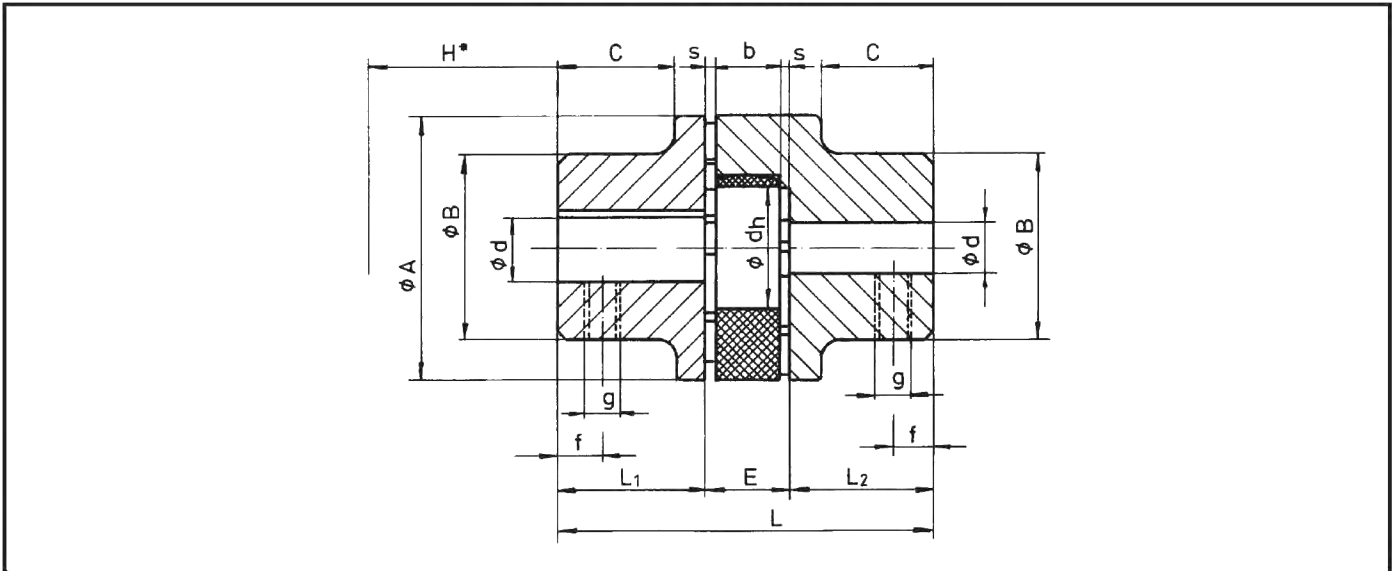
Technical Specifications

Polyurethane Spider ²⁾	Coupling Type (for all material)	Torque [Nm]			$\frac{N}{n}$ [$\frac{KW}{1/min}$ at]		max. Speed ¹⁾ [1/min] at V =	Torsional angle at	Dynamic Torsional Stiffness at [Nm/rad]				Relatively damping about					
		cont.	max.	alternating	T _{KN}	T _{Kmax}			1,00	0,75	0,50	0,25						
		T _{KN}	T _{Kmax}	T _{alt.}	T _{KN}	T _{Kmax}			T _{KN}	T _{KN}	T _{KN}	T _{KN}						
92° Shore Hardness white	14 + 15	-	7,5	15	2,0	0,008	0,0015	19000	-	6,4°	10°	-	-	-	-	-	-	0,75
	19	19/24	10	20	2,6	0,0011	0,0021	14000	19000	3,2°	5°	0,66x10 ³	0,55x10 ³	0,44x10 ³	0,25x10 ³	-	-	
	24	24/32	35	70	9	0,0036	0,0072	10600	14000			2,00x10 ³	1,80x10 ³	1,40x10 ³	0,90x10 ³	-	-	
	28	28/38	95	190	25	0,010	0,020	8500	11800			5,20x10 ³	4,25x10 ³	3,10x10 ³	2,10x10 ³	-	-	
	38	38/45	190	380	49	0,020	0,039	7100	9500			10,00x10 ³	8,20x10 ³	6,10x10 ³	4,00x10 ³	-	-	
	42	42/55	265	530	69	0,027	0,054	6000	8000			18,90x10 ³	14,11x10 ³	10,60x10 ³	6,90x10 ³	-	-	
	48	48/60	310	620	61	0,032	0,064	5600	7100			20,00x10 ³	16,40x10 ³	12,60x10 ³	8,00x10 ³	-	-	
	55	55/70	375	750	93	0,039	0,077	4750	6300			21,70x10 ³	18,00x10 ³	14,00x10 ³	8,10x10 ³	-	-	
	65	65/75	425	850	111	0,044	0,087	4250	5600			28,00x10 ³	23,10x10 ³	18,00x10 ³	11,50x10 ³	-	-	
	75	75/90	975	1950	254	0,10	0,20	3550	4750			67,50x10 ³	56,30x10 ³	43,30x10 ³	27,50x10 ³	-	-	
	90	90/100	2400	4800	624	0,25	0,49	2800	3750			110,00x10 ³	91,00x10 ³	70,00x10 ³	44,60x10 ³	-	-	
	100	100/110	3300	6600	858	0,34	0,68	2500	3350			173,00x10 ³	145,00x10 ³	111,00x10 ³	71,00x10 ³	-	-	
	110	110/125	4000	8000	1040	0,41	0,82	2240	3000			250,00x10 ³	207,00x10 ³	159,00x10 ³	102,00x10 ³	-	-	
125	125/145	5000	10000	1300	0,52	1,03	2000	2650	315,00x10 ³			270,00x10 ³	210,11x10 ³	134,10x10 ³	-	-		
98° Shore Hardness red	14	-	12,5	25	3,3	0,013	0,0026	19000	-	3,2°	5°	-	-	-	-	-	-	0,7
	19	19/24	17	34	4,4	0,0018	0,0035	14000	19000			1,05x10 ³	0,90x10 ³	0,66x10 ³	0,40x10 ³	-	-	
	24	24/32	60	120	16	0,0060	0,012	10600	14000			3,65x10 ³	3,00x10 ³	2,30x10 ³	1,45x10 ³	-	-	
	28	28/38	165	330	43	0,017	0,034	8500	11800			9,45x10 ³	7,75x10 ³	5,90x10 ³	3,65x10 ³	-	-	
	38	38/45	335	670	87	0,035	0,07	7100	9500			29,00x10 ³	23,70x10 ³	18,00x10 ³	11,20x10 ³	-	-	
	42	42/55	460	920	120	0,048	0,096	6000	8000			40,50x10 ³	33,10x10 ³	25,10x10 ³	15,50x10 ³	-	-	
	48	48/60	525	1050	137	0,055	0,11	5600	7100			48,16x10 ³	39,50x10 ³	30,00x10 ³	18,60x10 ³	-	-	
55	55/70	625	1250	163	0,065	0,13	4750	6300	52,00x10 ³	43,00x10 ³	32,50x10 ³	20,20x10 ³	-	-				
95° Shore Hardness red	65	65/75	650	1300	169	0,070	0,14	4250	5600	3,2°	5°	57,00x10 ³	47,00x10 ³	35,50x10 ³	22,00x10 ³	-	-	0,7
	75	75/90	1500	3000	390	0,15	0,30	3550	4750			149,00x10 ³	123,00x10 ³	93,00x10 ³	58,00x10 ³	-	-	
	90	90/100	3600	7200	936	0,37	0,74	2800	3750			247,00x10 ³	205,00x10 ³	155,00x10 ³	96,10x10 ³	-	-	
	100	100/110	4950	9900	1287	0,51	1,02	2500	3350			390,00x10 ³	344,10x10 ³	261,10x10 ³	162,00x10 ³	-	-	
	110	110/125	6000	12000	1560	0,60	1,2	2240	3000			500,00x10 ³	450,00x10 ³	350,00x10 ³	213,00x10 ³	-	-	
	125	125/145	7500	15000	1950	0,75	1,5	2000	2650			670,00x10 ³	570,00x10 ³	430,00x10 ³	270,00x10 ³	-	-	

1) For peripheral speeds of over V = 30 m/s it is necessary to use either steel or SG iron. Dynamic balancing is also necessary.
 2) Spider 80° shore blue, 92° shore white colour, 95° and 98° shore red. 92° shore spiders will normally be supplied unless otherwise specified.

SPIDEX® standard couplings

Hub combination: a/a



Material: Die cast aluminium

Type	Bores			Dimensions in mm												2) Weight [kg]	2) Moment of inertia [kg m ²]
	Pre bore	Finish ¹⁾ bores min. max.		A	B	L	L ₁ ³⁾ + L ₂	E	s	b	C	d _h	g	f	H*		
A 15 Alu				See hub combination b/b page 8													
A 19 Alu	—	6	19	40	32	66	25	16	2	12	20	18	M 5	10	14	0,10	0,00003
A 24 Alu	—	8	24	55	40	78	30	18	2	14	24	27	M 5	10	16	0,25	0,00008
A 28 Alu	—	10	28	65	48	90	35	20	2,5	15	28	30	M 6	15	18	0,40	0,0002
A 38 Alu	10	14	38	80	66	114	45	24	3	18	37	38	M 8	15	19	0,80	0,0007
A 42 Alu	13	19	42	95	75	126	50	26	3	20	40	46	M 8	20	21	1,30	0,0015
A 48 Alu	18	19	48	105	85	140	56	28	3,5	21	45	51	M 8	20	22	1,75	0,0024

Material: cast iron = GG

Type	Bores			Dimensions in mm												2) Weight [kg]	2) Moment of inertia [kg m ²]
	Pre bore	Finish ¹⁾ bores min. max.		A	B	L	L ₁ ³⁾ + L ₂	E	s	b	C	d _h	g	f	H*		
A 19 Sint				See hub combination b/b													
A 24 Sint				See hub combination b/b													
A 28 Sint				See hub combination b/b													
A 38 GG	—	14	38	80	66	114	45	24	3	18	37	38	M 8	15	19	2,10	0,002
A 42 GG	—	19	42	95	75	126	50	26	3	20	40	46	M 8	20	21	3,20	0,004
A 48 GG	—	19	48	105	85	140	56	28	3,5	21	45	51	M 8	20	22	4,40	0,006
A 55 GG	—	19	55	120	98	160	65	30	4	22	52	60	M 10	20	23	6,65	0,012
A 65 GG	—	22	65	135	115	185	75	35	4,5	26	61	68	M 10	20	27	10,15	0,025
A 75 GG	—	30	75	160	135	210	85	40	5	30	69	80	M 10	25	31	16,00	0,054
A 90 GG	30	40	90	200	160	245	100	45	5,5	34	81	100	M 10	25	35	27,50	0,139
A 100 GG				See hub combination b/b page 8													
A 110 GG				See hub combination b/b page 8													
A 125 GG				See hub combination b/b page 8													

H* is the minimum dimension required for the disassembly of the aggregates in a radial direction.

1) Finish bores acc. ISO-standard H 7, keyway acc. DIN 6885, sheet 1.

2) Weight and moment of inertia in relation to the materials AL/GG/GGG with max. dia, without keyway.

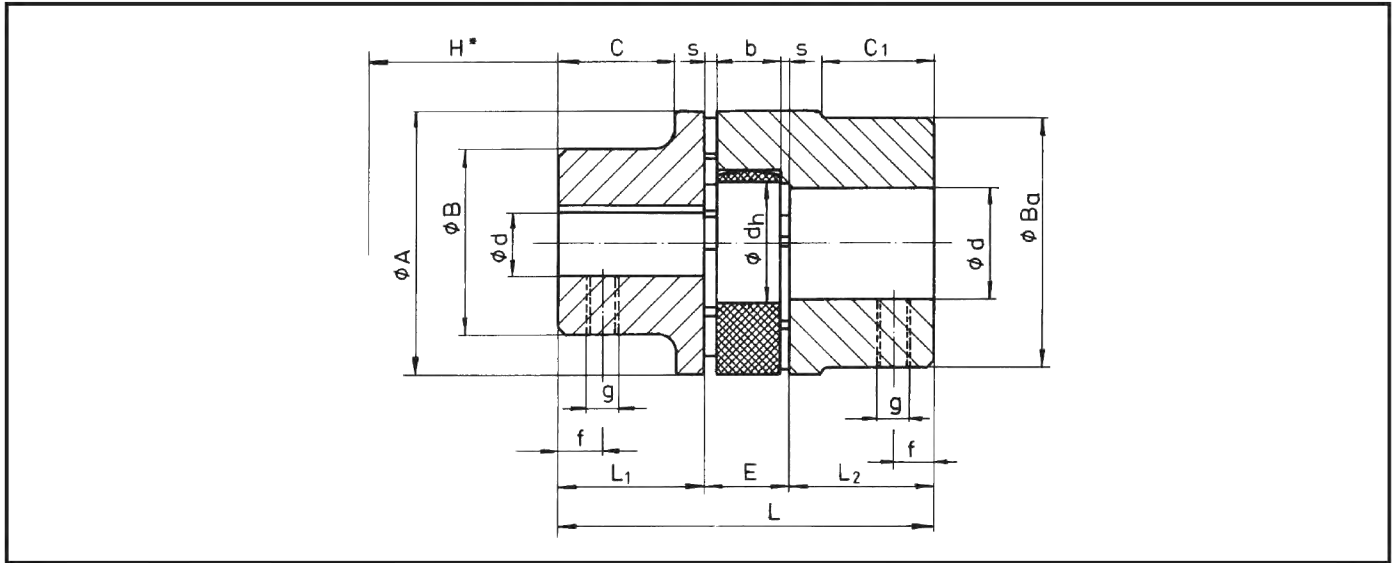
3) Extended hub length, see hub combination b/b page 8.

Steel couplings only in b hubs.

For larger finish bores, see hub combination a/b or b/b page 7 + 8.

SPIDEX® standard couplings

Hub combination: a/b



Material: Die cast aluminium

Type	Bores				Dimensions in mm														2) Weight [kg]	2) Moment of inertia [kg m ²]		
	Hub a		Hub b		A	B	B _a	L	L ₁ ³⁾ + L ₂	E	s	b	C	C ₁	d _h	g	f	H*				
	Pre bore	Finish ¹⁾ bores min. max.	Pre bore	Finish ¹⁾ bores min. max.																		
A 15 Alu	See hub combination b/b page 8																					
A 19/24 Alu	—	6	19	17	19	24	40	32	39	66	25	16	2	12	20	21	18	M 5	10	14	0,13	0,00003
A 24/32 Alu	—	8	24	22	24	32	55	40	53	78	30	18	2	14	24	26	27	M 5	10	16	0,26	0,0001
A 28/38 Alu	—	10	28	25	28	38	56	48	63	90	35	20	2,5	15	28	29	30	M 6	15	18	0,46	0,0003
A 38/45 Alu	10	14	38	35	38	45	80	66	79	114	45	24	3	18	37	39	38	M 8	15	19	0,90	0,00075
A 42/55 Alu	13	19	42	40	42	55	95	75	94	126	50	26	3	20	40	41	46	M 8	20	21	1,39	0,0018
A 48/60 Alu	18	19	48	46	48	60	105	85	104	140	56	28	3,5	21	45	46	51	M 8	20	22	1,86	0,0033

Material: cast iron = GG

Type	Bores				Dimensions in mm														2) Weight [kg]	2) Moment of inertia [kg m ²]		
	Hub a		Hub b		A	B	B _a	L	L ₁ ³⁾ + L ₂	E	s	b	C	C ₁	d _h	g	f	H*				
	Pre bore	Finish ¹⁾ bores min. max.	Pre bore	Finish ¹⁾ bores min. max.																		
A 19/ 24 Sint	See hub combination b/b																					
A 24/ 32 Sint	See hub combination b/b																					
A 28/ 38 Sint	See hub combination b/b																					
A 38/ 45 GG	—	14	38	30	38	45	80	66	77	114	45	24	3	18	37	37	38	M 8	15	19	2,30	0,002
A 42/ 55 GG	—	19	42	34	42	55	95	75	94	126	50	26	3	20	40	40	46	M 8	20	21	3,60	0,005
A 48/ 60 GG	—	19	48	40	48	60	105	85	102	140	56	28	3,5	21	45	45	51	M 8	20	22	4,80	0,008
A 55/ 70 GG	—	19	55	47	55	70	120	98	118	160	65	30	4	22	52	52	60	M 10	20	23	7,40	0,016
A 65/ 75 GG	—	22	65	47	65	75	135	115	132	185	75	35	4,5	26	61	59	68	M 10	20	27	10,90	0,031
A 75/ 90 GG	—	30	75	50	75	90	160	135	158	210	85	40	5	30	69	65	80	M 10	25	31	17,70	0,068
A 90/100 GG	29	40	90	79	90	100	200	160	180	245	100	45	5,5	34	81	81	100	M 10	25	35	29,50	0,159
A 100/110 GG	See hub combination b/b page 8																					
A 110/125 GG	See hub combination b/b page 8																					
A 125/145 GG	See hub combination b/b page 8																					

H* is the minimum dimension required for the disassembly of the aggregates in a radial direction.

1) Finish bores acc. ISO-standard H 7, keyway acc. DIN 6885, sheet 1.

2) Weight and moment of inertia in relation to the materials AL/GG/GGG with max. dia, without keyway.

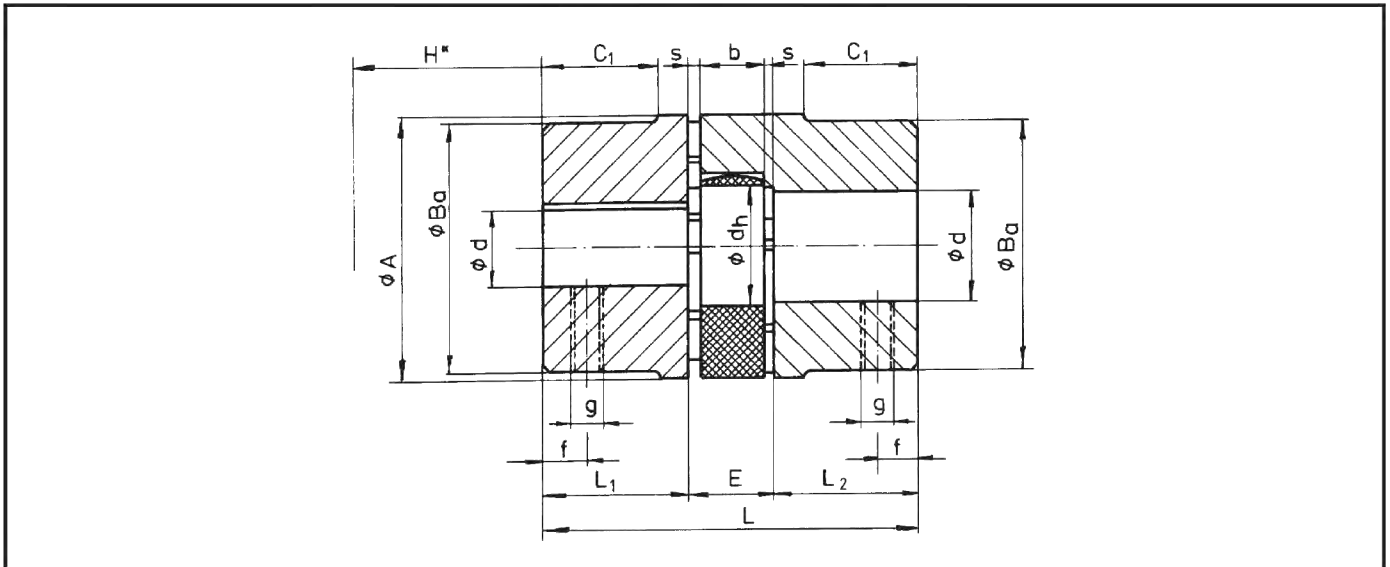
3) Extended hub length, see hub combination b/b page 8.

Steel couplings only in b hubs.

For larger finish bores, see hub combination b/b page 8.

SPIDEX® standard couplings

Hub combination: b/b



Material: Die cast aluminium

Type	Bores			Dimensions in mm											L ₂ Extended hub length mm	2) Weight [kg]	2) Moment of inertia [kg m ²]	
	Pre bore	Finish ¹⁾ bores min.	max.	A	B _a	L	L ₁ + L ₂	E	s	b	C ₁	d _h	g	f				H*
A 15 Alu	—	4	14	26	26	26	10	8	1	6	—	12	M 5	5	8	—	0,025	0,000025
A 19/24 Alu	17	19	24	40	39	66	25	16	2	12	—	18	M 5	10	14	55	0,15	0,000045
A 24/32 Alu	22	24	32	55	53	78	30	18	2	14	—	26	M 5	10	16	50	0,31	0,00015
A 28/38 Alu	25	28	38	65	63	90	35	20	2,5	15	—	29	M 6	15	18	—	0,51	0,00035
A 38/45 Alu	35	38	45	80	79	114	45	24	3	18	—	39	M 8	15	19	—	0,92	0,0009
A 42/55 Alu	40	42	55	95	94	126	50	26	3	20	—	41	M 8	20	21	—	1,45	0,0022
A 48/60 Alu	46	48	60	105	104	140	56	28	3,5	21	—	46	M 8	20	22	—	2,01	0,0042

Material: cast iron = GG · SG iron = GGG · sintered-steel = Sint · steel = ST

Type	Bores			Dimensions in mm											L ₂ Extended hub length mm	2) Weight [kg]	2) Moment of inertia [kg m ²]	
	Pre bore	Finish ¹⁾ bores min.	max.	A	B _a	L	L ₁ + L ₂	E	s	b	C ₁	d _h	g	f				H*
A 14 Sint	—	4	16	30	30	35	11	13	1,5	10	—	10	M 4	5	12	18,5	0,14	0,00003
A 19/ 24 Sint	—	6	24	40	40	66	25	16	2	12	—	18	M 5	10	14	50	0,35	0,0001
A 24/ 32 Sint	—	8	32	55	55	78	30	18	2	14	—	27	M 5	10	16	60	1,00	0,0004
A 28/ 38 Sint	—	10	38	65	65	90	35	20	2,5	15	—	30	M 8	15	18	80	1,60	0,0014
A 38/ 45 GGG/ST	10	14	45	80	77	114	45	24	3	18	—	37	M 8	15	19	110	2,50	0,0021
A 42/ 55 GGG/ST	10	19	55	95	94	126	50	26	3	20	—	40	M 8	20	21	110	4,00	0,006
A 48/ 60 GGG/ST	15	19	60	105	102	140	56	28	3,5	21	—	45	M 8	20	22	110	5,20	0,010
A 55/ 70 GGG/ST	15	19	70	120	118	160	65	30	4	22	—	52	M 10	20	23	140	8,20	0,020
A 65/ 75 GGG/ST	20	22	75	135	132	185	75	35	4,5	26	—	59	M 10	20	27	140	11,70	0,0365
A 75/ 90 GGG/ST	25	30	90	160	158	210	85	40	5	30	—	65	M 10	25	31	195	19,40	0,082
A 90/100 GGG/ST	45	48	100	200	180	245	100	45	5,5	34	—	81	M 10	25	35	200	31,50	0,18
A 100/110 GG/GGG	50	55	110	225	200	270	110	50	6	38	—	89	M 12	30	39	—	43,50	0,307
A 110/125 GG/GGG	60	65	125	255	230	295	120	55	6,5	42	—	96	M 16	35	43	—	63,00	0,581
A 125/145 GG/GGG	60	65	145	290	265	340	140	60	7	46	—	112	M 16	40	47	—	95,00	1,15

H* is the minimum dimension required for the disassembly of the aggregates in a radial direction.

1) Finish bores acc. ISO-standard H 7, keyway acc. DIN 6885, sheet 1.

2) Weight and moment of inertia in relation to the materials AL/GG/GGG with max. dia, without keyway.