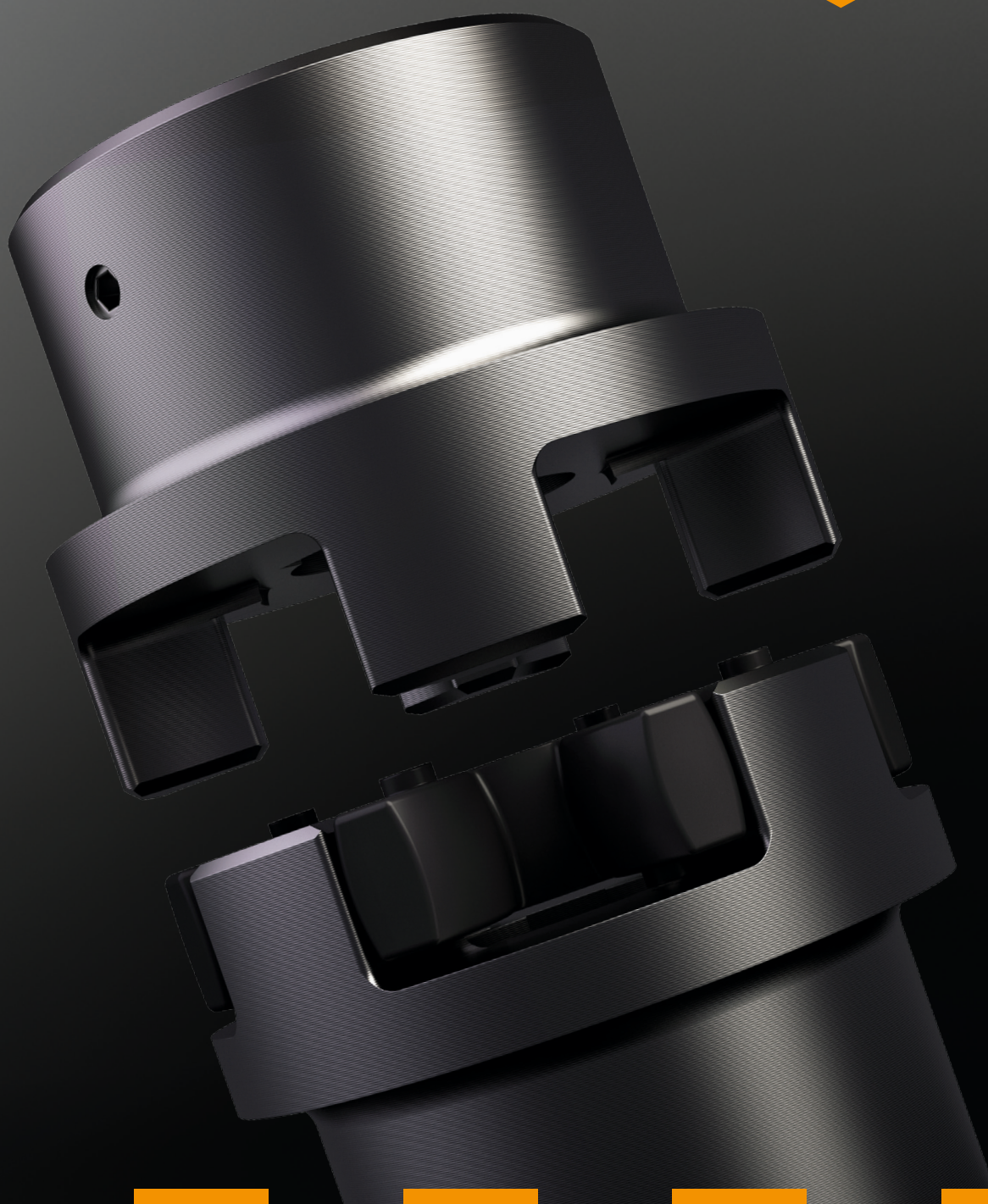
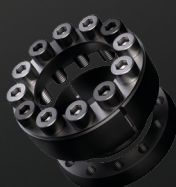
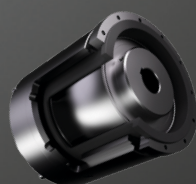
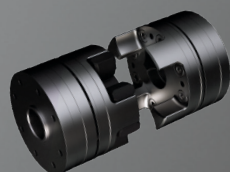


Made for Motion



Cross section

- Couplings
- Torque limiters
- Clamping elements
- Torque measuring systems

Fast, easy and reliable - with the product finder and our online tools

The product finder allows you to get to the suitable product in just a few steps. For this purpose either make use of the search function if you already know the product or use the full-text search which guides you to the requested result via various product-specific filters. Our selection tools speed up the detailed product selection. Few tech-

nical data suffice to rapidly find the right product for your application in the configurators - without having to browse catalogues lengthily.



Online tools

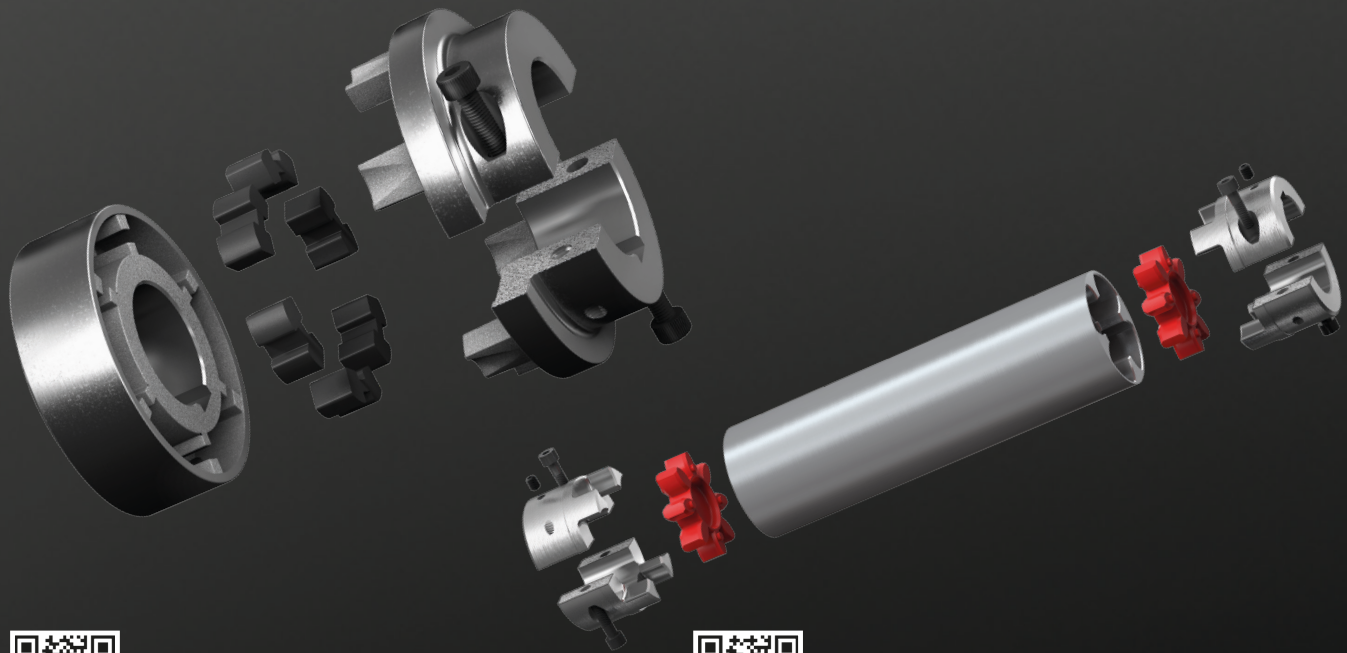
Tailor-made to your specifications -
make use of our online tools



Product finder

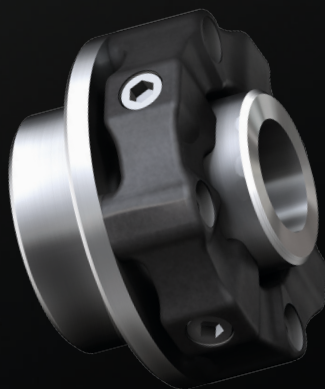
The suitable product for your application - fast
and simple with our product finder.

Our newcomers



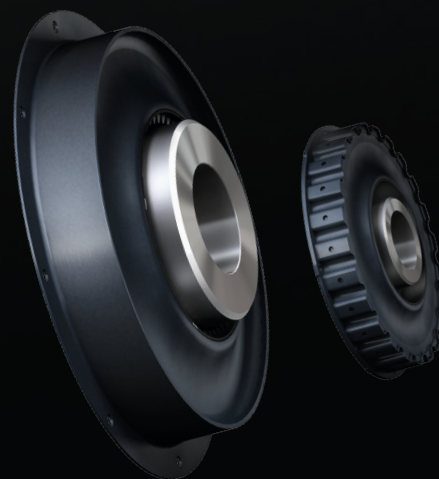
ROFLEX® SH and ROTEX® ZRS

ROFLEX®, a torsionally flexible, fail-safe shaft coupling for torsionally vibration-damping power transmission. Available as a standard type or with split hubs for radial assembly and disassembly. The lightweight ZRS made of high-strength aluminium captivates by a very high overall stiffness. The wide range of ROTEX® hubs can be combined with the ZRS pipe. For example in combination with the split ROTEX®-SH-SPLIT hubs they allow for assembly and disassembly without displacing driving and driven side.



EVOLASTIC®

All-rounder coupling with special displacement properties and for uncoupling vibrations, as an example for the use in frequency-controlled and I. C.-engine drives, intermediate shafts and PTO.



SINULASTIC®

Highly modular and flexible coupling range for reducing torsional vibrations in main drives such as gensets, hydraulic pumps, compressors and gearboxes.

Those who value KTR as a manufacturer will love us as a partner.

KTR provides the mechanical and plant engineering with an extensive portfolio of high-quality drive and hydraulic components as well as braking and cooling systems. We are pleased to be at your service during the designing stage and develop tailor-made solutions for you. Perfectly organized logistics, global presence via 24 subsidiary companies and more than 90 distribution partners along with an international network consisting of 8 production sites are the prerequisite for quick delivery. When it comes to service we ensure short distances along with competent and personal support.

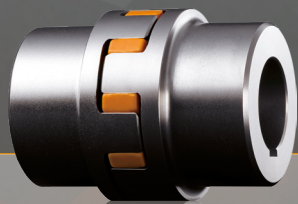




**„Innovation and tradition
are the key components of
our product portfolio and
KTR's corporate culture.“**

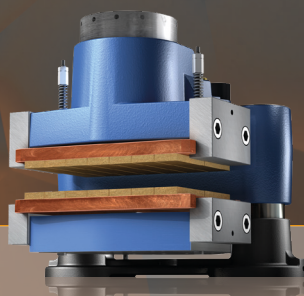
Nicola Warning, CEO of KTR

**Wherever motion is essential,
we have the right answer.**



Drive Technology

Mechanical components are and will remain essential in drive technology. The industry's demands on components grow continuously: energy efficiency, power density, ease of servicing and electronification. Our portfolio includes couplings and torque limiters, clamping sets and universal joints as well as torque measuring shafts.



Brake systems

Our hydraulic and electromechanical brake systems are globally used in various industries. Customer preference and parameters of the application decide on the selection of the right brake.



Hydraulic components

For almost 50 years we have provided the industry with a continuously growing range of hydraulic components from our in-house development and manufacturing: accurate selection, high-quality processing, quick availability.



Cooling systems

As a customised product or standard solution, multimedium or oil/air cooler, for mobile machines or stationary hydraulics, optionally available as a marine or ATEX version, powerful and efficient.

UNSERE BRANCHEN



Wind power



Construction and agricultural machines



Pumps and compressors



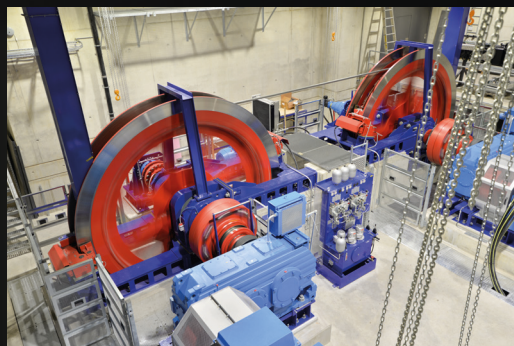
Indoor materials handling



Machine tools



Hydraulics



General drive technology



Marine / shipbuilding



Stationary power generation



Cross section

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ROFLEX® (Torsionally flexible jaw couplings) **NEW**

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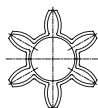
ROTEX® Flexible jaw couplings

Properties of standard spiders

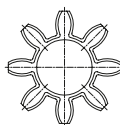
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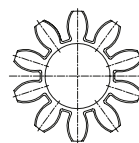
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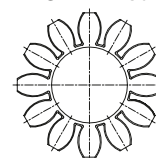
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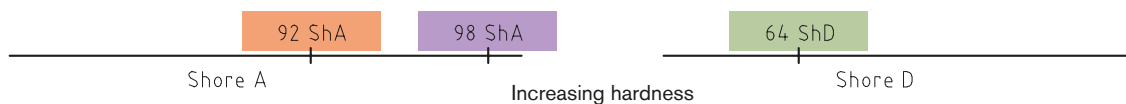
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ROTEX® 180



Degree of hardness



Spider type (Shore hardness)	92 Shore A (T-PUR®)	92 Shore A
	 T-PUR®	
Size	14 to 180	14 to 90
Material	T-PUR®	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	-40 °C to +120 °C -40 °C to +150 °C	-40 °C to +90 °C -40 °C to +120 °C
Properties	<ul style="list-style-type: none"> - significantly higher service life expectancy - very good temperature resistance - improved damping of vibrations - good damping, average flexibility - suitable for all hub materials 	<ul style="list-style-type: none"> - good damping, average flexibility - suitable for all hub materials
Spider type (Shore hardness)	98 Shore A (T-PUR®) ¹⁾	98 Shore A ¹⁾
	 T-PUR®	
Size	14 to 180	14 to 90
Material	T-PUR®	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	-40 °C to +120 °C -40 °C to +150 °C	-30 °C to +90 °C -40 °C to +120 °C
Properties	<ul style="list-style-type: none"> - significantly higher service life expectancy - very good temperature resistance - improved damping of vibrations - transmission of high torques with average damping - recommended hub material: steel, GJL and GJS 	<ul style="list-style-type: none"> - transmission of high torques with average damping - recommended hub material: steel, GJL and GJS
Spider type (Shore hardness)	64 Shore D (T-PUR®)	
	 T-PUR®	
Size	14 to 180	
Material	T-PUR®	
Permissible temperature range Permanent temperature Short-term temperature	-40 °C to +120 °C -40 °C to +150 °C	
Properties	<ul style="list-style-type: none"> - significantly higher service life expectancy - very good temperature resistance - improved damping of vibrations - transmission of very high torques with low damping - recommended hub material: steel and GJS 	

ROTEX® Flexible jaw couplings

Technical data of standard spiders

92 Shore A spider made of T-PUR® and PUR															
ROTEX® size	Max. speed		Torsion angle ϕ with		Torque [Nm]				Damping power P_{KW} [W] ³⁾	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
	v=35 m/s cast material	v=40 m/s steel	T_{KN}	T_{Kmax}	DIN 740 ¹⁾			$T_{Kmax}^{2)}$				1.0 T_{KN}	0.75 T_{KN}	0.5 T_{KN}	0.25 T_{KN}
					Rated T_{KN}	Max. T_K	Vibratory T_{KW}								
14	22200	25400	6.4°	10°	7.5	15	2.0	22.5	–			0.38x10 ³	0.31x10 ³	0.24x10 ³	0.14x10 ³
19	16700	19000			10	20	2.6	30	4.8			1.28x10 ³	1.05x10 ³	0.8x10 ³	0.47x10 ³
24	12100	13800			35	70	9.1	105	6.6			4.86x10 ³	3.98x10 ³	3.01x10 ³	1.79x10 ³
28	10100	11500			95	190	25	285	8.4			10.9x10 ³	8.94x10 ³	6.76x10 ³	4.01x10 ³
38	8300	9500			190	380	49	570	10.2			21.05x10 ³	17.26x10 ³	13.05x10 ³	7.74x10 ³
42	7000	8000			265	530	69	795	12.0			23.74x10 ³	19.47x10 ³	14.72x10 ³	8.73x10 ³
48	6350	7250			310	620	81	930	13.8			36.7x10 ³	30.09x10 ³	22.75x10 ³	13.49x10 ³
55	5550	6350			410	820	107	1230	15.6			50.7x10 ³	41.59x10 ³	31.45x10 ³	18.64x10 ³
65	4950	5650	3.2°	5°	625	1250	163	1875	18.0	0.80	7.90	97.1x10 ³	79.65x10 ³	60.2x10 ³	35.7x10 ³
75	4150	4750			1280	2560	333	3840	21.6			113.3x10 ³	92.9x10 ³	70.3x10 ³	41.65x10 ³
90	3300	3800			2400	4800	624	7200	30.0			190.1x10 ³	155.9x10 ³	117.9x10 ³	69.9x10 ³
100	2950	3350			3300	6600	858	9900	36.0			253.1x10 ³	207.5x10 ³	156.9x10 ³	93x10 ³
110	2600	2950			4800	9600	1248	14400	42.0			415.5x10 ³	336.9x10 ³	257.6x10 ³	177.4x10 ³
125	2300	2600			6650	13300	1729	19950	48.0			647.7x10 ³	537.3x10 ³	412.2x10 ³	277.5x10 ³
140	2050	2350			8550	17100	2223	25650	54.6			813.4x10 ³	670.2x10 ³	519.7x10 ³	351.7x10 ³
160	1800	2050			12800	25600	3328	38400	75.0			1298x10 ³	1104x10 ³	901.9x10 ³	655.7x10 ³
180	1550	1800			18650	37300	4849	55950	78.0			2327x10 ³	1981x10 ³	1618x10 ³	1176x10 ³

98 Shore A spider made of T-PUR® and PUR															
ROTEX® size	Max. speed		Torsion angle ϕ with		Torque [Nm]				Damping power P_{KW} [W] ³⁾	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
	v=35 m/s cast material	v=40 m/s steel	T_{KN}	T_{Kmax}	DIN 740 ¹⁾			$T_{Kmax}^{2)}$				1.0 T_{KN}	0.75 T_{KN}	0.5 T_{KN}	0.25 T_{KN}
					Rated T_{KN}	Max. T_K	Vibratory T_{KW}								
14	22200	25400	6.4°	10°	12.5	25	3.3	37.5	–			0.56x10 ³	0.46x10 ³	0.35x10 ³	0.21x10 ³
19	16700	19000			17	34	4.4	51	4.8			2.92x10 ³	2.39x10 ³	1.81x10 ³	1.07x10 ³
24	12100	13800			60	120	16	180	6.6			9.93x10 ³	8.14x10 ³	6.16x10 ³	3.65x10 ³
28	10100	11500			160	320	42	480	8.4			26.77x10 ³	21.95x10 ³	16.6x10 ³	9.84x10 ³
38	8300	9500			325	650	85	975	10.2			48.57x10 ³	39.83x10 ³	30.11x10 ³	17.85x10 ³
42	7000	8000			450	900	117	1350	12.0			54.5x10 ³	44.69x10 ³	33.79x10 ³	20.03x10 ³
48	6350	7250			525	1050	137	1575	13.8			65.3x10 ³	53.54x10 ³	40.48x10 ³	24x10 ³
55	5550	6350			685	1370	178	2055	15.6			95x10 ³	77.9x10 ³	58.88x10 ³	34.9x10 ³
65	4950	5650	3.2°	5°	940	1880	244	2820	18.0	0.80	7.90	129.5x10 ³	106.2x10 ³	80.3x10 ³	47.6x10 ³
75	4150	4750			1920	3840	499	5760	21.6			197.5x10 ³	162x10 ³	122.5x10 ³	72.6x10 ³
90	3300	3800			3600	7200	936	10800	30.0			312.2x10 ³	256x10 ³	193.6x10 ³	114.7x10 ³
100	2950	3350			4950	9900	1287	14850	36.0			383.3x10 ³	314.3x10 ³	237.6x10 ³	140.9x10 ³
110	2600	2950			7200	14400	1872	21600	42.0			805.9x10 ³	663.1x10 ³	515.3x10 ³	360.5x10 ³
125	2300	2600			10000	20000	2600	30000	48.0			1207x10 ³	1003x10 ³	787.6x10 ³	552.5x10 ³
140	2050	2350			12800	25600	3328	38400	54.6			1549x10 ³	1283x10 ³	979.8x10 ³	674.1x10 ³
160	1800	2050			19200	38400	4992	57600	75.0			2481x10 ³	2137x10 ³	1781x10 ³	1275x10 ³
180	1550	1800			28000	56000	7280	84000	78.0			4220x10 ³	3635x10 ³	3031x10 ³	2170x10 ³

64 Shore D spider made of T-PUR®															
ROTEX® size	Max. speed		Torsion angle ϕ with		Torque [Nm]				Damping power P_{KW} [W] ³⁾	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
	v=35 m/s cast material	v=40 m/s steel	T_{KN}	T_{Kmax}	DIN 740 ¹⁾			$T_{Kmax}^{2)}$				1.0 T_{KN}	0.75 T_{KN}	0.5 T_{KN}	0.25 T_{KN}
					Rated T_{KN}	Max. T_K	Vibratory T_{KW}								
14	22200	25400	4.5°	7.0°	16	32	4.2	48	9.0			0.76x10 ³	0.62x10 ³	0.47x10 ³	0.28x10 ³
19	16700	19000			21	42	5.5	63	7.2			5.35x10 ³	4.39x10 ³	3.32x10 ³	1.97x10 ³
24	12100	13800			75	150	19.5	225	9.9			15.11x10 ³	12.39x10 ³	9.37x10 ³	5.55x10 ³
28	10100	11500			200	400	52	600	12.6			27.52x10 ³	22.57x10 ³	17.06x10 ³	10.12x10 ³
38	8300	9500			405	810	105	1215	15.3			70.15x10 ³	57.52x10 ³	43.49x10 ³	25.78x10 ³
42	7000	8000			560	1120	146	1680	18.0			79.9x10 ³	65.5x10 ³	49.52x10 ³	29.35x10 ³
48	6350	7250			655	1310	170	1965	20.7			95.5x10 ³	78.3x10 ³	59.22x10 ³	35.1x10 ³
55	5550	6350			825	1650	215	2475	23.4			107.9x10 ³	88.5x10 ³	66.9x10 ³	39.66x10 ³
65	4950	5650	2.5°	3.6°	1175	2350	306	3525	27.0	0.75	8.50	151.1x10 ³	123.9x10 ³	93.7x10 ³	55.53x10 ³
75	4150	4750			2400	4800	624	7200	32.4			248.2x10 ³	203.5x10 ³	153.9x10 ³	91.2x10 ³
90	3300	3800			4500	9000	1170	13500	45.0			674.5x10 ³	553.1x10 ³	418.2x10 ³	247.9x10 ³
100	2950	3350			6185	12370	1608	18555	54.0			861.2x10 ³	706.2x10 ³	533.9x10 ³	316.5x10 ³
110	2600	2950			9000	18000	2340	27000	63.0			1230x10 ³	1001x10 ³	773.1x10 ³	531.4x10 ³
125	2300	2600			12500	25000	3250	37500	72.0			1749x10 ³	1436x10 ³	1149x10 ³	832.1x10 ³
140	2050	2350			16000	32000	4160	48000	81.9			2312x10 ³	1929x10 ³	1521x10 ³	1082x10 ³
160	1800	2050			24000	48000	6240	72000	112.5			3415x10 ³	2961x10 ³	2471x10 ³	1830x10 ³
180	1550	1800			35000	70000	9100	105000	117.0			5670x10 ³	4917x10 ³	4103x10 ³	3038x10 ³

¹⁾ see catalogue page 15

²⁾ ≤ 1000 load cycles

³⁾ with +30 °C

Temperature factor S_t										
	-40 °C +30 °C	+40 °C	+50 °C	+60 °C	+70 °C	+80 °C	+90 °C	+100 °C	+110 °C	+120 °C
T-PUR®	1.0	1.0	1.2	1.3	1.45	1.6	1.8	2.1	2.5	3.0
PUR	1.0	1.0	1.3	1.4	1.55	1.8	2.2	–	–	–

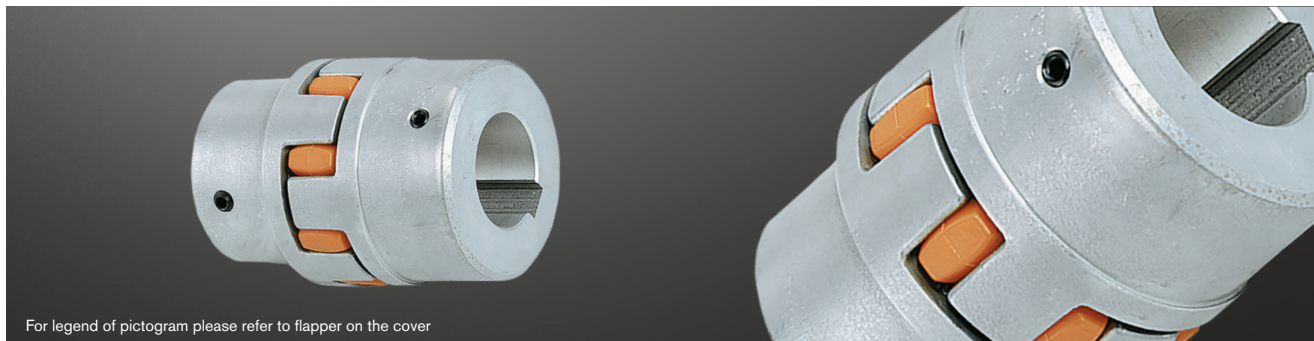
With temperatures below -40 °C please consult with KTR.

Unless the Shore hardness of spider is explicitly specified in your order, we will supply spiders with Shore hardness 92 Shore A T-PUR®.

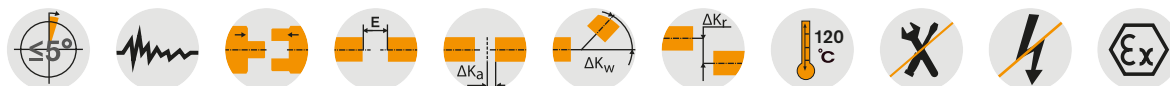
For circumferential speeds exceeding v = 30 m/s dynamic balancing is required. For circumferential speeds exceeding v = 35 m/s only steel or nodular iron.

ROTEX® Standard Flexible jaw couplings

Materials: aluminium + cast + sinter material



For legend of pictogram please refer to flapper on the cover



ROTEX® Sintered steel (Sint)

Size	Component	Spider ¹⁾ (component 2) Rated torque [Nm]			Finish bore D (min. - max.)	Dimensions [mm]										Setscrew		
		92 ShA	98 ShA	64 ShD		General										G	T	T _A [Nm]
14	1a	7.5	12.5	—	0-16	35	11	13	10	1.5	30	10	30	—	M4	5	1.5	
19	1a	10	17	—	0-24	66	25	16	12	2.0	40	18	40	—	M5	10	2	
24	1a	35	60	—	0-28	78	30	18	14	2.0	56	27	56	—	M5	10	2	

ROTEX® Aluminium diecast (Al-D)

19	1 1a	10	17	—	6-19 19-24	66	25	16	12	2	41	18	32 41	20	M5	10	2
24	1 1a	35	60	—	9-24 22-28	78	30	18	14	2	56	27	40 56	24	M5	10	2
28	1 1a	95	160	—	10-28 28-38	90	35	20	15	2.5	66	30	48 66	28	M8	15	10

ROTEX® Aluminium (Al-H)

5	1a	0.5	0.9	—	0-6	15	5	5	4	0.5	10	—	—	—	M2	2.5	—
7	1a	1.2	2.0	2.4	0-7	22	7	8	6	1.0	14	—	—	—	M3	3.5	—
9	1a	3.0	5.0	6.0	0-11	30	10	10	8	1.0	20	7.2	—	—	M4	5	1.5
12	1a	5.0	9.0	12	0-12	34	11	12	10	1.0	25	8.5	—	—	M4	5	1.5
14	1a	7.5	12.5	16	0-16	35	11	13	10	1.5	30	10.5	—	—	M4	5	1.5
19	1a	10	17	26	0-24	66	25	16	12	2.0	40	18	—	—	M5	10	2
24	1a	35	60	75	0-28	78	30	18	14	2.0	55	27	—	—	M5	10	2
28	1a	95	160	200	0-38	90	35	20	15	2.5	65	30	—	—	M8	15	10
38	1a	190	325	405	0-45	114	45	24	18	3.0	80	38	—	—	M8	15	10
42	1a	265	450	560	0-55	126	50	26	20	3.0	95	46	—	—	M8	20	10
48	1a	310	525	655	0-62	140	56	28	21	3.0	105	51	—	—	M8	20	10

The coupling is provided with a ROTEX® GS spider as a standard (ROTEX® standard spider available, if requested).

ROTEX® Cast iron (GJL)

38	1	190	325	405	12-40	114	45	24	18	3	80	38	66	37	M8	15	10
	38-48				78												
42	1	265	450	560	14-45	126	50	26	20	3	95	46	75	40	M8	20	10
	42-55				94												
48	1	310	525	655	15-52	140	56	28	21	3.5	105	51	85	45	M8	20	10
	48-62				104												
55	1	410	685	825	20-60	160	65	30	22	4	120	60	98	52	M10	20	17
	55-74				118												
65	1	625	940	1175	22-70	185	75	35	26	4.5	135	68	115	61	M10	20	17
75	1	1280	1920	2400	30-80	210	85	40	30	5	160	80	135	69	M10	25	17
90	1	2400	3600	4500	40-100	245	100	45	34	5.5	200	100	160	81	M12	30	40

ROTEX® Nodular iron (GJS)

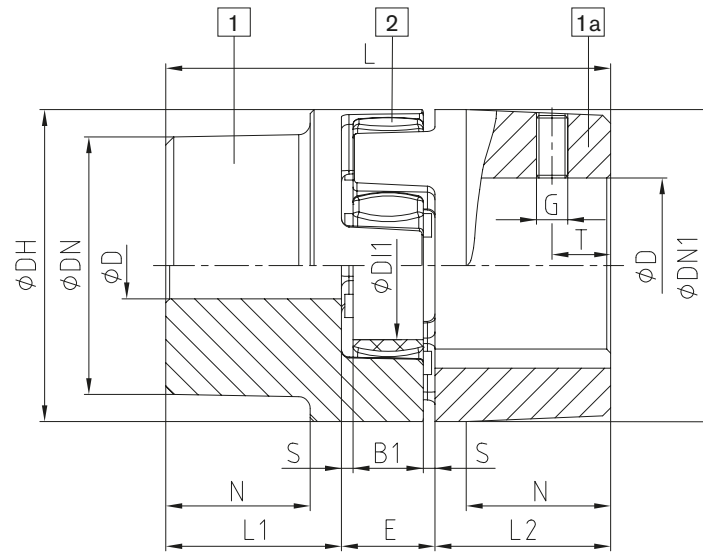
100	1	3300	4950	6185	50-115	270	110	50	38	6	225	113	180	89	M12	30	40
110	1	4800	7200	9000	60-125	295	120	55	42	6.5	255	127	200	96	M16	35	80
125	1	6650	10000	12500	60-145	340	140	60	46	7	290	147	230	112	M16	40	80
140	1	8550	12800	16000	60-160	375	155	65	50	7.5	320	165	255	124	M20	45	140
160	1	12800	19200	24000	80-185	425	175	75	57	9	370	190	290	140	M20	50	140
180	1	18650	28000	35000	85-200	475	195	85	64	10.5	420	220	325	156	M20	50	140

■ = Unless any material is specified in the order, it is defined with the calculation/order.

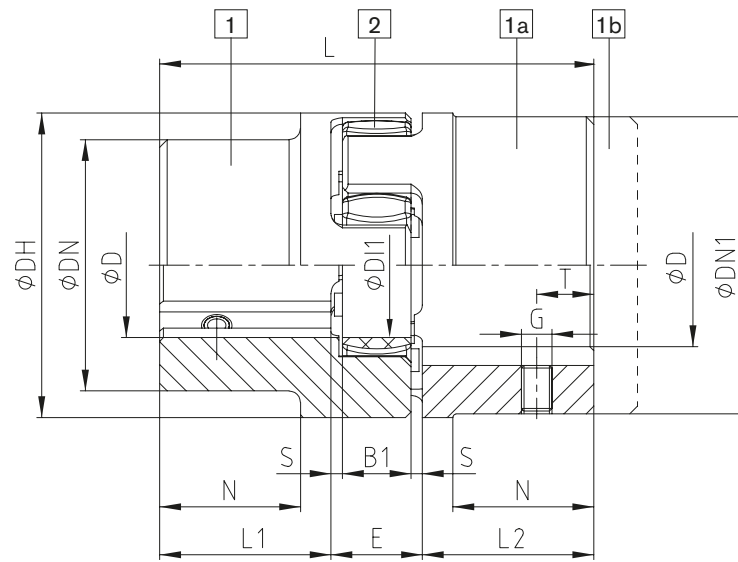
¹⁾ Maximum torque of the coupling T_{K,max} = rated torque of the coupling T_{K,r} x 2. For selection see page 14 et seqq. in our catalogue "Drive Technology"

Ordering example:	ROTEX® 38	GJL	92 ShA	1a	Ø45	1	Ø25
		Coupling size	Material	Spider hardness	Component	Finish bore	Component

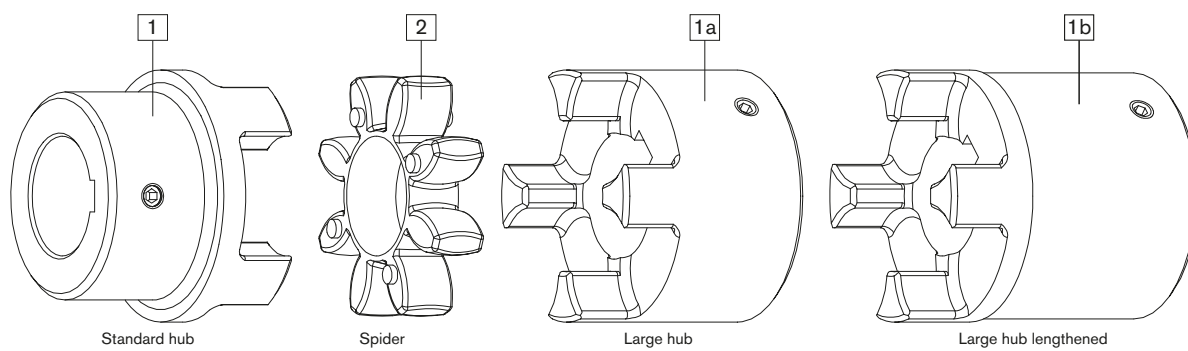
Components



AI-D (thread opposite the keyway)

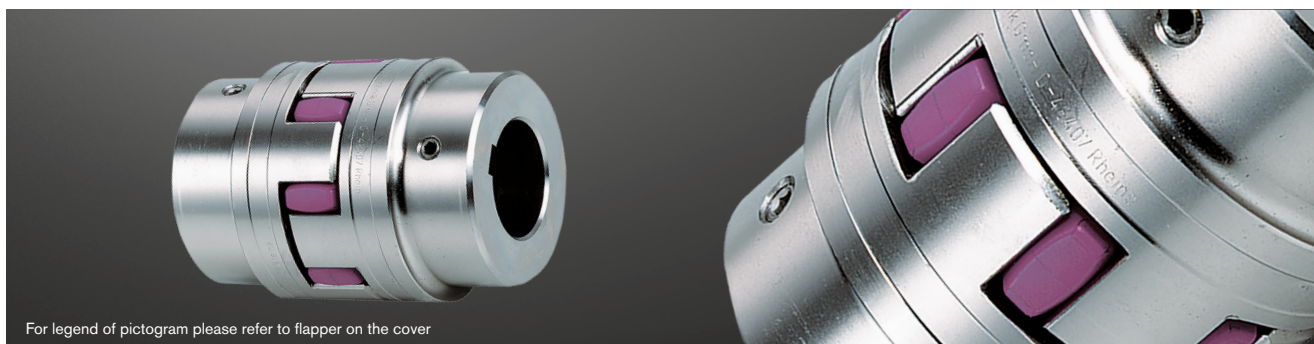


GJL / GJS (thread on the keyway)

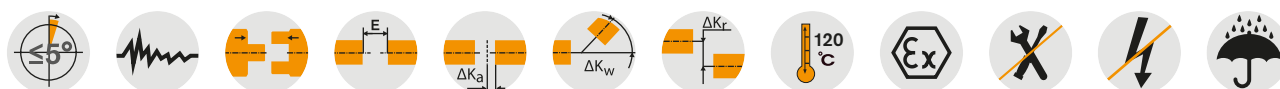


ROTEX® Standard Flexible jaw couplings

Material steel/stainless steel



For legend of pictogram please refer to flapper on the cover



ROTEX® Steel (St)																			
Size	Component	Spider ¹⁾ (component 2) Rated torque [Nm]			Finish bore D (min. - max.)	Dimensions [mm]											Setscrew		
		92 ShA	98 ShA	64 ShD		General											G	T	T _A [Nm]
						L	L1, L2	E	B1	S	DH	DI1	DN	N					
14	1a	7.5	12.5	16	0-16	35	11	13	10	1.5	30	10	30	—	M4	5	1.5		
	50					18.5													
19	1a	10	17	21	0-25	66	25	16	12	2	40	18	40	—	M5	10	2		
	90					37													
24	1a	35	60	75	0-35	78	30	18	14	2	55	27	55	—	M5	10	2		
	118					50													
28	1a	95	160	200	0-40	90	35	20	15	2.5	65	30	65	—	M8	15	10		
	140					60													
38	1	190	325	405	0-48	114	45	24	18	3	80	38	70	27	M8	15	10		
	164					70	80						—						
42	1	265	450	560	0-55	126	50	26	20	3	95	46	85	28	M8	20	10		
	176					75	95						—						
48	1	310	525	655	0-62	140	56	28	21	3.5	105	51	95	32	M8	20	10		
	188					80	105						—						
55	1	410	685	825	0-75	160	65	30	22	4	120	60	110	37	M10	20	17		
	210					90	120						—						
65	1	625	940	1175	0-80	185	75	35	26	4.5	135	68	115	47	M10	20	17		
	235					100	135						—						
75	1	1280	1920	2400	0-95	210	85	40	30	5	160	80	135	53	M10	25	17		
	260					110	160						—						
90	1	2400	3600	4500	0-110	245	100	45	34	5.5	200	100	160	62	M12	30	40		
	295					125	200						—						
100	1	3300	4950	6185	0-115	270	110	50	38	6	225	113	180	89	M12	30	40		
110	1	4800	7200	9000	0-125	295	120	55	42	6.5	255	127	200	96	M16	35	80		
125	1	6650	10000	12500	60-145	340	140	60	46	7	290	147	230	112	M16	40	80		
140	1	8550	12800	16000	60-160	375	155	65	50	7.5	320	165	255	124	M20	45	140		
160	1	12800	19200	24000	80-185	425	175	75	57	9	370	190	290	140	M20	50	140		
180	1	18650	28000	35000	85-200	475	195	85	64	10.5	420	220	325	156	M20	50	140		

■ = Unless any material is specified in the order, it is defined with the calculation/order.

¹⁾ Maximum torque of the coupling $T_{K,max}$ = rated torque of the coupling $T_{K,r}$ x 2. For selection see page 14 et seqq. in our catalogue "Drive Technology"

ROTEX® Stainless steel																			
Size	Material	Spider (component 2) Rated torque [Nm]			Finish bore D (min. - max.)	Dimensions [mm]											Setscrew		
		92 ShA	98 ShA	64 ShD		General											G	T	T _A [Nm]
						L	L1, L2	E	B1	S	DH	DI1	DN	N					
19	1.4305	10	17	21	0-25	66	25	16	12	2	40	18	40	-	M5	10	2		
24	1.4305	35	60	75	0-35	78	30	18	14	2	55	27	55	-	M5	10	2		
28	1.4305	95	160	200	0-40	90	35	20	15	2.5	65	30	65	-	M8	15	10		
38	1.4305	190	325	405	0-48	114	45	24	18	3	80	38	70	27	M8	15	10		
42	1.4305	265	450	560	0-55	126	50	26	20	3	95	46	85	28	M8	20	10		
48	1.4305	310	525	655	0-62	140	56	28	21	3.5	105	51	95	32	M8	20	10		

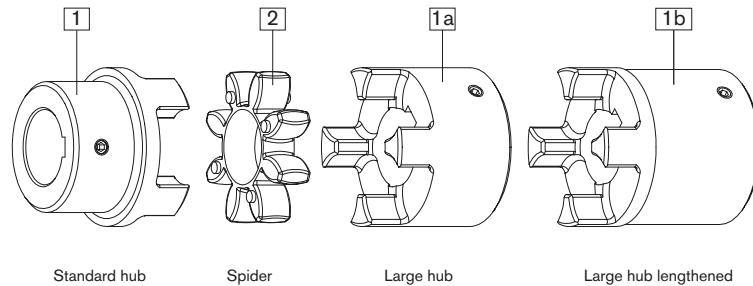
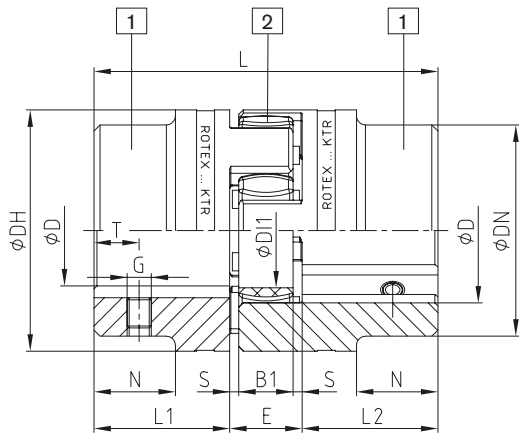
Material 1.4571 on request.

Ordering example:	ROTEX® 38	1.4305	92 ShA	1 - Ø45	1 - Ø25
	Coupling size	Material	Spider hardness	Component Finish bore	Component Finish bore

ROTEX® Flexible jaw couplings

DIN EN 10204 - 3.1 and 3.2 material test certificate

Components



Steel (thread on the keyway)

ROTEX® Coupling hubs with test certificate ¹⁾				
Size	Component	Material ²⁾	Inspection certificate acc. to DIN EN 10204	Notch impact strength
19	1a	S355 ²⁾	3.1	>=27 J
24	1a	S355 ²⁾	3.1	>=27 J
28	1a	S355 ²⁾	3.1	>=27 J
38	1a	S355 ²⁾	3.1	>=27 J
42	1	S355 ²⁾	3.1	>=27 J
48	1	S355 ²⁾	3.1	>=27 J
55	1	S355 ²⁾	3.1	>=27 J
65	1	S355 ²⁾	3.1	>=27 J
75	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		
90	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		
100	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		
110	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		
120	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		
140	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		
160	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		
180	1	S355 ²⁾	3.1/3.2	>=27 J
		42CrMoS4+QT ³⁾		

¹⁾ S355 suitable for feather key connections, 42CrMoS4+QT for oil press-fits

²⁾ Notch impact strength with -40 °C

³⁾ Notch impact strength with -20 °C

Marine programme:

Hub materials S355J2+N and 42CrMo4+QT acc. to DIN EN 10204 - 3.1+3.2, size 75 - 180 available from stock.



UL



Use in fire pumps

ROTEX® couplings comply with the specifications of NFPA 20 standard for the installation of stationary pumps for fire protection and due to completion of the endurance tests required they also comply with the specifications of UL 448A, flexible couplings and connection shafts for stationary fire pumps.

Sizes available:



ROTEX® UL Listed								
Size	Component	Material	Spider (component 2) Rated torque [Nm] 92 ShA	Dimensions [mm]				
				Finish bore D (min. - max.)	L	L1, L2	E	DH
42	1	St	265	18-55	126	50	26	95
55	1	St	410	24-74	160	65	30	120
65	1	St	625	24-80	185	75	35	135
75	1	St	1280	24-95	210	85	40	160
90	1	St	2400	30-110	245	100	45	200

* for complete dimensions see table on page 40 in our catalogue "Drive Technology"

ROTEX® Flexible jaw couplings

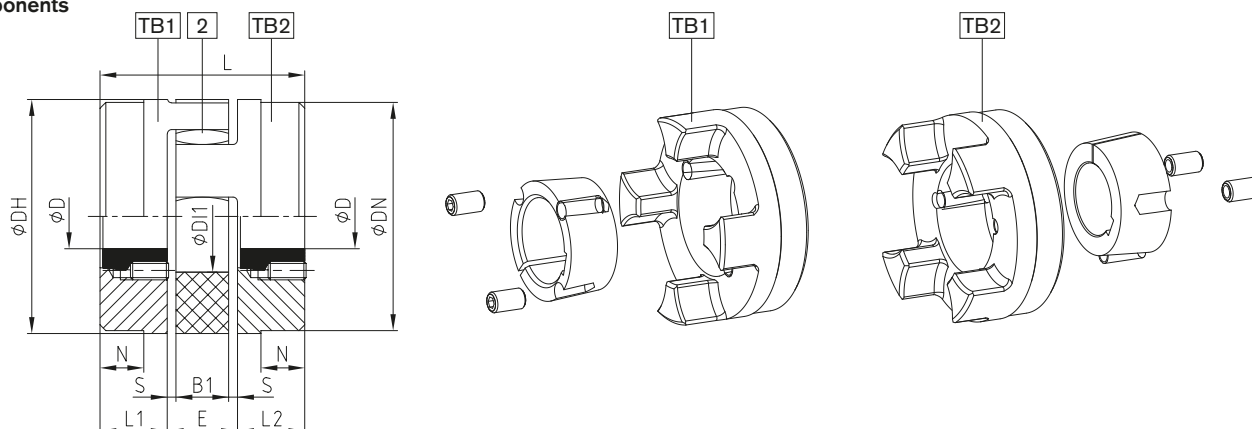
Taper clamping sleeve



For legend of pictogram please refer to flapper on the cover



Components



ROTEX® Shaft coupling for taper clamping sleeve

Size	Taper clamping sleeve	Dimensions [mm]									Fastening screws for taper clamping sleeves			
		L1, L2	E	B1	S	L	N	DH	DN	DI1	Size [Inch] ¹⁾	Length [mm]	Number	T _A [Nm]
24	1008	22	18	14	2.0	62	–	55	55	27	1/4"	13	2	5.7
28	1108	23	20	15	2.5	66	–	65	65	30	1/4"	13	2	5.7
38	1108	23	24	18	3.0	70	15	80	78	38	1/4"	13	2	5.7
42	1610	26	26	20	3.0	78	16	95	94	46	3/8"	16	2	20
48	1615	39	28	21	3.5	106	28	105	104	51	3/8"	16	2	20
55	2012	33	30	22	4.0	96	20	120	118	60	7/16"	22	2	31
65	2012	33	35	26	4.5	101	19	135	115	68	7/16"	22	2	31
75	2517	52	40	30	5.0	144	36	160	158	80	1/2"	25	2	49
	5/8"										32	2	92	
90	3020	52	45	34	5.5	149	33	200	160	100	5/8"	32	2	92
100	3535	90	50	38	6.0	230	69	225	180	113	1/2"	49	3	113
125	4545	114	60	46	7.0	288	86	290	230	147	3/4"	49	3	192

Taper clamping sleeve

Size	Summary of bore dimensions D [mm], H7 fit - feather keyway acc. to DIN 6885 sheet 1																		
1008	Ø10	Ø11	Ø12	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25								
1108	Ø10	Ø11	Ø12	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28 ²⁾							
1610	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42 ²⁾				
1615	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42 ²⁾				
2012	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55
2517	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60
3020	Ø25	Ø28	Ø30	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75				
3535	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90				
4545	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90	Ø95	Ø100	Ø105	Ø110							

• Available for type TB2 only

¹⁾ 1. BSW thread

Coupling type TB1/TB2, TB1/TB1 and TB2/TB2 possible.

Please order our separate dimension sheet (M373054).

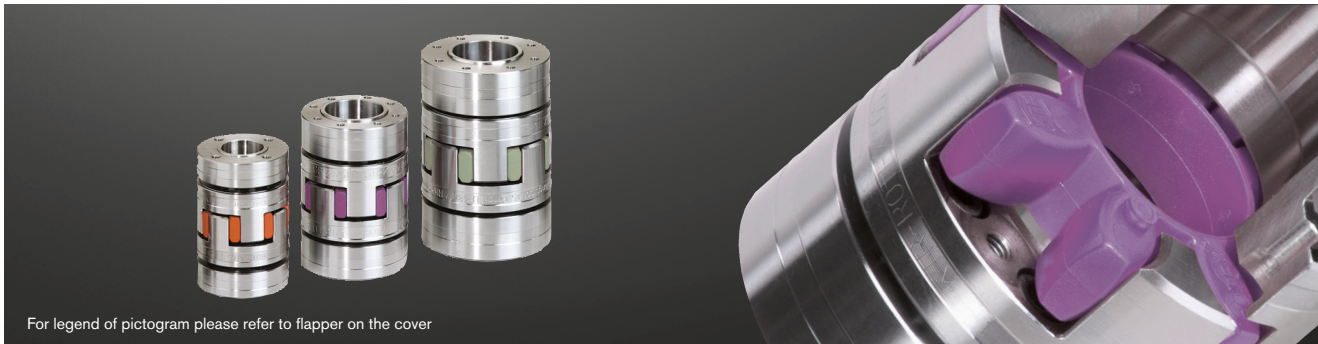
²⁾ Bore with feather keyway (flat design) acc. to DIN 6885 sheet 3

Ordering example:

ROTEX® 38	92 ShA	1108	TB1 - Ø24	TB2 - Ø22		
Coupling size	Spider hardness	Taper clamping sleeve	Hub type	Finish bore	Hub type	Finish bore

ROTEX® Flexible jaw couplings

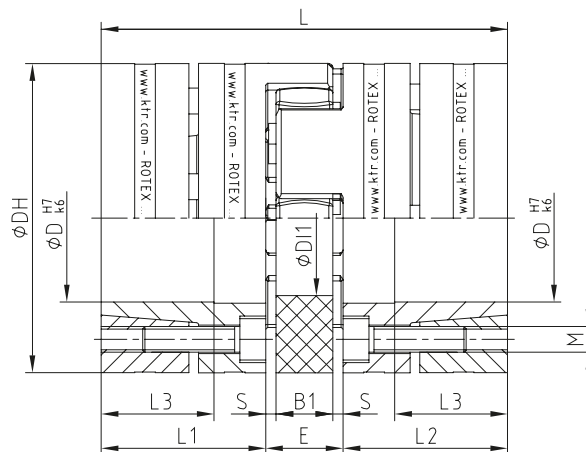
Clamping ring hubs



For legend of pictogram please refer to flapper on the cover



Components



Extraction thread M1 between clamping screws.

Clamping ring hubs steel																		
Size	Torques [Nm] ¹⁾				Dimensions [mm]								Clamping screws			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kgm ²]	
	92 ShA		98 ShA		DH ²⁾	DI1	L	L1, L2	L3	E	B1	S	M	Z = number	T _A [Nm]			M1
19	10.0	20	17	34	40	18	66	25	18	16	12	2.0	M4	6	4.1	M4	0.179	0.44 x 10 ⁻⁴
24	35.0	70	60	120	55	27	78	30	22	18	14	2.0	M5	4	8.5	M5	0.399	1.91 x 10 ⁻⁴
28	95.0	190	160	320	65	30	90	35	27	20	15	2.5	M5	8	8.5	M5	0.592	4.18 x 10 ⁻⁴
38	190.0	380	325	650	80	38	114	45	35	24	18	3.0	M6	8	14	M6	1.225	12.9 x 10 ⁻⁴
42	265	530	450	900	95	46	126	50	35	26	20	3.0	M8	4	35	M8	2.30	31.7 x 10 ⁻⁴
48	310	620	525	1050	105	51	140	56	41	28	21	3.5	M10	4	69	M10	3.08	52.0 x 10 ⁻⁴
55	375	750	685	1370	120	60	160	65	45	30	22	4.0	M10	4	69	M10	4.67	103.0 x 10 ⁻⁴
65	—	—	940	1880	135	68	185	75	55	35	26	4.5	M12	4	120	M12	6.70	191.0 x 10 ⁻⁴
75	—	—	1920	3840	160	80	210	85	63	40	30	5.0	M12	5	120	M12	9.90	396.8 x 10 ⁻⁴
90	—	—	3600	4500	200	104	245	100	75	45	34	5.5	M16	5	295	M16	17.70	1136 x 10 ⁻⁴

Bore D and the respective transmittable friction torques T _r of clamping ring hub in [Nm] ¹⁾																												
Size	Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø80*	Ø90*	Ø95*	Ø100*	Ø105*
19	27	32	69	84	57	94	110																					
24			70	87	56	97	114	116	133	192																		
28				108	131	207	148	253	285	315	382	330	433	503														
38							208	353	395	439	531	463	603	593	689	793	776											
42									445	495	595	526	678	671	775	718	872	1043	1061									
48										616	704	899	896	1030	962	1160	1379	1222	1543									
55													863	856	991	918	1119	1110	1247	1277	1665	1605	2008					
65															1446	1355	1637	1635	1827	1887	2429	2368	2930					
75																1710	2053											
90																			3845	4249	4794	5858	5900	7036	8047	9247	9575	10845

¹⁾ For selection see page 14 et seqq. in our catalogue "Drive Technology"

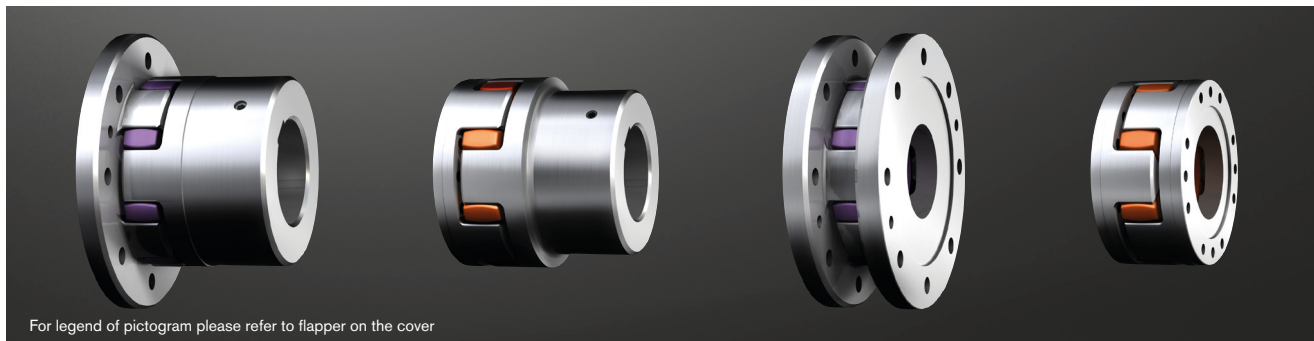
²⁾ ØDH + 2 mm with high speeds for expansion of spider

The transmittable torques of the clamping connection consider the max. clearance with shaft clearance k6/bore H7, from Ø55 G7/m6. The torque is reduced with bigger clearance. For the strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage www.ktr.com.

Ordering example:	ROTEX® GS 24	98 ShA	6.0 steel	Ø24	6.0 steel	Ø20
	Coupling size	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

ROTEX® CF, CFN, DF and DFN Flexible jaw couplings

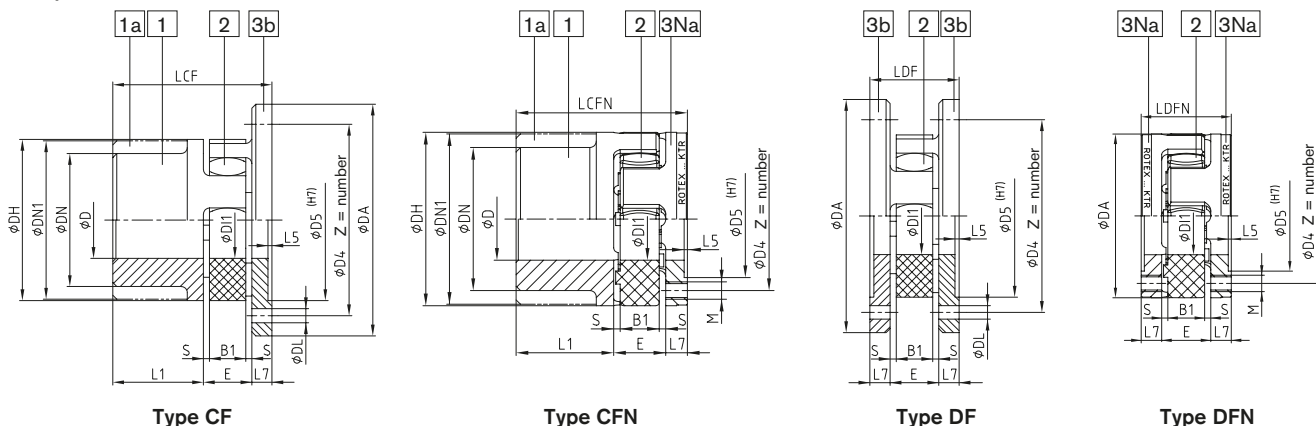
Flange programme



For legend of pictogram please refer to flapper on the cover



Components



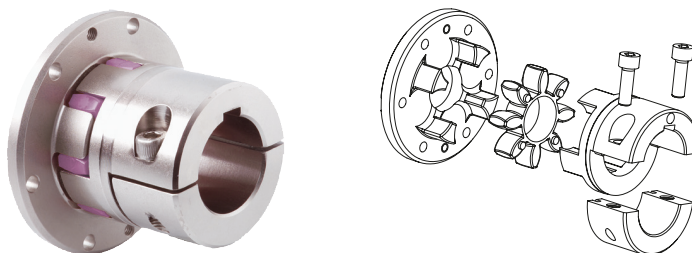
ROTEX® Type CF, CFN and DF, DFN																							
Size	D, DN, DN1	Dimensions general [mm]							Dimensions CF and DF [mm]							Dimensions CFN and DFN [mm]							
		DH	DI1	L1	E	B1	S	L5	L7	DA	D4	D5	Z	DL	LCF	LDF	D4	D5	M	Z	pitch	LCFN	LDFN
24		55	27	30	18	14	2.0	1.5	8	80	65	55	5	4.5	56	34	45	36	M5	8		56	34
28		65	30	35	20	15	2.5	1.5	10	100	80	65	6	6.6	65	40	54	44	M6	8	8x45°	65	40
38		80	38	45	24	18	3.0	1.5	10	115	95	80	6	6.6	79	44	66	54	M8	8		79	44
42		95	46	50	26	20	3.0	2.0	12	140	115	95	6	9.0	88	50	80	65	M8	12	16x22.5°	88	50
48		105	51	56	28	21	3.5	2.0	12	150	125	105	8	9.0	96	52	90	75	M8	12		96	52
55		120	60	65	30	22	4.0	2.0	16	175	145	120	8	11.0	111	62	102	84	M10	8	8x45°	111	62
65		135	68	75	35	26	4.5	2.0	16	190	160	135	10	11.0	126	67	116	96	M10	12	16x22.5°	126	67
75		160	80	85	40	30	5.0	2.5	19	215	185	160	10	13.5	144	78	136	112	M12	15		144	78
90		200	100	100	45	34	5.5	3.0	20	260	225	200	12	13.5	165	85	172	145	M16	15		165	85
100		225	113	110	50	38	6.0	4.0	25	285	250	225	12	13.5	185	100	195	165	M16	15		185	100
110		255	127	120	55	42	6.5	4.0	26	330	290	255	12	17.5	201	107	218	180	M20	15	20x18°	201	107
125		290	147	140	60	46	7.0	5.0	30	370	325	290	16	17.5	230	120	252	215	M20	15		230	120
140		320	165	155	65	50	7.5	5.0	34	410	360	320	16	22.0	254	133	282	245	M20	15		254	133
160		370	190	175	75	57	9.0	5.0	38	460	410	370	16	22.0	288	151	325	280	M24	15		288	151
180		420	220	195	85	64	10.5	5.5	40	520	465	420	16	26.0	320	165	375	330	M24	18	24x15°	320	165

For other flange programmes see page 45 in our catalogue "Drive Technology"

Other types: ROTEX® CF-H

Flange drop-out center design coupling

Please order our separate dimension sheet (M412069).



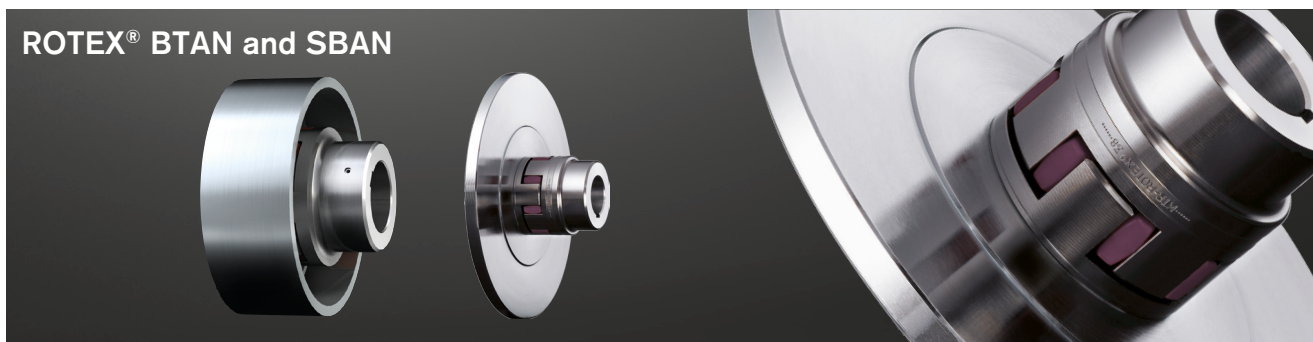
Ordering example:	ROTEX® 38	CF	92 ShA	1	GJL	Ø20
	Coupling size	Type	Spider hardness	Hub side, component	Material	Finish bore

ROTEX®

Flexible jaw couplings

Other types

ROTEX® BTAN and SBAN



BTAN

- With brake drum for external drum brakes with double shoes
- Following DIN 15431/15435

SBAN

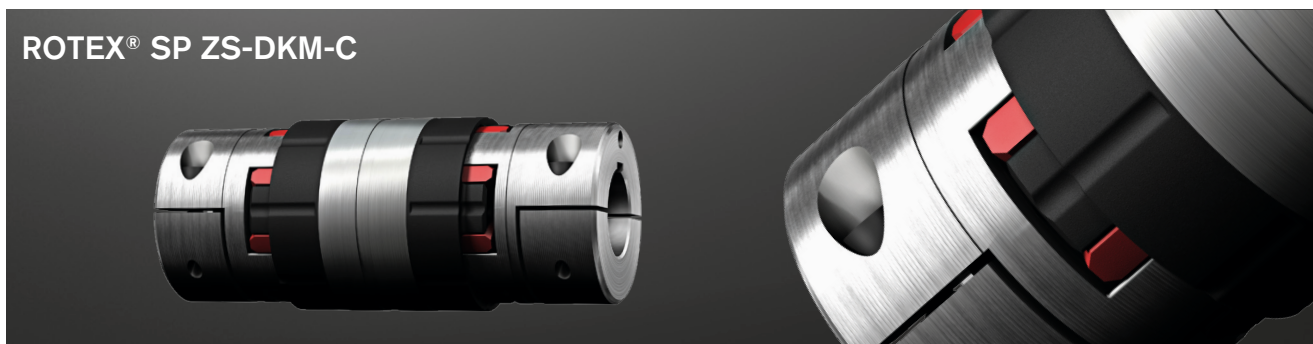
- With disk for braking caliper
- Every coupling type can be combined with various sizes of brake drums/brake disks.

ROTEX® ZS-DKM-H



- Double-cardanic jaw coupling for large shaft displacements
- Good damping properties due to double arrangement of spiders
- Spacer adapted to drop-out center length of standard pumps
- For bigger radial displacements generated by thermal expansion
- Assembly/disassembly via four screws
- For reduced loads on bearings / axial forces on shaft seals

ROTEX® SP ZS-DKM-C

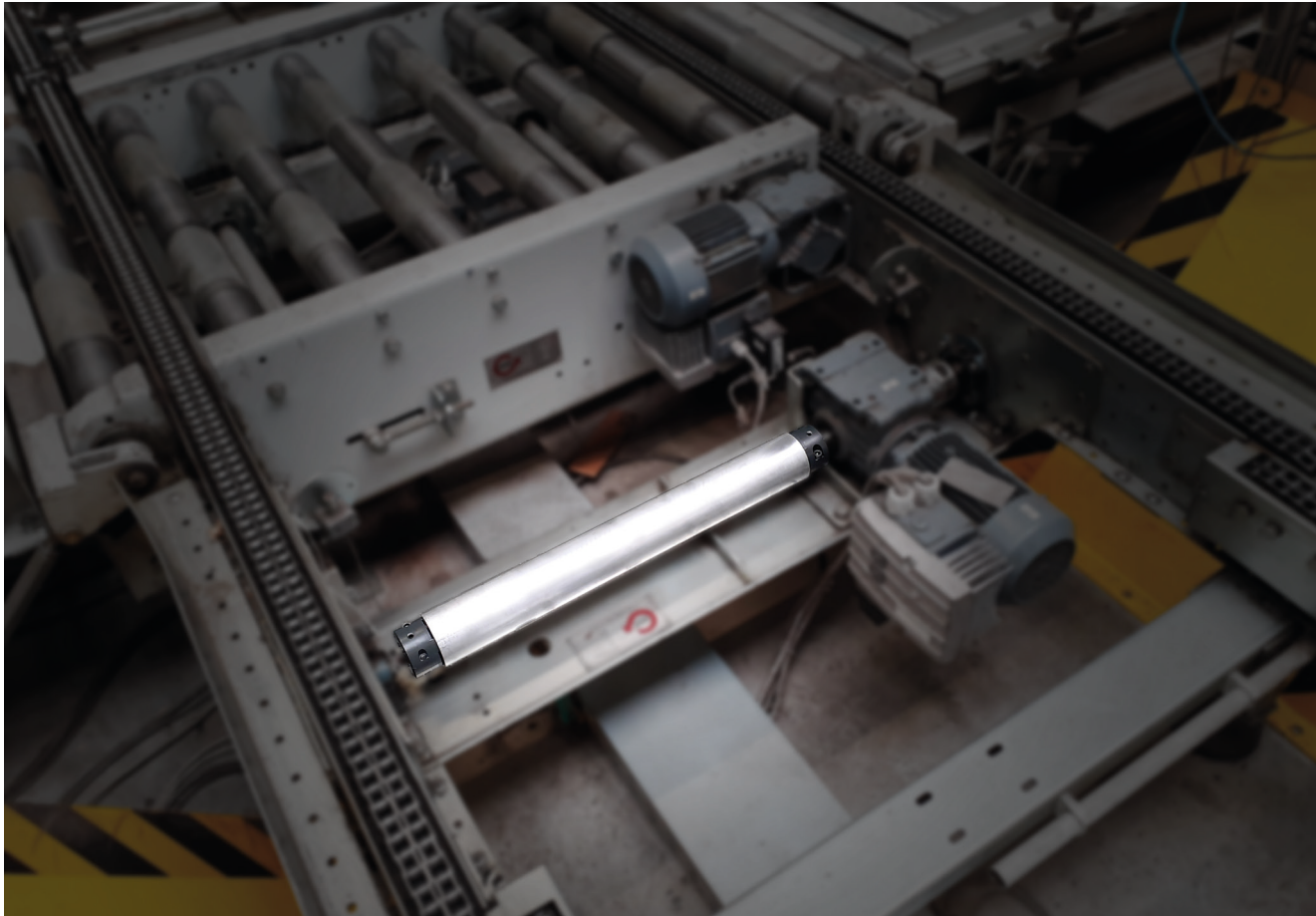


- Cam geometry consisting of conductive and high-strength nylon
- Maintenance-free in potentially explosive atmospheres
- Fail-safe, non-sparking
- Material of hub body: steel, aluminium or other metal materials
- Standard spacers up to a shaft distance of 250 mm
- Assembly/disassembly via 4 screws only
- Compensating for big shaft displacements due to double-cardanic structure
- Low restoring forces, thus increasing the overall service life of all adjacent components (bearings, gaskets, etc.)
- Assessed and approved for potentially explosive atmospheres according to EU directive 2014/34/EU (type 7.6 marked ex stock, type 7.5 half shell clamping hub without feather keyway as per cat. 3)

ROTEX® ZRS

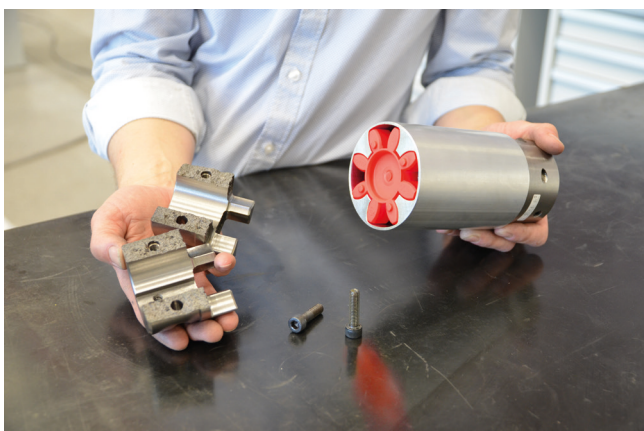
Flexible /backlash-free intermediate shaft coupling

Example of application of horizontal assembly in the KTR logistics centre



- ROTEX® 28 ZRS with SPLIT hubs
- Connecting electric gear motor with chain drive
- More than 10,000 operating hours in use

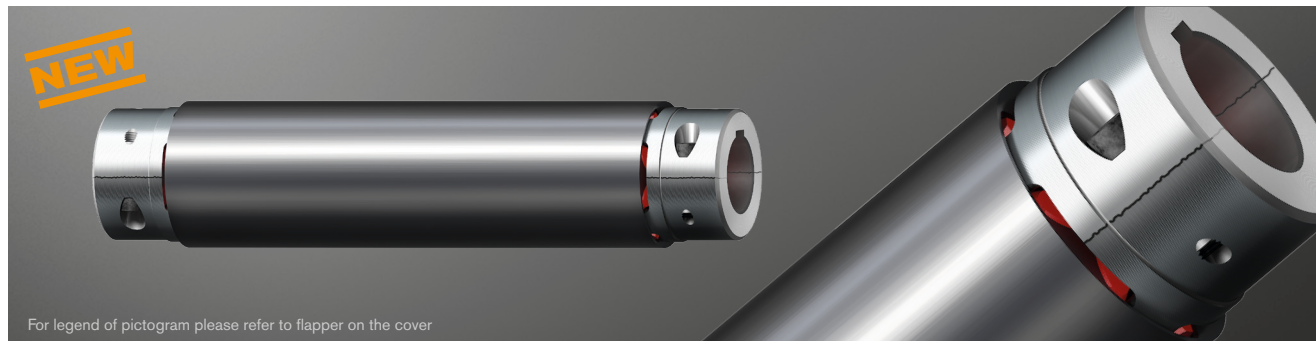
Various types



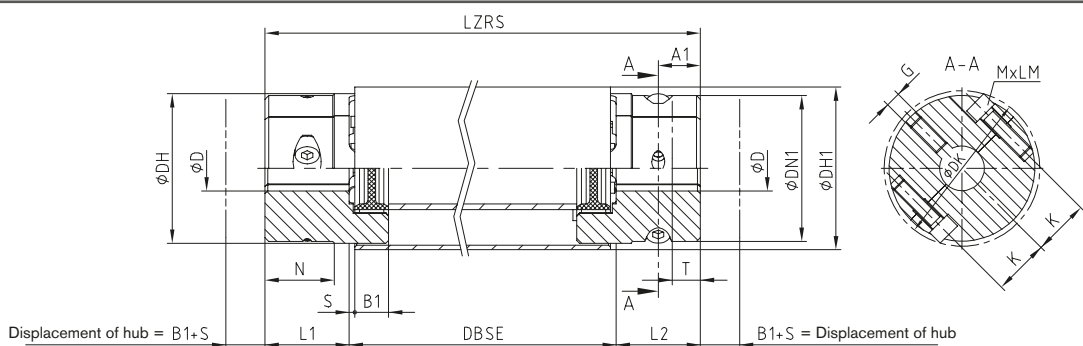
ROTEX® ZRS

Flexible /backlash-free intermediate shaft coupling

Intermediate shaft programme



For legend of pictogram please refer to flapper on the cover



ROTEX® type ZRS																		
Size	Dimensions ¹⁾ [mm]													Intermediate pipe Torsion spring stiffness C ²⁾ [Nm/rad]	Clamping screw DIN EN ISO 4762		LZR5 ¹⁾	Min. DBSE
	Finish bore D (min. - max.)	DH	DN1	L1, L2	N	B1	S	G	T	A1	K	DK	DH1		MxLM	Tightening torque T _A [Nm]		
19 ³⁾	0-20	40	-	25	-	12	2.0	-	-	8.0	14.5	46.0	45	3800	M6x16	14	⁴⁾	33
24	0-24	55	-	30	-	14	2.0	M5	10	15.0	20.0	57.5	60	11100	M6x20	14		37
28	0-38	65	-	35	-	15	2.5	M8	15	17.5	25.0	73.0	72	23600	M8x25	34	LZR5 =	40
38	24-45	80	78	45	37.0	18	3.0	M8	15	22.5	30.0	83.5	87	43800	M8x30	34	DBSE + L1 + L2	49
42	24-55	95	94	50	40.0	20	3.0	M8	20	25.0	30.0	97.0	103	82600	M10x35	67		53

¹⁾ With inquiries and orders please specify the shaft distance dimension DBSE along with the maximum speed to review the critical bending speed.

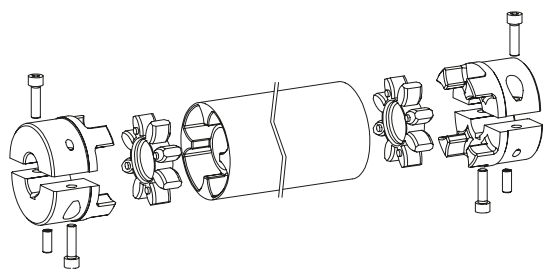
Maximum DBSE = 4000 mm (different lengths on request).

²⁾ Torsion spring stiffness with an intermediate pipe length of 1 m

³⁾ Available as a clamping hub type DH (7.5/7.6)

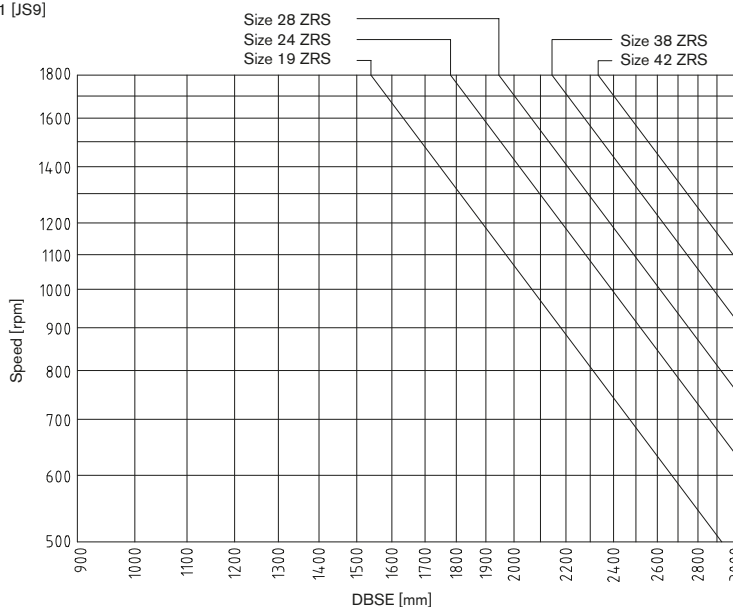
⁴⁾ LZR5 = DBSE + L1 + L2 - 15

⁵⁾ Finish bore according to ISO fit H7, feather keyway according to DIN 6885, sheet 1 [JS9]



7.1 = SPLIT hub with feather keyway

Displacements			
Size	Axial displacement [mm]	Radial displacement [mm] per 1m of pipe length	Angular displacement [degree]
19	1.2	15.7	0.9
24	1.4	15.7	0.9
28	1.5	15.7	0.9
38	1.8	17.5	1.0
42	2.0	17.5	1.0

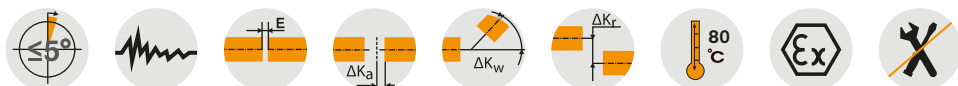
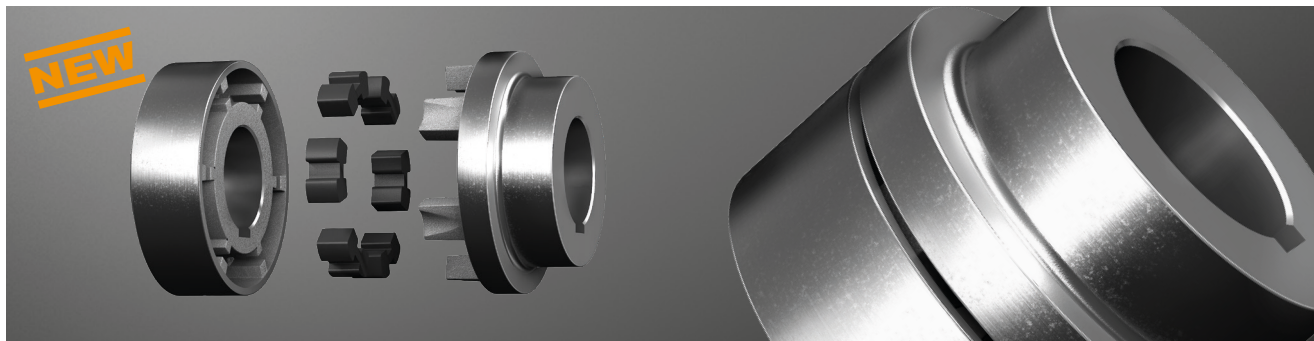


Ordering example:	ROTEX® 38	ZRS	1200	98 ShA-GS	7.1	Ø30	7.1	Ø30
	Coupling size	Type	Shaft distance dimension DBSE	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

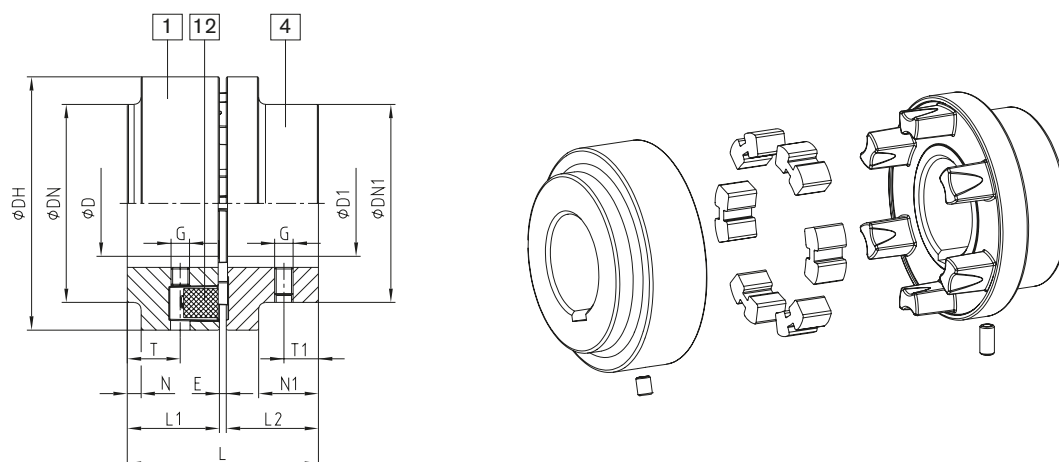
ROFLEX® N

Flexible jaw couplings

Two-part



Components



ROFLEX® type N																				
Size	Torque		Max. speed [rpm]	Dimensions													Mass moment of inertia J1 [kgm ² ¹⁾	Mass moment of inertia J4 [kgm ² ¹⁾	Weight [kg] ¹⁾	
	T _{KN} [Nm]	T _{K max} [Nm]		Max. finish bore			General						Thread for setscrews							
				D	D1	L	L1, L2	E	DH	DN	DN1	N	N1	G	T	T1				TA [Nm]
68	65	180	8500	28	38	43	20	3	68	-	-	-	-	M5	8.5	8	2	0.00016	0.00029	0.6
80	80	220	7500	35	45	63	30	3	80	-	68	-	20	M8	20.5	12	10	0.00059	0.00055	1.2
95	125	345	6800	45	48	73	35	3	95	76	76	5	23	M8	22	15	10	0.00116	0.00120	1.9
110	205	565	6500	50	55	83	40	3	110	86	86	6	26	M8	24	18	10	0.0024	0.0024	2.9
125	315	865	5800	60	65	103	50	3	125	100	100	14	32	M8	32	20	10	0.0046	0.0052	4.5
140	450	1240	5400	70	65	113	55	3	140	100	100	21	35	M10	13	22	17	0.0062	0.0077	5.3
160	790	2170	4800	75	70	124	60	4	160	108	108	21	40	M10	13	25	17	0.014	0.013	8.1
180	1150	3160	4350	85	80	144	70	4	180	125	125	28	50	M10	16	32	17	0.021	0.023	11.0
200	1800	4950	3950	90	90	164	80	4	200	140	140	33	56	M12	20	40	40	0.038	0.044	16.3
225	2100	5775	3600	100	100	184	90	4	225	150	150	38	72	M12	22	40	40	0.06	0.06	20.4
250	3550	9765	3000	110	110	205.5	100	5.5	250	165	165	40	82	M16	24	45	80	0.11	0.10	28.2
280	5000	13750	3000	120	120	225.5	110	5.5	280	180	180	45	90	M16	28	45	80	0.19	0.16	38.1

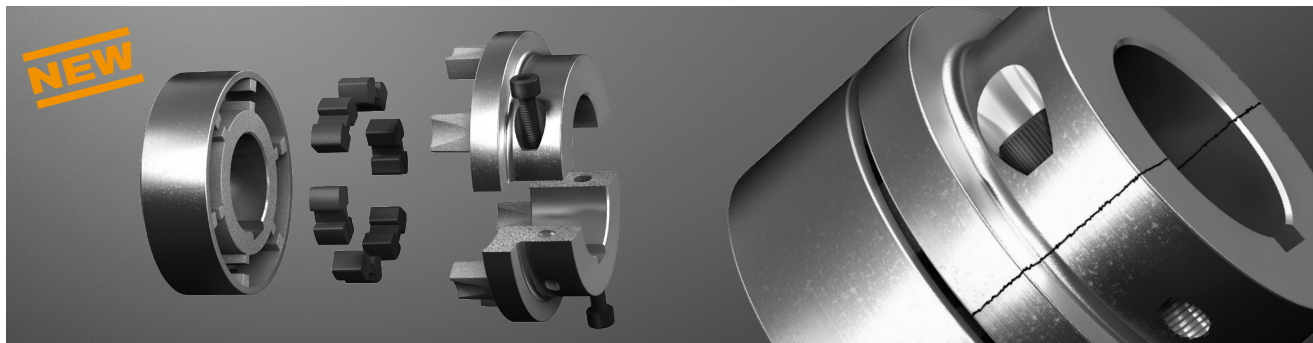
¹⁾ Mass moments of inertia J1 and J4 as well as the total weight m refer to the maximum bore diameters
■ = Available from stock

Ordering example:	ROFLEX® 110	Standard	ØD1 = 48	ØD4 = 38
	Coupling size	Type	Finish bore	Finish bore

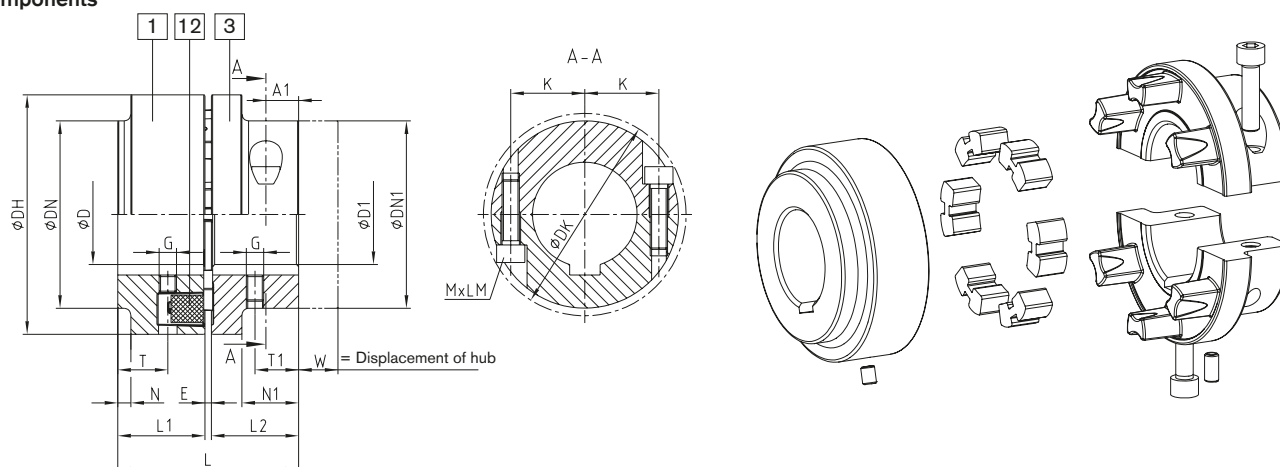
ROFLEX® SH

Flexible jaw couplings

Coupling with SPLIT hub



Components



ROFLEX® type SH																												
Size	Torque		Max. speed [rpm]	Dimensions																				Mass moment of inertia J1 [kgm²] ¹)	Mass moment of inertia J3 [kgm²] ¹)	Weight [kg] ¹)		
	T _{KN} [Nm]	T _{K max} [Nm]		Max. finish bore				General							Thread for setscrews				Cap screws									
			D	D1	L	L1	L2	E	DH	DN	DN1	N	N1	W	G	T	T1	T _A [Nm]	MxLM	DK	K	A1	A2	T _A [Nm]				
80	80	220	7500	35	38	63	30	30	3	80	80	68	-	20	15.5	M8	20.5	12	10	M8x25	75	25	11	-	34	0.00059	0.00058	1.3
95	125	345	6800	45	42	73	35	35	3	95	76	76	5	23	18	M8	22	15	10	M8x30	82	28.5	13	-	34	0.00116	0.00123	2.0
110	205	565	6500	50	48	83	40	40	3	110	86	86	6	26	21	M8	24	18	10	M8x35	94	31.5	15	-	34	0.0024	0.0025	3.1
125	315	865	5800	60	55	103	50	50	3	125	100	100	14	32	23.5	M8	32	20	10	M10x40	108	38.5	20	-	67	0.0046	0.0052	4.5
140	450	1240	5400	70	60	113	55	55	3	140	100	100	21	35	25	M10	13	22	17	M10x35	108	39.0	10.5	25.5	67	0.0062	0.0080	5.7
160	790	2170	4800	75	65	124	60	60	4	160	108	108	21	40	30	M10	13	25	17	M12x35	118	42.5	12	29	115	0.014	0.014	8.5
180	1150	3160	4350	85	75	144	70	70	4	180	125	125	28	50	32	M10	16	32	17	M12x40	135	50	15	35	115	0.021	0.024	11.6
200	1800	4950	3950	90	85	164	80	80	4	200	140	140	33	56	34	M12	20	40	40	M16x50	153	54	17	40	290	0.038	0.044	17.8

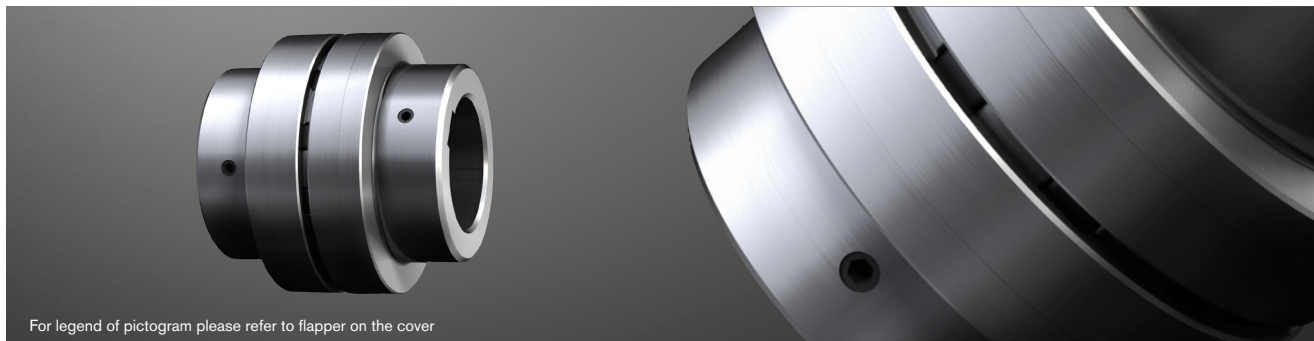
¹) Mass moments of inertia J1 and J3 as well as the total weight m refer to the maximum bore diameters

■ = Available from stock

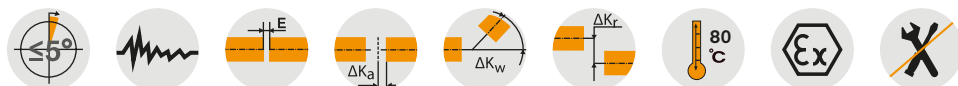
Ordering example:	ROFLEX® 110	SH	ØD1 = 42	ØD3 = 48
	Coupling size	Type	Finish bore	Finish bore

POLY-NORM® AR Flexible couplings

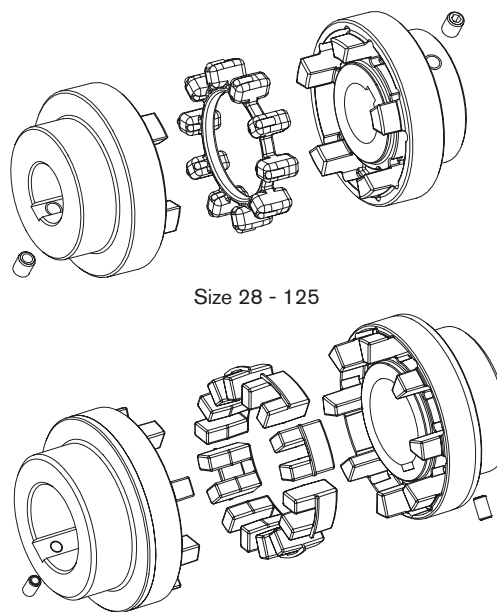
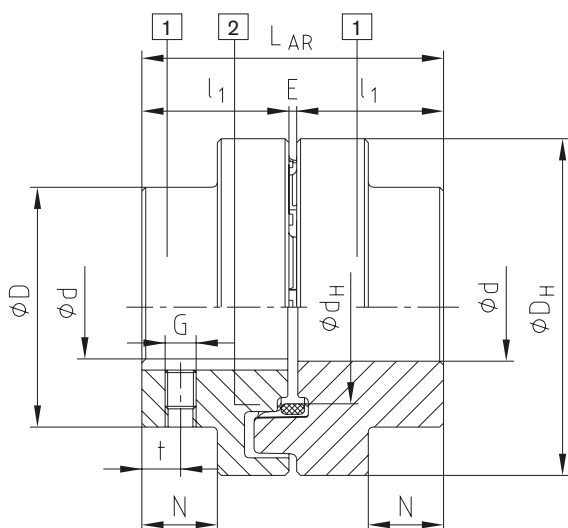
Two-part



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 (GJL)

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

POLY-NORM® Type AR														
Size	Elastomer ring ¹⁾ (component ²⁾ Torque [Nm]		Max. finish bore d ²⁾	Dimensions [mm]									Mass moment of inertia ³⁾ [kgm ²]	Weight ³⁾ [kg]
	T _{KN}	T _{Kmax}		General						Setscrew ²⁾				
				L _{AR}	l ₁	E	D _H	D	d _H	N	G	t		
28	40	80	12-30	59	28	3	69	46	36.5	12	M5	7	0.0004	0.9
32	60	120	12-35	68	32	4	78	53	41.5	14	M8	7	0.0008	1.4
38	90	180	19-40	80	38	4	87	62	50	19.5	M8	10	0.0016	2.0
42	150	300	19-45	88	42	4	96	69	55.5	20	M8	10	0.0026	2.7
48	220	440	19-50	101	48	5	106	78	64	24	M8	15	0.0042	3.7
55	300	600	19-60	115	55	5	118	90	73	29	M8	14	0.0070	5.5
60	410	820	19-65	125	60	5	129	97	81	33	M8	15	0.0112	6.9
65	550	1100	19-70	135	65	5	140	105	86	36	M10	20	0.0174	8.8
75	850	1700	32-80	155	75	5	158	123	100	42.5	M10	20	0.028	13.5
85	1350	2700	32-90	175	85	5	182	139	116	48.5	M10	25	0.052	19.5
90	2000	4000	32-95	185	90	5	200	148	128	49	M12	25	0.090	23.2
100	2900	5800	42-110	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

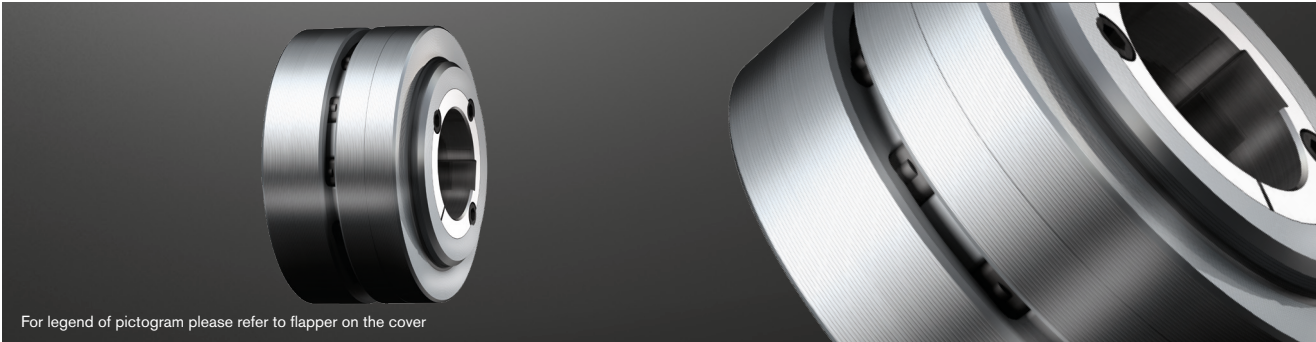
¹⁾ Standard material Perbunan [NBR] 78 Shore A, size 140 - 280 double tooth elastomers, for selection see page 14 et seqq. in our catalogue "Drive Technology"

²⁾ Bores H7 with keyway to DIN 6885 sheet 1 [JS9] and setscrew on the keyway

³⁾ Referring to average bore

POLY-NORM® AR Flexible couplings

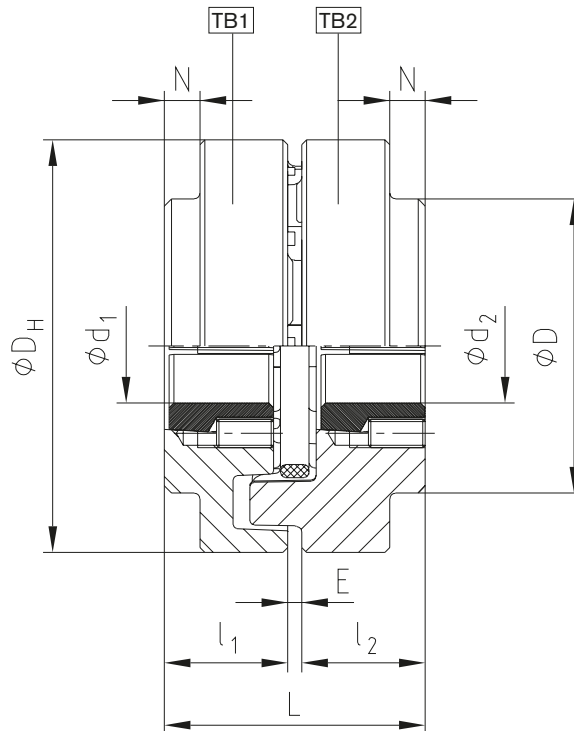
For taper clamping sleeve



For legend of pictogram please refer to flapper on the cover



Components



POLY-NORM® for taper clamping sleeve															
Size	Taper clamping sleeve	Dimensions [mm]		Fastening screws ¹⁾ for taper clamping sleeve				Size	Taper clamping sleeve	Dimensions [mm]		Fastening screws ¹⁾ for taper clamping sleeve			
		Max. d ₁ , d ₂	l ₁ , l ₂	Size [Inch]	Length [mm]	SW [mm]	T _A [Nm]			Max. d ₁ , d ₂	l ₁ , l ₂	Size [Inch]	Length [mm]	SW [mm]	T _A [Nm]
32	1108	25	25.5	1/4"	13	3	5.7	75	2517	60	52.5	1/2"	25	6	49
42	1210	32	31.0	3/8"	16	5	20	85	2517	60	46.5	1/2"	25	6	49
48	1610	40	30.0	3/16"	16	5	20	90	3030	75	82	5/8"	32	8	90
	1615	40	42.5	3/8"	16	5	20		3020	75	52.0	5/8"	32	8	92
60	2012	50	38.5	7/16"	22	6	31	100	3535	90	98.0	1/2"	38	10	115
65	2517	60	62.5	1/2"	25	6	49	125	4040	100	111.5	5/8"	45	12	172

¹⁾ Each 2 fastening screws, with 3535/4040 3-off
For coupling type TB1 screw connection on cam side - TB2 screw connection on collar side
Combination possible! Please order our separate dimension sheet (M407045).

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

POLY-NORM® ADR Flexible couplings

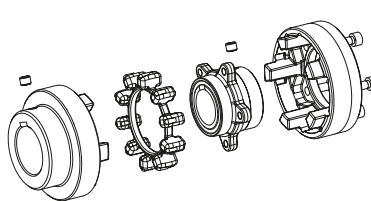
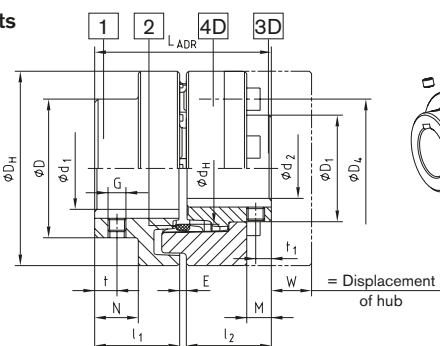
Three-part



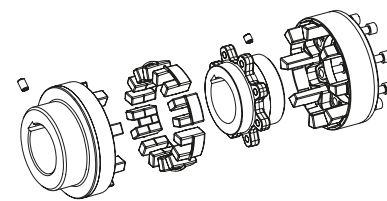
For legend of pictogram please refer to flapper on the cover



Components



Size 38 - 125



Size 140 - 280

Components 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 preferably used on driving side

POLY-NORM® Type ADR

Size	Elastomer ring ¹⁾ (component 2) Torque [Nm]		Dimensions [mm]															
			Max. finish bore ²⁾		General											Setscrew		
	T _{KN}	T _{Kmax}	d ₁	d ₂	L _{ADR}	l ₁ , l ₂	E	D _{H1}	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	320	126	95	7	M24	50	50	240
220	30000	60000	95-220	83-220	448	220	8	500	370	320	354	140	103	8	M24	50	50	240
240	43000	86000	105-240	93-240	488	240	8	550	405	350	388	154	119	1	M24	50	50	240
260	55000	110000	115-260	103-260	530	260	10	650	440	380	445	158	109	34	M24	60	60	240
280	67000	134000	125-280	113-280	570	280	10	700	475	410	478	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 _s [mm]	T _A [Nm] ³⁾	Size	M x l [mm]	z = number	Pitch z x angle	D _s [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. in our catalogue "Drive Technology"

²⁾ Bores H7 with keyway to DIN 6885 sheet 1 [JS9] and setscrew ³⁾ Screw tightening torques acc. to 8.8

Ordering example:

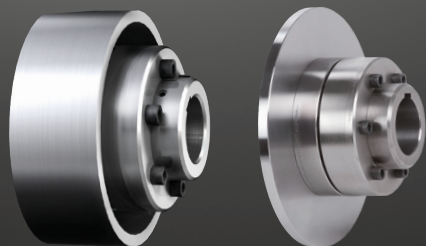
POLY-NORM® 65	ADR	d ₁ = Ø55	d ₂ = Ø60
Coupling size	Type	Finish bore	Finish bore

POLY-NORM®

Flexible couplings

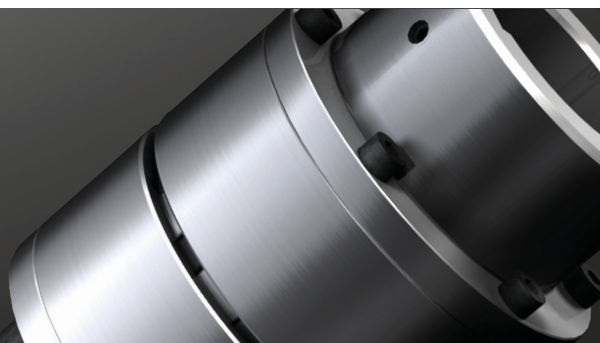
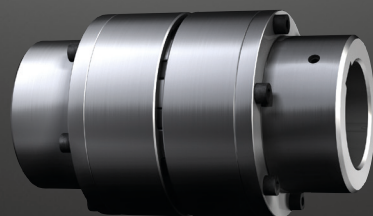
Other types

POLY-NORM® BTA and SBA



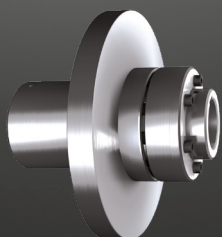
- For drum brakes as a holding brake
- Elastomer spider can be replaced while assembled
- Axial plug-in, easy assembly
- Maintenance-free
- Short dimensions, small shaft distance dimension
- Torques from 90 to 13,400 Nm

POLY-NORM® AZR



- Intermediate flange coupling for power transmission damping torsional vibrations
- Axial plug-in, easy assembly
- Maintenance-free
- Spacer with standard lengths for radial assembly operations
- Main applications: pump industry and compressor technology

POLY-NORM® ADR-SB

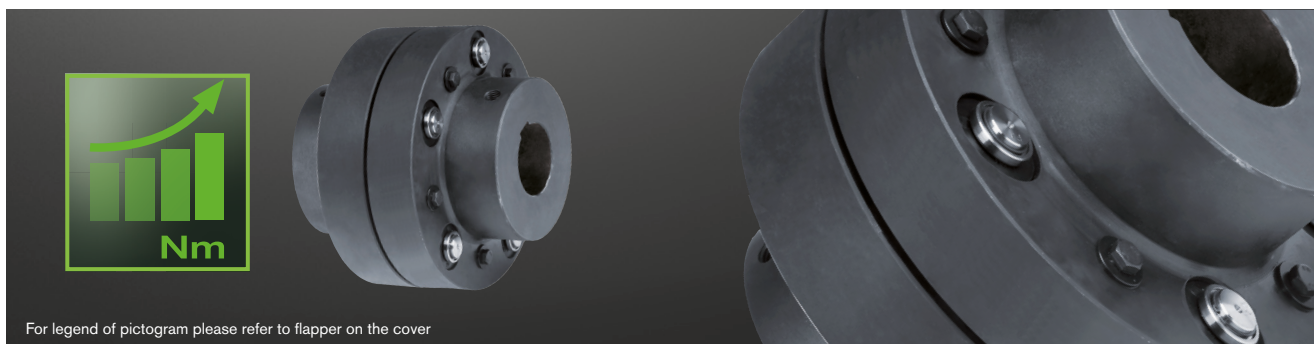


- Elastomer spider can be replaced while assembled
- Axial plug-in, easy assembly
- Maintenance-free
- Short dimensions, small shaft distance dimension
- Torques from 300 to 10,000 Nm

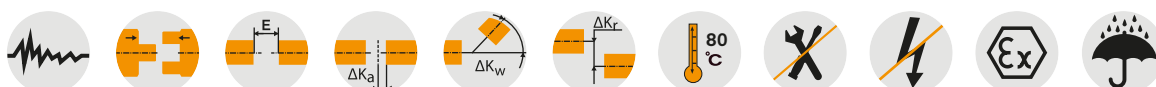
REVOLEX® KX-D

Flexible pin & bush coupling

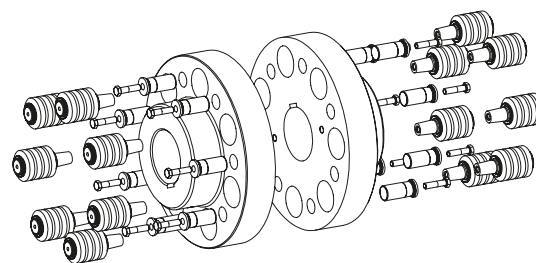
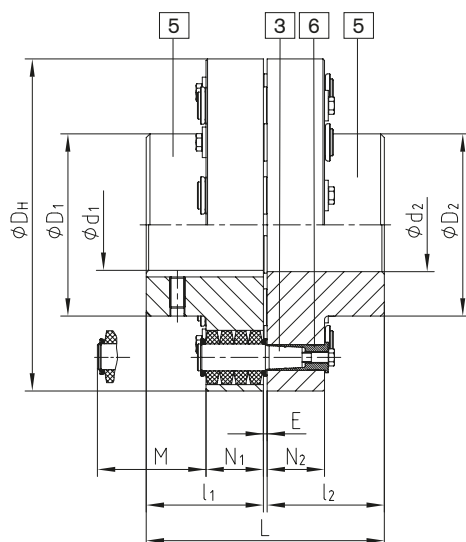
Material cast



For legend of pictogram please refer to flapper on the cover



Components



Components of type KX-D:
 5 = Hub part 5
 3 = Pins complete
 6 = KX-D sleeve (hardened and corrosion-protected)

REVOLEX® Type KX-D													
Size	Torque ¹⁾ [Nm]		Max. speed ²⁾ [rpm]	Finish bore (min. - max.) d ₁ , d ₂	Dimensions [mm]							Mass moment of inertia ³⁾ [kgm ²]	Weight ³⁾ [kg]
	T _{KN}	T _{Kmax}			L	l ₁ , l ₂	E	D _H	D ₁ , D ₂	N ₁ , N ₂	M*		
KX-D 105	9400	18800	2000	38-110	237	117	3	330	180	56	76	0.907	68
KX-D 120	15200	30400	1800	45-125	270	132	6	370	206	76	100	1.867	108
KX-D 135	20000	40000	1600	75-140	300	147	6	419	230	76	100	3.144	145
KX-D 150	25000	50000	1450	85-160	336	165	6	457	256	76	100	4.573	180
KX-D 170	41000	82000	1250	95-180	382	188	6	533	292	92	130	10.259	291
KX-D 190	54000	108000	1100	110-205	428	211	6	597	330	92	130	16.601	385
KX-D 215	67500	135000	1000	125-230	480	237	6	660	368	92	130	25.495	498
KX-D 240	98000	196000	900	140-250	534	264	6	737	407	122	170	50.147	760
KX-D 265	134000	268000	800	160-285	590	292	6	826	457	122	170	80.796	997
KX-D 280	170000	340000	720	180-315	628	311	6	927	508	122	170	129.979	1301
KX-D 305	205000	410000	675	180-330	654	324	6	991	533	122	170	170.016	1509
KX-D 330	265000	530000	625	200-355	666	330	6	1067	572	122	170	227.451	1755
KX-D 355	350000	700000	575	225-380	721	356	9	1156	610	164	220	415.259	2263
KX-D 370	430000	860000	535	225-450	773	382	9	1250	720	164	220	586.686	2701

 = Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated and maximum torques with some sizes of this series.

* Drop-out center dimension required

¹⁾ Standard material Perbunan [NBR] 80 Shore A, for selection see page 18 et seqq. in our catalogue "Drive Technology"

²⁾ Higher speeds on request.

³⁾ Referring to max. bore

Finish bore according to ISO fit H7, feather keyway according to DIN 6885, sheet 1 [JS9].

If requested, coupling is dynamically balanced (semi-key balancing G 6.3 with speed as specified by the customer). For circumferential speeds exceeding v = 30 m/s dyn. balancing is recommended.

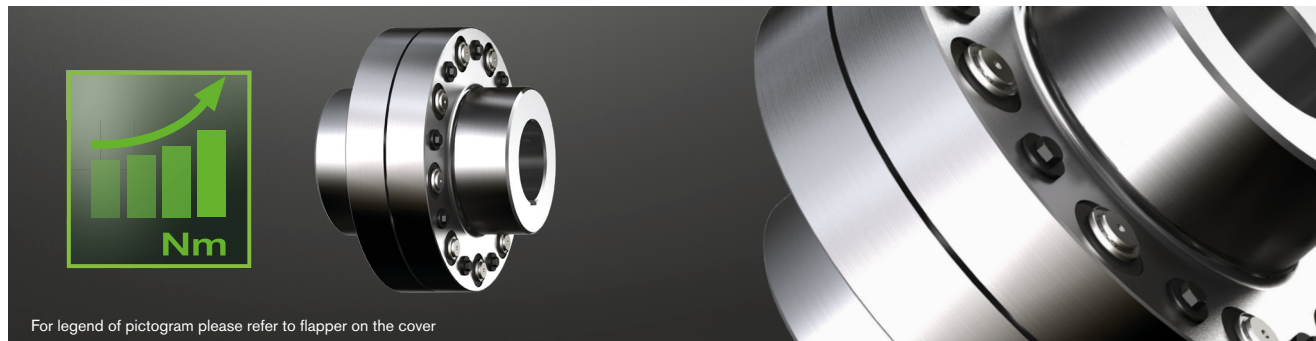
 = Pilot bored available from stock

Ordering example:	REVOLEX® KX-D 170	GJL	Ø120	Ø150
	Type and size of coupling	Material	Finish bore	Finish bore

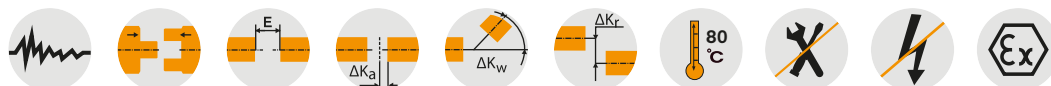
REVOLEX® KX-D

Flexible pin & bush coupling

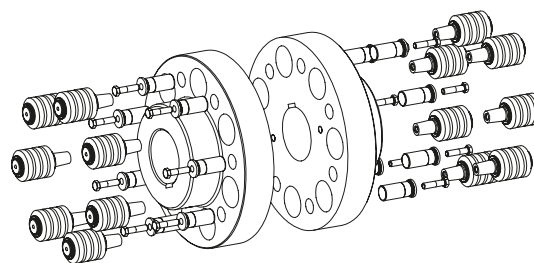
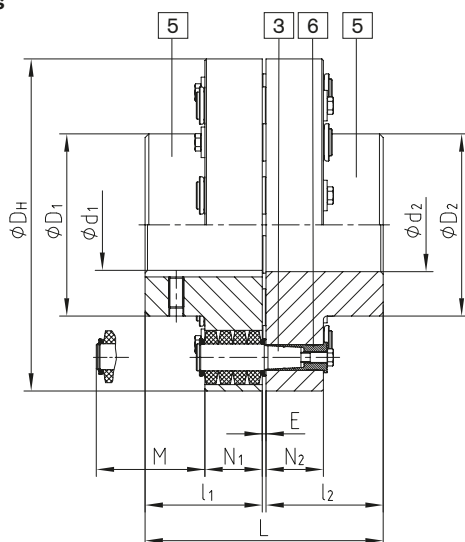
Material steel



For legend of pictogram please refer to flapper on the cover



Components



Components of type KX-D:
 5 = Hub part 5
 3 = Pins complete
 6 = KX-D sleeve (hardened and corrosion-protected)

REVOLEX® Type KX-D													
Size	Torque ¹⁾ [Nm]		Max. speed ²⁾ [rpm]	Finish bore (min. - max.) d ₁ , d ₂	Dimensions [mm]							Mass moment of inertia ³⁾ [kgm ²]	Weight ³⁾ [kg]
	T _{KN}	T _{Kmax}			L	l ₁ , l ₂	E	D _H	D ₁ , D ₂	N ₁ , N ₂	M*		
KX-D 75	4300	8600	4500	0-100	193	95	3	255	136	56	76	0.325	39
KX-D 85	5500	11000	4175	0-110	213	105	3	274	152	56	76	0.440	46
KX-D 95	7200	14400	3825	0-125	227	112	3	298	168	56	76	0.624	56
KX-D 105	9400	18800	3475	0-130	237	117	3	330	180	56	76	0.907	80
KX-D 120	15200	30400	3100	0-150	270	132	6	370	206	76	100	1.867	124
KX-D 135	20000	40000	2725	75-170	300	147	6	419	230	76	100	3.144	165
KX-D 150	25000	50000	2500	85-190	336	165	6	457	256	76	100	4.573	205
KX-D 170	41000	82000	2150	95-220	382	188	6	533	292	92	130	10.259	322
KX-D 190	54000	108000	1900	110-245	428	211	6	597	330	92	130	16.601	431
KX-D 215	67500	135000	1725	125-275	480	237	6	660	368	92	130	25.495	559
KX-D 240	98000	196000	1550	140-310	534	264	6	737	407	122	170	50.147	833
KX-D 265	134000	268000	1375	160-350	590	292	6	826	457	122	170	80.796	1099
KX-D 280	170000	340000	1225	180-385	628	311	6	927	508	122	170	129.979	1436
KX-D 305	205000	410000	1150	180-405	654	324	6	991	533	122	170	170.016	1669
KX-D 330	265000	530000	1075	200-435	666	330	6	1067	572	122	170	227.451	1954
KX-D 355	350000	700000	975	225-450	721	356	9	1156	610	164	220	415.259	2451
KX-D 370	430000	860000	900	225-530	773	382	9	1250	720	164	220	584.686	2925
KX-D 470	520000	1040000	855	240-520 ⁴⁾	969 ⁴⁾	480 ⁴⁾	9	1340	705 ⁴⁾	164	220	785.489	3631
KX-D 520	810000	1620000	760	240-520 ⁴⁾	1089 ⁴⁾	540 ⁴⁾	9	1540	780 ⁴⁾	164	220	1264.725	5155
KX-D 590	1000000	2000000	680	260-590 ⁴⁾	1212 ⁴⁾	600 ⁴⁾	12	1735	885 ⁴⁾	164	220	2081.885	6895
KX-D 650	1350000	2700000	610	280-650 ⁴⁾	1332 ⁴⁾	660 ⁴⁾	12	1935	975 ⁴⁾	164	220	3228.297	8893

■ = Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated and maximum torques with some sizes of this series.

* Drop-out center dimension required ¹⁾ Standard material Perbunan [NBR] 80 Shore A, for selection see page 18 et seqq. in our catalogue "Drive Technology"

²⁾ Higher speeds on request. ³⁾ Referring to max. bore ⁴⁾ Variable according to customer's requests

Finish bore according to ISO fit H7, feather keyway according to DIN 6885, sheet 1 [JS9]. If requested, coupling is dynamically balanced (semi-key balancing G 6.3 with speed as specified by the customer). For circumferential speeds exceeding v = 30 m/s dyn. balancing is recommended.

■ = Pilot bored available from stock

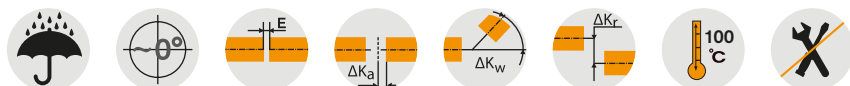
Ordering example:	REVOLEX® KX-D 170	Steel	Ø120	Ø150
	Type and size of coupling	Material	Finish bore	Finish bore

BoWex® junior and junior M Curved-tooth gear coupling®

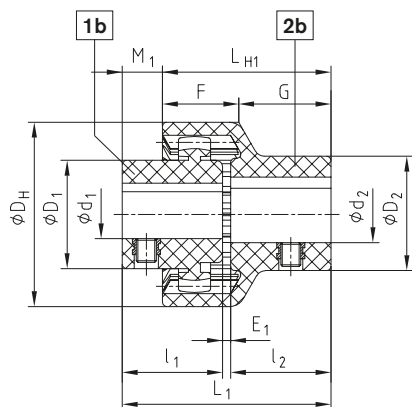
Plug-in coupling made of nylon (two-part and three-part)



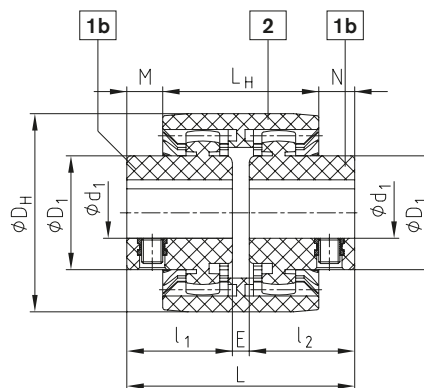
For legend of pictogram please refer to flapper on the cover



Components



Type junior plug-in coupling (two-part)



Type junior M coupling (three-part)

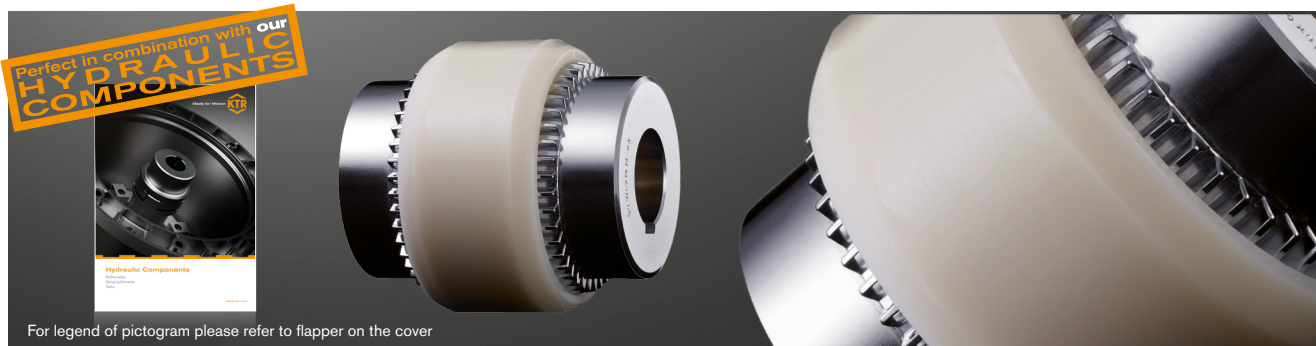
BoWex® junior plug-in coupling (two-part) and BoWex® junior M (three-part)																			
Size	Torque [Nm]		Finish bore				Dimensions [mm]											Max. speed [rpm]	
			Hub Component 1b ¹⁾		Plug-in sleeve Component 2b ¹⁾		D _H	l ₁ , l ₂	E ₁	L ₁	L _{H1}	M ₁	F	G	E	L	L _H		M, N
			d ₁ ¹⁾	D ₁	d ₂ ¹⁾	D ₂													
14 M-14	5	10	Ø6, Ø7,	22	Ø6, Ø7, Ø8	22	40	23	2	48	40	8	18.5	21.5	4	50	37	6.5	6000
			Ø8, Ø9	25	Ø10, Ø11	25													
			Ø12, Ø14	26	Ø12, Ø14	26													
19 M-19	8	16	Ø10, Ø11, Ø12, Ø14	27	Ø12, Ø14,	29	47	25	2	52	42	10	19.0	23.0	4	54	37	8.5	6000
			Ø15, Ø16	30	Ø15, Ø16	30													
			Ø19	32	Ø19	35													
24 M-24	12	24	Ø10, Ø11,	26	Ø14, Ø16	32	53	26	2	54	45	9	21.5	23.5	4	56	41	7.5	6000
			Ø12	26															
			Ø14, Ø15,	32															
			Ø16	32															
			Ø18, Ø19,	36	Ø19, Ø20	36													
			Ø20	36															
			Ø24	38	Ø24	40													

¹⁾ Finish bore with tolerance +0.05/-0.1; feather keyway ±0.08

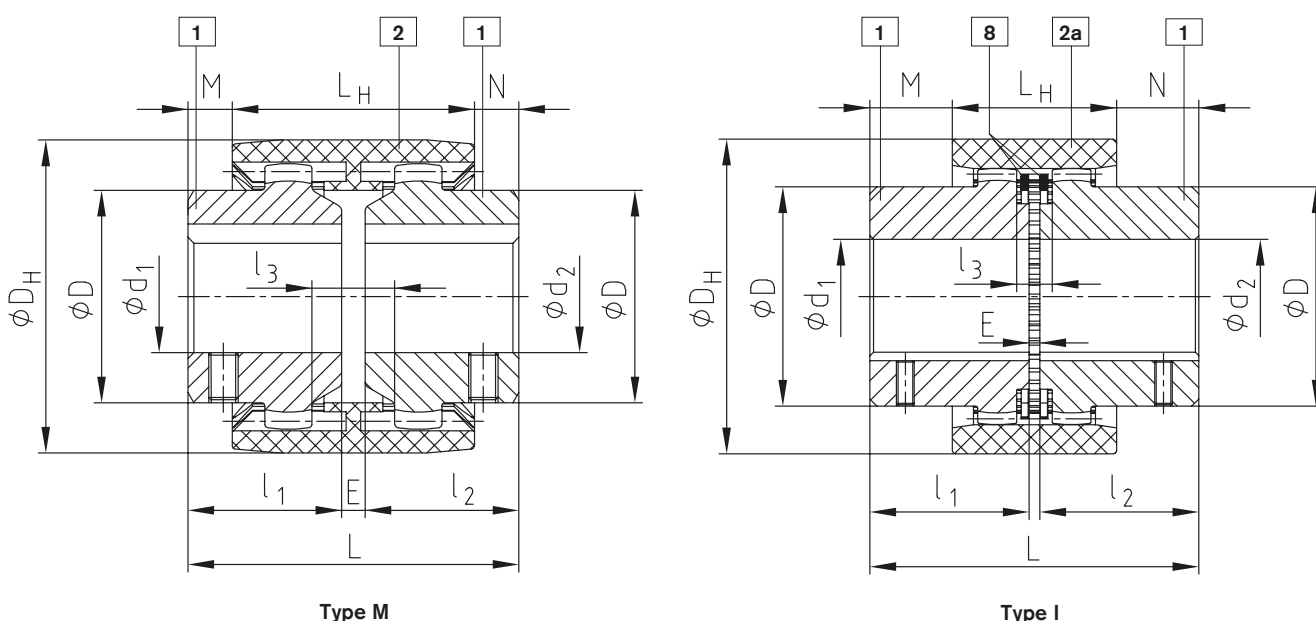
Ordering example:	BoWex® junior 19	d ₁ Ø19	d ₂ Ø14
	Coupling size of two-part type or BoWex® junior M-19 three-part type	Finish bore	Finish bore

BoWex® M, I Curved-tooth gear coupling®

Compact and maintenance-free



Components

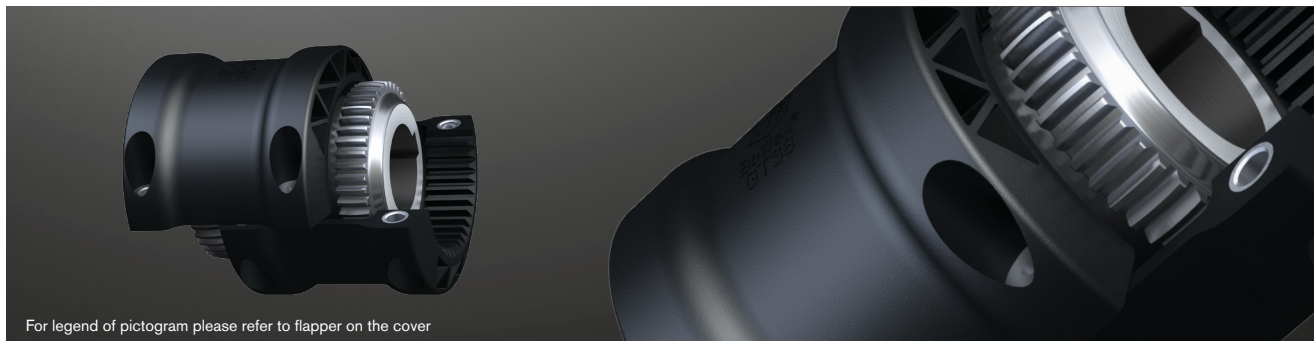


BoWex® type M, type I																						
Size	Torque [Nm]			Finish bore d1, d2		Dimensions [mm]											Weight with max. bore [kg]			Mass moment of inertia J with max. bore [kgcm ²]		
	T _{KN}	T _{Kmax}	T _{KW}	Pilot bored	Max.	l ₁	l ₂	E	L	L _H	M, N	l ₃	D	D _H	Tip circle ØD ₂ hub	Number of teeth	Hub lengthened max. l ₁ , l ₂	Sleeve	Hub	Total	Sleeve	Hub
M-14	10	30	5	-	15	23	4	50	37	6.5	10	25	40	33	20	40	0.03	0.07	0.1	0.08	0.09	0.26
M-19	16	48	8	-	20	25	4	54	37	8.5	10	32	47	39	24	40	0.03	0.1	0.23	0.15	0.16	0.47
M-24	20	60	10	-	24	26	4	56	41	7.5	14	36	53	45	28	50	0.04	0.14	0.32	0.21	0.36	0.93
M-28	45	135	23	-	28	40	4	84	46	19	13	44	65	54	34	55	0.08	0.33	0.74	0.65	1.22	3.09
M-32	60	180	30	-	32	40	4	84	48	18	13	50	75	63	40	55	0.09	0.43	0.95	1.14	2.17	5.48
M-38	80	240	40	-	38	40	4	84	48	18	13	58	83	69	44	60	0.13	0.55	1.23	1.58	3.55	8.68
M-42	100	300	50	-	42	42	4	88	50	19	13	65	92	78	50	60	0.14	0.68	1.5	2.32	5.98	14.28
M-48	140	420	70	-	48	50	4	104	50	27	13	68	95	78	50	60	0.23	0.79	1.81	3.9	7.22	18.34
M-65	380	1140	190	21	65	55	4	114	68	23	16	96	132	110	42	70	0.55	1.9	4.35	21.2	31.8	84.8
I-80	700	2100	350	31	90	90	6	186	93	46.5	20	124	178	145	46	-	1.13	5.2	11.53	68.9	150.8	370.5
I-100	1200	3600	600	38	100	110	8	228	102	63	22	152	210	176	48	-	1.78	9.37	20.52	158.6	401.3	961.2
I-125	2500	7500	1250	45	125	140	10	290	134	78	30	192	270	225	54	-	3.88	19.44	42.76	562.9	1362.3	3287.5

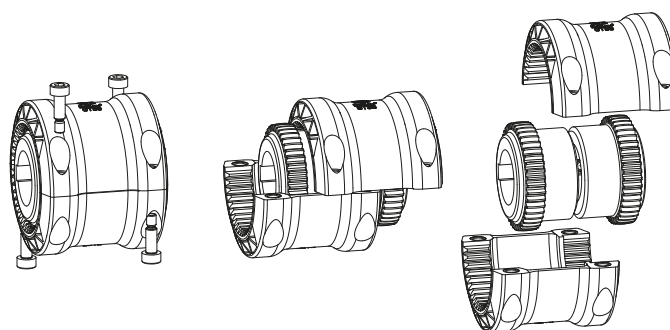
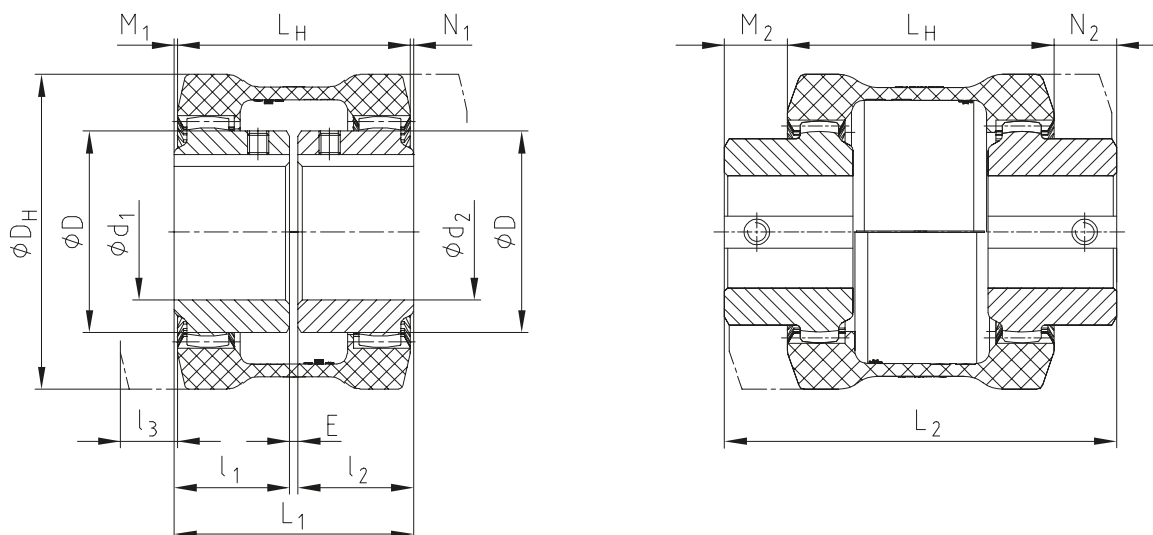
Ordering example:	BoWex® M-28	d ₁ Ø20	d ₂ Ø28
	Size and type of coupling	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

BoWex® GT Curved-tooth gear coupling®

Split CFK sleeve for high power density



For legend of pictogram please refer to flapper on the cover



BoWex® Type GT with split sleeve																						
Size	Torque [Nm]			Finish bore d_{max}		Dimensions [mm]										Weight with max. bore [kg]			Mass moment of inertia J with max. bore [kgcm ²]			
	T_{KN}	T_{Kmax}	T_{KW}	d_1	d_2	D	D_H	L_H	l_1	l_2	l_3	E	L_1	L_2	M_{N_1}	M_{N_2}	Sleeve	Hub	Total	Sleeve	Hub	Total
28	70	210	35	28	28	44	80	80	40	40	15	4	84	124	2	22	0.158	0.22	0.702	1.77	1.22	4.21
38	120	360	60	38	38	58	98	83	40	40	18	4	84	122	0.5	19.5	0.25	0.45	1.15	4.43	3.36	11.15
48	200	600	100	48	48	68	110	106	50	50	21	4	104	160	0	28	0.33	0.67	1.68	7.39	6.11	19.61
65	560	1680	280	65	65	96	150	111	55	55	27	4	114	160	1.5	24.5	0.69	1.54	3.77	28.9	31.80	92.5

l_3 = Drop-out center dimension required

Ordering example:	BoWex® GT-28	d_1 Ø20	d_2 Ø28
	Size and type of coupling	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

BoWex® Curved-tooth gear coupling®

Other types

BoWex® SD / SD-D



- Curved-tooth gear coupling® shiftable at standstill
- Power packs can be quickly switched on and off at standstill
- For all applications in general engineering
- Maintenance-free due to material combination nylon/steel

BoWex® AS and Spec.-I



- Double-cardanic curved-tooth gear coupling®
- Separable coupling type
- Sleeve can be axially shifted while assembled
- Application range from -25° C to +100° C
- Maintenance-free due to material combination nylon/steel

BoWex® SG, SSR and Spec.-I/CD



- Double-cardanic curved-tooth gear coupling®
- Type with dust protection circlips for drives subject to dirt
- Maintenance-free due to material combination nylon/steel
- Operating range -25 °C to +100 °C

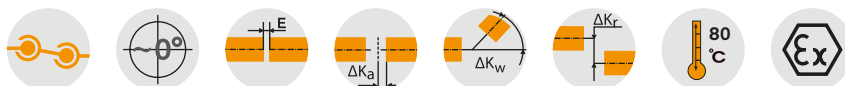
GEARex® FA, FB and FAB

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⁾	E _{FA}	E _{FB}	E _{FAB}	L _{FA}	L _{FB}	L _{FAB}	L ₃	D	D _{A1}	D _{A2}	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 _{RN}	T _{RN} (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

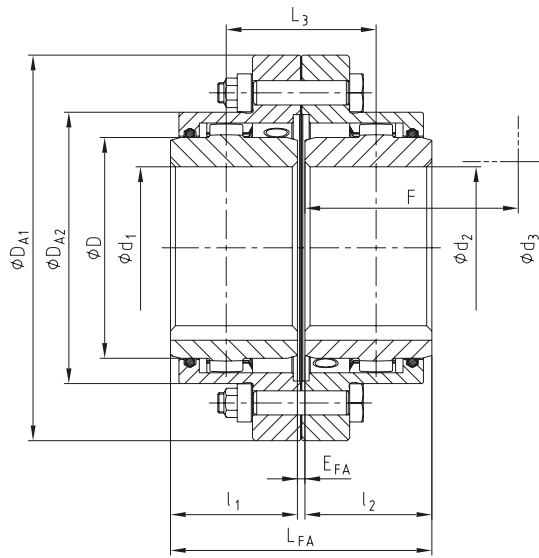
¹⁾ Space required to align the coupling and replace the gasket

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

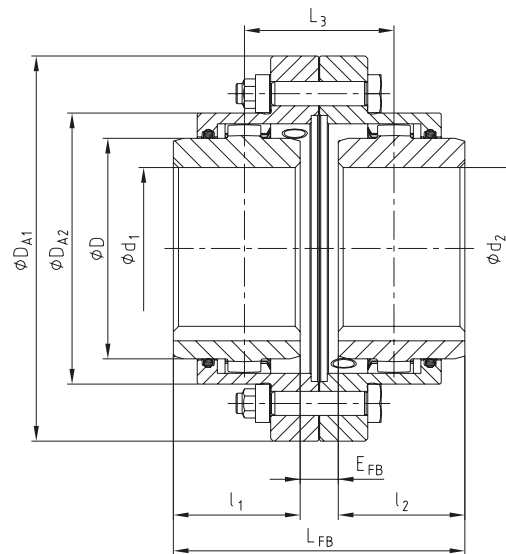
³⁾ Maximum torque of the coupling T_{Kmax} = rated torque of the coupling T_{RN} x 2. For selection see page 14 et seqq. in our catalogue "Drive Technology"

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

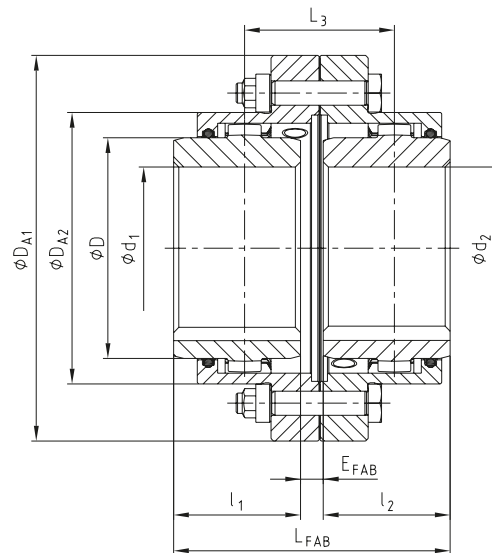
Type FA



Type FB

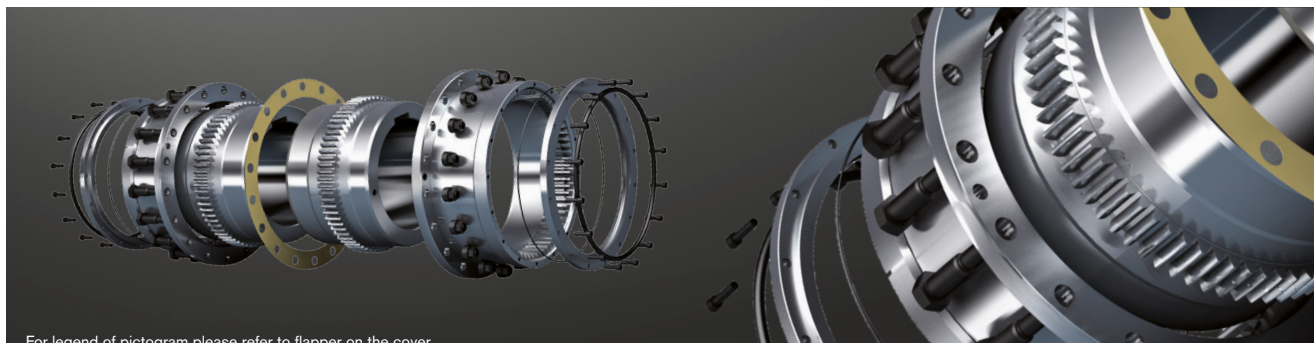


Type FAB

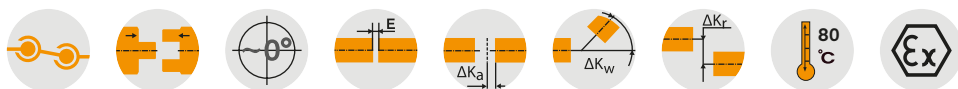


GEARex® DA, DB and DAB All-steel gear couplings

Easy to assemble, high power density



For legend of pictogram please refer to flapper on the cover



Dimensions																
Size	Pilot bore	Max. finish bore		Dimensions [mm]												
		d ₁ , d ₂	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

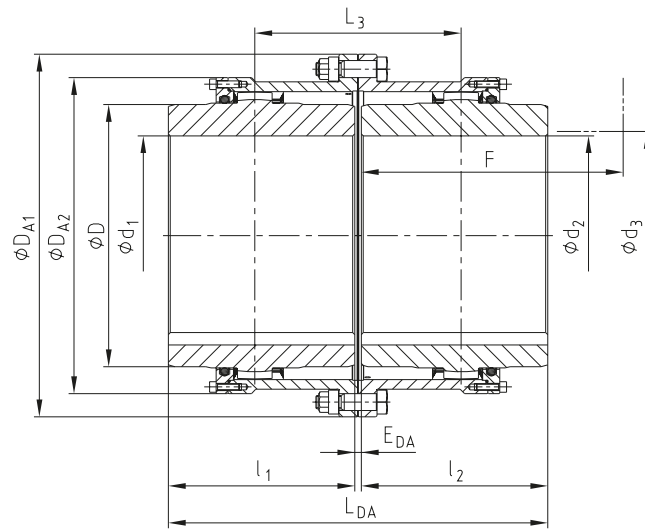
¹⁾ Space required to align the coupling and replace the gasket

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

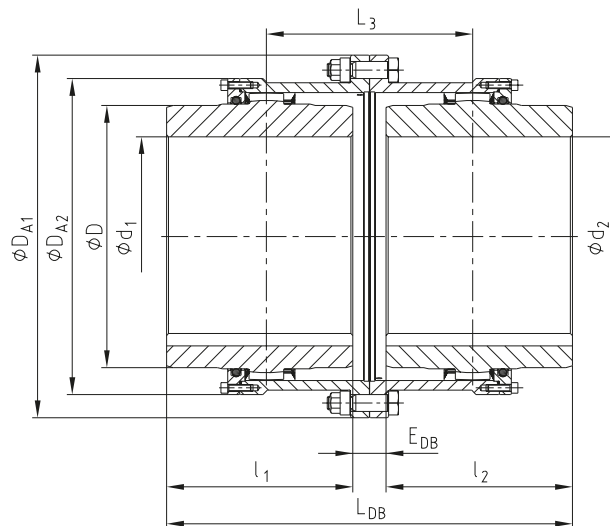
³⁾ Maximum torque of the coupling T_{K,max} = rated torque of the coupling T_{KN} x 2. For selection see page 14 et seqq. in our catalogue "Drive Technology"

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

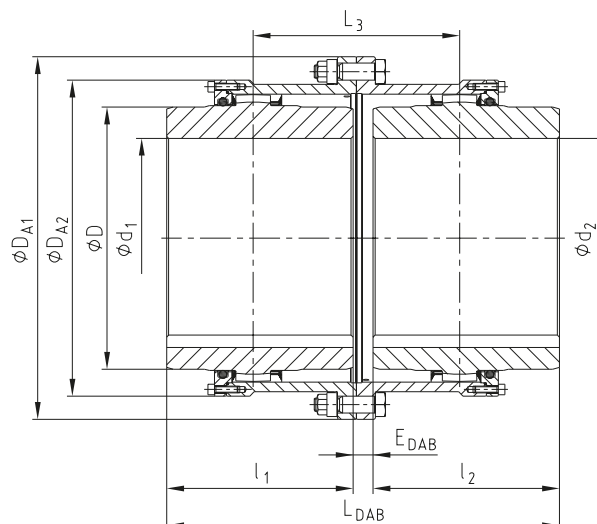
Type DA



Type DB



Type DAB



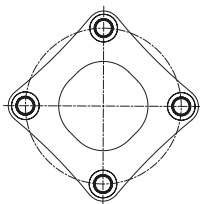
RADEX®-N

Steel laminae couplings

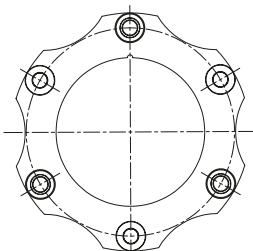
Technical data

The following laminae types are to be distinguished with RADEX®-N:

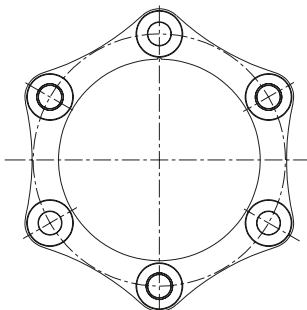
Size 20 – 50
(laminae with 4 holes)



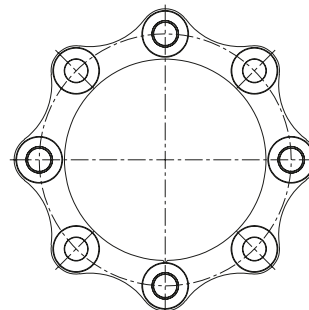
Size 60 – 135
(laminae with 6 holes)



Size 136 – 336
(laminae with 6 holes)



Size 138 – 338
(laminae with 8 holes)



Torques and displacements									
Size	Laminae type	Torques [Nm] ¹⁾			Angular [°] each laminae	Perm. displacements ²⁾			
		T _{K0N}	T _{Kmax}	T _{KW}		Axial [mm]		Radial [mm]	
						NN	NANA 1/ NANA2/ NNZ	NANA 1	NANA 2
20		30	60	15	1.0	0.60	1.2	1.0	0.2
25		60	120	30	1.0	0.80	1.6	1.0	0.2
35	laminae with 4 holes	120	240	60	1.0	1.00	2.0	1.1	0.3
38		240	480	120	1.0	1.20	2.4	1.2	0.3
42		320	640	160	1.0	1.40	2.8	1.2	0.4
50		470	940	235	1.0	1.60	3.2	1.5	0.4
60		900	1800	450	1.0	1.00	2.0	1.5	0.8
70		1300	2600	650	1.0	1.10	2.2	1.8	1.0
80		1800	3600	900	1.0	1.30	2.6	2.1	1.2
85		2600	5200	1300	1.0	1.30	2.6	2.2	1.2
90		4600	9200	2300	1.0	1.00	2.0	2.2	1.1
105		5600	11200	2800	1.0	1.20	2.4	2.4	1.4
115		9900	19800	4950	1.0	1.40	2.8	2.5	1.5
135	laminae with 6 holes	13500	27000	6750	1.0	1.75	3.5	3.8	–
136		17500	35000	8750	0.7	1.85	3.7		
156		25000	50000	12500	0.7	2.10	4.2		
166		35000	70000	17500	0.7	2.25	4.5		
186		42000	84000	21000	0.7	2.40	4.8		
206		52500	105000	26250	0.7	2.60	5.2		
246		90000	180000	45000	0.7	3.00	6.0		
286		150000	300000	75000	0.7	3.35	6.7		
336		210000	420000	105000	0.7	3.75	7.5		
138		laminae with 8 holes	23000	46000	11500	0.5	1.30	2.6	Depending on drop-out center dimension E
158	33000		66000	16500	0.5	1.40	2.8		
168	45000		90000	22500	0.5	1.50	3.0		
188	56000		112000	28000	0.5	1.60	3.2		
208	70000		140000	35000	0.5	1.75	3.5		
248	120000		240000	60000	0.5	2.00	4.0		
288	200000		400000	100000	0.5	2.40	4.5		
338	280000		560000	140000	0.5	2.50	5.0		

¹⁾ = Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated and maximum torques with some sizes of this series.

Permissible speeds and torsional stiffness figures					
Size	Max. speed [rpm] (higher speeds on request)	Torsion spring stiffness x 10 ⁶ [Nm/rad] per laminae set	Size	Max. speed [rpm] (higher speeds on request)	Torsion spring stiffness x 10 ⁶ [Nm/ rad] per laminae set
20	20400	0.02	156	3500	17.00
25	16800	0.03	166	3300	19.00
35	13900	0.11	186	3000	25.00
38	12000	0.20	206	2800	31.00
42	11000	0.28	246	2300	55.00
50	9000	0.50	286	2000	79.00
60	8200	0.56	336	1800	125.00
70	7300	0.90	138	3800	20.00
80	6300	1.10	158	3500	26.00
85	5900	1.50	168	3300	30.00
90	5400	2.00	188	3000	39.00
105	5000	2.50	208	2800	49.00
115	4300	3.50	248	2300	83.00
135	3700	6.90	288	2000	125.00
136	3800	13.00	338	1800	200.00

¹⁾ For selection of coupling see page 18 et seqq. in our catalogue "Drive Technology"

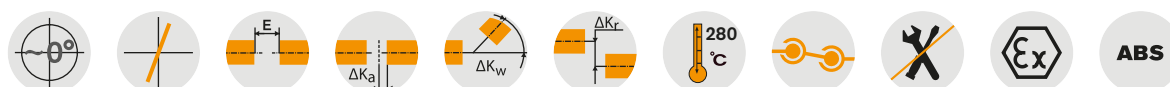
²⁾ The permissible displacement figures specified are maximum figures which must not arise simultaneously. If axial, radial and angular displacement arises at the same time, these values must be reduced.

RADEX®-N NN, NANA 1 and NANA 2 Steel laminae couplings

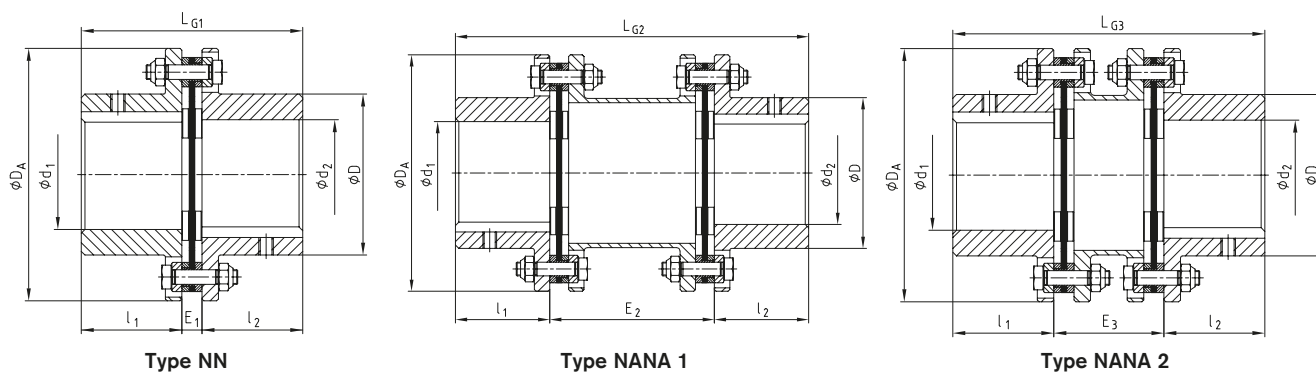
Standard types



For legend of pictogram please refer to flapper on the cover



Components



Type NN

Type NANA 1

Type NANA 2

RADEX®-N Types NN, NANA 1, NANA 2

Size	Max. finish bore		Dimensions [mm]							
	d ₁ , d ₂	D	D _A	l ₁ , l ₂	L _{G1}	E ₁	L _{G2}	E ₂	L _{G3}	E ₃
20	20	32	56	20	45	5	100	60	-	-
25	25	40	68	25	56	6	110	60	-	-
35	38	54	82	40	86	6	150	70	-	-
38	42	58	94	45	98	8	170	80	-	-
42	50	68	104	45	100	10	170	80	-	-
50	55	78	126	55	121	11	206	96	-	-
60	65	88	138	55	121	11	206	96	170	60
70	75	102	156	65	141	11	246	116	200	70
80	85	117	179	75	164	14	286	136	233	83
85	90	123	191	80	175	15	300	140	246	86
90	100	132	210	80	175	15	300	140	251	91
105	110	147	225	90	200	20	340	160	281	101
115	120	163	265	100	223	23	370	170	309	109
135	135	184	305	135	297	27	520	250	-	-
136	135	180	300	135	293	23				
156	150	195	325	150	327	27				
166	170	225	350	165	361	31				
186	190	250	380	185	401	31				
206	210	275	420	200	437	37				
246	245	320	500	240	524	44				
286	290	383	567	280	612	52				
336	340	445	660	330	718	58				
138	135	180	300	135	293	23				
158	150	195	325	150	327	27				
168	170	225	350	165	361	31				
188	190	250	380	185	401	31				
208	210	275	420	200	437	37				
248	245	320	500	240	524	44				
288	290	383	567	280	612	52				
338	340	445	660	330	718	58				

According to customer specification

Ordering example:

RADEX®-N 60	NANA 1	Ø50	Ø60
Coupling size	Type	Finish bore d ₁	Finish bore d ₂

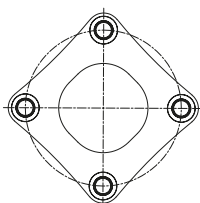
RIGIFLEX®-N

Steel laminae couplings

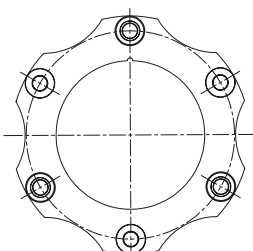
Technical data

The following laminae types are to be distinguished with RIGIFLEX®-N:

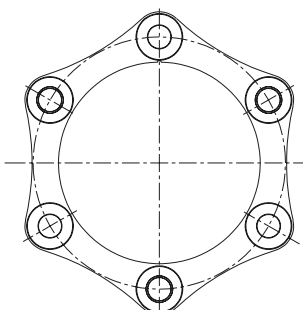
Size 35 – 65
(laminae with 4 holes)



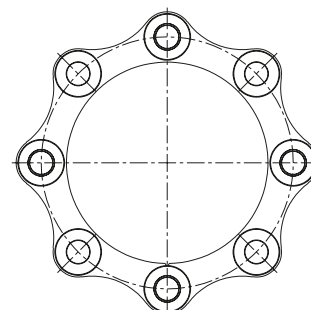
Size 75 – 160
(laminae with 6 holes)



Size 166 – 406
(laminae with 6 holes)



Size 168 – 408
(laminae with 8 holes)



Torques and displacements											
Size	Laminae type	Torques [Nm]			Angular displacement $\pm K_{\omega}$ [°]	Axial displacement $\pm K_a$ [mm]	Perm. displacements				
		T_{KN}	T_{Kmax}	T_{KW}			Radial $\pm K_r$ [mm]				
							E=100	E=140	E=180	E=200	E=250
35		130	260	65	0.7	1.2	0.90	1.40	–	–	–
50	laminae with 4 holes	270	540	135	0.7	1.4	0.77	1.26	–	–	–
65		550	1100	275	0.7	1.5	0.75	1.23	1.72	–	–
75		1100	2200	550	0.7	1.8	0.73	1.22	1.71	–	–
85		1900	3800	950	0.7	2.1	–	1.14	1.62	1.87	2.48
110		3500	7000	1750	0.7	2.4	–	1.05	1.54	1.78	2.39
120		5750	11500	2875	0.7	2.6	–	1.00	1.49	1.73	2.35
140		10500	21000	5250	0.7	3.3	–	–	–	1.55	2.16
160		16000	32000	8000	0.7	3.8	–	–	–	–	1.99
166	laminae with 6 holes	19000	38000	9500	0.7	3.7	Depending on shaft distance dimension E				
196		22500	45000	11250	0.7	4.2					
216		32000	64000	16000	0.7	4.5					
256		52500	105000	26250	0.7	5.2					
306		86000	172000	43000	0.7	6.0					
346		135000	270000	67500	0.7	6.7					
406		210000	420000	105000	0.7	7.5					
168		25000	50000	12500	0.5	2.6					
198		30000	60000	15000	0.5	2.8					
218		42500	85000	21500	0.5	3.0					
258	laminae with 8 holes	70000	140000	35000	0.5	3.5					
308		115000	230000	57500	0.5	4.0					
348		180000	360000	90000	0.5	4.5					
408		280000	560000	140000	0.5	5.0					

¹⁾ Angular displacement each laminae set

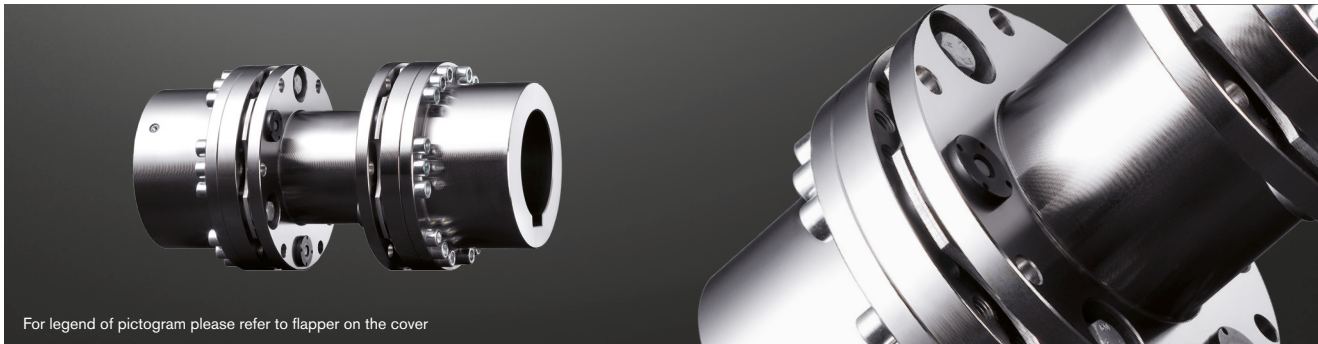
If axial, angular and radial shaft displacement arises in parallel please note the following table:

Size	Permissible angular displacement							
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7
	Permissible axial displacement							
35	1.20	1.00	0.85	0.74	0.60	0.40	0.20	0.00
50	1.40	1.20	1.00	0.80	0.60	0.40	0.20	0.00
65	1.50	1.29	1.07	0.86	0.64	0.43	0.22	0.00
75	1.80	1.54	1.29	1.03	0.77	0.52	0.26	0.00
85	2.10	1.80	1.50	1.20	0.90	0.60	0.30	0.00
110	2.40	2.06	1.71	1.37	1.03	0.69	0.34	0.00
120	2.60	2.23	1.86	1.48	1.11	0.74	0.37	0.00
140	3.30	2.83	2.36	1.88	1.41	0.94	0.47	0.00
160	3.80	3.26	2.71	2.17	1.63	1.09	0.54	0.00
166	3.70	3.17	2.64	2.12	1.59	1.06	0.53	0.00
196	4.20	3.60	3.00	2.40	1.80	1.20	0.60	0.00
216	4.50	3.86	3.21	2.57	1.93	1.29	0.64	0.00
256	5.20	4.46	3.71	2.97	2.23	1.49	0.74	0.00
306	6.00	5.14	4.29	3.43	2.57	1.72	0.86	0.00
346	6.75	5.79	4.82	3.86	2.89	1.93	0.96	0.00
406	7.50	6.43	5.36	4.28	3.21	2.14	1.07	0.00
168	2.60	2.08	1.56	1.04	0.52	0.00	–	–
198	2.80	2.24	1.68	1.12	0.56	0.00	–	–
218	3.00	2.40	1.80	1.20	0.60	0.00	–	–
258	3.50	2.80	2.10	1.40	0.70	0.00	–	–
308	4.00	3.20	2.40	1.60	0.80	0.00	–	–
348	4.50	3.60	2.70	1.80	0.90	0.00	–	–
408	5.00	4.00	3.00	2.00	1.00	0.00	–	–

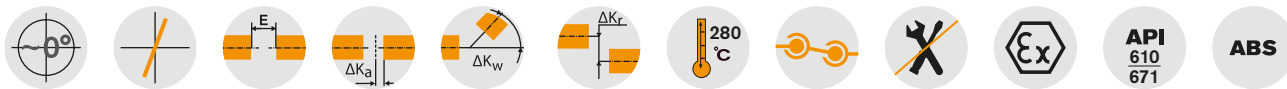
RIGIFLEX®-N

Steel laminae couplings

Standard type A

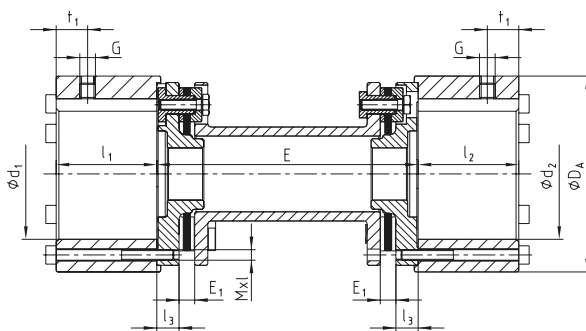


For legend of pictogram please refer to flapper on the cover

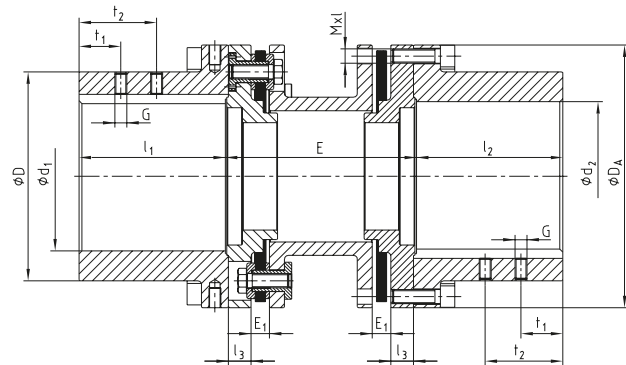


Components

Size 35



Size 50 - 408



RIGIFLEX®-N type A

Size	Torques [Nm]			Max. finish bore d ₁ , d ₂	Dimensions [mm]											Screws DIN EN ISO 4762			
	T _{KN}	T _{Kmax}	T _{KW}		D	D _A	l ₁ , l ₂	l ₃	G	t ₁	t ₂	E ₁	E ¹⁾				MxI	T _A [Nm]	
35	130	260	65	50	-	75	38.5	8.5	M6	15	-	6	100	140	-	-	-	M4x45	4.1
50	270	540	135	50	70	95	50	12	M6	10	-	9	100	140	-	-	-	M6x22	14
65	550	1100	275	70	100	126	63	12	M8	20	-	11	100	140	180	-	-	M6x25	14
75	1100	2200	550	75	105	138	62.5	12	M8	20	-	11	100	140	180	-	-	M8x30	35
85	1900	3800	950	90	120	156	72.5	15	M10	20	-	12	-	140	180	200	250	M8x30	35
110	3500	7000	1750	110	152	191	87	18	M10	25	-	12	-	140	180	200	250	M10x35	69
120	5750	11500	2875	120	165	213	102	20	M12	25	-	12	-	-	180	200	250	M12x40	120
140	10500	21000	5250	150	200	265	126	25	M12	30	-	15	-	-	-	200	250	M16x50	295
160	16000	32000	8000	165	230	305	145	31	M12	30	-	15	-	-	-	-	250	M16x55	295
166	19000	38000	9500	165	230	305	155	31	M16	30	70	17					M20x50	560	
196	22500	45000	11250	195	260	330	185	32	M16	40	90	24					M20x50	560	
216	32000	64000	16000	210	285	370	205	32	M20	50	110	26					M20x65	560	
256	52500	105000	26250	260	350	440	245	38	M20	70	130	31					M24x80	970	
306	86000	172000	43000	305	400	515	295	43	M24	70	130	36					M27x100	1450	
346	135000	270000	67500	350	460	590	335	55	M24	95	175	45					M30x110	1950	
406	210000	420000	105000	405	530	675	395	58.5	M24	95	175	50	According to customer specification				M36x130	3300	
168	25000	50000	12500	165	230	305	155	31	M16	30	70	17					M20x50	560	
198	30000	60000	15000	195	260	330	185	32	M16	40	90	24					M20x50	560	
218	42500	85000	21500	210	285	370	205	32	M20	50	110	26					M20x65	560	
258	70000	140000	35000	260	350	440	245	38	M20	70	130	31					M24x80	970	
308	115000	230000	57500	305	400	515	295	43	M24	70	130	36					M27x100	1450	
348	180000	360000	90000	350	460	590	335	55	M24	95	175	45					M30x110	1950	
408	280000	560000	140000	405	530	675	395	58.5	M24	95	175	50					M36x130	3300	

¹⁾ Other shaft distance dimensions available on request.

For selection of coupling see page 18 et seqq. in our catalogue "Drive Technology". Assembly instructions of KTR standard 47410 available at www.ktr.com.

Ordering example:

RIGIFLEX®-N 120	A	Ø 100	Ø 120	200
Coupling size	Type	Bore d ₁	Bore d ₂	Shaft distance dimension E

EVOLASTIC® E

Highly flexible couplings

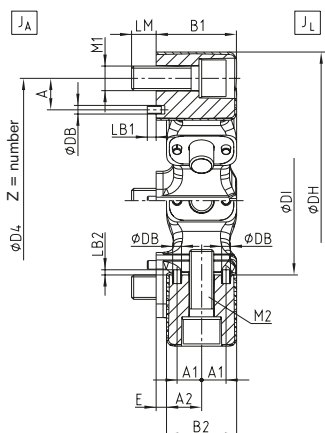
Individual element - available in various kinds of Shore hardness



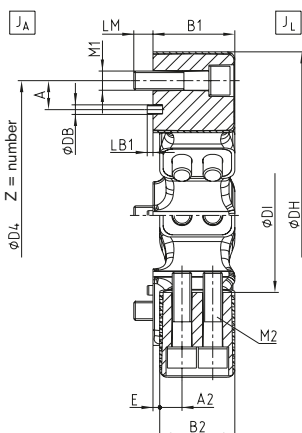
For legend of pictogram please refer to flapper on the cover



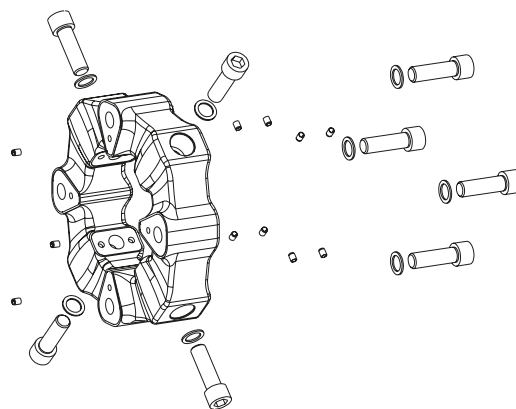
Components



Size 12 - 280



Size 360 - 560



EVOLASTIC® type E																	
Size	Dimensions [mm]														Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾
	DH	DI	B1	B2	E	D4	Z x Pitch	A	LM	LB1	DB	A1	A2	LB2	J _A	J _L	
12	122	60	32	28	4	100	3 x 120°	12	10	4	4	10	14	-	0.0005	0.0005	0.50
24	150	70	42	36	6	125	3 x 120°	18	12	4	5	13.5	18	5	0.0010	0.0010	0.93
48	170	85	46	40	6	140	4 x 90°	18	14	5	5	14	20	5	0.0040	0.0030	1.55
60	200	100	58	50	8	165	3 x 120°	20	16	5	5	18	25	5	0.0070	0.0070	2.28
86	200	100	58	50	8	165	4 x 90°	20	16	5	5	18	25	5	0.0090	0.0080	2.76
125	260	125	70	63	7	215	3 x 120°	25	20	5	8	22.5	31.5	5	0.0240	0.0220	4.74
200	260	125	70	63	7	215	4 x 90°	25	20	5	8	22.5	31.5	5	0.0300	0.0280	5.79
280	300	145	80	72	8	250	4 x 90°	25	20	5	8	22.5	36	5	0.0550	0.0500	7.89
360	340	160	85	78	7	280	4 x 90°	30	20	6	10	-	2 x 23	-	0.0960	0.0950	11.50
560	363	170	105	95	10	300	4 x 90°	40	24	6	10	-	2 x 28.5	-	0.1510	0.1450	15.38

¹⁾ With max. bore

Delivery condition:

EVOLASTIC® couplings type E are supplied with a mounting kit consisting of cap screws, screw locking washers and positioning sleeves. With the connection design make sure sufficient screw-in depth.

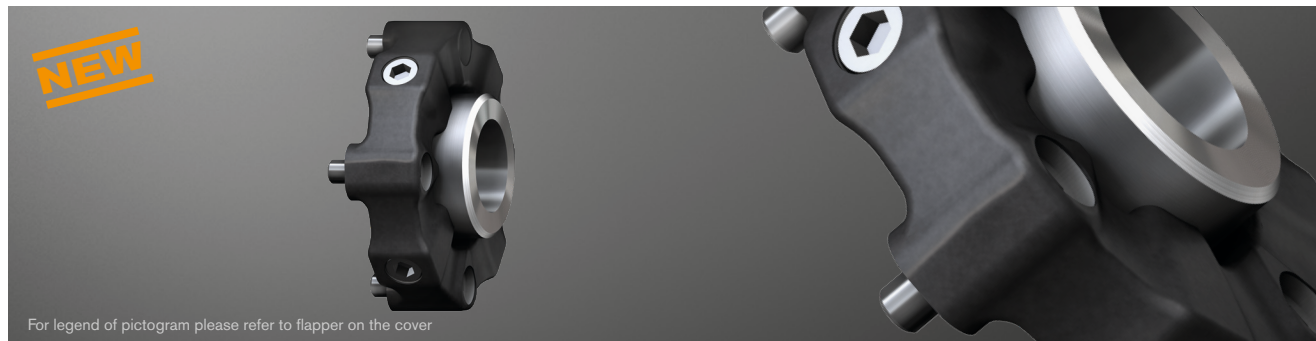
Size	Cap screw DIN EN ISO 4762 - 12.9		Tightening torque T _A [Nm]
	M1 / axial	M2 / radial	
12	M10 x 30	M10 x 30	71
24	M12 x 35	M12 x 35	123
48	M14 x 40	M14 x 40	195
60	M16 x 50	M16 x 50	302
86	M16 x 50	M16 x 50	302
125	M20 x 65	M20 x 65	592
200	M20 x 65	M20 x 65	592
280	M20 x 65	M20 x 65	592
360	M20 x 80	M20 x 80	592
560	M24 x 90	M20 x 90	1,017 / 592

Ordering example:	EVOLASTIC® 48	E	S
	Coupling size	Type	Elastomer hardness

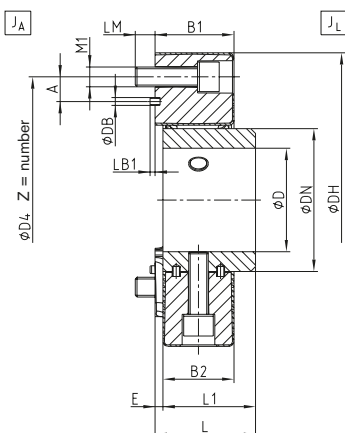
EVOLASTIC® EH

Highly flexible couplings

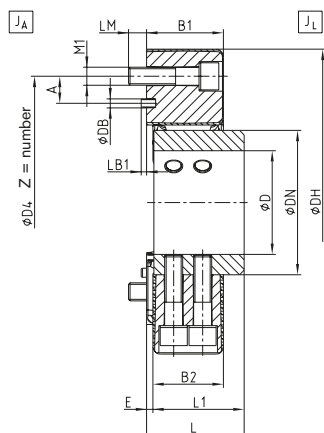
Individual element + shaft connection



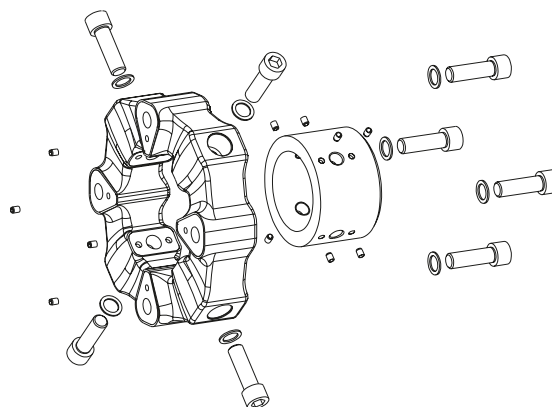
Components



Size 12 - 280



Size 360 - 560



EVOLASTIC® type EH																			
Size	Dimensions [mm]															Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾	
	DH	D ¹⁾	DN	B1	B2	E	L	L1	D4	Z x Pitch	M1	A	LM	LB1	DB	J _A	J _L		
12	122	38	60	32	28	4	46	42	100	3 x 120°	M10	12	10	4	4	0.0006	0.0009	1.04	
24	150	46	70	42	36	6	56	50	125	3 x 120°	M12	18	12	4	5	0.0016	0.0021	1.76	
48	170	55	85	46	40	6	61	55	140	4 x 90°	M14	18	14	5	5	0.0040	0.0050	2.90	
60	200	65	100	58	50	8	74	66	165	3 x 120°	M16	20	16	5	5	0.0070	0.0110	4.55	
86	200	65	100	58	50	8	74	66	165	4 x 90°	M16	20	16	5	5	0.0090	0.0120	5.03	
125	257	85	125	70	63	8	88	80	215	3 x 120°	M20	25	20	5	8	0.0240	0.0340	8.77	
200	257	85	125	70	63	8	88	80	215	4 x 90°	M20	25	20	5	8	0.0300	0.0400	9.80	
280	299	105	145	80	72	8	102	94	250	4 x 90°	M20	25	20	5	8	0.0560	0.0730	13.54	
360	340	115	160	85	78	8	108	100	280	4 x 90°	M20	30	20	6	10	0.0960	0.1320	18.85	
560	363	120	170	105	95	10	135	125	300	4 x 90°	M24	40	24	6	10	0.1530	0.2080	26.34	

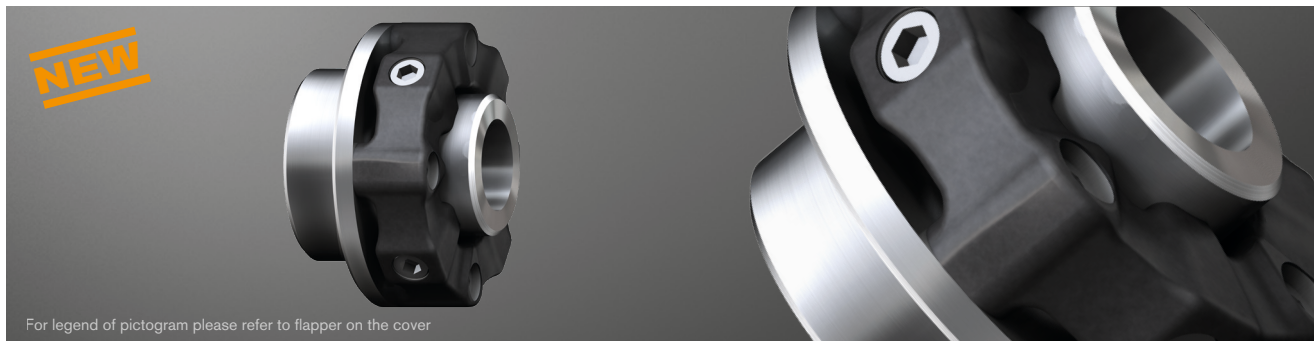
¹⁾ With max. bore

Ordering example:	EVOLASTIC® 48	EH	S	1.0	Ø52
	Coupling size	Type	Elastomer hardness	Hub type	Finish bore

EVOLASTIC® E2H

Highly flexible couplings

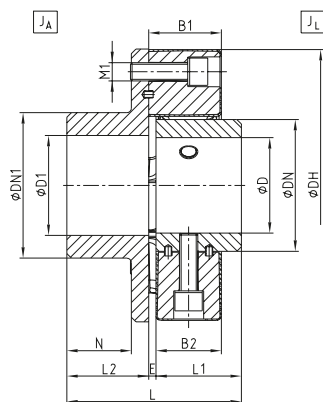
Shaft-to-shaft connection



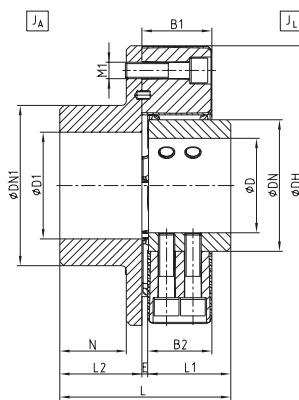
For legend of pictogram please refer to flapper on the cover



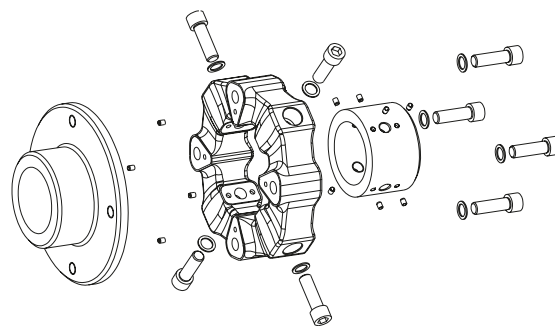
Components



Size 12 - 280



Size 360 - 560



EVOLASTIC® type E2H																
Size	Dimensions [mm]													Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾
	DH	D ¹⁾	DN	D1 ¹⁾	DN1	B1	B2	E	N	L	L1	L2	M1	J _A	J _L	
12	122	38	60	55	80	32	28	4	32	88	42	42	M10	0.0030	0.0010	2.38
24	150	46	70	70	100	42	36	6	38	106	50	50	M12	0.0081	0.0021	4.22
48	170	55	85	85	115	46	40	6	41	116	55	55	M14	0.0160	0.0050	6.21
60	200	65	100	100	140	58	50	8	50	140	66	66	M16	0.0360	0.0110	10.39
86	200	65	100	100	140	58	50	8	50	140	66	66	M16	0.0370	0.0120	10.83
125	260	85	125	110	160	70	63	8	60	168	80	80	M20	0.1110	0.0340	20.17
200	260	85	125	110	160	70	63	8	60	168	80	80	M20	0.1160	0.0400	21.15
280	300	105	145	110	160	80	72	8	70	192	94	90	M20	0.1960	0.0730	28.30
360	340	115	160	130	195	85	78	8	80	208	100	100	M20	0.3540	0.1320	40.66
560	370	120	170	140	200	105	95	10	100	260	125	125	M24	0.5890	0.2080	56.56

¹⁾ With max. bore

Ordering example:	EVOLASTIC® 48	E2H	S	1.0	Ø52	1.0	Ø52
	Coupling size	Type	Elastomer hardness	Hub type	Finish bore	Hub type	Finish bore

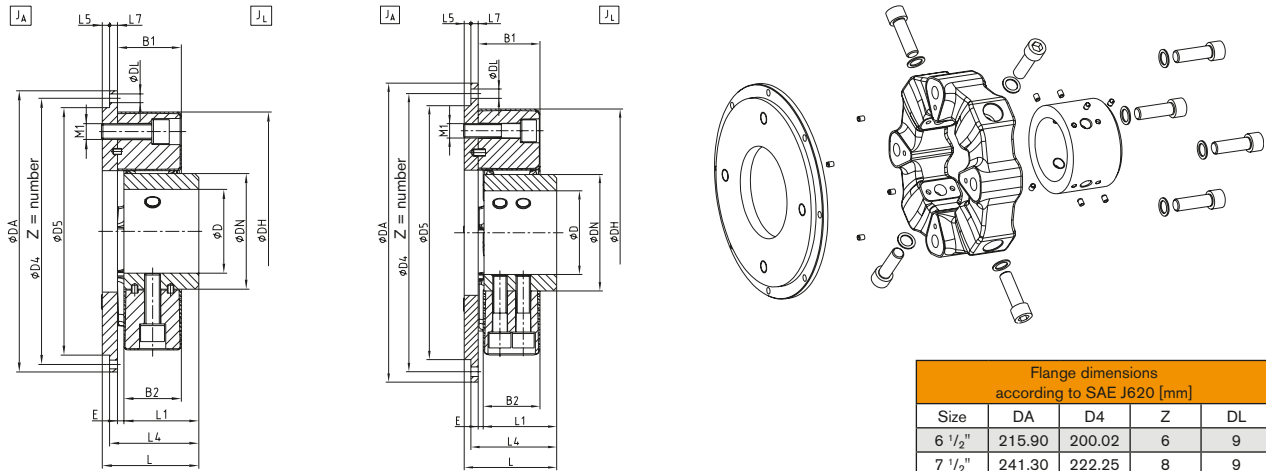
EVOLASTIC® EFH

Highly flexible couplings

Flange-to-shaft connection



Components



Size 12 - 280

Size 360 - 560

Flange dimensions according to SAE J620 [mm]				
Size	DA	D4	Z	DL
6 1/2"	215.90	200.02	6	9
7 1/2"	241.30	222.25	8	9
8"	263.52	244.47	6	11
10"	314.32	295.27	8	11
11 1/2"	352.42	333.37	8	11
14"	466.72	438.15	8	13

EVOLASTIC® type EFH																																		
Size	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾														
	6.5"	7.5"	8"	10"	11.5"	14"	DH	D ¹⁾	DN	B1	B2	E	L	L1	L4	L5	L7	M1	D5		J _A	J _L												
12	●						122	38	60	32	28	4	56	42	52	4	6	M10	180	0.013	0.001	3.26												
		●																	190	0.020	0.001	3.78												
24	●						150	46	70	42	36	6	68	50	62	6	6	M12	180	0.016	0.002	4.26												
		●																	190	0.023	0.002	4.82												
48		●					170	55	85	46	40	6	75	55	67	8	6	M14	190	0.026	0.005	6.03												
		●																												200	0.034	0.005	6.62	
			●																												260	0.091	0.005	9.91
60			●				200	65	100	58	50	8	90	66	84	6	10	M16	270	0.103	0.011	12.07												
			●																												310	0.165	0.011	14.49
86			●				200	65	100	58	50	8	90	66	84	6	10	M16	270	0.105	0.012	12.52												
			●																												360	0.166	0.012	14.94
125			●				260	85	125	70	63	8	107	80	98	9	10	M16	270	0.129	0.034	16.72												
			●																												310	0.199	0.034	19.57
200			●				260	85	125	70	63	8	107	80	98	9	10	M20	270	0.135	0.039	17.64												
			●																												310	0.205	0.039	20.50
			●																													405	0.572	0.039
280			●				300	105	145	80	72	8	121	94	112	9	10	M20	310	0.226	0.072	23.54												
			●																												405	0.593	0.072	33.05
360			●				340	115	160	85	78	8	127	100	118	9	10	M20	405	0.628	0.130	37.55												
560			●				363	120	170	105	95	10	160	125	145	15	25	M24	405	0.794	0.203	49.06												

¹⁾ With max. bore

Ordering example:	EVOLASTIC® 48	EFH	S	8	1.0	Ø52
	Coupling size	Type	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

EVOLASTIC® EP

Highly flexible couplings

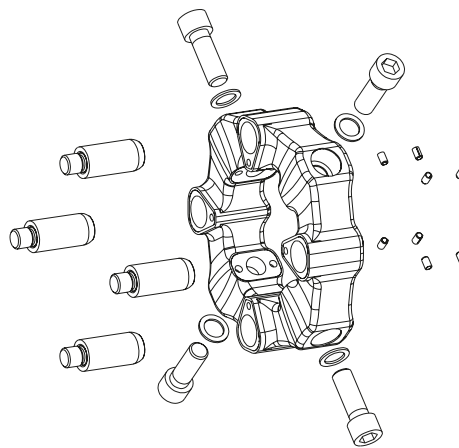
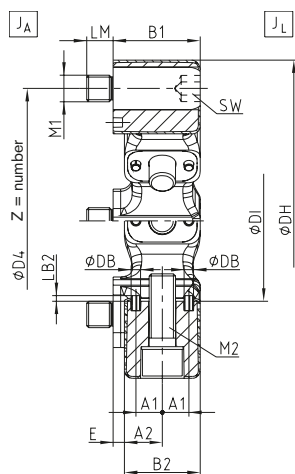
Pluggable elastomer - available in various kinds of Shore hardness



For legend of pictogram please refer to flapper on the cover



Components



EVOLASTIC® type EP															
Size	Dimensions [mm]												Mass moment of inertia [kgm ² ¹⁾		Weight [kg] ¹⁾
	DH	DI	B1	B2	E	D4	Z x Pitch	LM	DB	A1	A2	LB2	J _A	J _L	
12	122	60	32	28	4	100	3 x 120°	10	4	10	14	-	0.001	0.001	0.55
24	150	70	42	36	6	125	3 x 120°	12	5	13.5	18	5	0.002	0.001	1.03
48	170	85	46	40	6	140	4 x 90°	14	5	14	20	5	0.005	0.003	1.74
60	200	100	58	50	8	165	3 x 120°	16	5	18	25	5	0.009	0.007	1.52
86	200	100	58	50	8	165	4 x 90°	16	5	18	25	5	0.010	0.008	3.08
125	260	125	70	63	7	215	3 x 120°	20	8	22.5	31.5	5	0.028	0.022	5.16
200	260	125	70	63	7	215	4 x 90°	20	8	22.5	31.5	5	0.036	0.028	6.35
280	On request														
360	On request														
560	On request														

¹⁾ With max. bore

Delivery condition:

EVOLASTIC® couplings type EP are supplied with a mounting kit consisting of cap screws, screw locking washers, locking pins and positioning sleeves. With the connection design make sure sufficient screw-in depth. For the locking pin provide for an adhesive (e. g. Loc-tite® 243).

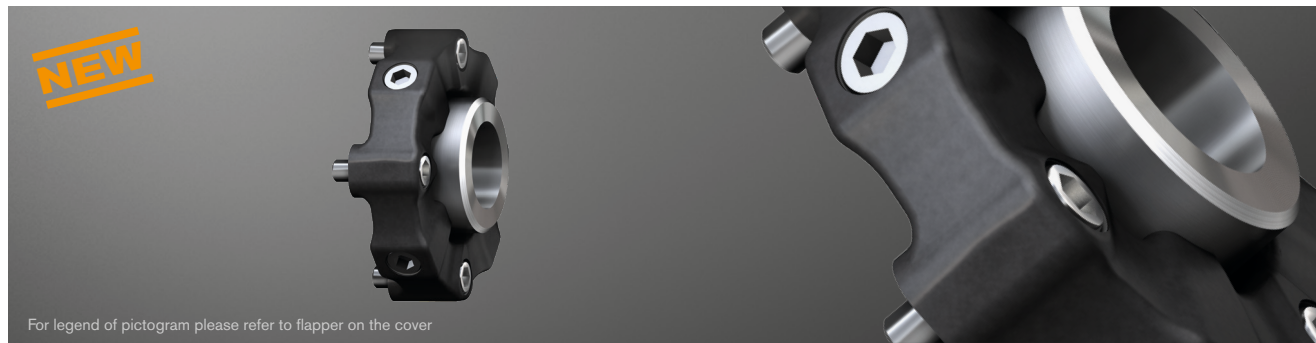
Size	Pin		Cap screw radial DIN EN ISO 4762 - 12.9		
	M1 / axial	Tightening torque [Nm]	M2 / radial	SW	Tightening torque [Nm]
12	M10	71	M10 x 30	8	71
24	M12	123	M12 x 35	10	123
48	M14	195	M14 x 40	12	195
60	M16	302	M16 x 50	14	302
86	M16	302	M16 x 50	14	302
125	M20	592	M20 x 65	17	592
200	M20	592	M20 x 65	17	592

Ordering example:	EVOLASTIC® 48	EP	S
	Coupling size	Type	Elastomer hardness

EVOLASTIC® EHP

Highly flexible couplings

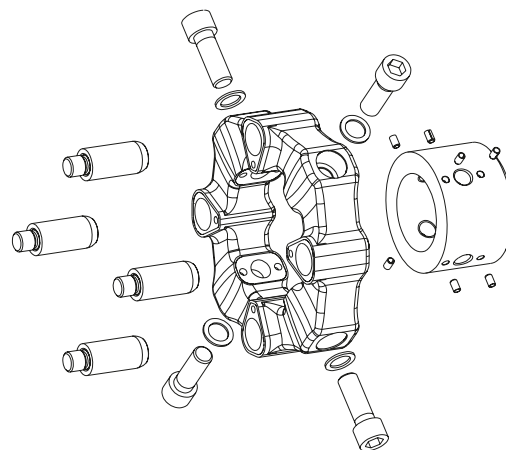
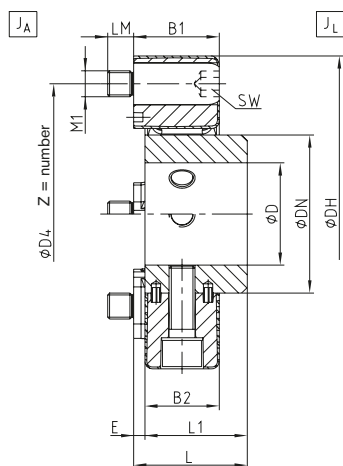
Pluggable elastomer + shaft connection



For legend of pictogram please refer to flapper on the cover



Components



EVOLASTIC® type EHP																			
Size	Dimensions [mm]															Mass moment of inertia [kgm²] ¹⁾		Weight [kg] ¹⁾	
	DH	DN	D	B1	B2	E	L	L1	LM	LB	DB	D4	Z x Pitch	M1	SW	J _A	J _L		
12	122	60	38	32	28	4	46	42	10	4	4	100	3 x 120°	M10	8	0.001	0.001	1.09	
24	150	70	46	42	36	6	56	50	12	4	5	125	3 x 120°	M12	10	0.002	0.002	1.83	
48	170	85	55	46	40	6	61	55	14	5	5	140	4 x 90°	M14	12	0.004	0.005	3.07	
60	200	100	65	58	50	8	74	66	16	5	5	165	3 x 120°	M16	14	0.009	0.010	4.79	
86	200	100	65	58	50	8	74	66	16	5	5	165	4 x 90°	M16	14	0.010	0.012	5.32	
125	260	125	85	70	63	8	88	80	20	5	8	215	3 x 120°	M20	17	0.028	0.024	9.15	
200	260	125	85	70	63	8	88	80	20	5	8	215	4 x 90°	M20	17	0.036	0.039	10.30	
280	On request																		
360	On request																		
560	On request																		

¹⁾ With max. bore

Ordering example:	EVOLASTIC® 48	EHP	S	1.0	Ø52
	Coupling size	Type	Elastomer hardness	Hub type	Finish bore

EVOLASTIC® E2HP

Highly flexible couplings

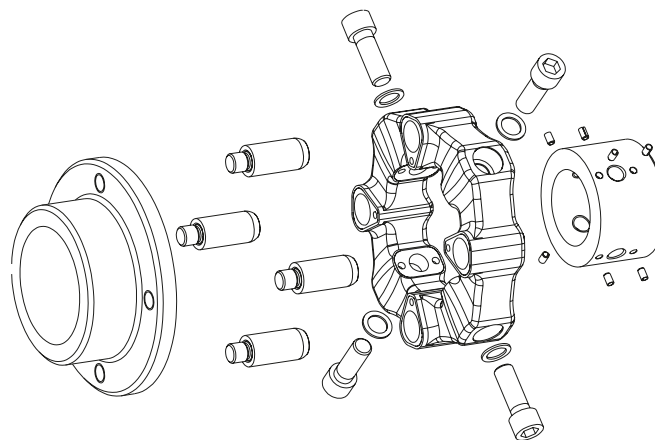
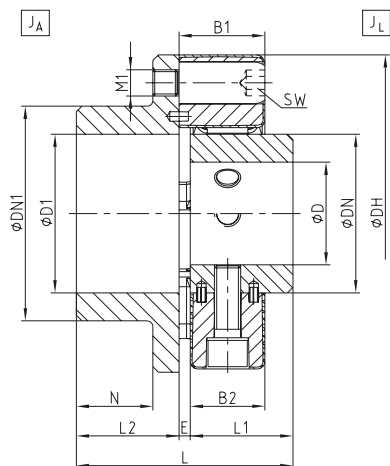
Shaft-to-shaft connection, plug-in



For legend of pictogram please refer to flapper on the cover



Components



EVOLASTIC® type E2HP																		
Size	Dimensions [mm]															Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾
	DH	DN	D	DN1	D1	B1	B2	E	N	L	L1	L2	M1	SW	J _A	J _L		
12	122	60	38	80	55	32	28	4	32	88	42	42	M10	8	0.003	0.001	2.44	
24	150	70	46	100	70	42	36	6	38	106	50	50	M12	10	0.009	0.002	4.31	
48	170	85	55	115	85	46	40	6	41	116	55	55	M14	12	0.016	0.005	6.41	
60	200	100	65	140	100	58	50	8	50	140	66	66	M16	14	0.038	0.010	10.62	
86	200	100	65	140	100	58	50	8	50	140	66	66	M16	14	0.039	0.012	11.13	
125	260	125	85	160	110	70	63	8	60	168	80	80	M20	17	0.115	0.034	20.55	
200	260	125	85	160	110	70	63	8	60	168	80	80	M20	17	0.123	0.039	21.65	
280	On request																	
360																		
560																		

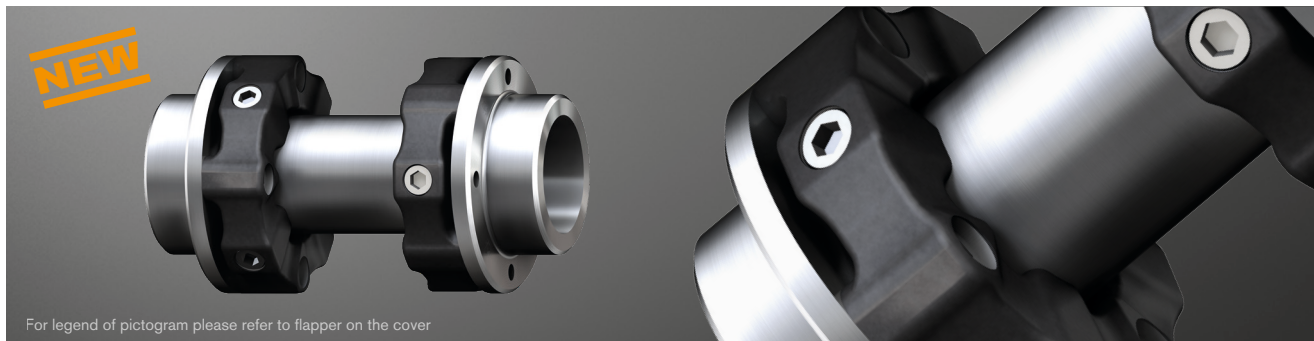
¹⁾ With max. bore

Ordering example:	EVOLASTIC® 48	E2HP	S	1.0	Ø52	1.0	Ø52
	Coupling size	Type	Elastomer hardness	Hub type	Finish bore	Hub type	Finish bore

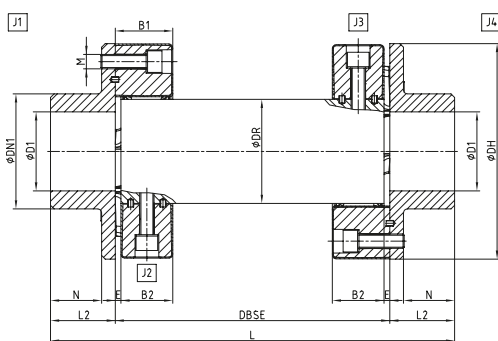
EVOLASTIC® D2H

Highly flexible couplings

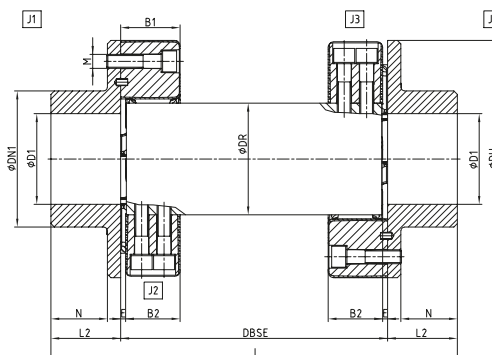
Double-cardanic shaft-to-shaft connection



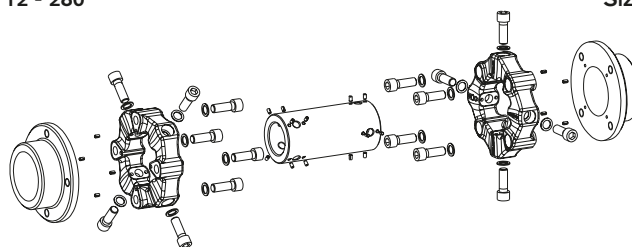
Components



Size 12 - 280



Size 360 - 560



EVOLASTIC® type D2H													
Size	Dimensions [mm]											Mass moment of inertia [kgm ²] ¹⁾	
	DH	DN1	D1	DR	B1	B2	E	L2	N	M	J1	J4	
12	122	80	55	60	32	28	4	42	32	M10	0.0030	0.0030	
24	150	100	70	70	42	36	6	50	38	M12	0.0080	0.0080	
48	170	115	85	85	46	40	6	55	41	M14	0.0160	0.0160	
60	200	140	100	100	58	50	8	66	50	M16	0.0360	0.0360	
86	200	140	100	100	58	50	8	66	50	M16	0.0370	0.0370	
125	260	160	110	125	70	63	8	80	60	M20	0.1110	0.1110	
200	260	160	110	125	70	63	8	80	60	M20	0.1160	0.1160	
280	300	160	110	145	80	72	8	94	70	M20	0.1960	0.1960	
360	340	195	130	160	85	78	8	100	80	M20	0.3540	0.3540	
560	370	200	140	170	105	95	10	125	100	M24	0.5890	0.5890	

Dimension L and DBSE as well as total weight depend on the mounting length

¹⁾ With max. bore

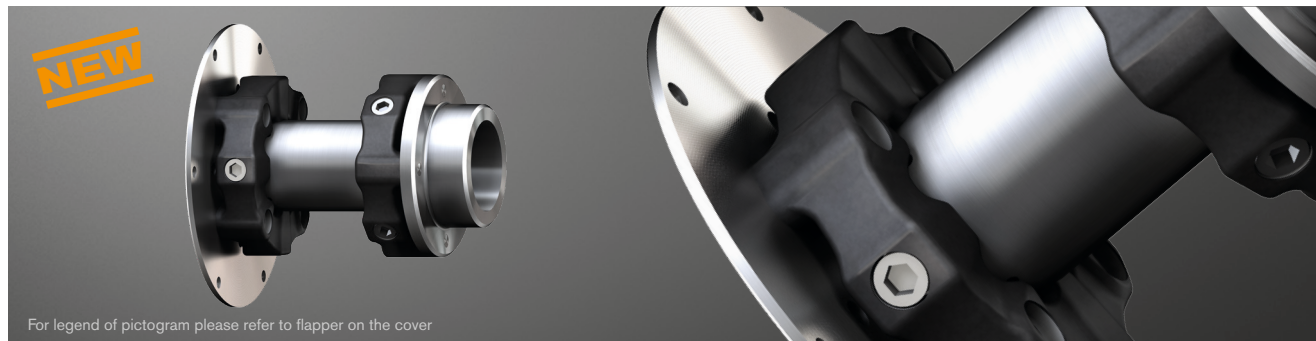
Mass moments J2 and J3 depend on the mounting length and are available on request

Ordering example:	EVOLASTIC® 48	D2H	140	S	1.0	Ø52	1.0	Ø52
	Coupling size	Type	Shaft distance DBSE	Elastomer hardness	Hub type	Finish bore	Hub type	Finish bore

EVOLASTIC® DFH

Highly flexible couplings

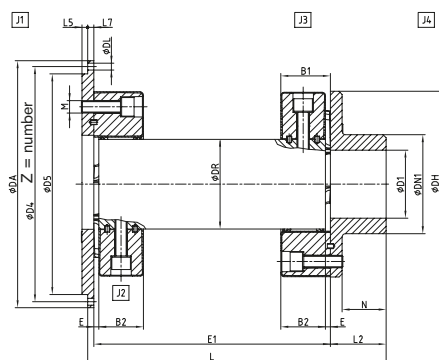
Double-cardanic flange-to-shaft connection



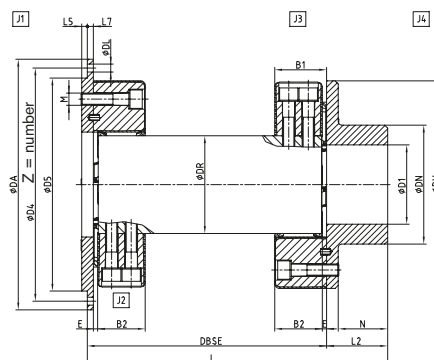
For legend of pictogram please refer to flapper on the cover



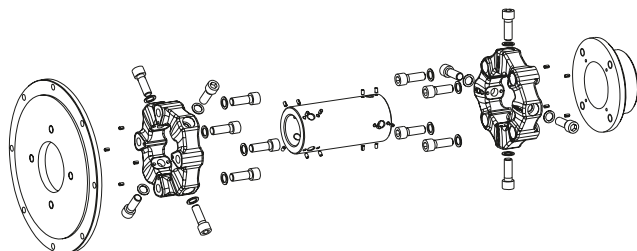
Components



Size 12 - 280



Size 360 - 560



Flange dimensions according to SAE J620 [mm]				
Size	DA	D4	Z	DL
6 1/2"	215.90	200.02	6	9
7 1/2"	241.30	222.25	8	9
8"	263.52	244.47	6	11
10"	314.32	295.27	8	11
11 1/2"	352.42	333.37	8	11
14"	466.72	438.15	8	13

EVOLASTIC® type DFH																						
Size	Flange connection acc. to SAE - J620						Dimensions [mm]														Mass moment of inertia [kgm²] ¹⁾	
	6.5"	7.5"	8"	10"	11.5"	14"	D5	DH	DN1	D1	DR	B1	B2	E	L5	L7	L2	N	M	J1	J4	
12	●						180	122	80	55	60	32	28	4	4	6	42	32	M10	0.013	0.003	
		●					190													0.020		
24		●					180	150	100	70	70	42	36	6	6	6	50	38	M12	0.016	0.008	
			●				190													0.023		
48			●				190													0.026	0.016	
				●			200	170	115	85	85	46	40	6	8	6	55	41	M14	0.034		
					●		260								4	10				0.091		
60				●			270	200	140	100	100	58	50	8	6	10	66	50	M16	0.103	0.036	
					●		310													0.165		
86					●		270	200	140	100	100	58	50	8	6	10	66	50	M16	0.105	0.037	
						●	310													0.166		
125						●	270	260	160	110	125	70	63	8	9	10	80	60	M20	0.129	0.111	
							310													0.199		
200						●	270													0.135	0.116	
							310	260	160	110	125	70	63	8	9	10	80	60	M20	0.205		
							405													0.572		
280						●	310													0.226	0.196	
							405	300	160	110	145	80	72	8	9	10	94	70	M20	0.593		
360						●	405	340	195	130	160	85	78	8	9	10	100	80	M20	0.628	0.354	
							405	370	200	140	170	105	95	10	15	25	125	100	M24	0.794		

Dimension L and DBSE as well as total weight depend on the mounting length

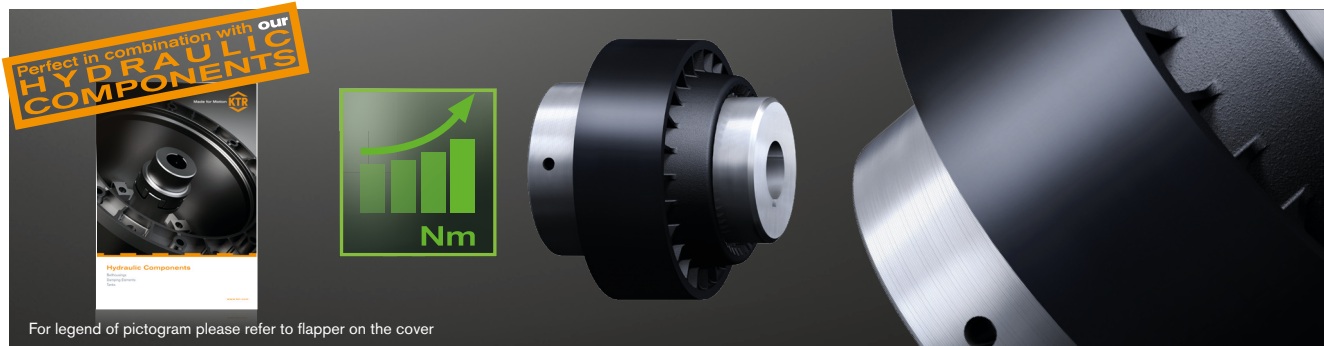
¹⁾ With max. bore

Mass moments J2 and J3 depend on the mounting length and are available on request

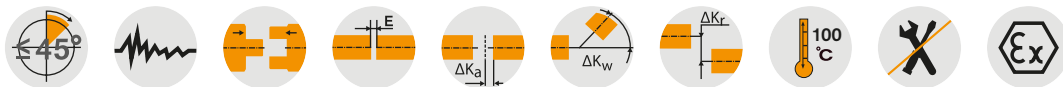
Ordering example:	EVOLASTIC® 48	DFH	140	S	8	1.0	Ø52
	Coupling size	Type	Shaft distance DBSE	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

BoWex® HEW Compact Curved-tooth gear coupling®

Compensating for large displacements, very compact design



For legend of pictogram please refer to flapper on the cover



BoWex® Type HEW Compact

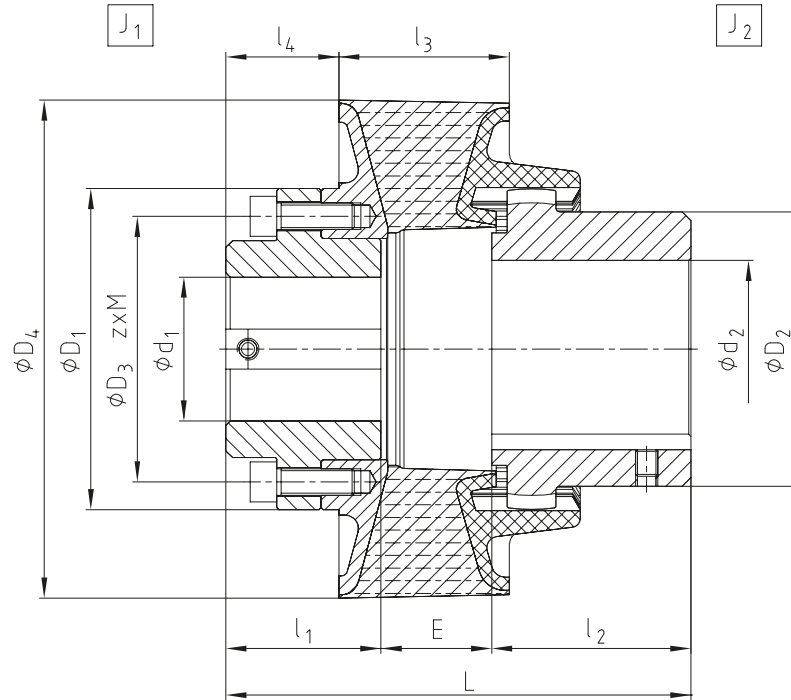
Size	Finish bore d _{max}		Dimensions [mm]														Weight with pilot bored coupling [kg]	Mass moment of inertia with pilot bored coupling J ₁ [kgm ²]	Mass moment of inertia with pilot bored coupling J ₂ [kgm ²]	Mass moment of inertia with pilot bored coupling J ₃ [kgm ²]	
	d ₁	d ₂	D ₁	D ₂	D ₄	l ₁	l ₂	l ₃	l ₄	l ₅	E	L	L ₁	D ₅	D ₃	z					M
42-130	42	42	90	65	131	42	42	45	37	42	34	118	98	65	78	6	M6	3.4	0.003	0.001	0.001
65-180	65	65	130	96	180	60	55	55	47	55	30	145	122	85	110	8	M10	9	0.014	0.006	0.006
80-225	75	90	145	124	225	70	90	77	51	70	50	210	158	100	120	10	M12	18.9	0.035	0.029	0.021
100-305	100	100	200	152	305	90	110	90	73	70	58	258	187	170	175	16	M12	40.2	0.152	0.087	0.068
125-365	125	125	235	192	365	120	140	105	90	100	68	328	240	170	205	12	M16	75	0.36	0.26	0.192

Technical data

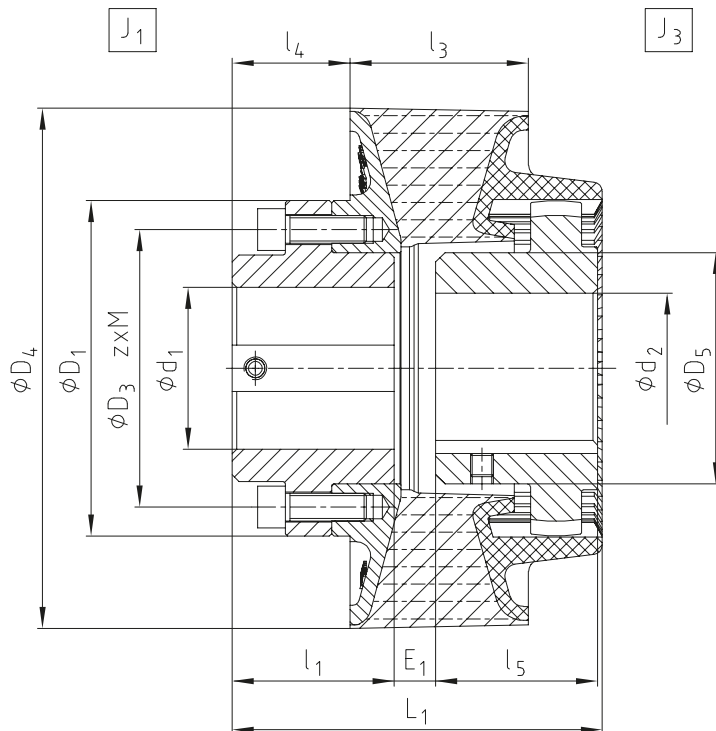
Coupling size	Elastomer hardness [Shore A]	Torque [Nm]			Perm. speed n _{max} [rpm]	Perm. damping power			Dynamic torsion spring stiffness C _{dyn} [Nm/rad]	Relative damping ψ	Resonance factor V _R ≈ 2·Γ/ψ	Radial spring stiffness C _r [N/mm]
		T _K	T _{Kmax}	with 10 Hz T _{KW}		P _{KW}						
						60 °C	80 °C	90 °C				
BoWex® 42 HEW Compact	T50	200	400	50	7300	30	18	12	780	0.8	7.9	178
	T65	270	540	68					2400	1.2	5.2	600
	T70	320	640	80					2900	1.2	5.2	710
BoWex® 65 HEW Compact	T50	550	1100	138	5500	55	33	22	2850	0.8	7.9	379
	T65	740	1500	185					7800	1.2	5.2	955
	T70	860	1700	215					9500	1.2	5.2	1240
BoWex® 80 HEW Compact	T50	1250	2500	313	4400	90	54	36	5000	0.8	7.9	420
	T65	1600	3200	400					13000	1.2	5.2	1090
	T70	1900	3800	475					16500	1.2	5.2	1450
BoWex® 100 HEW Compact	T50	2750	5500	688	3200	150	90	60	17000	0.8	7.9	760
	T65	3900	7800	975					44000	1.2	5.2	1850
	T70	4500	9000	1125					50000	1.2	5.2	2250
BoWex® 125 HEW Compact	T50	5500	11000	1375	2900	220	132	88	25000	0.8	7.9	750
	T65	7500	15000	1875					62000	1.2	5.2	1930
	T70	8400	16800	2100					70000	1.2	5.2	2300

■ = Years of experience with applications at customer sites and additional test series in the KTR test field in Rheine enabled us to determine potentials allowing for an increase of the rated torques with some sizes of this series.

Ordering example:	BoWex® 65 HEW Compact	T50	d ₁ Ø40	d ₂ Ø65
	Size and type of coupling	Elastomer hardness	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)



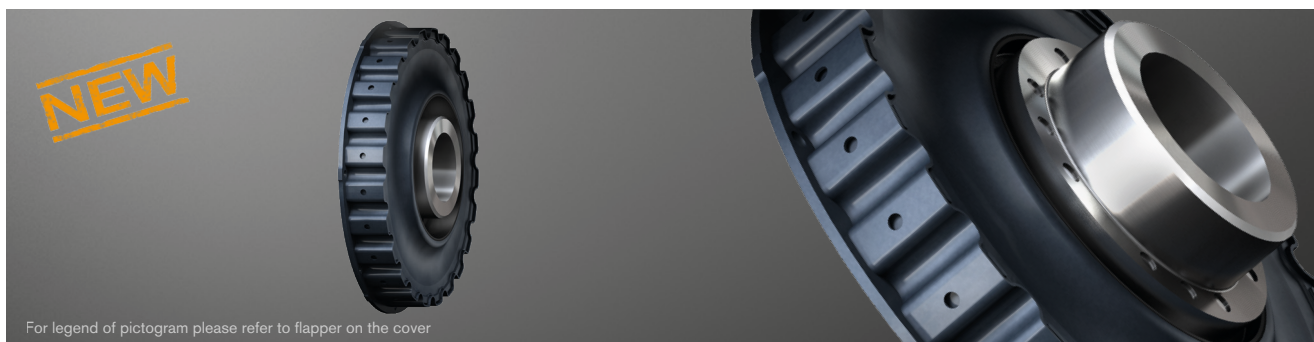
BoWex® HEW Compact with reduced hub



SINULASTIC® A

Highly flexible flange coupling

Pluggable disk coupling with optimal tooth contact



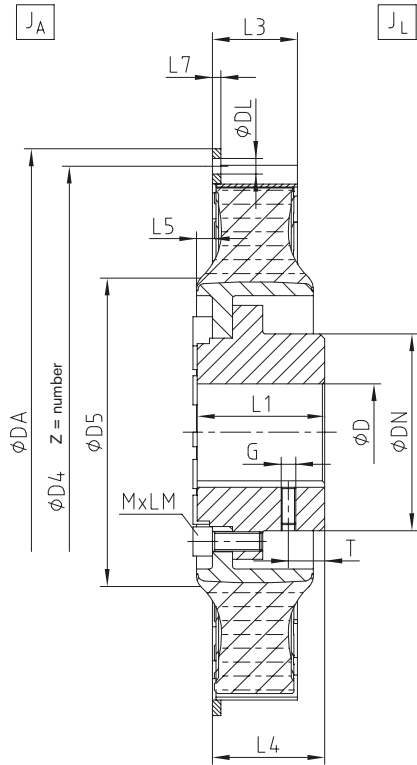
Technical data													
Size	Elastomer type	Torque [Nm] ¹⁾				Dynamic torsion spring stiffness C _{dyn.} [Nm/rad]		Relative damping ψ [-]		Perm. damping power P _{KW} [W] ²⁾		Operating speed [rpm]	
		T _{KN}	T _{Kmax}	T _{Kmax1}	T _{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	n _{max.}
20	SN	1750	2625	3500	700	7200	5760	1.00	0.80	210	126	2700	3000
	MN	2000	3000	4000	800	11500	9200	1.10	0.90	240	144	2700	3000
	HN	2500	3750	5000	1000	18500	14800	1.30	1.10	270	162	3240	3600
28	SN	2200	3300	4400	880	9500	7600	1.00	0.80	260	156	2340	2600
	MN	2800	4200	5600	1120	14000	11200	1.10	0.90	270	162	2340	2600
	HN	3400	5100	10200	1360	21000	16800	1.30	1.10	290	174	2520	2800
38	SN	3000	4500	6000	1200	14500	11600	1.00	0.80	275	165	2520	2800
	MN	3800	5700	7600	1520	22000	17600	1.10	0.90	300	180	2520	2800
	HN	4600	6900	13800	1840	34000	27200	1.30	1.10	330	198	2880	3200
53	SN	4000	6000	8000	1600	17000	13600	1.00	0.80	285	171	2340	2600
	MN	5300	7950	10600	2120	28000	22400	1.10	0.90	325	195	2340	2600
	HN	6200	9300	18600	2480	43500	34800	1.30	1.10	370	222	2700	3000
96	SN	7800	11700	15600	3120	60000	48000	1.00	0.80	480	288	2070	2300
	MN	9600	14400	19200	3840	84000	67200	1.10	0.90	500	300	2070	2300
	HN	11200	16800	33600	4480	125000	100000	1.30	1.10	510	306	2250	2500
114	UN	13200	19800	39600	5280	156000	124800	1.40	1.20	520	312	2250	2500
	SN	9200	13800	18400	3680	70000	56000	1.00	0.80	500	300	2070	2300
	MN	11400	17100	22800	4560	100000	80000	1.10	0.90	530	318	2070	2300
140	HN	13400	20100	40200	5360	148000	118400	1.30	1.10	550	330	2250	2500
	UN	15600	23400	46800	6240	185000	148000	1.40	1.20	560	336	2250	2500
	SN	12000	18000	24000	4800	106000	84800	1.00	0.80	540	324	1890	2100
180	MN	14000	21000	28000	5600	149000	119200	1.10	0.90	550	330	1890	2100
	HN	16200	24300	48600	6480	235000	188000	1.30	1.10	570	342	2070	2300
	UN	19000	28500	57000	7600	310000	248000	1.40	1.20	590	354	2070	2300
180	SN	14600	21900	29200	5840	132000	105600	1.00	0.80	620	372	1890	2100
	MN	18000	27000	36000	7200	185000	148000	1.10	0.90	630	378	1890	2100
	HN	22000	33000	66000	8800	295000	236000	1.30	1.10	650	390	2070	2300
UN	25000	37500	75000	10000	410000	328000	1.40	1.20	670	402	2070	2300	

¹⁾ T_{KW} Torque that can be constantly transmitted over the entire speed range.
T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternations pulsating / 50,000 load alternations vibratory
T_{Kmax1} Impact loads rarely, min. 1,000 load alternations
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 30 °C.
²⁾ Here permanent damping power. Twice the damping power figure is permissible for one hour.

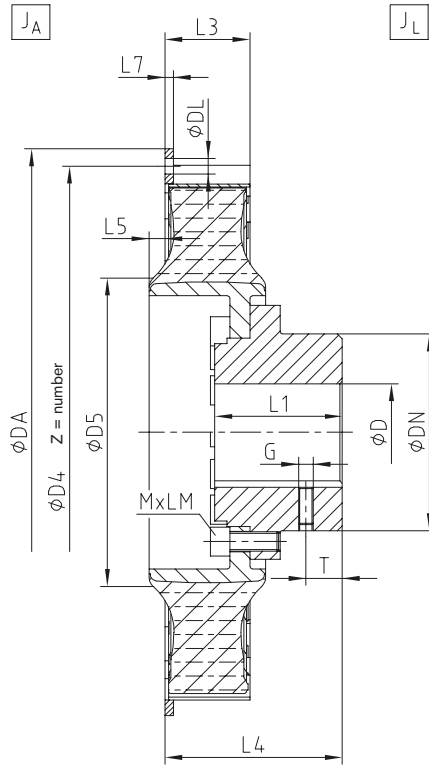
SINULASTIC® type AK / AL																						
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]										Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾		
		11 1/2"	14"	18"	21"	24"	Ø475	DN	D5	L1	L3	L4		L5	L7	MxLM	G	T	J _s		J _L	
20	80	●						112	164	75	65	90.5+4.5/-3		127.5 ± 4.5	5.5	41	M12x30	M10	30	0.0947	0.0533	13.71
			●											13.6						0.1350	0.0533	14.79
28	115		●					162	244	90	44	93.5+3/-1.5		109 ± 3	7	7	M16x40	M12	35	0.1873	0.1667	21.90
				●																0.4968	0.1667	26.55
38	115			●				162	244	100	58	93.5+3/-1.5		123 ± 3	7	7	M16x40	M12	35	0.2013	0.1667	22.16
					●															0.2412	0.1994	25.47
53	115				●			162	247	105	70	92.5+3/-1.5		146 ± 3	13	7	M16x40	M12	40	0.5506	0.1994	30.12
						●														0.3165	0.2379	29.69
96	175					●		248	352	150	84	129+4/-2.5		192 ± 4	1	11	M20x50	-	-	0.7310	1.0324	63.90
							●													1.5407	1.0324	72.37
114	175						●	248	352	150	98	129+4/-2.5		206 ± 4	1	11	M20x50	-	-	2.3243	1.1215	82.08
								●													0.8367	1.1215
140	175							248	431	200	94	200+3/-1.5		206 ± 4	3	14	M20x60	-	-	1.6464	1.1215	76.51
									●												2.3243	1.1215
180	175							248	431	200	114	200+3/-1.5		300 ± 3	3	14	M20x60	-	-	1.6680	2.1667	101.71
																					2.5308	2.1667
																			1.9588	2.4306	110.09	
																			2.8216	2.4306	117.17	

¹⁾ With max. bore

Type AK

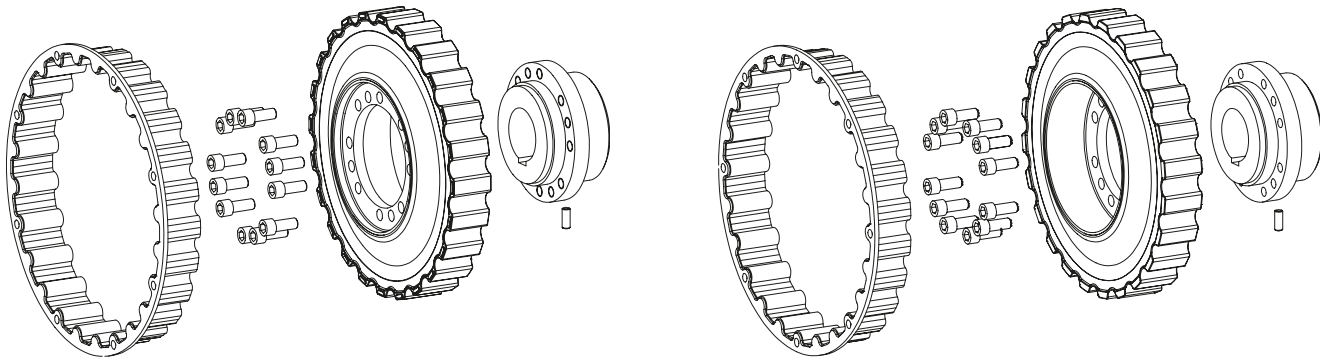


Type AL

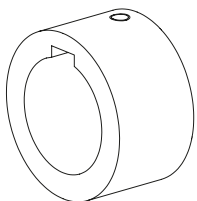


Types AK and AL specify the standard with variable hub connections as a short or long version

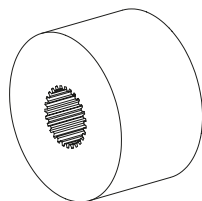
Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	D4	Z	DL
11 1/2"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17
21"	673.10	641.35	12	17
24"	733.42	692.15	12	21
Ø475	475	450	12	11



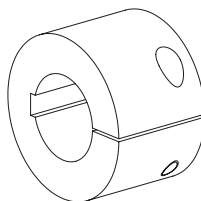
Types of hubs type AK / AL ¹⁾



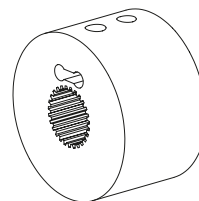
Type 1.0
with feather keyway and setscrew
(acc. to standard AK, AL)



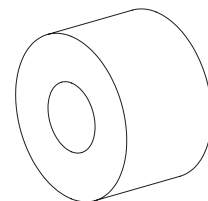
Type 1.3
spline toothing



Type 2.1
clamping hub
single slot with feather keyway



Type 3.1
spline/clamping hub N



Type 8.0
taper interference fit

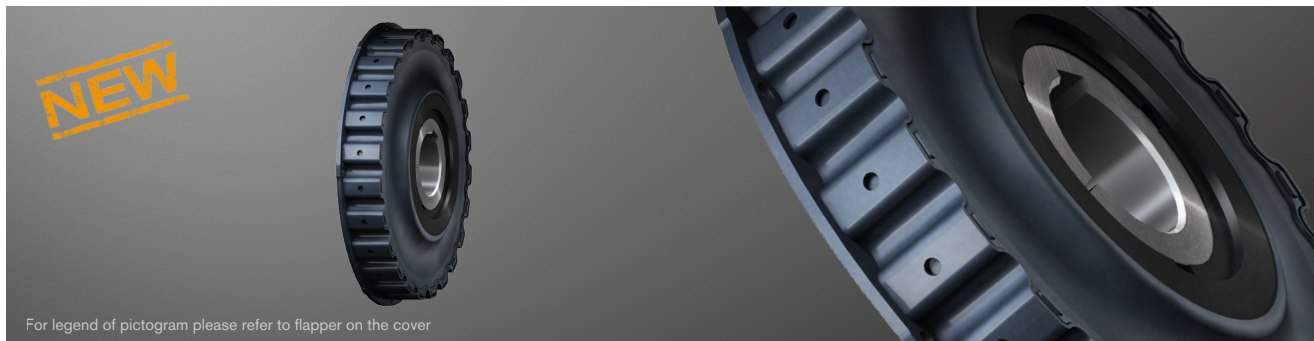
Type 8.1
cylindrical interference fit

¹⁾Dimensions and type may differ depending on size, other types of hubs on request

SINULASTIC® T

Highly flexible flange coupling

Pluggable disk coupling with optimal tooth contact

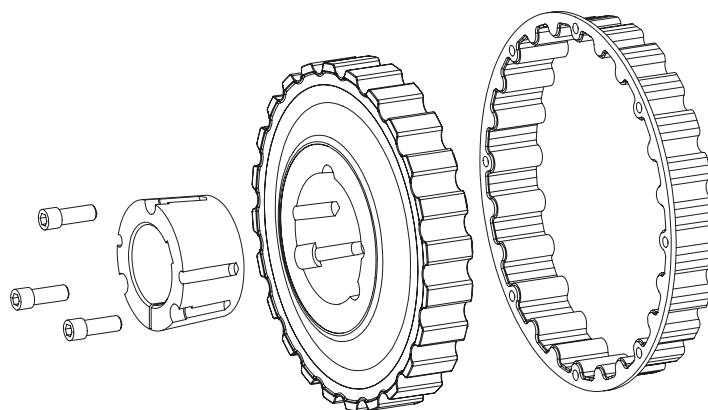
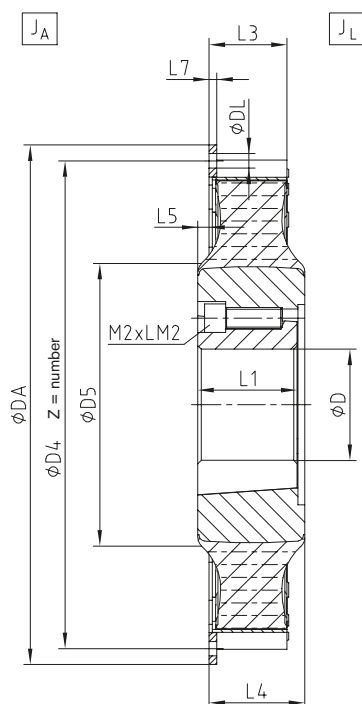


For legend of pictogram please refer to flapper on the cover



Components

Type T specifies the hub type as Taperlock shaft connection



Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	D4	Z	DL
11 1/2"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17
21"	673.10	641.35	12	17
24"	733.42	692.15	12	21
Ø475	475	450	12	11

Technical data													
Size	Elastomer type	Torque [Nm] ¹⁾				Dynamic torsion spring stiffness C _{dyn.} [Nm/rad]		Relative damping ψ [-]		Perm. damping power P _{KW} [W] ²⁾		Operating speed [rpm]	
		T _{KN}	T _{Kmax}	T _{Kmax1}	T _{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	n _{max}
20	SN	1750	2625	3500	700	7200	5760	1.00	0.80	210	126	2700	3000
	MN	2000	3000	4000	800	11500	9200	1.10	0.90	240	144	2700	3000
	HN	2500	3750	7500	1000	18500	14800	1.30	1.10	270	162	3240	3600
28	SN	2200	3300	4400	880	9500	7600	1.00	0.80	260	156	2340	2600
	MN	2800	4200	5600	1120	14000	11200	1.10	0.90	270	162	2340	2600
	HN	3400	5100	10200	1360	21000	16800	1.30	1.10	290	174	2520	2800
38	SN	3000	4500	6000	1200	14500	11600	1.00	0.80	275	165	2520	2800
	MN	3800	5700	7600	1520	22000	17600	1.10	0.90	300	180	2520	2800
	HN	4600	6900	13800	1840	34000	27200	1.30	1.10	330	198	2880	3200
53	SN	4000	6000	8000	1600	17000	13600	1.00	0.80	285	171	2340	2600
	MN	5300	7950	10600	2120	28000	22400	1.10	0.90	325	195	2340	2600
	HN	6200	9300	18600	2480	43500	34800	1.30	1.10	370	222	2700	3000

¹⁾ T_{KN} Torque that can be constantly transmitted over the entire speed range.

T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternations pulsating / 50,000 load alternations vibratory

T_{Kmax1} Impact loads rarely, min. 1,000 load alternations

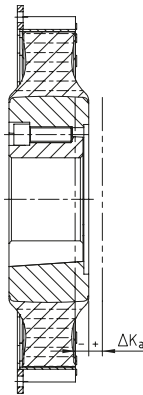
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 30 °C.

²⁾ Here permanent damping power. Twice the damping power figure is permissible for one hour.

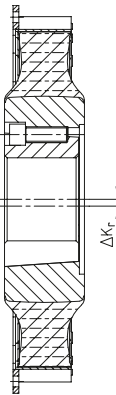
SINULASTIC® type T																			
Size	Bore D [mm]		Flange connection acc. to SAE - J620						Dimensions [mm]						Taper clamping sleeve		Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾
	Pilot bored	Max.	11 1/2"	14"	18"	21"	24"	Ø475	D5	L1	L3	L4	L5	L7	M2xLM2	Type	J _A	J _L	
20	35	90	●						164	63.5	60	70.5 ± 4.5	5.5	41	1/2"x38	3525	0.0947	0.0568	13.75
				●													13.6	0.1353	0.0568
28	35	90		●					244	63.5	44	57 ± 3	7	7	1/2"x38	3525	0.1873	0.1919	24.37
					●												0.4968	0.1919	29.02
38	40	110		●					244	76.2	58	70 ± 3	7	7	5/8"x44	4030	0.2412	0.2429	29.51
					●												0.5506	0.2429	34.15
53	55	125		●					247	89	70	83 ± 3	13	7	3/4"x50	4535	0.2870	0.2993	33.84
					●												0.5965	0.2993	38.52
																	0.3042	0.2993	34.18

¹⁾ With max. bore

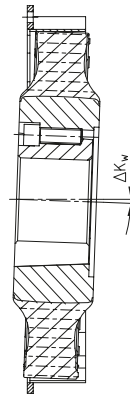
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® T size		20	28	38	53
Perm. axial displacement ΔK_a [mm] ²⁾		±2.0	±3.0	±3.0	±3.0
Perm. radial displacement ΔK_r [mm]	1500 rpm	0.8	1.1	1.1	1.1
	n_{max}	0.6	0.8	0.8	0.8
Perm. angular displacement ΔK_w [degree]	max. ¹⁾	1.6	2.2	2.2	2.2
	1500 rpm	0.7	0.6	0.6	0.6
Perm. angular displacement ΔK_w [degree]	n_{max}	0.5	0.4	0.4	0.4
	max. ¹⁾	1.1	0.9	0.9	0.9

¹⁾ With assembly, for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.

²⁾ Plug-in fit in the tooth contact allows for alternative mounting lengths

Ordering example:	SINULASTIC® 53	T	M	14	1.0	Ø75
	Coupling size	Type	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

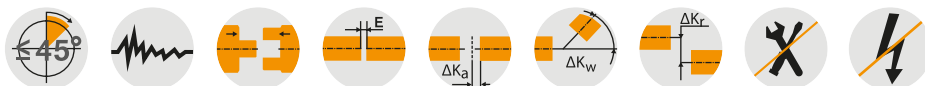
SINULASTIC® B

Highly flexible flange coupling

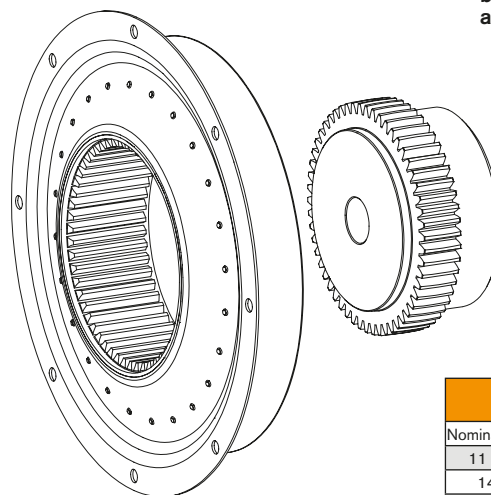
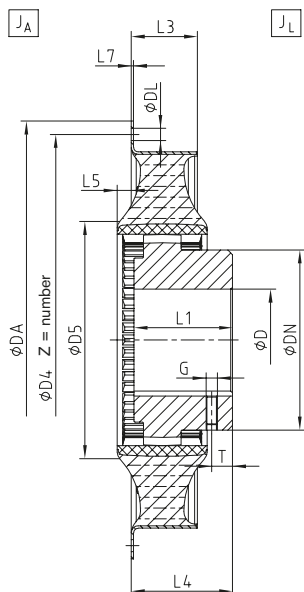
Disk coupling pluggable inside



For legend of pictogram please refer to flapper on the cover



Components



Type B specifies a type pluggable in the hub for variable use and high potential for offset

Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	D4	Z	DL
11 1/2"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17
21"	673.10	641.35	12	17
24"	733.42	692.15	12	21
Ø475	475	450	12	11

Technical data													
Size	Elastomer type	Torque [Nm] ¹⁾				Dynamic torsion spring stiffness C_{dyn} [Nm/rad]		Relative damping ψ [-]		Perm. damping power P_{kw} [W] ²⁾		Operating speed [rpm]	
		T_{KN}	T_{Kmax}	T_{Kmax1}	T_{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	n_{max}
20	SN	1750	2625	5250	700	7200	5760	1.00	0.80	210	126	3240	3600
	MN	2000	3000	6000	800	11500	9200	1.10	0.90	240	144	3240	3600
	HN	2500	3750	7500	1000	18500	14800	1.30	1.10	270	162	3420	3800
28	SN	2200	3300	6600	880	9500	7600	1.00	0.80	260	156	2880	3200
	MN	2800	4200	8400	1120	14000	11200	1.10	0.90	270	162	2880	3200
	HN	3400	5100	10200	1360	21000	16800	1.30	1.10	290	174	3240	3600
38	SN	3000	4500	9000	1200	14500	11600	1.00	0.80	275	165	2880	3200
	MN	3800	5700	9600	1520	22000	17600	1.10	0.90	300	180	2880	3200
	HN	4600	6900	13800	1840	34000	27200	1.30	1.10	330	198	3240	3600
53	SN	4000	6000	12000	1600	17000	13600	1.00	0.80	285	171	2700	3000
	MN	5300	7950	14400	2120	28000	22400	1.10	0.90	325	195	2700	3000
	HN	6200	9300	18600	2480	43500	34800	1.30	1.10	370	222	3060	3400
96	SN	7800	11700	23400	3120	60000	48000	1.00	0.80	480	288	2340	2600
	MN	9600	14400	28800	3840	84000	67200	1.10	0.90	500	300	2340	2600
	HN	11200	16800	33600	4480	125000	100000	1.30	1.10	510	306	2700	3000
114	SN	9200	13800	27600	3680	70000	56000	1.00	0.80	500	300	2340	2600
	MN	11400	17100	33900	4560	100000	80000	1.10	0.90	530	318	2340	2600
	HN	13400	20100	40200	5360	148000	118400	1.30	1.10	550	330	2520	2800
140	SN	12000	18000	36000	4800	106000	84800	1.00	0.80	540	324	2160	2400
	MN	14000	21000	42000	5600	149000	119200	1.10	0.90	550	330	2160	2400
	HN	16200	24300	48600	6480	235000	188000	1.30	1.10	570	342	2520	2800
180	SN	14600	21900	43800	5840	132000	105600	1.00	0.80	620	372	2160	2400
	MN	18000	27000	54000	7200	185000	148000	1.10	0.90	630	378	2160	2400
	HN	22000	33000	66000	8800	295000	236000	1.30	1.10	650	390	2340	2600

¹⁾ T_{KN} Torque that can be constantly transmitted over the entire speed range.
 T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternations pulsating / 50,000 load alternations vibratory
 T_{Kmax1} Impact loads rarely, min. 1,000 load alternations

For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 30 °C.

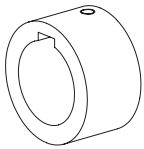
²⁾ Here permanent damping power. Twice the damping power figure is permissible for one hour.

SINULASTIC® type B

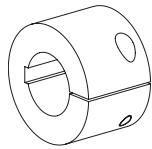
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]								Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾	
		11 1/2"	14"	18"	21"	24"	Ø475	DN	D5	L1	L3	L4	L5	L7	G	T	J _A		J _I
20	80	●						124	169	75	60	80.5 ± 21	8.5	2.0	M10	20	0.0625	0.0338	9.71
			●																
28	125		●					200	244	140	38	129 ± 7	10	2.5	M10	20	0.1114	0.0338	10.85
				●															
38	125			●				200	245	140	52	136 ± 14	10	2.5	M16	40	0.1159	0.1979	27.16
					●														
53	125				●			200	247	140	70.5	143 ± 20	15	2.5	M16	40	0.2291	0.1979	28.83
						●													
96	160					●		225	352	150	69	131.5 ± 13	7	2.5	-	-	0.1213	0.1979	27.26
							●												
114	160						●	225	352	150	83	138.5 ± 20	7	2.5	-	-	0.1524	0.2076	28.94
																	●		
140	240							326	431	200	81	175 ± 12	10	3	-	-	0.1578	0.2076	30.62
180	240							326	431	200	101	185 ± 22	10	3	-	-	0.2655	0.2076	29.04

¹⁾ With max. bore

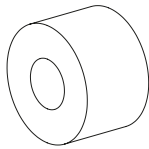
Types of hubs type B¹⁾



Type 1.0
with feather keyway
and setscrew



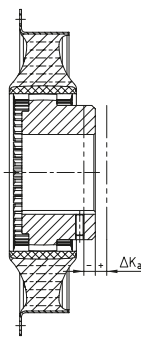
Type 2.1
clamping hub
single slot with
feather keyway



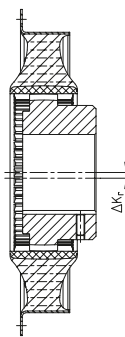
Type 8.0
taper interference fit
Type 8.1
cylindrical
interference fit

¹⁾ Dimensions and type may differ depending on size, other types of hubs on request

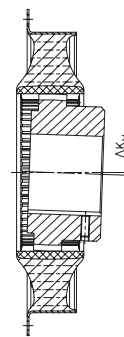
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® B size		20	28	38	53	96	114	140	180
Perm. axial displacement ΔK_a [mm]		±2	±3	±3.0	±3.0	±4.0	±4.0	±4.0	±4.0
	1500 rpm	0.8	1.1	1.1	1.1	1.25	1.25	1.5	1.5
Perm. radial displacement ΔK_r [mm]	n_{max}	0.6	0.8	0.8	0.8	0.9	0.9	1.1	1.1
	max. ¹⁾	1.6	2.2	2.2	2.2	2.5	2.5	3.0	3.0
Perm. angular displacement ΔK_w [degree]	1500 rpm	1.0	0.8	0.8	0.8	0.7	0.7	0.6	0.6
	n_{max}	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4
	max. ¹⁾	2.0	1.6	1.6	1.6	1.4	1.4	1.2	1.2

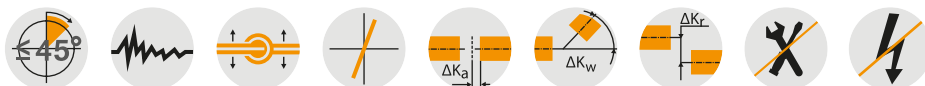
¹⁾ With assembly, for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.

Ordering example:	SINULASTIC® 53	B	M	14	1.3	DIN 5480 - 60x2x28
	Coupling size	Type	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore

SINULASTIC® V

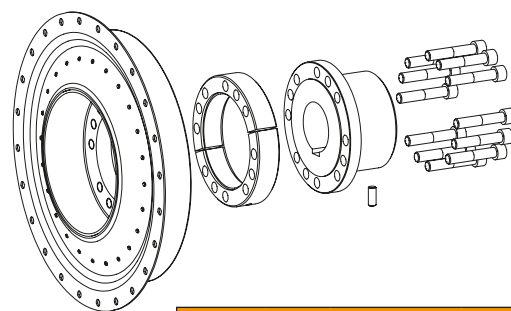
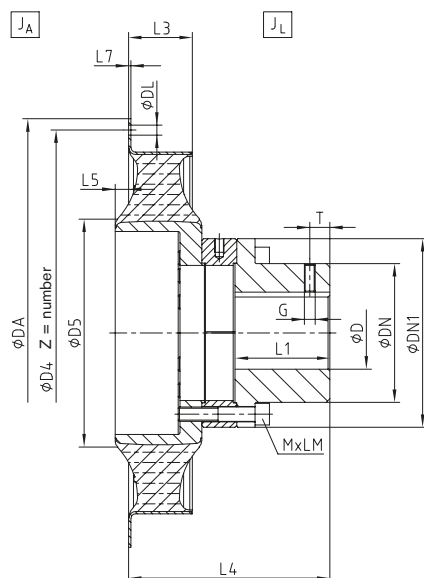
Highly flexible flange coupling

Radially mountable disk coupling



Components

Type V specifies a radially replaceable type for not flange-mounted drives set up freely



Flange dimensions according to SAE J620 [mm]				
Nominal size	DA	D4	Z	DL
11 1/2"	352.42	333.37	8	11
14"	466.72	438.15	8	13
18"	571.50	542.90	6	17
21"	673.10	641.35	12	17
24"	733.42	692.15	12	21
Ø475	475	450	12	11

Technical data													
Size	Elastomer type	Torque [Nm] ¹⁾				Dynamic torsion spring stiffness C _{dyn.} [Nm/rad]		Relative damping ψ [-]		Perm. damping power P _{kw} [W] ²⁾		Operating speed [rpm]	
		T _{KN}	T _{Kmax}	T _{Kmax1}	T _{KW}	30 °C	60 °C	30 °C	60 °C	30 °C	60 °C	n	n _{max}
20	SN	1750	2625	5250	700	7200	5760	1.00	0.80	210	126	3240	3600
	MN	2000	3000	6000	800	11500	9200	1.10	0.90	240	144	3240	3600
	HN	2500	3750	7500	1000	18500	14800	1.30	1.10	270	162	3420	3800
28	SN	2200	3300	6600	880	9500	7600	1.00	0.80	260	156	2880	3200
	MN	2800	4200	8400	1120	14000	11200	1.10	0.90	270	162	2880	3200
	HN	3400	5100	10200	1360	21000	16800	1.30	1.10	290	174	3240	3600
38	SN	3000	4500	9000	1200	14500	11600	1.00	0.80	275	165	2880	3200
	MN	3800	5700	9600	1520	22000	17600	1.10	0.90	300	180	2880	3200
	HN	4600	6900	13800	1840	34000	27200	1.30	1.10	330	198	3240	3600
53	SN	4000	6000	12000	1600	17000	13600	1.00	0.80	285	171	2700	3000
	MN	5300	7950	14400	2120	28000	22400	1.10	0.90	325	195	2700	3000
	HN	6200	9300	18600	2480	43500	34800	1.30	1.10	370	222	3060	3400
96	SN	7800	11700	23400	3120	60000	48000	1.00	0.80	480	288	2340	2600
	MN	9600	14400	28800	3840	84000	67200	1.10	0.90	500	300	2340	2600
	HN	11200	16800	33600	4480	125000	100000	1.30	1.10	510	306	2700	3000
114	SN	9200	13800	27600	3680	70000	56000	1.00	0.80	500	300	2340	2600
	MN	11400	17100	33900	4560	100000	80000	1.10	0.90	530	318	2340	2600
	HN	13400	20100	40200	5360	148000	118400	1.30	1.10	550	330	2520	2800
140	SN	12000	18000	36000	4800	106000	84800	1.00	0.80	540	324	2160	2400
	MN	14000	21000	42000	5600	149000	119200	1.10	0.90	550	330	2160	2400
	HN	16200	24300	48600	6480	235000	188000	1.30	1.10	570	342	2520	2800
180	SN	14600	21900	43800	5840	132000	105600	1.00	0.80	620	372	2160	2400
	MN	18000	27000	54000	7200	185000	148000	1.10	0.90	630	378	2160	2400
	HN	22000	33000	66000	8800	295000	236000	1.30	1.10	650	390	2340	2600

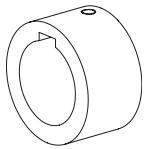
¹⁾ T_{KN} Torque that can be constantly transmitted over the entire speed range.
T_{Kmax} Transient torque peaks (e. g. resonance passage), min. 100,000 load alternations pulsating / 50,000 load alternations vibratory
T_{Kmax1} Impact loads rarely, min. 1,000 load alternations
For selection consider DIN 740 part II (operating factor, temperature factor), parameters for an ambient temperature of 30 °C.
²⁾ Here permanent damping power. Twice the damping power figure is permissible for one hour.

SINULASTIC® type V

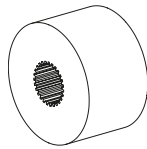
Size	Max. bore D [mm]	Flange connection acc. to SAE - J620						Dimensions [mm]											Mass moment of inertia [kgm ²] ¹⁾		Weight [kg] ¹⁾
		11 1/2"	14"	18"	21"	24"	Ø475	DN	DN1	D5	L1	L3	L4	L5	L7	MxLM	G	T	J _A	J _L	
20	70	●						100	145	145	75	60	196	8.5	2	M12x90	M10	20	0.0625	0.0634	15.900
			181	0.1114	0.0594	16.083															
28	110		●					154	209	244	100	38	191	10	2.5	M16x90	M10	20	0.1159	0.2148	27.342
			181	0.2291	0.2053	27.867															
38	110		●					154	209	245	100	52	205	10	2.5	M16x90	M16	40	0.1213	0.2053	26.289
			195	0.1524	0.2380	29.777															
53	110		●					154	209	247	105	70.5	223	15	2.5	M16x90	M16	40	0.1576	0.2275	28.598
			223	0.2655	0.2275	30.173															
96	160		●					235	300	352	150	69	249	7	2.5	M20x80	-	-	0.1888	0.2733	33.369
			223	0.1942	0.2672	32.239															
114	160		●					235	300	352	150	83	263	7	2.5	M20x80	-	-	0.3020	0.2672	34.299
			223	0.3857	1.1406	62.681															
140	165		●					235	300	431	200	81	314	10	3	M20x80	-	-	0.5741	1.1406	70.964
			223	0.7318	1.1406	72.243															
180	165		●					235	300	431	200	101	334	10	3	M20x80	-	-	0.4591	1.2306	73.002
			223	0.6475	1.2306	74.951															
																			0.8052	1.2306	76.230
																			0.8816	2.2675	97.598
																			1.0724	2.2675	109.896
																			1.0905	2.3956	104.973
																			1.2796	2.3956	106.508

¹⁾ With max. bore

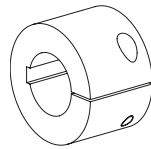
Types of hubs type V¹⁾



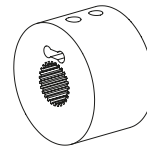
Type 1.0
with feather keyway
and setscrew



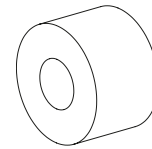
Type 1.3
spline toothings



Type 2.1
clamping hub
single slot with
feather keyway



Type 3.1
spline/clamping hub N

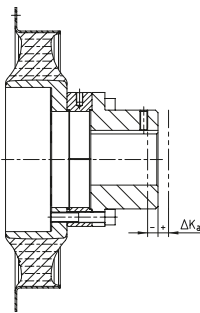


Type 8.0
taper interference fit

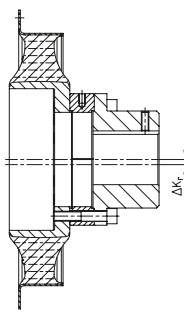
Type 8.1
cylindrical
interference fit

¹⁾ Dimensions and type may differ depending on size, other types of hubs on request

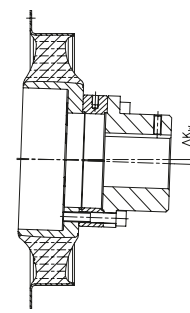
Displacements



Axial displacement



Radial displacement



Angular displacement

SINULASTIC® V size		20	28	38	53	96	114	140	180
Perm. axial displacement ΔK _a [mm]		±2	±3	±3.0	±3.0	±4.0	±4.0	±4.0	±4.0
	1500 rpm	0.8	1.1	1.1	1.1	1.25	1.25	1.5	1.5
Perm. radial displacement ΔK _r [mm]	n _{max}	0.6	0.8	0.8	0.8	0.9	0.9	1.1	1.1
	max. ¹⁾	1.6	2.2	2.2	2.2	2.5	2.5	3.0	3.0
Perm. angular displacement ΔK _w [degree]	1500 rpm	1.0	0.8	0.8	0.8	0.7	0.7	0.6	0.6
	n _{max}	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4
	max. ¹⁾	2.0	1.6	1.6	1.6	1.4	1.4	1.2	1.2

¹⁾ With assembly, for a short time resp. rarely with downtime or start-up operation as well as exceptional load conditions.

Ordering example:

SINULASTIC® 53	V	M	14	1.0	Ø60
Coupling size	Type	Elastomer hardness	Flange ØDA acc. to SAE or special	Hub type	Finish bore








ROTEX® GS



Backlash-free jaw couplings

Spiders

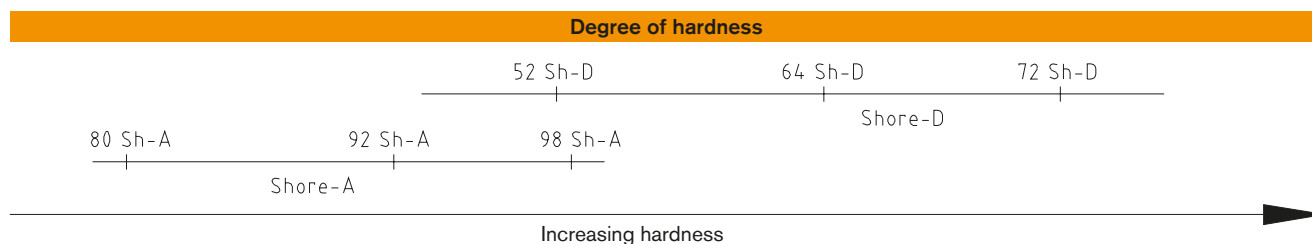
The flexible spiders for the GS series are available in five different kinds of Shore hardness, injected in different colours, either as a torsionally soft or hard material. These five spiders with different kinds of Shore hardness allow to easily adjust the ROTEX® GS to the individual conditions of an application considering the torsional spring stiffness and the vibration characteristics. The flexible prestress varies depending on the coupling size, the spiders/materials and the production tolerances. Resulting from it is the axial plug-in force starting from low as a close sliding fit or with torsionally soft spider to heavy with big prestress or torsionally rigid spider (see operating/assembly instruction KTR-N 45510 at www.ktr.com).

Along with an increasing hardness of the spider the torques to be transmitted and the stiffness of the spider increase, too. Along with reduced hardness of the spider the ability of compensating for displacements and damping the spider is increased.

Properties of ROTEX® GS spiders						
Description of spider hardness [Shore]	Marking of colour	Material	Perm. temperature range [°C]		Available for coupling size	Typical applications
			Permanent temperature ¹⁾	Max. temperature (short-time) ¹⁾		
80 ShA-GS		Polyurethane	-50 to +80	-60 to +120	Size 5 to 24	- drives of electric measuring systems
92 ShA-GS		Polyurethane	-40 to +90	-50 to +120	Size 5 to 55	- drives of electric measuring and control systems - Main spindle drives
98 ShA-GS		Polyurethane	-30 to +90	-40 to +120	Size 5 to 90	- Positioning drives - Main spindle drives - high load
52 ShD-GS ²⁾		Polyurethane	-40 to +120	-50 to +150	Size 24 to 42	- Positioning drives - backlash-free gears - Main spindle drives - High load with increased temperature
57 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 19 to 48	- Positioning drives - Main spindle drives - high load
64 ShD-H-GS 64 ShD-GS		Hytrek	-50 to +120	-60 to +150	Size 7 to 38	- Planetary gears/backlash-free gears - higher torsion spring stiffness
		Polyurethane	-20 to +110	-30 to +120	Size 42 to 90	- higher load - higher torsion spring stiffness
72 ShD-H-GS 72 ShD-GS		Hytrek	-50 to +120	-60 to +150	Size 24 to 38	- very high torsion spring stiffness - very high load
		Polyurethane	-20 to +110	-30 to +120	Size 42 to 90	- very high torsion spring stiffness - very high load

Properties of ROTEX® GS HP tooth elements						
Description of spider hardness [Shore]	Marking of colour	Material	Perm. temperature range [°C]		Available for coupling size	Typical applications
			Permanent temperature	Max. temperature (short-time)		
98 ShA-GS 52 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 24 to 65 (for ROTEX® GS HP only)	- HSC main spindle drives - Test benches with severely high speeds
64 ShD-GS		Polyurethane	-30 to +90	-40 to +120	Size 24 to 65 (for ROTEX® GS HP only)	- HSC main spindle drives - Test benches with severely high speeds - higher load - higher torsion spring stiffness

¹⁾ The temperature factors specified on page 23 must be considered.
²⁾ Torques and displacements same as with 98 ShA-GS spider



Spider material	Polyurethane			Hytrek
Degree of hardness	92 Shore A	98 Shore A	64 Shore D	64 Shore D
Relative damping ψ [-] ¹⁾	0.80	0.80	0.75	0.60
Resonance factor V_R [-] ¹⁾	7.90	7.90	8.50	10.5

¹⁾ Special figures apply for ROTEX® GS HP, please contact us.

ROTEX® GS

Backlash-free jaw couplings

Technical data

Size	Spider GS Shore hardness	Shore scale	Max. speed [rpm] for type						Torque [Nm]		Static torsion spring stiffness ¹⁾ [Nm/rad]	Dynamic torsion spring stiffness ¹⁾ [Nm/rad]	Radial spring stiffness C _r [N/mm]	Weight [kg]		Mass moment of inertia J [kgm ²]	
			2.0 / 2.1 2.5 / 2.6	2.8 2.9	1.0 1.1	6.0 light ²⁾	6.0 P ²⁾	DKM	T _{KN}	T _{Kmax}				Per hub ⁵⁾	Spider	Per hub ⁵⁾	Spider
5	80	A							0.3	0.6	3.15	10	82	0.001	0.2 x 10 ⁻³	0.015 x 10 ⁻⁶	0.002 x 10 ⁻⁶
	92	A	38000	38000	47700			0.5	1.0	5.16	16	154					
	98	A						0.9	1.7	8.3	25	296					
7	80	A							0.7	1.4	8.6	26	114	0.003	0.7 x 10 ⁻³	0.085 x 10 ⁻⁶	0.01 x 10 ⁻⁶
	92	A	27000	27000	34100			1.2	2.4	14.3	43	219					
	98	A						2.0	4.0	22.9	69	421					
	64	D						2.4	4.8	34.3	103	630					
8	80	A							0.7	1.4	8.8	27	117	0.003	0.5 x 10 ⁻³	0.117 x 10 ⁻⁶	0.0124 x 10 ⁻⁶
	98	A		23800				2.0	4.0	23.5	71	433					
	64	D						2.4	4.8	35.3	106	648					
9	80	A							1.8	3.6	17.2	52	125	0.01	1.7 x 10 ⁻³	0.48 x 10 ⁻⁶	0.085 x 10 ⁻⁶
	92	A	19000	19000	23800			3.0	6.0	31.5	95	262					
	98	A						5.0	10.0	51.6	155	518					
	64	D						6.0	12.0	74.6	224	739					
12	80	A							3.0	6.0	84.3	252	274	0.02	2.3 x 10 ⁻³	1.5 x 10 ⁻⁶	0.139 x 10 ⁻⁶
	92	A	15200	15200	19100			5.0	10.0	160.4	482	470					
	98	A						9.0	18.0	240.7	718	846					
13	80	A							3.6	7.2	111	330	359	0.01	2.0 x 10 ⁻³	1.1 x 10 ⁻⁶	0.155 x 10 ⁻⁶
	98	A		12700		38200		11.0	22.0	316	941	1109					
	64	D						14.5	29.0	430	1287	1570					
14	80	A							4.0	8.0	60.2	180	153	0.02	4.7 x 10 ⁻³	2.8 x 10 ⁻⁶	0.509 x 10 ⁻⁶
	92	A	12700	12700	15900	32000	47700	7.5	15.0	114.6	344	336					
	98	A						12.5	25.0	171.9	513	654					
16	80	A							16.0	32.0	234.2	702	856	0.02	3.6 x 10 ⁻³	2.8 x 10 ⁻⁶	0.435 x 10 ⁻⁶
	98	A		12000				5.0	10.0	157	471	400					
	64	D						15.0	30.0	450	1341	1710					
19	80	A							6.0	12.0	618	1065	582	0.09	7.6 x 10 ⁻³	19.5 x 10 ⁻⁶	1.35 x 10 ⁻⁶
	92	A	9550	9550	11900	24000 19000 ⁴⁾	35800	14300	12.0	24.0	1090	1815	1120				
	98	A						21.0	42.0	1512	2540	2010					
	57	D						23.0	46.0	2036	3175	2470					
24	80	A							26.0	52.0	2560	3810	2930	0.2	0.02	81.9 x 10 ⁻⁶	6.7 x 10 ⁻⁶
	92	A	6950	10400	8650	17000 14000 ⁴⁾	26000	10400	35	70	2280	4010	1480				
	98	A						60	120	3640	5980	2560					
	72 ³⁾	D						68	136	4335	8438	3128					
28	80	A							75	150	5030	10896	3696	0.3	0.03	184.2 x 10 ⁻⁶	14.85 x 10 ⁻⁶
	92	A	5850	8800	7350	15000 12000 ⁴⁾	22000	8800	97	194	9944	17095	5799				
	98	A						160	320	6410	9920	3200					
	72 ³⁾	D						178	356	8335	15050	3775					
38	80	A							200	400	10260	20177	4348	0.6	0.05	542.7 x 10 ⁻⁶	39.4 x 10 ⁻⁶
	92	A	4750	7150	5950	12000 9600 ⁴⁾	17900	7150	260	520	21526	36547	7876				
	98	A						190	380	6525	11050	2350					
	72 ³⁾	D						325	650	11800	17160	4400					
42	80	A							405	810	26300	40335	6474	2.4	0.08	2802 x 10 ⁻⁶	85 x 10 ⁻⁶
	92	A	4000		5000	10000 8050 ⁴⁾	15000	6000	450	900	21594	37692	5570				
	98	A						495	990	29225	53760	6420					
	72 ³⁾	D						560	1120	36860	69825	7270					
48	80	A							728	1456	58600	93800	9766	3.3	0.09	4709 x 10 ⁻⁶	135 x 10 ⁻⁶
	92	A	3600		4550	9100 7200 ⁴⁾	13600	5450	525	1050	25759	45620	5930				
	98	A						587	1174	41695	72685	7102					
	72 ³⁾	D						655	1310	57630	99750	8274					
55	80	A							852	1704	80000	136948	11359	5.1	0.12	9460 x 10 ⁻⁶	229 x 10 ⁻⁶
	98	A	3150		3950	6350 ⁴⁾	11900	4750	685	1370	42117	61550	6686				
	72 ³⁾	D						825	1650	105730	130200	9248					
65	80	A							1072	2144	150000	209530	12762	6.7	0.2	15143 x 10 ⁻⁶	437 x 10 ⁻⁶
	98	A	2800		3500	5650 ⁴⁾	11000		940	1880	48520	71660	6418				
	72 ³⁾	D						1175	2350	118510	189189	8870					
75	80	A							1527	3054	160000	310000	11826	10.5	0.3	32750 x 10 ⁻⁶	1179 x 10 ⁻⁶
	98	A	2350		2950	4750 ⁴⁾	8950		1920	3840	79150	150450	8650				
	72 ³⁾	D						2400	4800	182320	316377	11923					
90	80	A							3120	6240	360540	586429	16454	18.2	0.6	87099 x 10 ⁻⁶	3362 x 10 ⁻⁶
	98	A	1900		2380	3800 ⁴⁾	7150		3600	7200	204500	302900	10700				
	72 ³⁾	D							4500	9000	429450	908700	14700				
									5850	11700	847440	1308852	20290				

¹⁾ Static and dynamic torsion spring stiffness with 0.5 x T_{KN}

²⁾ For higher speeds see ROTEX® GS HP

³⁾ When using the spider 72 ShD, we recommend to use hubs made of steel

⁴⁾ Clamping ring hubs 6.0 made of steel

⁵⁾ Hubs with an average bore type 1.0

The coupling has to be dimensioned in that the permissible coupling load is not exceeded during any operating condition (see coupling selection on page 22 et seqq. in our catalogue "Drive Technology"). The specified torques T_{KN}/T_{Kmax} refer to the spider. The shaft-hub-connection needs to be verified by the customer.

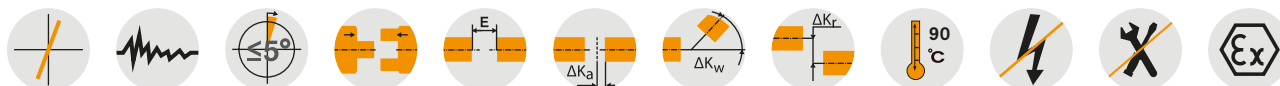
ROTEX® GS

Backlash-free jaw couplings

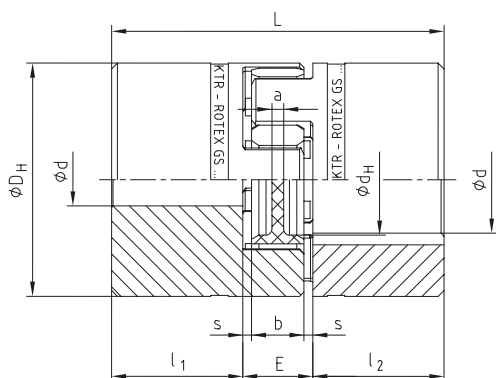
Standard types



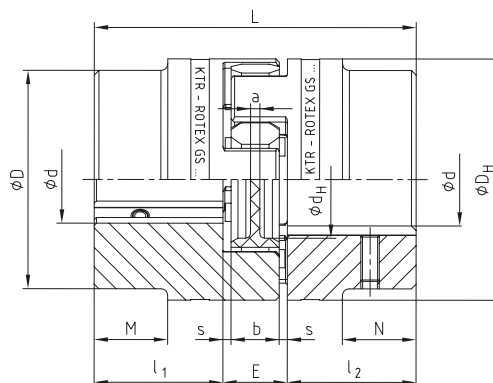
For legend of pictogram please refer to flapper on the cover



ROTEX® GS 5 - 38

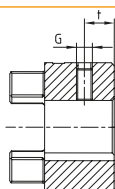


ROTEX® GS 42 - 90



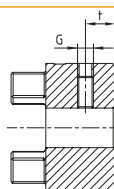
Types of hubs:

Type 1.0



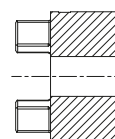
with feather keyway and setscrew

Type 1.1



without feather keyway, with setscrew

Type 1.2



without feather keyway and without setscrew

ROTEX® GS standard types - For size 5 to 38 hub material aluminium/for size 42 to 90 hub material steel

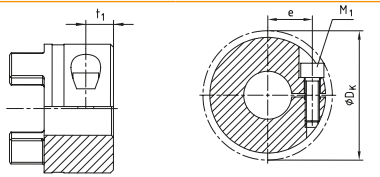
Size	Spider GS ¹⁾ torque T _{KV} [Nm] for 98 ShA	d _{max} for hub type			Dimensions [mm]											Setscrew DIN EN ISO 4029		
		1.0	1.1	1.2	D	D _H	d _H	L	l ₁ , l ₂	M, N	E	b	s	a	G	t	T _s [Nm]	
5	0.9	-	6	5	-	10	-	15	5	-	5	4	0.5	4.0	M2	2.5	0.35	
7	2.0	7	7	7	-	14	-	22	7	-	8	6	1.0	6.0	M3	3.5	0.6	
9	5.0	10	11	11	-	20	7.2	30	10	-	10	8	1.0	1.5	M4	5.0	1.5	
12	9.0	12	12	12	-	25	8.5	34	11	-	12	10	1.0	3.5	M4	5.0	1.5	
14	12.5	16	16	16	-	30	10.5	35	11	-	13	10	1.5	2.0	M4	5.0	1.5	
19	21	24	-	-	-	40	18	66	25	-	16	12	2.0	3.0	M5	10	2.0	
24	60	32	-	-	-	55	27	78	30	-	18	14	2.0	3.0	M5	10	2.0	
28	160	38	-	-	-	65	30	90	35	-	20	15	2.5	4.0	M8	15	10	
38	325	45	-	-	-	80	38	114	45	-	24	18	3.0	4.0	M8	15	10	
42	450	55	-	-	85	95	46	126	50	28	26	20	3.0	4.0	M8	20	10	
48	525	62	-	-	95	105	51	140	56	32	28	21	3.5	4.0	M8	20	10	
55	685	74	-	-	110	120	60	160	65	37	30	22	4.0	4.5	M10	20	17	
65	940	80	-	-	115	135	68	185	75	47	35	26	4.5	4.5	M10	20	17	
75	1920	95	-	-	135	160	80	210	85	53	40	30	5.0	5.0	M10	25	17	
90	3600	110	-	-	160	200	104	245	100	62	45	34	5.5	6.5	M12	30	40	

¹⁾ For selections see page 22 et seqq./other spiders see page 127 in our catalogue "Drive Technology"

Ordering example:	ROTEX® GS 24	98 ShA-GS	d 20	2.5 - Ø24		1.0 - Ø20	
	Coupling size	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore

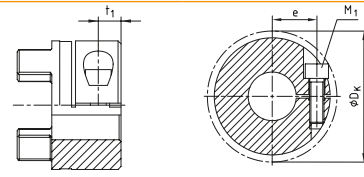
Types of hubs:

Type 2.0
Type 2.1



Size 5 to 14
Type 2.0: single slotted clamping hub **without** feather keyway (only for ATEX cat. 3), torque depending on bore Ø
Type 2.1: single slotted clamping hub **with** feather keyway

Type 2.5
Type 2.6



from size 19
Type 2.5: double slotted clamping hub **without** feather keyway (only for ATEX cat. 3), torque depending on bore Ø
Type 2.6: double slotted clamping hub **with** feather keyway

ROTEX® GS standard types - For size 5 to 38 hub material aluminium/for size 42 to 90 hub material steel

Size	Spider GS ¹⁾ torque T _{GS} [Nm] for 98 ShA	d _{max} for hub type				Dimensions [mm]											Clamping screws DIN EN ISO 4762 (ROTEX® GS 5 - DIN EN ISO 1207)				
		2.0	2.1	2.5	2.6	D	D _H	d _H	L	l ₁ , l ₂	M, N	E	b	s	a	M ₁	t ₁	e	DK	T _A [Nm]	
5	0.9	5	-	-	-	10	-	15	5	-	5	4	0.5	4.0	M1.2	2.5	3.5	11.4	- ²⁾		
7	2.0	7	7	-	-	14	-	22	7	-	8	6	1.0	6.0	M2	3.5	5.0	16.5	0.37		
9	5.0	11	11	-	-	20	7.2	30	10	-	10	8	1.0	1.5	M2.5	5.0	7.5	23.4	0.76		
12	9.0	12	12	-	-	25	8.5	34	11	-	12	10	1.0	3.5	M3	5.0	9.0	27.5	1.34		
14	12.5	16	16	-	-	30	10.5	35	11	-	13	10	1.5	2.0	M3	5.0	11.5	32.2	1.34		
19	21	-	-	24	24	40	18	66	25	-	16	12	2.0	3.0	M6	11.0	14.5	46	10.5		
24	60	-	-	28	28	55	27	78	30	-	18	14	2.0	3.0	M6	10.5	20.0	57.5	10.5		
28	160	-	-	38	38	65	30	90	35	-	20	15	2.5	4.0	M8	11.5	25.0	73	25		
38	325	-	-	45	45	80	38	114	45	-	24	18	3.0	4.0	M8	15.5	30.0	83.5	25		
42	450	-	-	50	45	85	95	126	50	28	26	20	3.0	4.0	M10	18	32.0	93.5	69		
48	525	-	-	55	55	95	105	140	56	32	28	21	3.5	4.0	M12	21	36.0	105	120		
55	685	-	-	68	68 ³⁾	110	120	160	65	37	30	22	4.0	4.5	M12	26	42.5	119.5	120		
65	940	-	-	70	70 ³⁾	115	135	185	75	47	35	26	4.5	4.5	M12	33	45.0	124	120		
75	1920	-	-	80	80	135	160	210	85	53	40	30	5.0	5.0	M16	36	51.0	147.5	295		
90	3600	-	-	90	90	160	200	245	100	62	45	34	5.5	6.5	M20	40	60.0	176	580		

¹⁾ For selections see page 22 et seqq. in our catalogue "Drive Technology"/other spiders see page 127 in our catalogue "Drive Technology"
²⁾ No T_A defined (slotted screw)
³⁾ From Ø60 keyway opposite the clamping screw

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.0

Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16
7	0.7	0.9	1.1	1.2	1.4									
9		1.6	1.9	2.2	2.6	2.9	3.2	3.5	3.8					
12		2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	6.3				
14			3.1	3.6	4.2	4.7	5.2	5.7	6.2	6.7	7.1	7.6	8.0	8.5

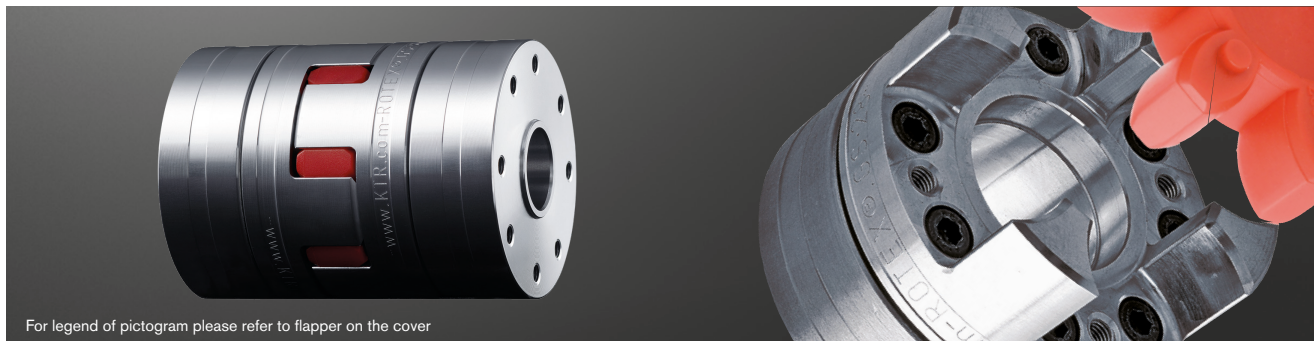
Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5

Size	Ø8	Ø10	Ø11	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90	
19	19	23	25	31	33	35	39	41	42	46 ⁴⁾	49 ⁴⁾																				
24		24	26	33	35	37	41	43	45	48	52	54	59																		
28				63	67	71	79	82	86	94	101	105	115	122	129	139	148														
38					67	71	79	83	87	95	102	106	117	124	131	142	152	158	165	175											
42							188	197	214	231	240	264	281	297	320	343	358	373	395	417	431										
48												356	394	418	442	478	513	536	558	592	624	646	699								
55															456	493	529	553	577	611	646	668	724	778	830	882					
65																499	536	560	584	620	655	677	734	789	842	895	946				
75																			1107	1175	1242	1287	1396	1503	1607	1709	1810	1908	2005		
90																				1764	1876	1985	2057	2235	2409	2579	2746	2911	3072	3231	3387

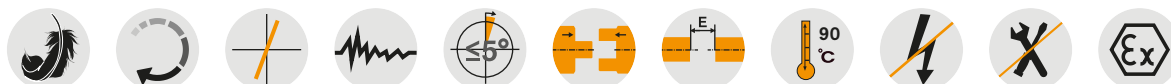
⁴⁾ Clamping hub single slotted with 2-off clamping screws M4 and dimension e = 15, T_A = 2.9 Nm

ROTEX® GS Clamping ring hubs light Backlash-free jaw couplings

Integrated clamping system made of aluminium

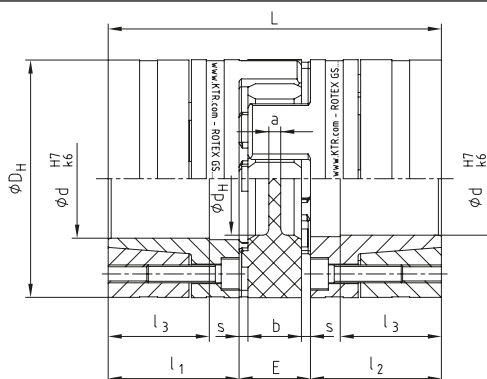


For legend of pictogram please refer to flapper on the cover



Extraction thread M_1 between clamping screws

Clamping ring hub light with block mounting (hub and clamping ring mounted as a block)



ROTEX® GS clamping ring hubs light

Size	Spider GS ¹⁾ torque T_{KN} [Nm]			Dimensions [mm]										Clamping screws DIN EN ISO 4762			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kgm ²]	
	92 ShA	98 ShA	64 ShD	d_{max}	D_H ²⁾	d_H	L	l_1, l_2	l_3	E	b	s	a	M	$z = \text{number}$	T_A [Nm]			M_1
13	-	11	14.5	13	25	10	34	12	9	10	8	1	-	M2	6	0.37	M2	0.014	1.39×10^{-6}
14	7.5	12.5	16.0	14	30	10.5	50	18.5	13.5	13	10	1.5	2.0	M3	4	1.34	M3	0.032	0.04×10^{-4}
19	12	21	26	20	40	18	66	25	18	16	12	2.0	3.0	M4	6	3	M4	0.077	0.19×10^{-4}
24	35	60	75	32	55	27	78	30	22	18	14	2.0	3.0	M5	4	6	M5	0.162	0.78×10^{-4}
28	95	160	200	38	65	30	90	35	27	20	15	2.5	4.0	M5	8	6	M5	0.240	1.70×10^{-4}
38	190	325	405	48	80	38	114	45	35	24	18	3.0	4.0	M6	8	10	M6	0.490	5.17×10^{-4}
42	265	450	560	51	95	46	126	50	35	26	20	3.0	4.0	M8	4	25	M8	0.772	11.17×10^{-4}
48	310	525	655	55	105	51	140	56	41	28	21	3.5	4.0	M10	4	49	M10	1.066	18.81×10^{-4}

¹⁾ For selections see page 22 et seqq./other spiders see page 127 in our catalogue "Drive Technology"

²⁾ $\varnothing D_H + 2$ mm with high speeds for expansion of spider

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 6.0 light

Size		Ø3	Ø4	Ø5	Ø6	Ø8	Ø9	Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*
13	H7/k6	1.3 ³⁾	2.3 ³⁾	4.3 ³⁾	5.4 ³⁾	10 ³⁾	6.3	8.9	10.6																		
	H7/h6				2.4	4.8	5.4																				
14	H7/k6				8.2	13.1	18.7	20.5	25.9	36.2																	
	H7/h6				5.8	9.5	15.7	16.6	21.6	24.7																	
19	H7/k6							33	41	59	71	51	80	92													
	H7/h6							27	35	52	65	39	68	81													
24	H7/k6									84	99	93	139	157	160	177	232	177 ⁴⁾									
	H7/h6									75	92	79	125	145	119	136	190	147 ⁴⁾									
28	H7/k6											140	207	188	289	316	355	414	324	404	422						
	H7/h6											121	187	157	263	293	318	381	245	324	343						
38	H7/k6													290	439	480	567	656	617	759	733	825	922	808	937		
	H7/h6													247	403	447	530	626	499	636	606	696	792	678	809		
42	H7/k6																651	752	747	916	1001	1115	1044	1218	1404	1432	
	H7/h6																574	681	613	774	881	1001	888	1058	1241	1295	
48	H7/k6																765	822	927	1121	1220	1357	1318	1536	1768	1535	1823
	H7/h6																678	760	837	1047	1085	1231	1128	1339	1566	1331	1475

* Standard bore tolerance H7, special tolerances on request * From Ø55 tolerance G7/m6

The friction torque is reduced with bigger clearance.. Steel or nodular iron with a yield strength of approx. 250 N/mm² or more can be used as shaft material. For strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage www.ktr.com.

³⁾ Taper of hub with slot

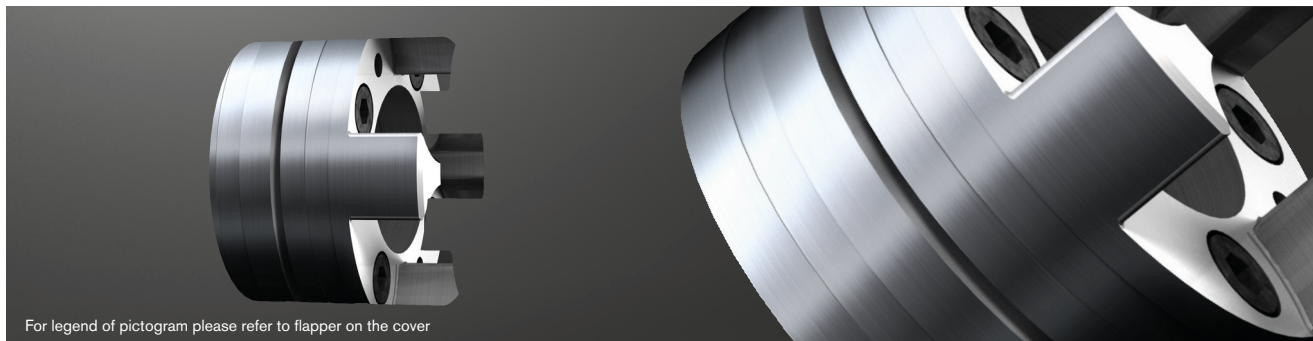
⁴⁾ Clamping ring hub with screws M3, z = 8 and $T_A = 2.9$ Nm

Ordering example:	ROTEX® GS 24	98 ShA-GS	d 20	6.0 light - Ø24		6.0 light - Ø20	
	Coupling size	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore

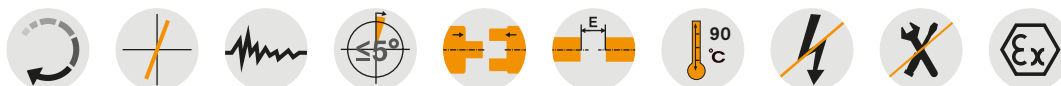
ROTEX® GS Clamping ring hubs made of steel

Backlash-free jaw couplings

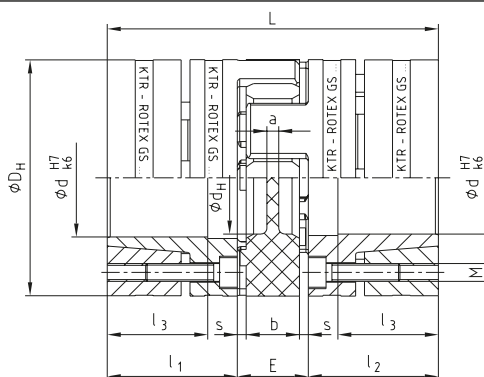
Integrated clamping system made of steel



For legend of pictogram please refer to flapper on the cover



Extraction thread M_1 between clamping screws



ROTEX® GS clamping ring hubs steel

Size	Spider GS ¹⁾ torque T_{KN} [Nm]			Dimensions [mm]										Clamping screws DIN EN ISO 4762			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kgm ²]	
	98 ShA	64 ShD	72 ShD	d_{max}	D_H ²⁾	d_H	L	l_1, l_2	l_3	E	b	s	a	M	z = number	T_A [Nm]			M_1
19	21	26	—	20	40	18	66	25	18	16	12	2.0	3.0	M4	6	4.1	M4	0.179	0.44×10^{-4}
24	60	75	97	28	55	27	78	30	22	18	14	2.0	3.0	M5	4	8.5	M5	0.399	1.91×10^{-4}
28	160	200	260	38	65	30	90	35	27	20	15	2.5	4.0	M5	8	8.5	M5	0.592	4.18×10^{-4}
38	325	405	525	48	80	38	114	45	35	24	18	3.0	4.0	M6	8	14	M6	1.225	12.9×10^{-4}
42	450	560	728	51	95	46	126	50	35	26	20	3.0	4.0	M8	4	41	M8	2.30	31.7×10^{-4}
48	525	655	852	55	105	51	140	56	41	28	21	3.5	4.0	M10	4	69	M10	3.08	52.0×10^{-4}
55	685	825	1072	70	120	60	160	65	45	30	22	4.0	4.5	M10	4	69	M10	4.67	103.0×10^{-4}
65	940	1175	1527	70	135	68	185	75	55	35	26	4.5	4.5	M12	4	120	M12	6.70	191.0×10^{-4}
75	1920	2400	3120	80	160	80	210	85	63	40	30	5.0	5.0	M12	5	120	M12	9.90	396.8×10^{-4}
90	3600	4500	5850	105	200	104	245	100	75	45	34	5.5	6.5	M16	5	295	M16	17.7	1136×10^{-4}

¹⁾ For selections see page 22 et seqq./other spiders see page 127 in our catalogue "Drive Technology"

²⁾ $\varnothing D_H + 2$ mm with high speeds for expansion of spider

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 6.0 steel

Size		$\varnothing 10$	$\varnothing 11$	$\varnothing 14$	$\varnothing 15$	$\varnothing 16$	$\varnothing 19$	$\varnothing 20$	$\varnothing 24$	$\varnothing 25$	$\varnothing 28$	$\varnothing 30$	$\varnothing 32$	$\varnothing 35$	$\varnothing 38$	$\varnothing 40$	$\varnothing 42$	$\varnothing 45$	$\varnothing 48$	$\varnothing 50$	$\varnothing 55^*$	$\varnothing 60^*$	$\varnothing 65^*$	$\varnothing 70^*$	$\varnothing 80^*$	$\varnothing 90^*$	$\varnothing 95^*$	$\varnothing 100^*$	$\varnothing 105^*$	
19	H7/k6	27	32	69	84	57	94	110																						
	H7/h6	15	18	57	74	38	76	94																						
24	H7/k6			70	87	56	97	114	116	133	192																			
	H7/h6			55	74	32	72	93	84	103	173																			
28	H7/k6				108	131	207	148	253	285	315	382	330	433	503															
	H7/h6				74	97	172	94	207	242	267	343	260	377	453															
38	H7/k6							208	353	395	439	531	463	603	593	689	793	776												
	H7/h6							136	290	337	373	476	367	525	491	601	721	677												
42	H7/k6									445	495	595	526	677	671	775	718	872	1043	1061										
	H7/h6									387	429	540	429	600	569	687	599	773	970	978										
48	H7/k6											616	704	899	896	1030	962	1160	1379	1222	1543									
	H7/h6											513	590	806	775	924	822	1042	1290	1073	—									
55	H7/k6													863	856	991	918	1119	1110	1247	1277	1665	1605	2008						
	H7/h6													750	710	863	750	976	934	1089	—	—	—	—						
65	H7/k6														1446	1355	1637	1635	1827	1887	2429	2368	2930							
	H7/h6														1275	1135	1447	1404	1619	—	—	—	—							
75	H7/k6															1710	2053	2059	2294	2384	3040	2983	3664	4293						
	H7/h6															1460	1836	1797	2056	—	—	—	—							
90	H7/k6																				3845	4249	4795	5859	5906	7036	8047	9247	9575	10845
	H7/h6																				3445	—	—	—	—	—	—	—	—	—

* From $\varnothing 55$ tolerance G7/m6

The friction torque is reduced with bigger clearance.. For the strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage www.ktr.com.

Ordering example:

ROTEX® GS 24	98 ShA-GS	d 20	6.0 steel - $\varnothing 24$	6.0 steel - $\varnothing 20$
Coupling size	Spider hardness	Optional: Bore in spider	Hub type	Finish bore
			Hub type	Finish bore

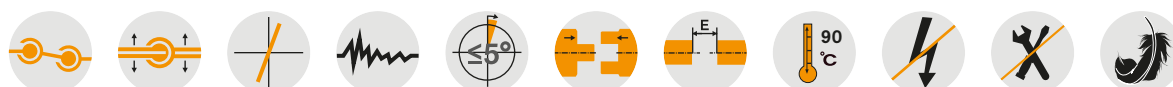
ROTEX® GS ZR3

Backlash-free intermediate shaft couplings

Intermediate shaft coupling with aluminium pipe bonded



For legend of pictogram please refer to flapper on the cover



ROTEX® GS Type ZR3 - Hub material aluminium/intermediate pipe material aluminium

Size	Dimensions [mm]														Cap screws DIN EN ISO 4762	
	d _{max}	D _H	l ₁	L	l ₃	E	L _R		L _{ZR} = L _R + 2 • l ₃		d _R	DK	t ₁	e	M	T _A [Nm]
							Min.	Max.	Min.	Max.						
14	15	30	18.5	36.0	14.5	13	72	2971	101	3000	28	33.3	7.5	10.5	M4	2.9
19	20	40	25	49.0	17.5	16	98	2965	133	3000	40	46	8.0	14.5	M6	10
24	30	55	30	59.0	22.0	18	121	3456	165	3500	50	57.5	10.5	20	M6	10
28	38	65	35	67.0	25.0	20	137	3950	187	4000	60	73	11.5	25	M8	25
38	45	80	45	83.5	33.0	24	169	3934	235	4000	70	83.5	15.5	30	M8	25
42	50	95	50	93.0	36.5	26	180	3927	253	4000	80	93.5	18.0	32	M10	49
48	55	105	56	100.0	39.5	28	202	3921	281	4000	100	105	18.5	36	M12	86

Technical data of type ZR3

Size	Spider GS ¹⁾ torque T _{KN} [Nm]		Moment of inertia [10 ⁻³ kgm ²]			Static torsion spring stiffness [Nm/rad]
	98 ShA	64 ShD	Hub ²⁾	ZR hub	Pipe/meter	
14	12.5	16.0	0.00362	0.00238	0.088	858
19	21.0	26.0	0.02002	0.01304	0.329	3243.6
24	60.0	75.0	0.07625	0.04481	0.673	6631.8
28	160	200	0.17629	0.10950	1.199	11814.1
38	325	405	0.50385	0.2572	2.972	29290.4
42	450	560	1.12166	0.5523	4.560	44929.7
48	525	655	1.87044	1.1834	9.251	91158.2

¹⁾ For selections see page 22 et seqq./other spiders see page 127 in our catalogue "Drive Technology"

²⁾ With d_{max}

³⁾ Torsion spring stiffness with a length of 1 m of intermediate pipe with L_{pipe} = L_{ZR} - 2 • L

For inquiries and orders please specify the shaft distance dimension L_R along with the maximum speed to review the critical bending speed. See diagramme on page 131 in our catalogue "Drive Technology". The intermediate pipe can be combined with other hub types, but in that case it can no longer be disassembled radially. Please specify the shaft distance dimension required in your order. With vertical application a support washer has to be used (please specify in your order).

Insertion dimension of shaft l₃, to make sure that the coupling can be assembled/disassembled radially.

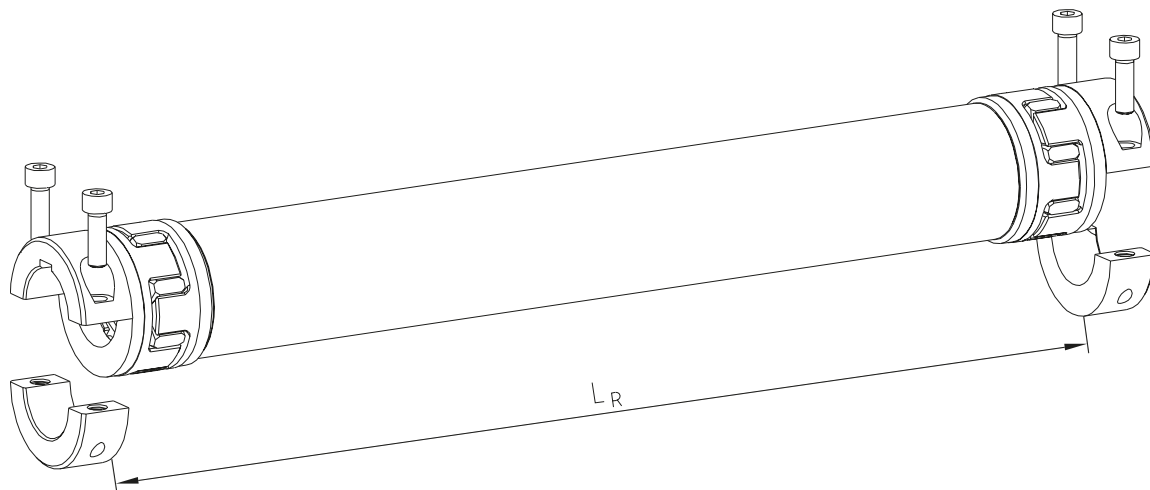
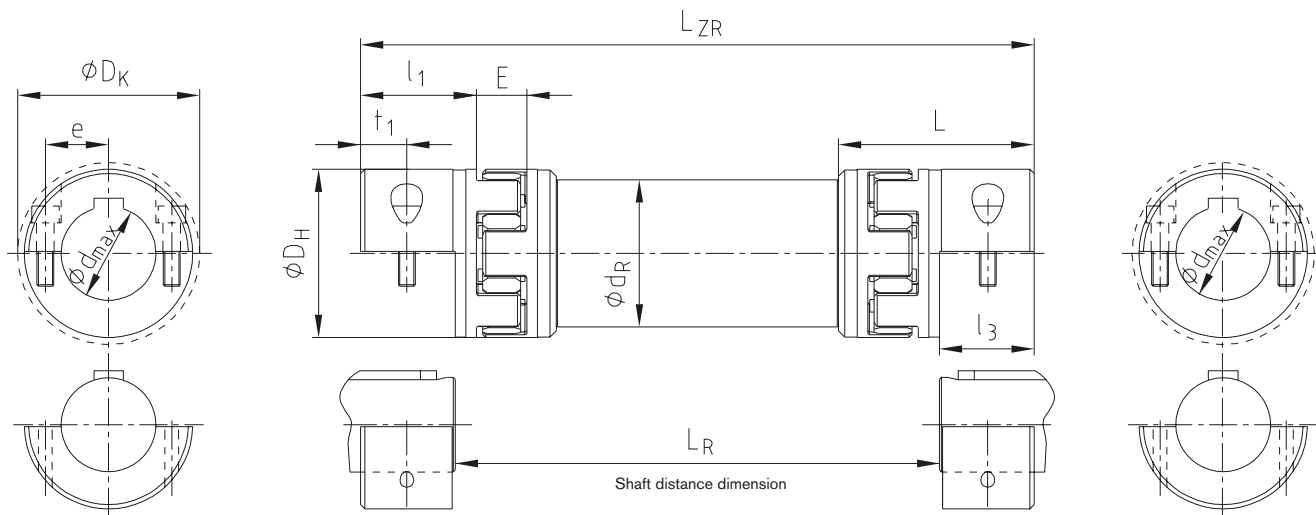
Straightness/concentricity of pipes according to DIN EN 755-1.

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 7.5

Size	Ø6	Ø8	Ø10	Ø11	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø46	Ø48	Ø50	Ø55
14	5.5	7.4	9.2	10.1	12.9	13.8																			
19		17	21	23	30	32	34	38	40	42															
24			21	23	30	32	34	38	40	42	47	51	53	59	63										
28					54	58	62	70	74	78	86	93	97	109	117	124	136	148							
38								70	74	78	86	93	97	109	117	124	136	148	156	163	175				
42											136	149	155	174	186	198	217	235	248	260	279	285	297	310	
48											199	217	226	253	271	290	317	344	362	380	407	416	434	452	498

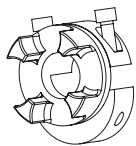
Ordering example:

ROTEX® GS 24	ZR3	1200 mm	98 ShA-GS	7.5 - Ø24	7.5 - Ø24		
Coupling size	Type	Shaft distance dimension (L _R)	Spider hardness	Hub type	Finish bore	Hub type	Finish bore



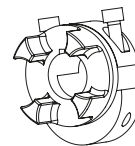
Types of hubs

Type 7.5



Clamping hub type DH without feather keyway for double-cardanic connections

Type 7.6



Clamping hub type DH with feather keyway for double-cardanic connections

ROTEX® GS

Backlash-free jaw couplings

Technical data

Size	Spider GS Shore hardness	Shore scale	Max. speed [rpm] for type						Torque [Nm]		Static torsion spring stiffness ¹⁾ [Nm/rad]	Dynamic torsion spring stiffness ¹⁾ [Nm/rad]	Radial spring stiffness C _r [N/mm]	Weight [kg]		Mass moment of inertia J [kgm ²]	
			2.0 / 2.1 / 2.5 / 2.6	2.8 / 2.9	1.0 / 1.1	6.0 light ²⁾	6.0 P ²⁾	DKM	T _{KN}	T _{Kmax}				Per hub ⁵⁾	Spider	Per hub ⁵⁾	Spider
5	80	A							0.3	0.6	3.15	10	82	0.001	0.2 x 10 ⁻³	0.015 x 10 ⁻⁶	0.002 x 10 ⁻⁶
	92	A	38000	38000	47700			57300	0.5	1.0	5.16	16	154				
	98	A							0.9	1.7	8.3	25	296				
7	80	A							0.7	1.4	8.6	26	114	0.003	0.7 x 10 ⁻³	0.085 x 10 ⁻⁶	0.01 x 10 ⁻⁶
	92	A	27000	27000	34100			40900	1.2	2.4	14.3	43	219				
	98	A							2.0	4.0	22.9	69	421				
	64	D							2.4	4.8	34.3	103	630				
8	80	A							0.7	1.4	8.8	27	117	0.003	0.5 x 10 ⁻³	0.117 x 10 ⁻⁶	0.0124 x 10 ⁻⁶
	98	A		23800					2.0	4.0	23.5	71	433				
	64	D							2.4	4.8	35.3	106	648				
9	80	A							1.8	3.6	17.2	52	125	0.01	1.7 x 10 ⁻³	0.48 x 10 ⁻⁶	0.085 x 10 ⁻⁶
	92	A	19000	19000	23800			28600	3.0	6.0	31.5	95	262				
	98	A							5.0	10.0	51.6	155	518				
	64	D							6.0	12.0	74.6	224	739				
12	80	A							3.0	6.0	84.3	252	274	0.02	2.3 x 10 ⁻³	1.5 x 10 ⁻⁶	0.139 x 10 ⁻⁶
	92	A	15200	15200	19100			22900	5.0	10.0	160.4	482	470				
	98	A							9.0	18.0	240.7	718	846				
13	80	A							3.6	7.2	111	330	359	0.01	2.0 x 10 ⁻³	1.1 x 10 ⁻⁶	0.155 x 10 ⁻⁶
	98	A		12700		38200			11.0	22.0	316	941	1109				
	64	D							14.5	29.0	430	1287	1570				
14	80	A							4.0	8.0	60.2	180	153	0.02	4.7 x 10 ⁻³	2.8 x 10 ⁻⁶	0.509 x 10 ⁻⁶
	92	A	12700	12700	15900	32000	47700	19100	7.5	15.0	114.6	344	336				
	98	A							12.5	25.0	171.9	513	654				
	64	D							16.0	32.0	234.2	702	856				
16	80	A							5.0	10.0	157	471	400	0.02	3.6 x 10 ⁻³	2.8 x 10 ⁻⁶	0.435 x 10 ⁻⁶
	98	A		12000					15.0	30.0	450	1341	1710				
	64	D							19.0	38.0	612	1835	2238				
19	80	A							6.0	12.0	618	1065	582	0.09	7.6 x 10 ⁻³	19.5 x 10 ⁻⁶	1.35 x 10 ⁻⁶
	92	A	9550	9550	11900	24000 19000 ⁴⁾	35800	14300	12.0	24.0	1090	1815	1120				
	98	A							21.0	42.0	1512	2540	2010				
	57	D							23.0	46.0	2036	3175	2470				
	64	D							26.0	52.0	2560	3810	2930				
24	80	A							35	70	2280	4010	1480	0.2	0.02	81.9 x 10 ⁻⁶	6.7 x 10 ⁻⁶
	92	A	6950	10400	8650	17000 14000 ⁴⁾	26000	10400	60	120	3640	5980	2560				
	98	A							68	136	4335	8438	3128				
	72 ³⁾	D							75	150	5030	10896	3696				
	92	A							97	194	9944	17095	5799				
28	80	A							95	190	4080	6745	1780	0.3	0.03	184.2 x 10 ⁻⁶	14.85 x 10 ⁻⁶
	92	A	5850	8800	7350	15000 12000 ⁴⁾	22000	8800	160	320	6410	9920	3200				
	98	A							178	356	8335	15050	3775				
	72 ³⁾	D							200	400	10260	20177	4348				
38	80	A							260	520	21526	36547	7876	0.6	0.05	542.7 x 10 ⁻⁶	39.4 x 10 ⁻⁶
	92	A	4750	7150	5950	12000 9600 ⁴⁾	17900	7150	190	380	6525	11050	2350				
	98	A							325	650	11800	17160	4400				
	72 ³⁾	D							362	724	19050	28745	5437				
42	80	A							405	810	26300	40335	6474	2.4	0.08	2802 x 10 ⁻⁶	85 x 10 ⁻⁶
	92	A	4000		5000	10000 8050 ⁴⁾	15000	6000	450	900	21594	37692	5570				
	98	A							495	990	29225	53760	6420				
	72 ³⁾	D							560	1120	36860	69825	7270				
48	80	A							728	1456	58600	93800	9766	3.3	0.09	4709 x 10 ⁻⁶	135 x 10 ⁻⁶
	92	A	3600		4550	9100 7200 ⁴⁾	13600	5450	525	1050	25759	45620	5930				
	98	A							587	1174	41695	72685	7102				
	72 ³⁾	D							655	1310	57630	99750	8274				
55	80	A							852	1704	80000	136948	11359	5.1	0.12	9460 x 10 ⁻⁶	229 x 10 ⁻⁶
	92	A	3150		3950	6350 ⁴⁾	11900	4750	685	1370	42117	61550	6686				
	72 ³⁾	D							825	1650	105730	130200	9248				
65	80	A							1072	2144	150000	209530	12762	6.7	0.2	15143 x 10 ⁻⁶	437 x 10 ⁻⁶
	92	A	2800		3500	5650 ⁴⁾	11000		940	1880	48520	71660	6418				
	72 ³⁾	D							1175	2350	118510	189189	8870				
75	80	A							1527	3054	160000	310000	11826	10.5	0.3	32750 x 10 ⁻⁶	1179 x 10 ⁻⁶
	92	A	2350		2950	4750 ⁴⁾	8950		1920	3840	79150	150450	8650				
	72 ³⁾	D							2400	4800	182320	316377	11923				
90	80	A							3120	6240	360540	586429	16454	18.2	0.6	87099 x 10 ⁻⁶	3362 x 10 ⁻⁶
	92	A	1900		2380	3800 ⁴⁾	7150		3600	7200	204500	302900	10700				
	72 ³⁾	D							4500	9000	429450	908700	14700				
									5850	11700	847440	1308852	20290				

¹⁾ Static and dynamic torsion spring stiffness with 0.5 x T_{KN}

²⁾ For higher speeds see ROTEX® GS HP

³⁾ When using the spider 72 ShD, we recommend to use hubs made of steel

⁴⁾ Clamping ring hubs 6.0 made of steel

⁵⁾ Hubs with an average bore type 1.0

The coupling has to be dimensioned in that the permissible coupling load is not exceeded during any operating condition (see coupling selection on page 22 et seq.) in our catalogue "Drive Technology". The specified torques T_{KN}/T_{Kmax} refer to the spider. The shaft-hub-connection needs to be verified by the customer.

ROTEX® GS

Backlash-free jaw couplings

Other types

ROTEX® GS Compact



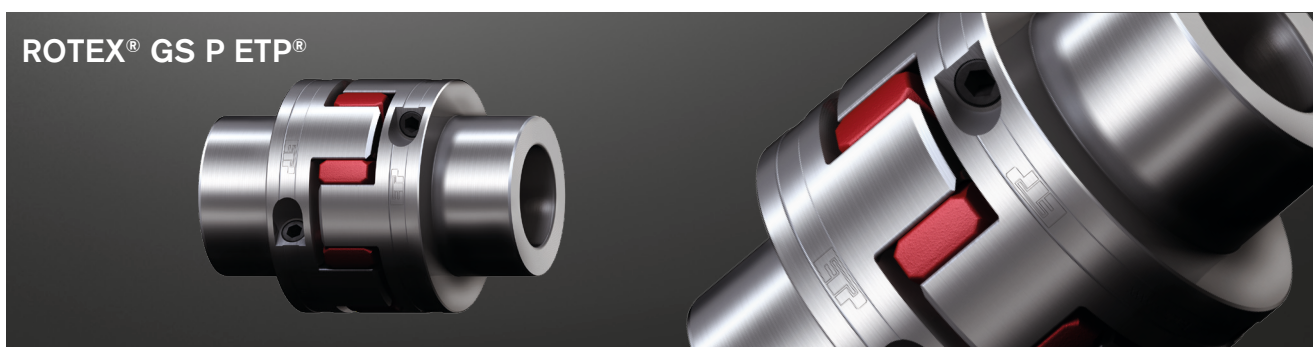
- It is up to 1/3 shorter than standard types
- Axial slot, DBGM (German utility model)
- Good concentric running
- Uniform power transmission by cams without slots

ROTEX® GS HP



- Highly accurate jaw coupling for severely high speeds (up to a circumferential speed of 175 m/s)
- Compact dimensions
- Easy assembly due to internal clamping screws
- High friction torques

ROTEX® GS P ETP®

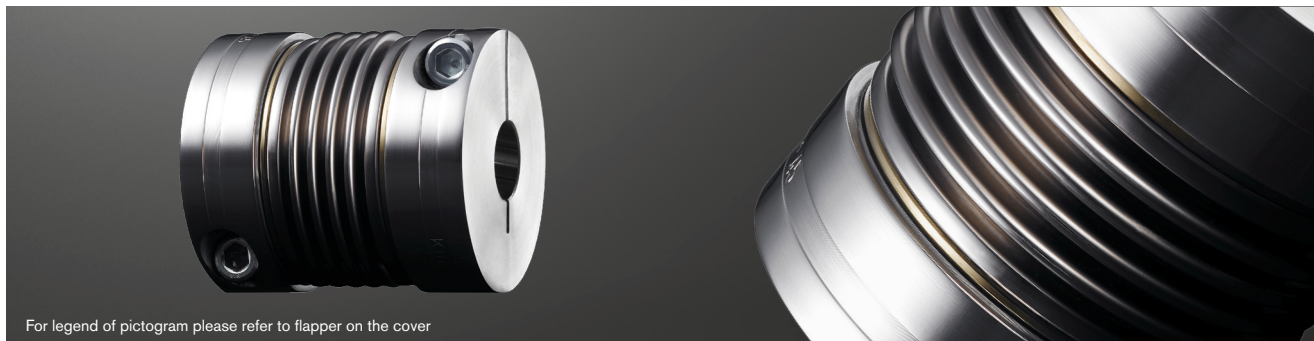


- Backlash-free shaft coupling damping vibrations with integrated ETP quick clamping system
- Quick assembly / disassembly since one screw only needs to be tightened
- Severely good concentric running properties even after repeated assembly operations
- Assembly / disassembly for thousands of times
- Assembly in spaces difficult to access possible, since the pressure screw is tightened in axial direction to the shaft
- Small mounting dimensions
- The hub can be easily and accurately set

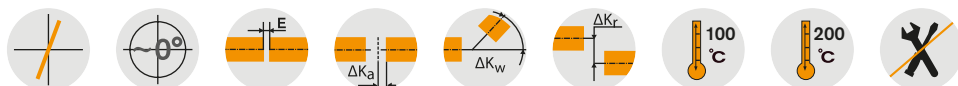
TOOLFLEX® S

Metal bellow-type couplings

Type S: with clamping hubs



For legend of pictogram please refer to flapper on the cover



TOOLFLEX® Type S with clamping hubs - Hub material aluminium (size 55/65 steel)/bellow material stainless steel

Size	Dimensions [mm]											
	Finish bore d		General					Clamping screws DIN EN ISO 4762				
	Min.	Max.	L	l_1, l_2	E	D_H	d_H	M_i	DK	t_i	e_i	T_A [Nm]
7	3	7	24	9	6	15	9	M2	16.5	3.2	5	0.37
9	3	9	29	11	7	20	12	M2.5	21.5	3.5	7.1	0.76
12	4	12	34.5	13	8.5	25	16	M3	26.5	4	8.5	1.34
16	5	16	45	17.0	11	32	20	M4	35.0	5	12.0	2.9
20	8	20	55	21.5	12	40	27	M5	43.5	6	14.5	6
30	10	30	63	23.0	17	55	33	M6	58.0	7	19	10
38	12	38	69	25.5	18	65	42	M8	72.6	9	25	25
42	14	42	84	30.0	24	70	46	M8	76.1	9	27	25
45	14	45	86.5	32.0	22.5	83	58	M10	89.0	11	30	49
55 Al	20	55	111	40.0	31	100	73	M12	106.0	14	37	86
55 ³⁾	20	55	111	40.0	31	100	73	M12	106.0	14	37	120
65 ³⁾	30	65	126	45.0	36	125	95	M14	127.2	15	45	185

Technical data

Size	Bellow-hub-connection	Torque of bellow $T_{KN}^{(1)}$ [Nm]	Max. speed [rpm]	Hub material	Moment of inertia ²⁾ [$\times 10^{-4} \text{kgm}^2$]	Torsion spring stiffness C_T [Nm/rad]	Axial stiffness C_a [N/mm]	Radial stiffness C_r [N/mm]	Perm. displacements			Weight ²⁾ [kg]
									Axial [mm]	Radial [mm]	Angular [degree]	
7	Bonded	1	31800	Aluminium	0.26	390	—	—	±0.3	0.10	0.7	0.007
9		1.5	23800	Aluminium	0.97	750	—	—	±0.35	0.15	1.0	0.014
12		2	19100	Aluminium	2.6	1270	—	—	±0.4	0.15	1.0	0.025
16		5	14900	Aluminium	9	4500	43	138	±0.3	0.15	1.0	0.06
20		15	11950	Aluminium	30	9600	63	189	±0.4	0.15	1.0	0.12
30	Flanged	35	8700	Aluminium	114	17800	97	233	±0.5	0.20	1.5	0.24
38		65	7350	Aluminium	245	37400	108	318	±0.6	0.20	1.5	0.35
42		95	6820	Aluminium	396	54700	120	499	±0.6	0.20	1.5	0.49
45		170	5750	Aluminium	931	95800	132	738	±0.9	0.20	1.5	0.82
55 Al		340	4800	Aluminium	1665	144100	160	894	±1.1	0.25	1.5	1.50
55 ³⁾	3)	340	4800	Steel	4996	144100	160	894	±1.0	0.25	1.5	3.20
65 ³⁾		600	3850	Steel	13318	322740	212	1365	±1.0	0.30	1.5	5.50

¹⁾ For selection see page 22 et seqq. in our catalogue "Drive Technology"

²⁾ Figures refer to the complete coupling with max. bore.

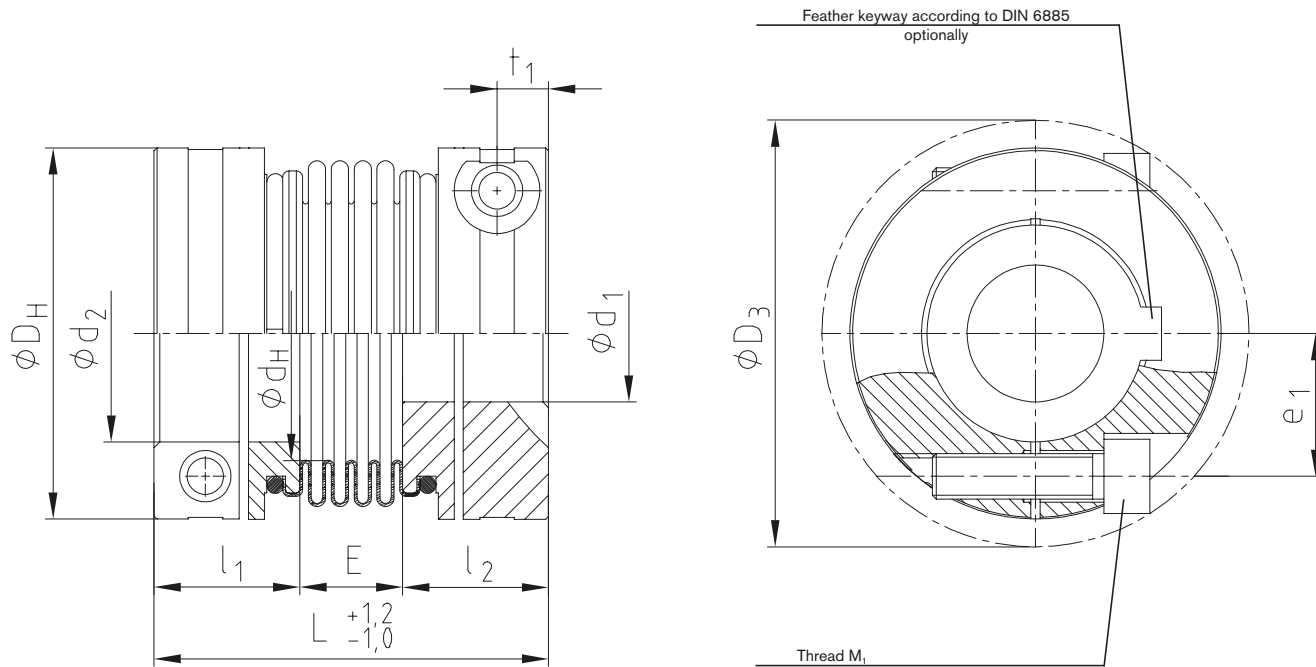
³⁾ Hub made of steel welded with bellow.

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5

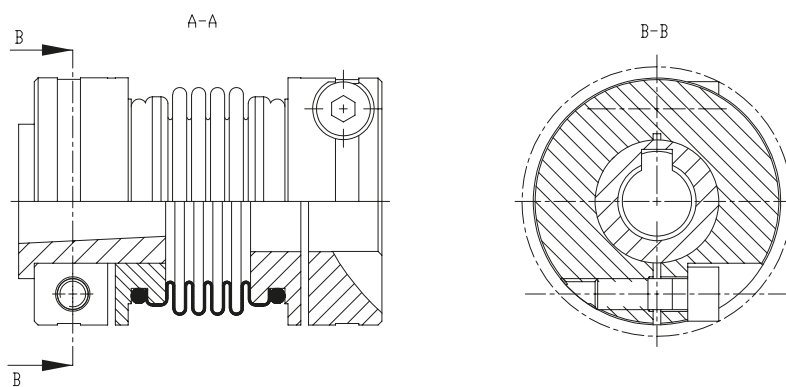
Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø50	Ø55	Ø60	Ø65
7	0.84	0.91	0.97	1.04	1.10																									
9	1.87	1.98	2.09	2.20	2.31	2.41	2.52																							
12		3.48	3.65	3.81	3.98	4.14	4.31	4.48	4.64	4.81																				
16			8.5	8.8	9.1	9.4	9.7	9.9	10.2	10.5	11.1	11.4	11.7																	
20						17.6	18.1	18.6	19.1	19.5	20.5	21.0	21.4	22.4	22.9	23.3														
30									33.1	33.8	35.1	35.8	36.5	37.8	38.5	39.2	41.9	42.5	44.6	45.9										
38											79.2	80.4	81.7	84.2	85.4	86.6	91.6	92.8	96.5	99.0	102	105	109							
42											84.2	85.4	86.6	89.1	90.3	91.6	96.5	97.8	102	104	106	110	114	116	119					
45												157	165	167	173	177	181	187	193	197	200	206								
55 Al																270	281	284	293	298	304	313	321	327	333	341	356	371		
55 ³⁾																397	401	413	421	429	442	454	462	470	482	502	523			
65 ³⁾																				720	732	750	768	780	792	810	840	870	900	930

Ordering example:

TOOLFLEX® 30 S	2.5	Ø25	2.5	Ø30
Size and type of coupling	Hub type	Finish bore	Hub type	Finish bore

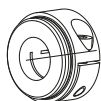


Other types:
Type for FANUC motors



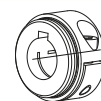
Types of hubs

Type 2.5



Clamping hub double slot without feather keyway

Type 2.6

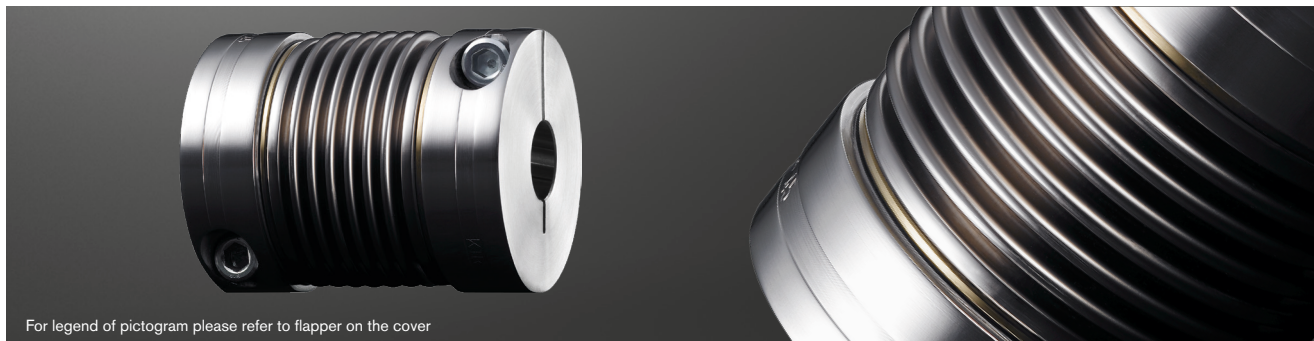


Clamping hub double slot with feather keyway

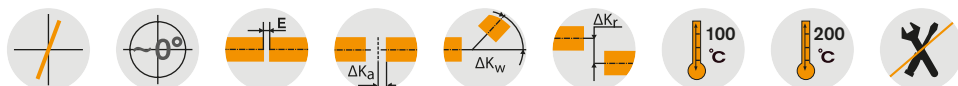
TOOLFLEX® M

Metal bellow-type couplings

Type M: with clamping hubs



For legend of pictogram please refer to flapper on the cover



TOOLFLEX® Type M with clamping hubs - Hub material aluminium (size 55/65 steel)/bellow material stainless steel

Size	Dimensions [mm]											
	Finish bore d		General					Clamping screws DIN EN ISO 4762				
	Min.	Max.	L	l_1, l_2	E	D_H	d_H	M_1	DK	t_1	e_1	T_A [Nm]
7	3	7	26	9	8	15	9	M2	16.5	3.2	5	0.37
9	3	9	32	11	10	20	12	M2.5	21.5	3.5	7.1	0.76
12	4	12	38	13	12	25	16	M3	26.5	4	8.5	1.34
16	5	16	49	17.0	15	32	20	M4	35.0	5	12	2.9
20	8	20	62	21.5	19	40	27	M5	43.5	6	14.5	6
30	10	30	72	23.0	26	55	33	M6	58.0	7	19	10
38	12	38	81	25.5	30	65	42	M8	72.6	9	25	25
42	14	42	95	30.0	35	70	46	M8	76.1	9	27	25
45	14	45	103	32.0	39	83	58	M10	89.0	11	30	49
55 Al	20	55	125	40.0	45	100	73	M11	106.0	14	37	86
55 ³⁾	20	55	125	40.0	45	100	73	M12	106.0	14	37	120
65 ³⁾	30	65	142	45.0	52	125	95	M14	127.2	15	45	185

Technical data

Size	Bellow-hub-connection	Torque of bellow T_{KN} [Nm] ¹⁾	Max. speed [rpm]	Hub material	Moment of inertia ²⁾ [$\times 10^{-6} \text{kgm}^2$]	Torsion spring stiffness C_T [Nm/rad]	Axial stiffness C_a [N/mm]	Radial stiffness C_r [N/mm]	Perm. displacements			Weight ²⁾ [kg]
									Axial [mm]	Radial [mm]	Angular [degree]	
7	Bonded	1	31800	Aluminium	0.3	300	—	—	±0.4	0.15	1.0	0.008
9		1.5	23800	Aluminium	1.0	580	—	—	±0.5	0.20	1.5	0.015
12		2	19100	Aluminium	2.7	980	—	—	±0.6	0.20	1.5	0.03
16		5	14900	Aluminium	10	3050	29	92	±0.5	0.20	1.5	0.06
20	Flanged	15	11950	Aluminium	32	6600	42	126	±0.6	0.20	1.5	0.14
30		35	8700	Aluminium	123	14800	65	155	±0.8	0.25	2.0	0.31
38		65	7350	Aluminium	262	24900	72	212	±0.8	0.25	2.0	0.45
42		95	6820	Aluminium	427	36500	80	333	±0.8	0.25	2.0	0.52
45		170	5750	Aluminium	1020	64000	88	492	±1.0	0.25	2.0	1.13
55 Al	3)	340	4800	Aluminium	1706	96100	107	598	±1.1	0.30	2.0	2.0
55 ³⁾		340	4800	Steel	5118	96100	107	598	±1.0	0.30	2.0	3.3
65 ³⁾		600	3850	Steel	13727	226550	135	910	±2.0	0.35	2.0	5.6

¹⁾ For selection see page 22 et seqq. in our catalogue "Drive Technology"

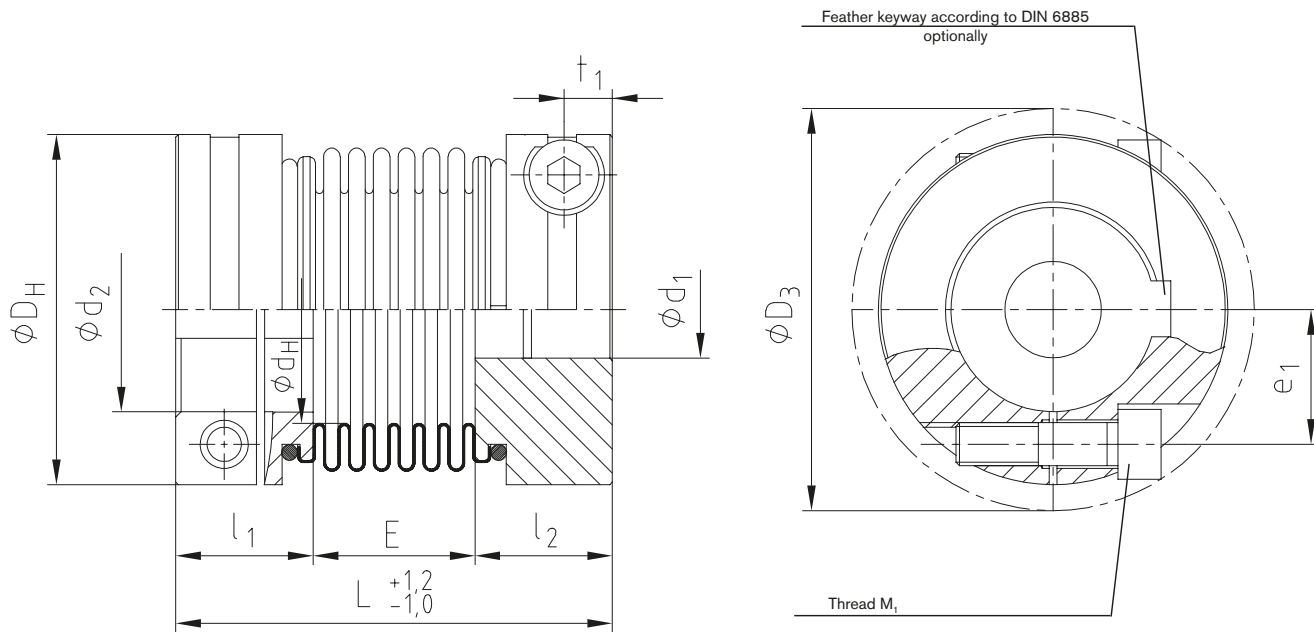
²⁾ Figures refer to the complete coupling with max. bore.

³⁾ Hub made of steel welded with bellow.

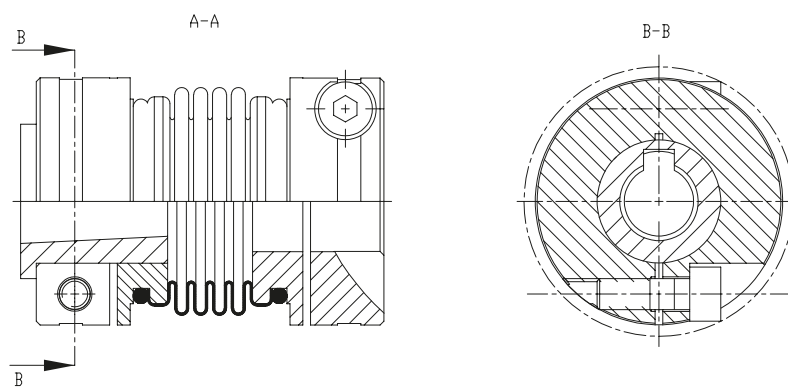
Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5

Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø50	Ø55	Ø60	Ø65
7	0.84	0.91	0.97	1.04	1.10																									
9	1.87	1.98	2.09	2.20	2.31	2.41	2.52																							
12		3.48	3.65	3.81	3.98	4.14	4.31	4.48	4.64	4.81																				
16			8.5	8.8	9.1	9.4	9.7	9.9	10.2	10.5	11.1	11.4	11.7																	
20						17.6	18.1	18.6	19.1	19.5	20.5	21.0	21.4	22.4	22.9	23.3														
30									33.1	33.8	35.1	35.8	36.5	37.8	38.5	39.2	41.9	42.5	44.6	45.9										
38											79.2	80.4	81.7	84.2	85.4	86.6	91.6	92.8	96.5	99.0	102	105	109							
42											84.2	85.4	86.6	89.1	90.3	91.6	96.5	97.8	102	104	106	110	114	116	119					
45																157	165	167	173	177	181	187	193	197	200	206				
55 Al																270	281	284	293	298	304	313	321	327	333	341	356	371		
55 ³⁾																397	401	413	421	429	442	454	462	470	482	502	523			
65 ³⁾																				720	732	750	768	780	792	810	840	870	900	930

Ordering example:	TOOLFLEX® 30 M	2.5 - Ø25		2.5 - Ø30	
	Size and type of coupling	Hub type	Finish bore	Hub type	Finish bore



Other types:
Type for FANUC motors



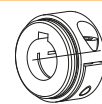
Types of hubs

Type 2.5



Clamping hub double slot without feather keyway

Type 2.6



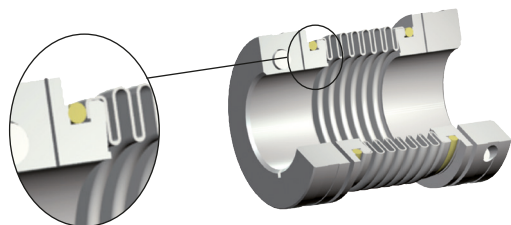
Clamping hub double slot with feather keyway

TOOLFLEX®

Metal bellow-type couplings

Technical description

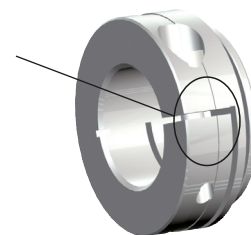
TOOLFLEX® is a metal bellow-type coupling, a coupling system which has proven in the field with numerous applications. The metal bellow compensates optimally for axial, radial and angular displacements. At the same time its geometric shape allows for high torsional stiffness and a low mass moment of inertia. TOOLFLEX® is manufactured in twelve sizes for maximum torques up to 600 Nm. Its main application ranges are both positioning drives, e. g. ball spindles with a high incline, and indexing tables or planetary and worm gears with small gear ratios.



Subject to its proven bonding technique a non-positive, backlash-free connection of the aluminium hubs with the multilayer bellows made of stainless steel is generated. The flanged insert connection for sizes 16 to 55 ensures torque transmission of every single bellow layer. Since TOOLFLEX® is a metal coupling, it remains fatigue-endurable in the high-temperature range up to a maximum of 200 °C. Apart from that it is resistant to the effect of media respectively critical operating conditions.

The renowned shaft-hub-connection made by clamping hubs ensures an easy assembly by a radial clamping screw. Subject to two slots in the hub there is no deformation of the bellow when tightening the clamping screw. For higher friction torques type KN with taper hubs can be used.

Double slotted clamping hub



Types



Type with setscrew



Type with clamping hubs



Type KN



Type PI



Type CF

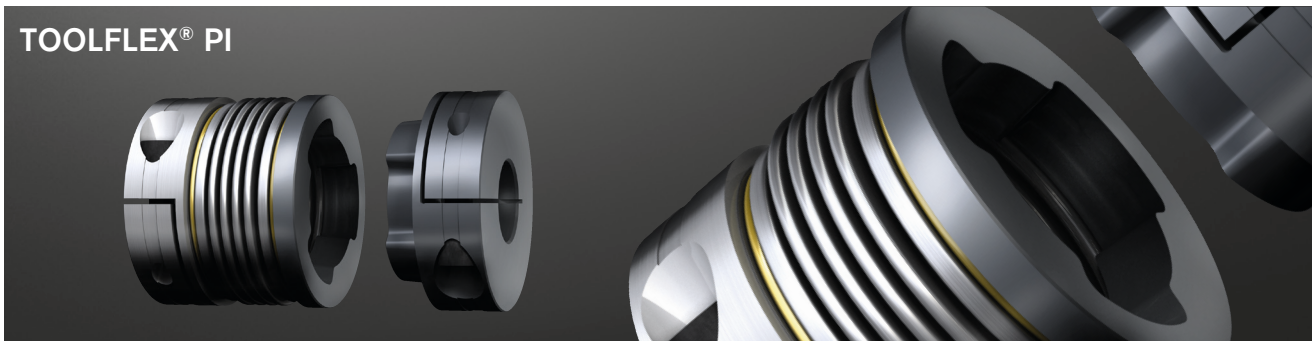
Summary																						
Size	Type	Bel-low-hub-connection	Setscrew (hub type 1.0/1.1)			Clamping hubs (hub type 2.5/2.6)			KN			PI			CF							
			Torque of bellow T _{KN} [Nm]	Torque of bellow T _K [Nm]	Max. speed [rpm]	Torque of bellow T _{KN} [Nm]	Torque of bellow T _K [Nm]	Max. speed [rpm]	Torque of bellow T _{KN} [Nm]	Torque of bellow T _K [Nm]	Max. speed [rpm]	Torque of bellow T _{KN} [Nm]	Torque of bellow T _K [Nm]	Max. speed [rpm]	Torque of bellow T _{KN} [Nm]	Torque of bellow T _K [Nm]	Max. speed [rpm]					
5	S	Bonded Maximum ambient temperature 100 °C	0.1	0.15	47700																	
	M																					
7	S								1	1.5	31800											
	M																					
9	S								1.5	2.25	23800											
	M																					
12	S								2	3	19000											
	M																					
16	S								5	7.5	14900											
	M																					
20	S								15	22.5	11900				15	22.5	11950					
	M																					
30	S	Flanged Maximum ambient temperature 200 °C				35	52.5	8700	35	52.5	15280	35	52.5	8700	35	52.5	8700					
	M																					
38	S					65	97.5	7350	65	97.5	12600	65	97.5	7350	65	97.5	7350					
	M																					
42	S					95	142.5	6820	95	142.5	11580	95	142.5	6820	95	142.5	6820					
	M																					
45	S					170	255	5750	170	255	9300	170	255	5750	170	255	5750					
	M																					
55 AI	S					340	510	4800														
	M																					
55	S		Welded Maximum ambient temperature 200 °C				340	510	4800	340	510	7870	340	510	4800							
	M																					
65	S					600	900	3850														
	M																					

TOOLFLEX®

Metal bellow-type couplings

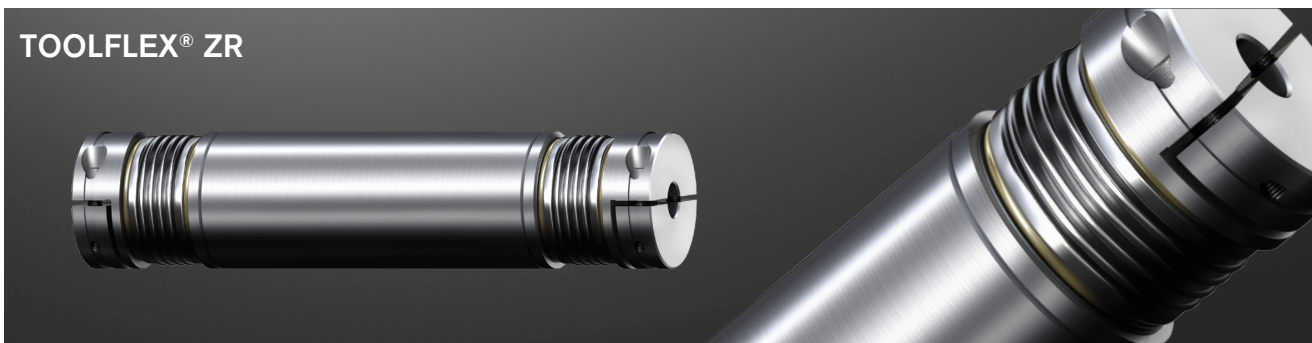
Other types

TOOLFLEX® PI



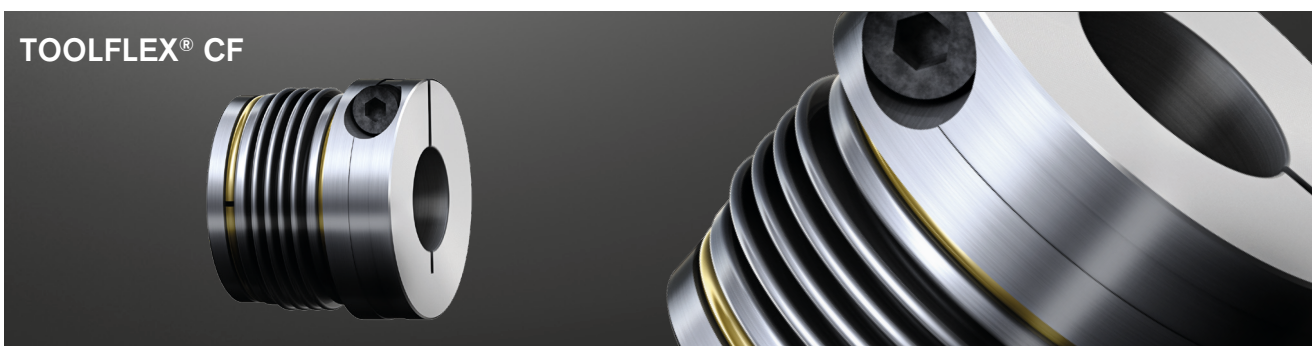
- Axial plug-in
- Optionally available with short bellow with 4 layers (type S) or bellow with 6 layers (type M)

TOOLFLEX® ZR



- Variable length up to 4 m
- High torsion stiffness
- High critical bending speed
- Low moments of inertia
- Easy radial assembly / disassembly
- Optionally available with feather keyways acc. to DIN 6885 sheet 2

TOOLFLEX® CF



- Extremely short design
- 25 % higher torques possible than with type M or type S
- Higher torsion stiffness
- Backlash-free and torsionally stiff
- Maintenance-free
- Due to welded connection suitable for high temperatures (max. 280 °C)
- Specifically suitable for use on gearboxes
- Flange-to-shaft connection
- Optionally available with short bellow with 4 layers (type S) or bellow with 6 layers (type M)
- Torques from 35 - 340 Nm
- Special type with bellow with either 1, 2 or 3 layers available

RADEX®-NC

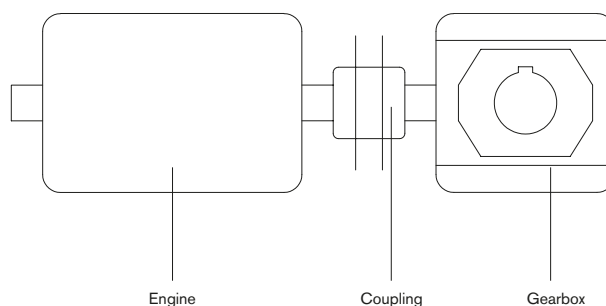
Servo laminae couplings

Technical description

RADEX®-NC is a line specifically developed for servo technology. With this coupling a set of torsionally rigid steel laminae that are soft in bending ensure reliable compensation for axial, angular and radial shaft displacements. As an all-metal coupling - the laminae are made of stainless steel - RADEX®-NC can even be used with high temperatures (up to 200 °C) and under aggressive ambient conditions. RADEX®-NC is manufactured in 10 sizes from size 5 to 75 for max. torques up to 4800 Nm. In addition to the two different types (EK = single-cardanic and DK = double-cardanic) it is available in five different hub types.



A typical application of RADEX®-NC are backlash-free worm gear pairs with low gear ratios. For reason of the gear ratio of the gearbox the rigidity of the coupling must be converted from the drive side into the driven side. Here the gear ratio itself has a decisive influence because it is included in the calculation by square. This converted rigidity is added in line with the gearbox stiffness in order to obtain the total rigidity. In case of gear ratios that are smaller than $i = 8$ we recommend to use RADEX®-NC due to the loss of rigidity of the total system arising with the use of flexible couplings.



Use in potentially explosive atmospheres

RADEX®-NC couplings are suitable for power transmission in drives in potentially explosive atmospheres. The couplings are assessed and approved as units of category 2G/2D according to EU directive 2014/34/EU and thus suitable for the use in potentially explosive atmospheres of zone 1, 2, 21 and 22. Please read through our information included in the respective type examination certificate and the operating and assembly instructions at www.ktr.com.

Selection:

If used in potentially explosive atmospheres, the clamping hubs without feather keyway only for use in category 3 (with feather keyway for cat. 2) must be selected in that there is a minimum safety factor of $s = 2$ between the peak torque (including all operating parameters) and the nominal torque and frictional torque of engagement of the coupling.

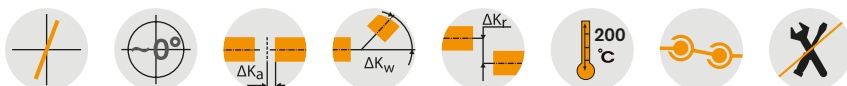


RADEX®-NC DK and EK Servo laminae couplings

Double- and single-cardanic types

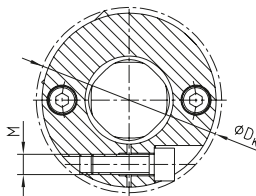
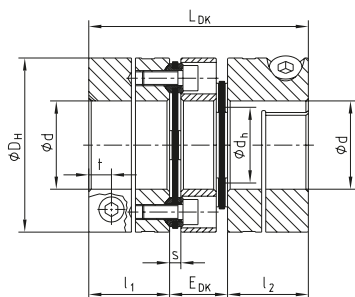


For legend of pictogram please refer to flapper on the cover

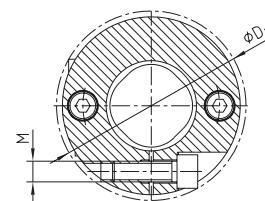
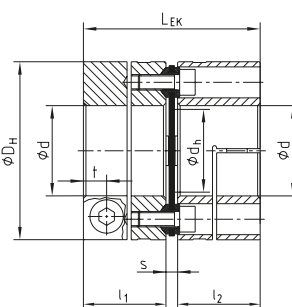


Hub type 2.5/2.6

Type DK



Type EK



RADEX®-NC Types DK and EK - Hub and spacer material aluminium/laminas made of stainless steel

Size	Dimensions [mm]										Clamping screws DIN EN ISO 4762		Mass moment of inertia [kgm ²]	
	d _{max}	D _H	DK	l ₁ , l ₂	L _{DK}	E _{DK}	L _{EK}	d _h	s	t	M	T _k [Nm]	DK	EK
5	12	26	26	12	34	10	26.5	12	2.5	3.5	M2.5	0.8	0.000004	0.000003
10	15	35	35	16	44	12	35	14.5	3	5	M4	3	0.000016	0.000012
16	20	46	49	22	58	14	47	19.5	3	6.8	M6	10	0.000063	0.00005
21	30	58	59	25	69	19	53.5	24	3.5	6.8	M6	10	0.00018	0.00014
26	38	69	73	32	88	24	69	30	5	9	M8	25	0.00046	0.00036
36	45	84	87	35	93.6	23.6	74.8	48	4.8	10.5	M10	49	0.0011	0.00091

Technical data

Size	T _{KV} ¹⁾ [Nm]	T _{Kmax} ¹⁾ [Nm]	Max. speed [rpm]	Torsion spring stiffness [Nm/rad]		Laminae type	Displacements of type DK			Displacements of type EK		
				EK	DK		Radial [mm]	Axial [mm]	Angular per lamina [degree]	Radial [mm]	Axial [mm]	Angular per lamina [degree]
5	2.5	5	18,300	2,400	1,200	4 holes	0.13	± 0.4	1	-	± 0.2	1
10	7.5	15	13,600	5,600	2,800	4 holes	0.16	± 0.8	1	-	± 0.4	1
16	35	53	10,500	20,000	10,000	4 holes	0.19	± 1.0	1	-	± 0.5	1
21	70	105	8,500	40,000	20,000	4 holes	0.27	± 1.2	1	-	± 0.6	1
26	120	180	7,000	84,000	42,000	4 holes	0.33	± 1.6	1	-	± 0.8	1
36	340	510	5,700	280,000	140,000	6 holes	0.32	± 2.0	1	-	± 1.0	1

¹⁾For selection see page 22 et seqq. in our catalogue "Drive Technology"

Review of shaft-hub-connection: Friction torques T_r [Nm] for hub type 2.5

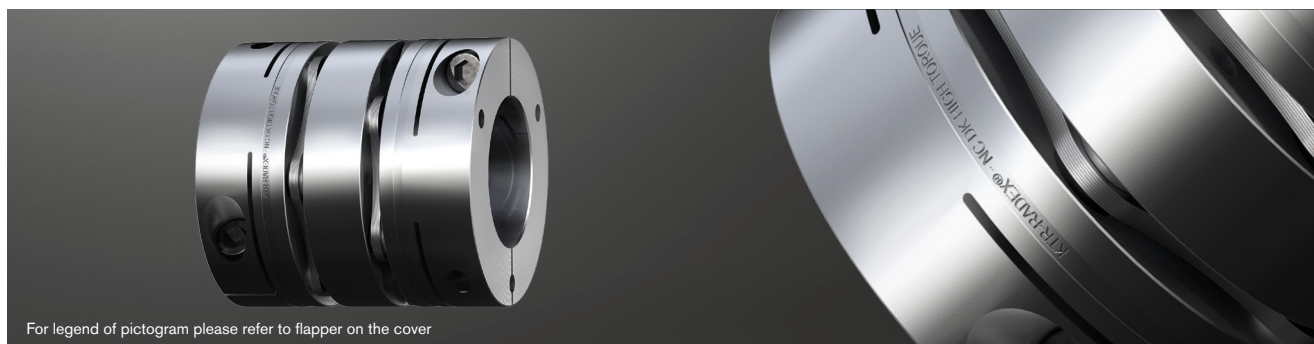
Size	Pilot bored	Ø3	Ø5	Ø8	Ø10	Ø12	Ø14	Ø15	Ø16	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45
5	2.5	1.1	1.8	2.8	3.4	4																
10	4.5		5	7.7	9.5	11.1	12.7	13.5														
16	5.5				23	27	31	33	35	41	43											
21	7.5					28	32	34	36	42	44	48	52	54	59	63						
26	9.5							66	70	81	85	92	100	103	114	121	127	137	147			
36	11.5									129	135	147	159	165	182	194	199	221	237	247	258	273

Ordering example:

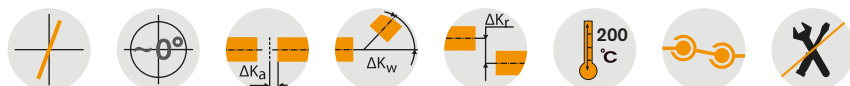
RADEX®-NC 21	DK	2.5 - Ø20		2.5 - Ø25	
Coupling size	Type	Hub type	Finish bore	Hub type	Finish bore

RADEX®-NC DK and EK Servo laminae couplings

Double- and single-cardanic types

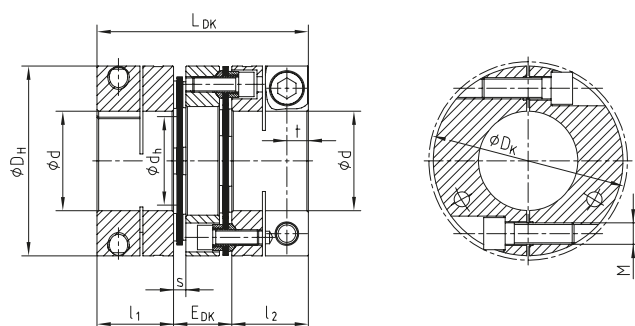


For legend of pictogram please refer to flapper on the cover

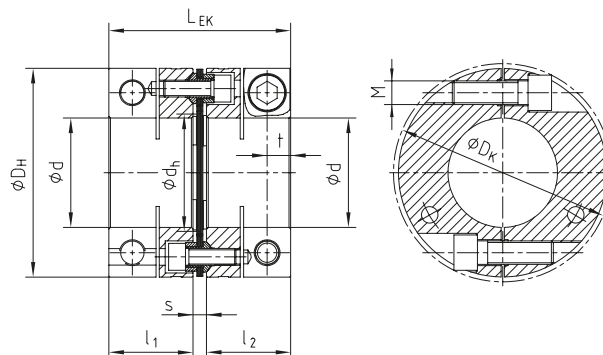


Hub type 3.5/3.6

Type DK



Type EK



RADEX®-NC Types DK and EK - Hub and spacer material aluminium up to size 61, steel with size 75 / laminae made of stainless steel															
Size	Dimensions [mm]											Clamping screws DIN EN ISO 4762		Mass moment of inertia [kgm ²]	
	d _{max}	D _H	DK	l ₁ , l ₂	L _{DK}	E _{DK}	L _{EK}	d _h	s	t	M	T _x [Nm]	DK	EK	
43	55	104	104	40.5	115	34	89	61	8	10.5	M10	49	0.0033	0.0025	
51	70	124	130	50	138	38	108	73	8	14	M14	135	0.0082	0.006	
61	80	144	148.5	54	150	42	118	88	10	16	M16	210	0.016	0.012	
75	90	170	181.1	70	189	49	152	104	12	21.5	M20	610	0.099	0.077	

Technical data												
Size	T _{KV} ¹⁾ [Nm]	T _{Kmax} ¹⁾ [Nm]	Max. speed [rpm]	Torsion spring stiffness [Nm/rad]		Laminae type	Displacements of type DK			Displacements of type EK		
				Type EK	Type DK		Radial [mm]	Axial [mm]	Angular per lamina [degree]	Radial [mm]	Axial [mm]	Angular per lamina [degree]
43	600	900	8,100	510,000	255,000	6 holes	0.45	± 2.20	1	—	± 1.10	1
51	1,300	1,950	6,700	920,000	460,000	6 holes	0.52	± 2.50	1	—	± 1.25	1
61	2,000	3,000	6,100	1,500,000	750,000	6 holes	0.56	± 2.60	1	—	± 1.30	1
75	3,200	4,800	5,100	2,100,000	1,050,000	6 holes	0.64	± 2.90	1	—	± 1.45	1

¹⁾ For selection see page 22 et seqq. in our catalogue "Drive Technology"

Review of shaft-hub-connection: Friction torques T _R [Nm] for hub type 3.5																						
Size	Pilot bored	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø58	Ø60	Ø65	Ø70	Ø75	Ø80	Ø85	Ø90
43	15.0	238	248	258	297	317	347	377	397	416	446	476	496	545								
51	28.0				594	633	693	752	792	831	891	950	990	1089	1148	1188	1286	1385				
61	30.0							1039	1093	1148	1230	1312	1367	1503	1585	1640	1777	1913	2050	2187		
75	35												3129	3192	3630	3755	4068	4381	4694	5006	5319	5632

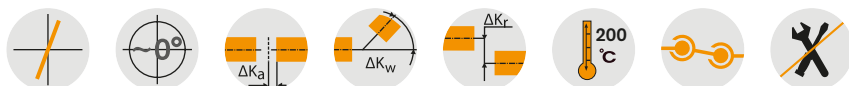
Ordering example:	RADEX®-NC 43	DK	3.5 - Ø25		3.5 - Ø35	
	Coupling size	Type	Hub type	Finish bore	Hub type	Finish bore

RADEX®-NC DK and EK with clamping ring hubs Servo laminae couplings

Double- and single-cardanic types

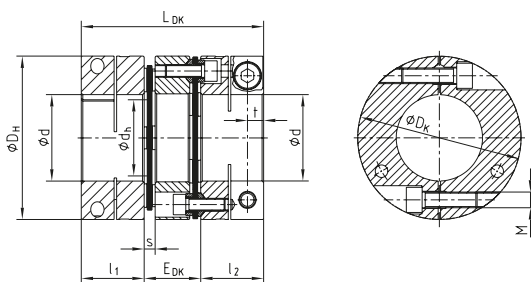


For legend of pictogram please refer to flapper on the cover

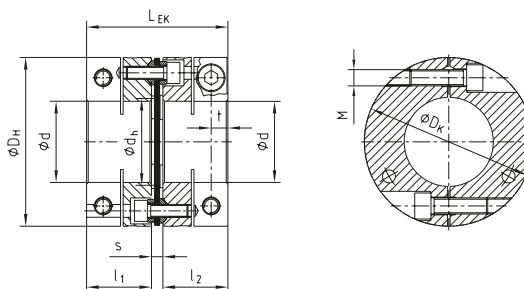


Hub type 6.5

Type DK



Type EK



RADEX®-NC Types DK and EK - Hub and spacer material aluminium/laminas made of stainless steel

Size	Dimensions [mm]												Clamping screws DIN EN ISO 4017			Mass moment of inertia [kgm ²]	
	d _{max}	D _H	l ₁ , l ₂	l ₃	L _{DK}	L _{DK1}	E _{DK}	L _{EK}	L _{EK1}	d _h	s	M	z = number	T _A [Nm]	DK	EK	
16	20	46	24	18	62	68	14	51	57	19.5	3	M5	4	6	0.000075	0.000063	
21	28	58	28	22	75	81.2	19	59.5	65.7	24	3.5	M6	4	10	0.000218	0.000177	
26	35	69	36	28	96	100.8	24	77	81.8	30	5	M5	8	6	0.000565	0.000467	
36	42	84	43	35	109.6	118.3	23.6	90.8	99.5	48	4.8	M8	6	25	0.001581	0.001294	
43	60	104	46	35	126	135.9	34	100	109.9	61	8	M8	6	25	0.004051	0.003250	
51	70	124	50	38	138	150.5	38	108	120.5	73	8	M10	6	49	0.008981	0.007096	
61	80	144	55	43	152	165.5	42	120	133.5	88	10	M12	6	85	0.024188	0.020678	

Technical data

Size	T _{KN} ¹⁾ [Nm]	T _{Kmax} ¹⁾ [Nm]	Max. speed [rpm]	Torsion spring stiffness [Nm/rad]		Laminae type	Displacements of type DK			Displacements of type EK		
				Type EK	Type DK		Radial [mm]	Axial [mm]	Angular per lamina [degree]	Radial [mm]	Axial [mm]	Angular per lamina [degree]
16	35	53	31,150	20,000	10,000	4 holes	0.19	± 1.00	1.00	—	± 0.50	1
21	70	105	24,700	40,000	20,000	4 holes	0.27	± 1.20	1.00	—	± 0.60	1
26	120	180	20,800	84,000	42,000	4 holes	0.33	± 1.60	1.00	—	± 0.80	1
36	340	510	17,100	280,000	140,000	6 holes	0.32	± 2.00	1.00	—	± 1.00	1
43	600	900	13,800	510,000	255,000	6 holes	0.45	± 2.20	1.00	—	± 1.10	1
51	1300	1950	11,600	920,000	460,000	6 holes	0.52	± 2.50	1.00	—	± 1.25	1
61	2000	3000	10,000	1,500,000	750,000	6 holes	0.56	± 2.60	1.00	—	± 1.30	1

¹⁾ For selection see page 22 et seqq. in our catalogue "Drive Technology"

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 6.5

Size	Tolerance fit	Ø10	Ø12	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø75*	Ø80*
16	H7/h6	29	33	57	70	50	83	97																		
	H7/k6	34	42	64	76	62	96	109																		
21	H7/h6	27	45	75	91	79	125	145	127	144	201															
	H7/k6	36	56	83	99	93	139	157	169	187	245															
26	H7/h6				104	126	194	169	279	311	338	404	273	357												
	H7/k6				124	145	214	200	305	334	382	444	355	441												
36	H7/h6							241	395	438	521	616	523	664	647	741	841									
	H7/k6							284	430	471	558	646	640	779	778	875	974									
43	H7/h6										595	705	647	814	946	1073	980	1163	1360	1200	1072	1372				
	H7/k6										684	789	784	916	1096	1219	1144	1332	1534	1376	1370	1669				
51	H7/h6											750	818	1020	1085	1228	1166	1377	1605	1450	1607	2283	2255	2704		
	H7/k6											822	927	1117	1254	1392	1348	1568	1803	1652	1960	2387	2447	2842		
61	H7/h6													880	1074	1211	1264	1480	1597	1750	1911	2097	2542	2669	2718	3168
	H7/k6													951	1131	1258	1333	1534	1668	1810	2032	2239	2635	2785	2855	3252

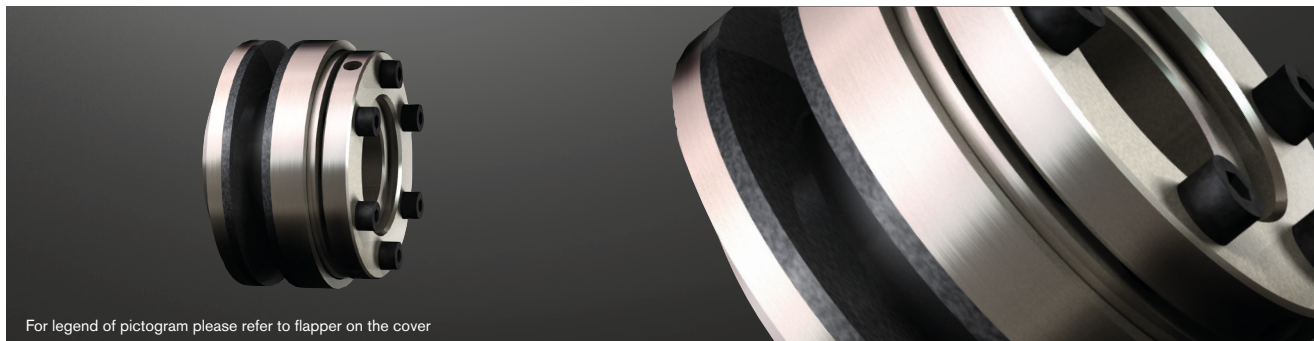
* From Ø55 tolerance G7/m6

Ordering example:

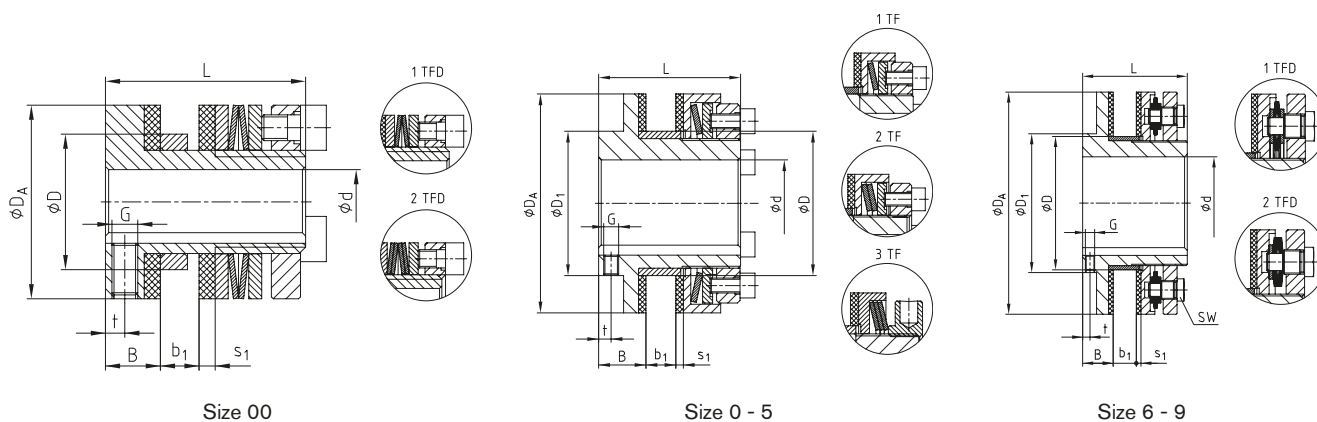
RADEX®-NC 26	DK	6.5 - Ø24		6.5 - Ø35	
Coupling size	Type	Hub type	Finish bore	Hub type	Finish bore

RUFLEX® Torque limiters

Standard width of drive component



For legend of pictogram please refer to flapper on the cover



Technical data – dimensions																	
Size	Max. speed ⁴⁾ [rpm]	Torques [Nm]			Dimensions [mm]												
		1TF	2TF	3TF ⁵⁾	Bore d		D ²⁾	D ₁	D _A	B	Drive component b ₁		s ₁	L	Setscrew		
					Pilot bore	Max.					Min.	Max.			t	G	
00	10000	(0.5) ³⁾ 1-3	2-5	–	–	10	21	–	30	8.5	2	6	2.5	31	3	M4	
0	8500	2-10	4-20	–	–	19 (20) ¹⁾	35	45	45	8.5	2	6	2.5	33	3	M4	
01	6600	5-35	10-70	–	–	22	40	40	58	16	3	8	3	45	4	M5	
1	5600	20-75	40-150	130-200	–	25	44	45	68	17	3	10	3	52	5	M5	
2	4300	25-140	50-280	250-400	–	35	58	58	88	19	4	12	3	57	5	M6	
3	3300	50-300	100-600	550-800	–	45	72	75	115	21	5	15	4	68	5	M6	
4	2700	90-600	180-1200	1100-1600	–	55	85	90	140	23	6	18	4	78	5	M8	
5	2200	400-800	800-1600	1400-2100	–	65	98	102	170	29	8	20	5	92	8	M8	
6	1900	300-1200	600-2400	–	38	80	116	120	200	31	8	23	5	102	8	M8	
7	1600	600-2200	1200-4400	–	45	100	144	150	240	33	8	25	5	113	8	M10	
8	1300	900-3400	1800-6800	–	58	120	170	180	285	35	8	25	5	115	8	M10	
9	1000	2500-6000	6000-12000	–	65	140	237	225	350	53	16	28	6	162	11	M12	

¹⁾ The figure in brackets specifies the max. bore with keyway to DIN 6885 sheet 3 (low-rise design)

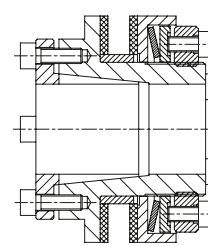
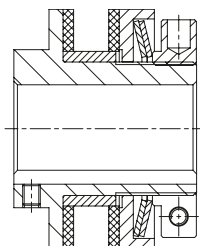
²⁾ Bore tolerance (drive component): F8 with size 00 - 4, H8 with size 5 - 9

³⁾ With clamping setting nut to be used on types limited in dimensions only

⁴⁾ See comments on page 283 in our catalogue "Drive Technology"

⁵⁾ With special disk spring

On request:



- With clamping setting nut for size 0 - 5 (standard with 3TF)
- For radial torque setting
- With taper bush (hub type 4.5)
- Frictionally engaged shaft-hub-connection

Ordering example:	RUFLEX® 1	2TF	b ₁ 10	d Ø20
	Type/size	Disk spring layering	Width of drive component b ₁	Finish bore

RUFLEX®

Torque limiters

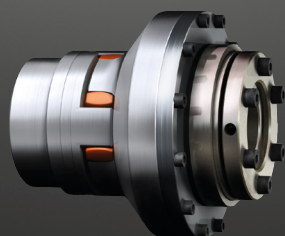
Other types

RUFLEX® with sprocket



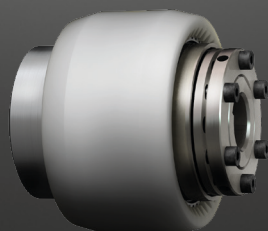
- Torque limiter with integrated sprocket
- Overload protection up to 800 Nm
- Subassembly ready to fit
- Torque setting as requested by the customer available ex works
- Available from stock with standard sprockets
- Other sprockets as requested by the customer available

RUFLEX® with torsionally flexible ROTEX®



- Torque limiter for shaft-to-shaft connections
- Torsionally flexible torque limiter able to compensate for displacements
- Axial plug-in
- Easy setting of slipping torque via standard tools
- Overload protection up to 12,000 Nm

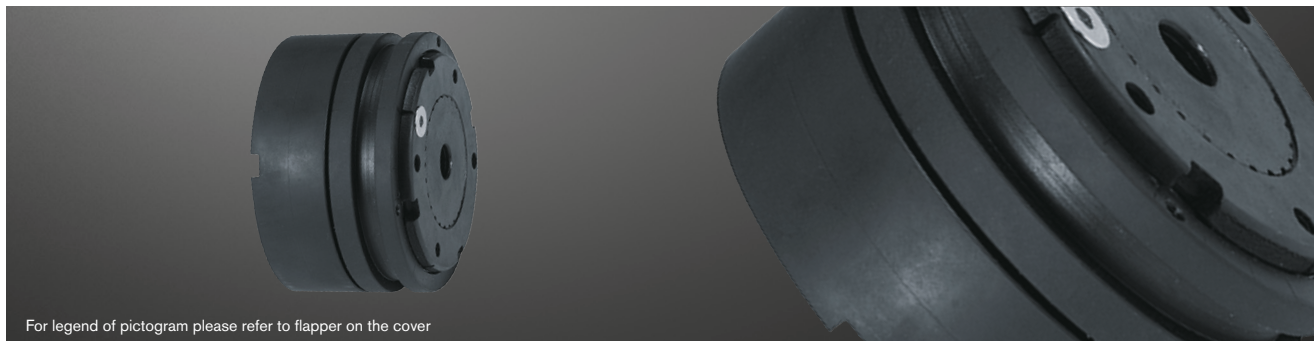
RUFLEX® with torsionally rigid BoWex®



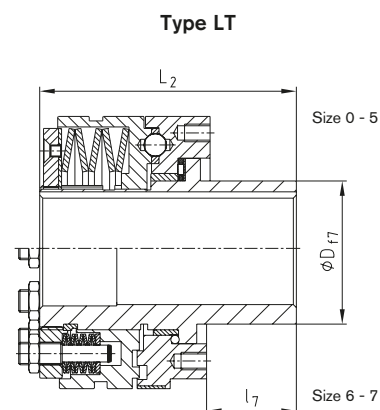
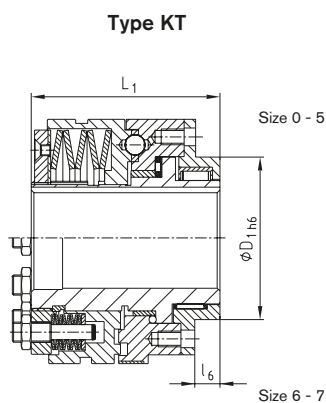
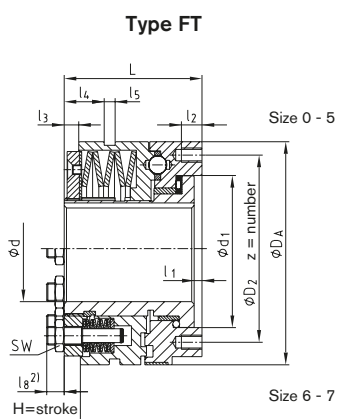
- Torque limiter as a torsionally rigid double-cardanic shaft-to-shaft connection
- Big displacements subject to double-cardanic design
- Low-cost torque protection for shaft-to-shaft connections
- Axial plug-in
- Easy setting of slipping torque via standard tools
- Overload protection up to 400 Nm

KTR-SI Overload system

Flange type



For legend of pictogram please refer to flapper on the cover



Technical data

Size	Torques [Nm]												Weight with max. bore [kg]
	Type DK				Type SR and SGR				Type FR				
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	$n_{max.}^{3)}$ [rpm]	
0	2.5-5	5-20	–	20-40	5-10	10-40	–	–	5-10	10-20	20-40	6000	0.41
1	6-12	12-25	25-55	55-100	12-25	25-50	50-100	–	12-25	25-50	50-100	5000	1.30
2	12-25	25-50	50-120	120-200	25-50	50-100	100-200	–	25-50	50-100	100-200	4000	2.27
3	25-50	50-100	100-250	200-450	50-100	100-200	200-450	–	50-100	100-200	200-450	3500	3.88
4	50-100	100-200	200-500	500-1000	100-200	200-400	400-800	800-2000	100-200	200-400	400-800	3000	8.34
5	85-250	230-600	300-1000	600-2000	170-450	350-900	600-1800	1200-3400	170-450	350-900	600-1800	2300	13.51
6	180-480	360-960	720-1950	1600-3300	300-750	600-1500	1200-3000	2900-5800	–	–	–	–	21
7	250-520	500-1050	1000-2100	2000-3600	550-1100	1100-2200	2200-4400	3000-8200	–	–	–	–	37

Dimensions [mm]

Size	Bore d		d ₁	D	D ₁	D ₂	D _A	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	L	L ₁	L ₂	z	H=stroke			
	Pilot bore	Max.																	DK	SR	SGR	FR
	0	7																	20	41.0	28	38
1	10	25	60.0	38	50	70	82	4.0	8.0	6.0	11.5	9	10	33.0	52.0	70.0	85.0	6xM5	2.3	1.8	0.8	2.3
2	14	35	78.0	52	60	89	100	5.0	10.0	5.0	12.0	9	12	39.0	61.0	78.0	100.0	6xM6	2.4	2.0	1.1	3.0
3	18	45	90.5	65	80	105	120	5.0	12.0	8.5	21.0	10	12	47.0	78.0	96.0	125.0	6xM8	2.7	2.2	1.2	3.5
4	24	55	105.0	78	100	125	146	6.5	15.0	11.0	27.0	9	16	52.5	100.0	124.5	152.5	6xM10 ¹⁾	3.7	2.5	1.2	3.8
5	30	65 (70) ⁴⁾	120.5	90	120	155	176	6.5	17.0	12.0	33.0	9	18	57.5	113.5	140.0	171.0	6xM12 ¹⁾	4.6	3.0	1.6	4.5
6 ²⁾	40	80	136.0	108	130	160	200	7.0	20.0	14.0	39.0	9	20	64.0	119.0	150.0	183.0	6xM12 ¹⁾	5.0	3.5	2.5	–
7 ²⁾	50	100 (110) ⁴⁾	168.0	135	160	200	240	8.0	25.0	15.0	46.0	9	25	72.0	141.0	175.0	213.0	6xM16 ¹⁾	5.5	4.0	2.7	–

¹⁾ Type T4 SR and SGR: tightening torques according to 12.9

²⁾ Size 6: dimension l₆ = 15 mm, size 7: dimension l₆ = 21 mm

³⁾ See comments on page 283 in our catalogue "Drive Technology"

⁴⁾ The figure in brackets specifies the max. bore with keyway to DIN 6885 sheet 3 (low-rise design)

Ordering example:

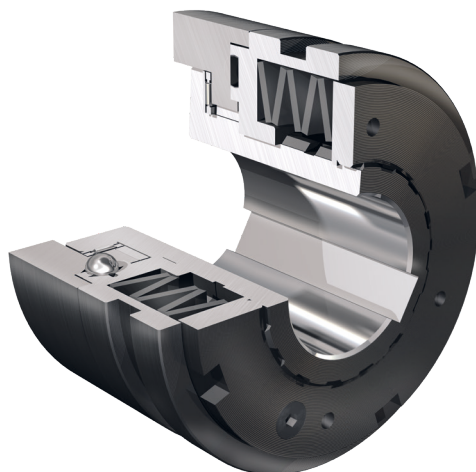
KTR-SI 2	FR	FT	T2	d Ø20	40 Nm
Type/size	Type (DK/SR/SGR/FR)	Type	Disk spring layering	Bore	Torque set

KTR-SI

Overload systems

Design and operation

- Overload protection up to 8,200 Nm
- Available as a ratchet, synchronous, idle rotation and fail-safe design with the same dimensions
- Reduction of torque peaks
- High response accuracy, even after a long operating period
- Disconnection of the drive with overload by retrieving limit switch
- Automatically operative (DK, SR, SGR)

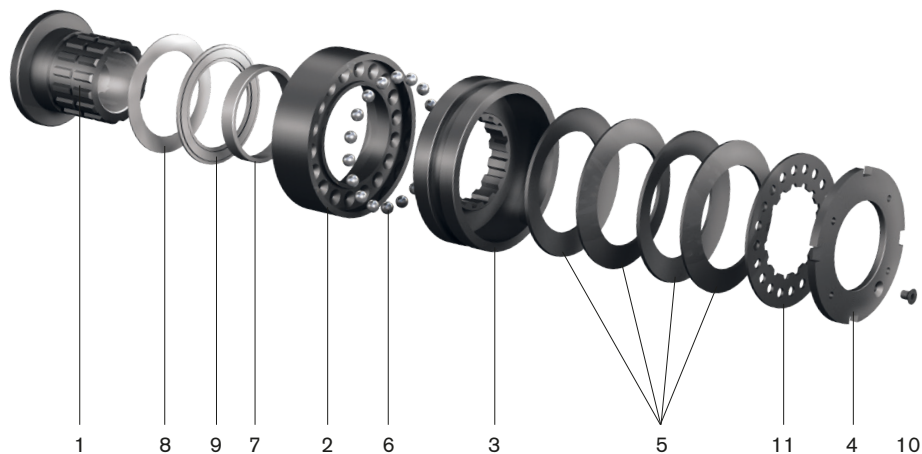


- Available in various types (e. g. with needle bearing) and combinations (e. g. with torsionally flexible ROTEX®)
- Easy assembly and torque setting
- Maintenance-free
- Insensitive to oil and grease
- Long service life due to high-quality materials

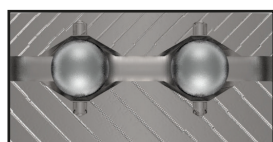
In case of overload the ratchet components (balls or rollers) leave their indentations, and a relative motion between the driving and driven side is generated. Damages caused by overload are reliably prevented in this way. The shift ring (3) makes an axial motion to the engagement travel „H“ activating the limit switch or proximity initiator. The signal can be used for controlling or disconnecting the drive. For restarting we would recommend to bypass the limit switch or proximity switch electrically for a short time.

Component Description

- 1 Hub
- 2 Flange ring
- 3 Shifting ring
- 4 Setting nut
- 5 Disk spring
- 6 Ball bearing cage
- 7 Slide bush
- 8 Axial disk
- 9 Axial needle bearing
- 10 Setscrew
- 11 Lock washer



No signal with normal operation

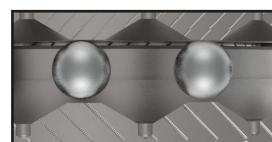


Engaged



Limit switch

Signal with overload



Disengaged

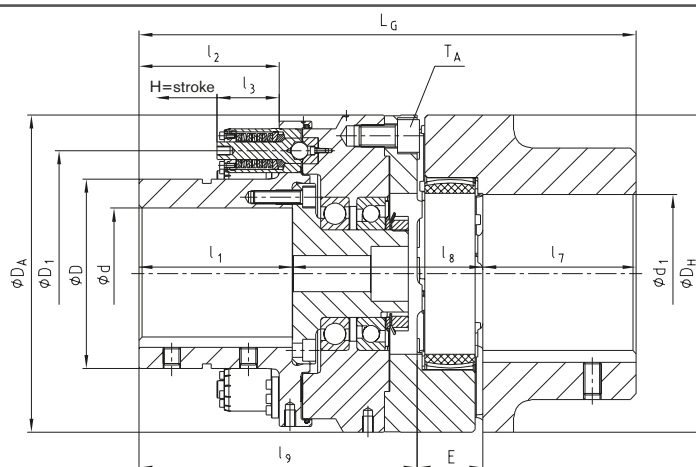


Limit switch

KTR-SI FRE

Idle rotation overload system

With torsionally flexible ROTEX®



Torques [Nm]							
Size	Type of element	3 idle rotation elements		6 idle rotation elements		9 idle rotation elements	
		Min.	Max.	Min.	Max.	Min.	Max.
9	1T1	800	2600	–	–	–	–
	1T2	1000	4000	2000	8000	–	–
	1T3	2400	5500	4800	11000	–	–
12	1T2	1300	5000	2600	10000	3900	15000
	1T3	2900	6700	5800	13400	8700	20100
15	1T2	1700	6000	3400	12000	5100	18000
	1T3	3500	8200	7000	16400	10500	24600
20	2T2	5000	15000	10000	30000	15000	45000
	2T3	13100	20000	26300	40000	39400	60000

Technical data – dimensions																						
Size ¹⁾	ROTEX®				Max. bore		Dimensions [mm]													T _A [Nm]	Speed ²⁾ [rpm]	Weight with max. bore [kg]
	Size	Torque ³⁾ [Nm]		d	d ₁	D	D ₁	D _H	D _A	l ₁	l ₂	l ₃	l ₇	l ₈	l ₉	E	L _G	H=stroke				
		T _{KN}	T _{Kmax}																64 ShD			
9	90	4500	9000	90	110	135	185	200	260	120	110	56.7	100	133	217	45	362	5.2	117	3300	59	
12	125	12500	25000	120	145	173	225	290	290	146	130	56.7	140	165	254	60	454	5.2	560	2300	106	
15	140	16000	32000	150	160	215	270	320	324	170	160	56.7	155	176	292	65	512	5.2	560	2050	147	
20	180	35000	70000	200	200	285	370	420	460	220	200	88.4	195	227	381	85	661	8.9	970	1550	349	

¹⁾ Other sizes on request

²⁾ Higher speeds on request, see comments on page 283 in our catalogue "Drive Technology"

³⁾ See selection of ROTEX® couplings on page 14 et seqq. in our catalogue "Drive Technology"

Special type:



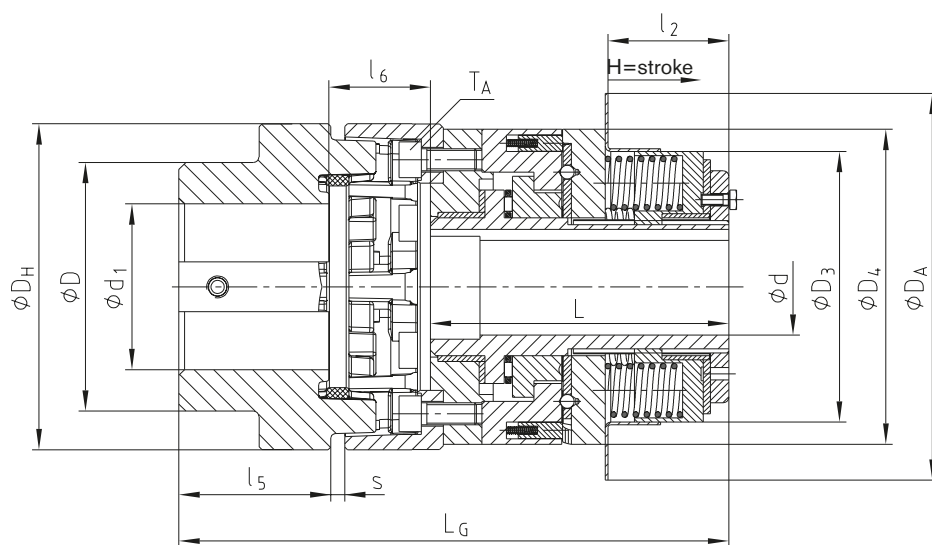
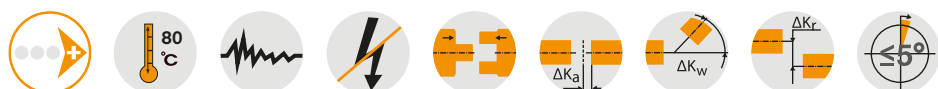
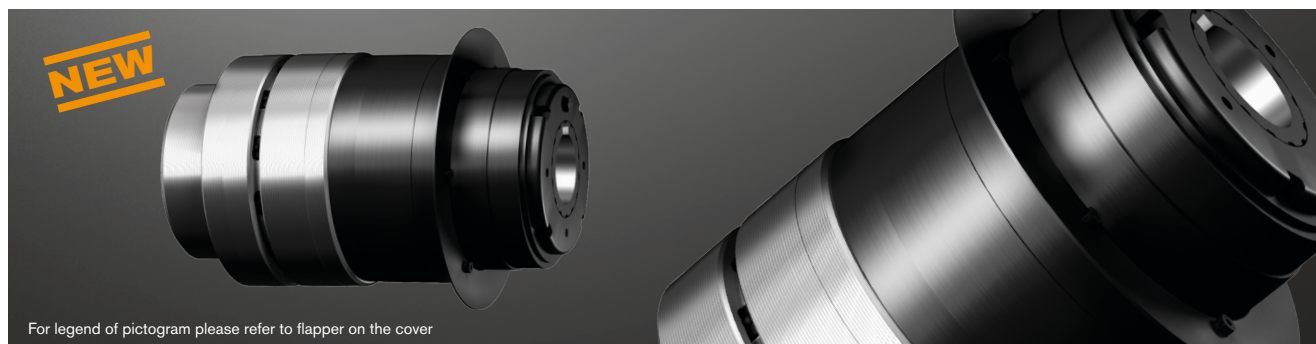
- KTR-SI FRE with torsionally flexible pin & bush coupling REVOLLEX® KX-D and limitation of axial backlash
- KTR-SI FRE with torsionally stiff all-steel gear coupling GEARex® and integrated brake disk
- KTR-SI FRE with torsionally stiff laminae coupling RADEX®-N and integrated brake disk

Ordering example:	KTR-SI FRE 12	1T3	9	d Ø85	ROTEX® 125	98 ShA	d ₁ Ø85	12000 Nm
	Type/size	Type of element	Number of idle rotation elements	KTR-SI FRE bore	Type/size	Spider	ROTEX® bore	Torque set

KTR-SI FRA

Idle rotation overload system with automatic re-engagement when reversing the direction of rotation

With torsionally flexible POLY-NORM®



Torques [Nm]				
KTR-SI FRA size	T1	T2	T3	T4
2	5-20	15-70	40-135	80-260
3	24-104	57-360	110-540	245-730
4	45-210	145-435	340-960	465-1320
5	90-415	240-640	490-1880	1060-3000

Technical data – dimensions																						
KTR-SI FRA size	POLY-NORM®				Max. bore		Dimensions [mm]													TA [Nm]	Speed ¹⁾ [rpm]	Weight with max. bore [kg]
	Size	Torque [Nm]		d	d ₁	D	D ₃	D ₄	D _H	D _A	l ₁	l ₂	l ₅	l ₆	s	L _G	L	H=stroke				
		T _{KN}	T _{Kmax}																			
2	55	300	600	35	60	90	98	114	118	140	108	45	55	27	5	189.3	108	2.8	23	3600	9	
3	75	850	1700	45	70	123	131	149	158	184	111	42	75	33.8	5	218.8	111	3.5	46	3600	18	
4	85	1350	2700	55	80	139	147	166	182	203	121	46	85	52.6	5	257.6	121	3.5	79	2000	25	
5	100	3900	7800	80	90	165	196	223	224	279	164	70	100	63.2	6	326.2	164	4.4	195	2000	51	

¹⁾ See comments on page 249 in our catalogue "Drive Technology"

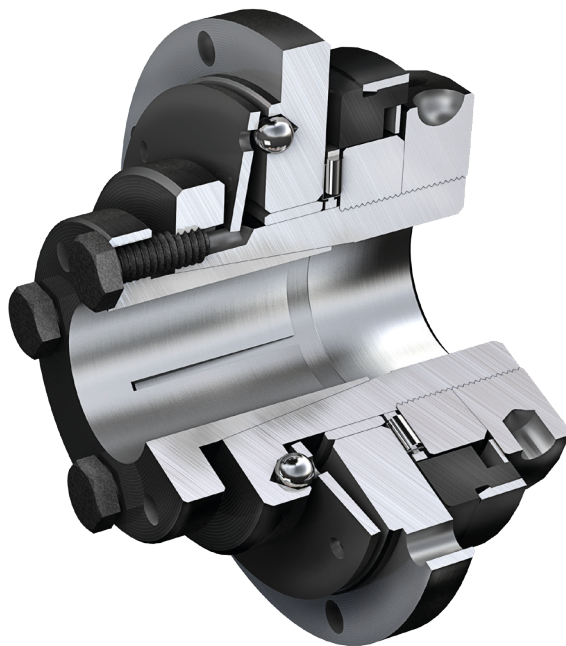
Ordering example:	KTR-SI FRA 3	T3	d Ø35	POLY-NORM® 75	AR	d ₁ Ø45	300 Nm
	Type/size	Torque setting range	KTR-SI FRA bore	Type/size	Type	POLY-NORM® bore	Torque set

SYNTEX®

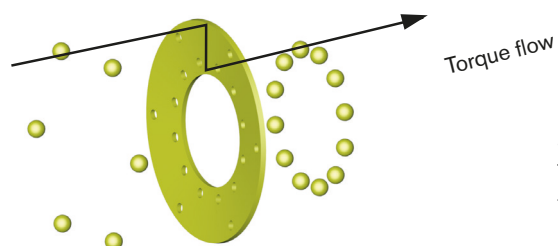
Backlash-free overload systems

Design and operation

- Backlash-free, torsionally rigid overload protection up to 400 Nm, suitable for reversing operation
- Disconnection of the drive in case of overload
- Reduction of torque peaks
- High response accuracy, even after a long operating period
- Easy integration of customer components
- Compact design, low mass moment of inertia
- Variable due to modular system
- Special disk springs available for special applications



- Low-cost protection even for simple drives
- Easy assembly and torque setting
- Maintenance-free
- Insensitive to oil and grease
- Long service life due to small internal loads
- Backlash-free shaft-hub-connections
- Any or synchronous re-engagement
- Automatically ready for operation again



SYNTEX® is an overload system with positive locking operation. The punched disk spring is a component serving for transmitting the torque.

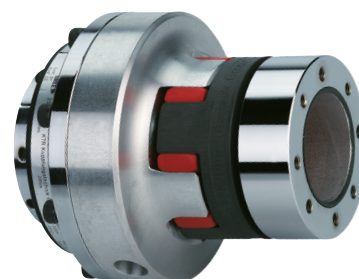
SYNTEX®
Overload system with mounting flange



SYNTEX®
Overload system with sprocket



SYNTEX®
Overload system with ROTEX® GS

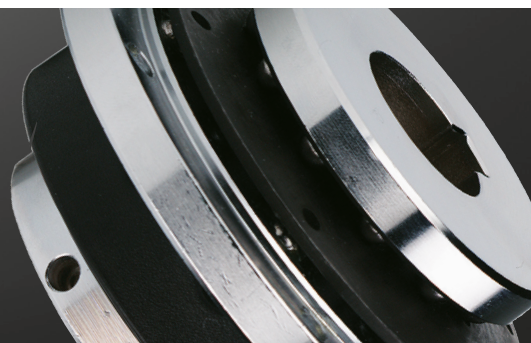


SYNTEX®

Backlash-free overload systems

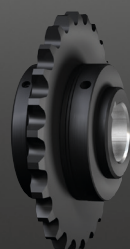
Other types

SYNTEX® flange type



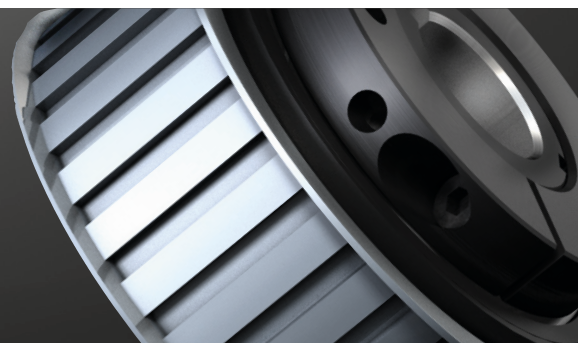
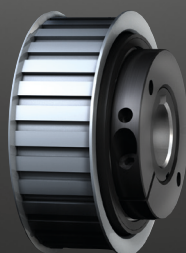
- Overload system with positive locking operation for torques up to 400 Nm
- Backlash-free and torsionally stiff
- High response accuracy
- Synchronous and ratchet design
- Protection of high-quality drive units

SYNTEX® with sprocket



- Backlash-free overload system with integrated sprocket
- Available ready for assembly with the torque set
- Standard sprockets available from stock
- Torque setting possible while in place
- Reduction of components and costs due to integrated sprocket

SYNTEX® with toothed belt pulley



- Backlash-free overload system with integrated toothed belt pulley
- Ready to fit with slipping torque set
- Available as a synchronous and ratchet design
- Torque setting possible while in place
- Reduction of components and costs due to integrated toothed belt pulley

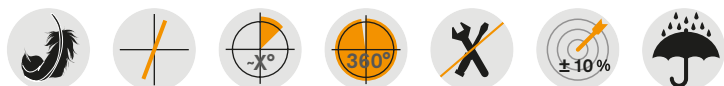
SYNTEX®-NC

Backlash-free overload systems

Hub type

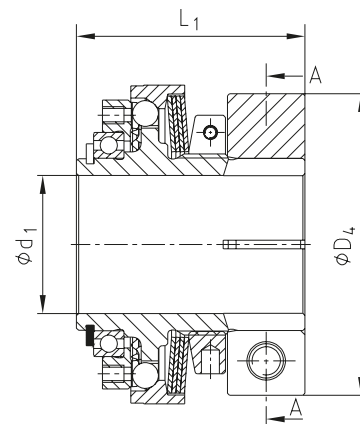
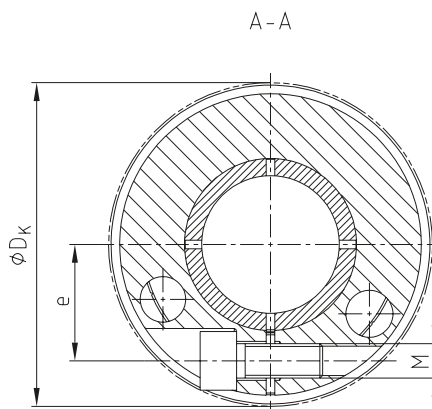
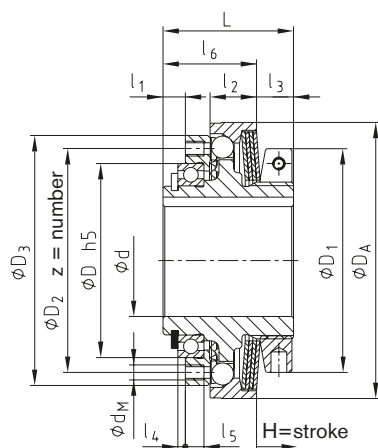


For legend of pictogram please refer to flapper on the cover



Hub type 1.0 (keyway acc. to DIN 6885)

Hub type 6.1 (clamping ring)



Technical data – dimensions																				
Size	Max. speed ³⁾ [rpm]	Torques [Nm]			Max. bore d	Dimensions [mm]														
		T1	T2	T3		D _{in}	D ₁	D ₂	D ₃	D _A	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	L	z x d _{th}	H=stroke	
15	3500	2-3.5	3.5-7	7-14	12	32	33	37	42	42	5.0	7.0	9.2	2	4	18.8	28	12xM3	0.8	
25	3000	9-15	20-35	40-65	20 (22) ¹⁾	42	50	48	56	61	5.5	11.5	9.1	2	5	23.9	33	8xM4	1.2	
32	3000	25-38	50-75	100-150	27 (30) ¹⁾	52	60	60	67	74	6	12.5	9.9	2	5	25.1	35	8xM4	1.5	
42	2500	30-65	60-135	120-265	36 (38) ¹⁾	65	72	75	83	90	7	16	11.2	2	6	31.8	43	8xM5	1.5	
60 ⁴⁾	2000	70-140	120-180	220-550	50	90	96	100	113	116	8	21	11.8	2	7	38.2	52	12xM6	1.8	

Dimensions – Hub type 6.1										
Size	Bore d ₁		Dimensions [mm]						Weight with max. bore [kg]	Mass moment of inertia ²⁾ J _{total} [kgm ²]
	Pilot bore	Max.	D _s	DK	L ₁	e	M	T _A [Nm]		
15	7.5	15	40	43	38	15	M4	1.7	0.124	0.029 x 10 ⁻³
25	9.5	25	55	-	45	21	M6	14	0.282	0.14 x 10 ⁻³
32	13.5	32	70	-	53	27	M8	34	0.471	0.35 x 10 ⁻³
42	18.5	42	86	91.2	63	33	M10	67	0.815	0.95 x 10 ⁻³
60 ⁴⁾	24	60	112	119.4	75	45	M12	115	3.04	5.9 x 10 ⁻³

Transmittable friction torques T _R [Nm] (fitting tolerance H7/h6) of hub type 6.1																											
Size	Ø8	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø36	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	
15	8	12	14	16	22	24																					
25		30	35	42	55	62	69	48	53	58	69	80	86														
32						74	83	104	114	125	148	116	125	153	172	192											
42										149	178	209	225	275	310	264	309	324	356	389	422						
60 ⁴⁾										247	310	356	405	485	513	485	513	571	633	394	452	514	558	675	803		

¹⁾ The figure in brackets specifies the max. bore with keyway to DIN 6885 sheet 3 (low-rise design)

²⁾ With max. bore

³⁾ See comments on page 283 in our catalogue "Drive Technology"

⁴⁾ Material steel

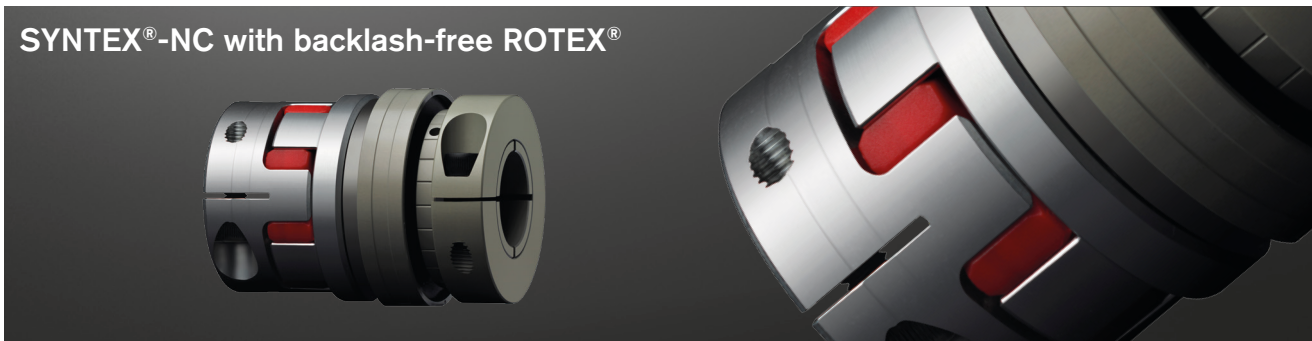
Ordering example:	SYNTEX®-NC 32	SK	6.1	T3	d ₁ Ø25	120
	Type/size	Type (DK/SK)	Hub type	Disk springs	Bore	Torque set

SYNTEX®-NC

Backlash-free overload systems

Other types

SYNTEX®-NC with backlash-free ROTEX®



- Overload system in combination with a backlash-free flexible ROTEX® GS
- Compact dimensions
- Torsionally flexible, able to compensate for displacements
- Axial plug-in
- Electrical insulation

SYNTEX®-NC with torsionally rigid TOOLFLEX® S

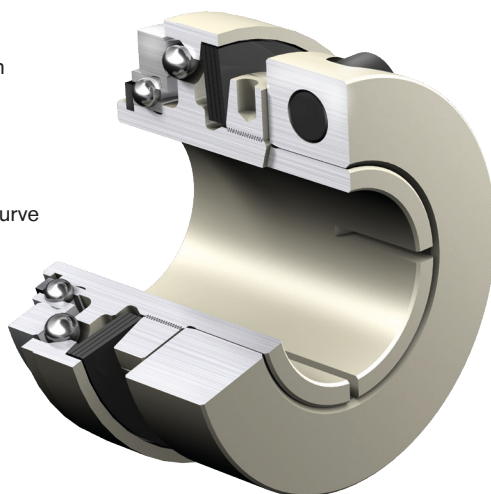


- Overload system in combination with a torsionally rigid, backlash-free TOOLFLEX®
- Able to compensate for displacements
- TOOLFLEX® with frictionally engaged clamping hub or taper hub

Operating principle

SYNTEX®-NC

- Overload protection up to 550 Nm
- Backlash-free torque transmission
- Light-weight design
- Degressive spring characteristic curve
- Low mass moment of inertia
- Large bore diameters
- Short response times
- High power density

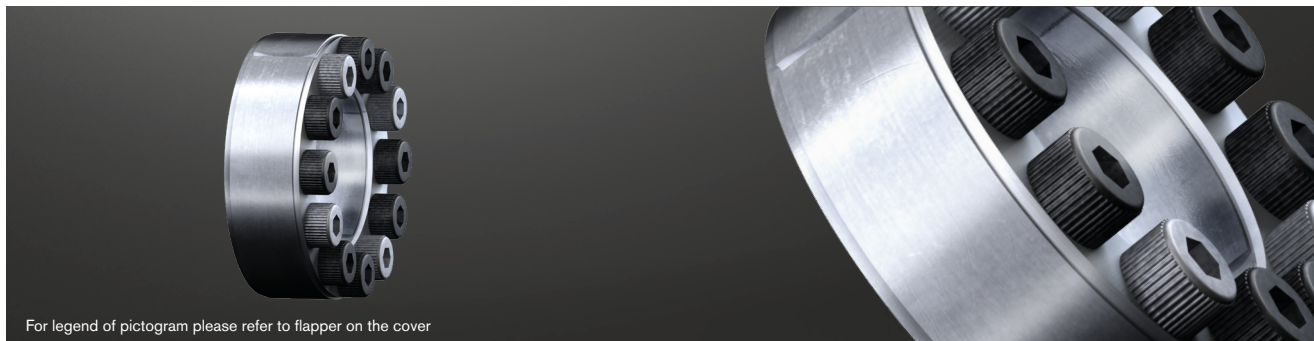


- Clamping ring design easy to assemble
- Available both as a ratchet (DK) and synchronous design (SK)
- Backlash-free shaft-hub-connection
- In combination with the backlash-free, torsionally flexible ROTEX® GS or backlash-free, torsionally stiff TOOLFLEX®
- Direct assembly of toothed belt pulleys, as an example, possible (integrated groove ball bearing)

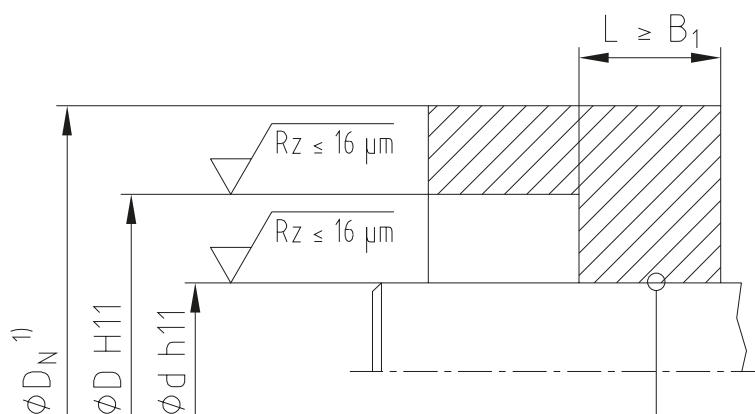
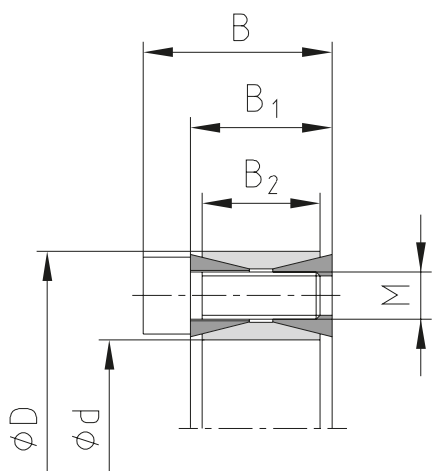
CLAMPEX® KTR 100

Clamping elements

Not self-centering, suitable for large shaft and hub tolerances



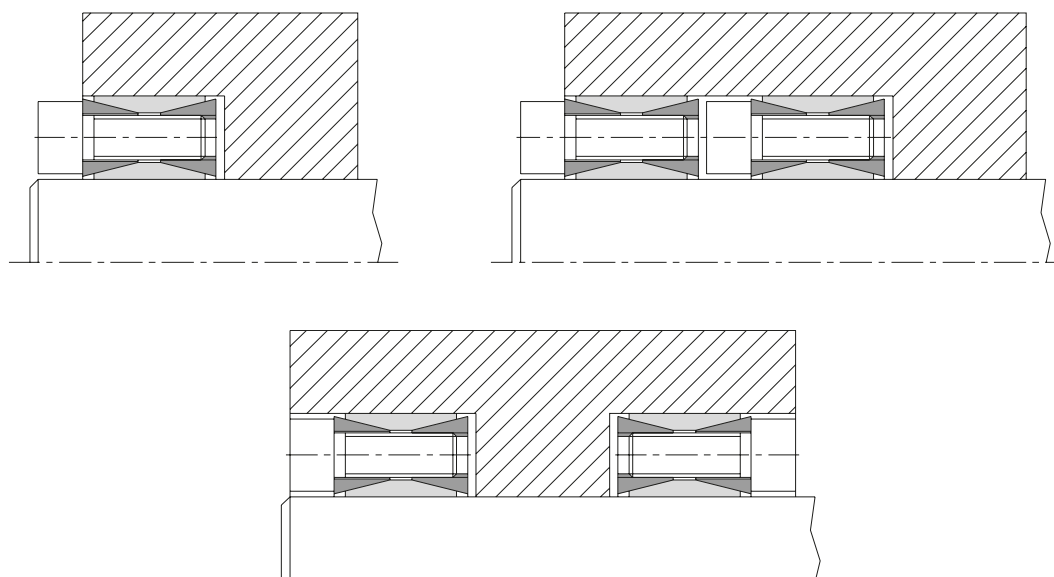
For legend of pictogram please refer to flapper on the cover



¹⁾ Dimension D_N : for calculation see page 323. in our catalogue "Drive Technology"

Centering required

Example of application of hub type



● Sizes of clamping elements available from stock.

¹⁾ These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T , F_{ax} , P_W and P_N decreasing proportionately.

Ordering example:	KTR 100	50	x	80
	Series	Size of internal diameter d		Size of external diameter D

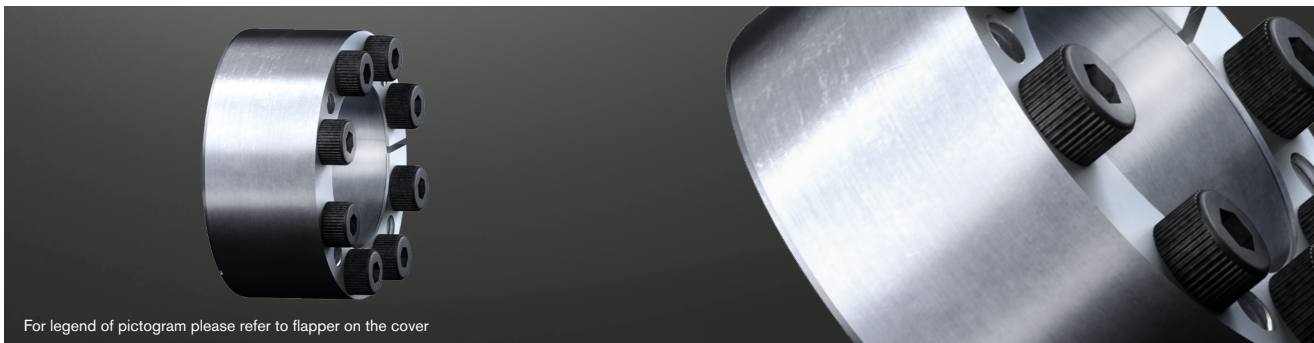
CLAMPEX® – KTR 100

d x D [mm]	Dimensions [mm]			Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{\text{steel}}=0.14$				Transmittable torque or axial force		Surface pressure between clamping element		Weight [-kg]	Stock programme
	B	B ₁	B ₂	M	Length	z = number	T _A [Nm] ¹⁾	T [Nm]	F _{ax} [kN]	Shaft P _w [N/mm ²]	Hub P _N [N/mm ²]		
17 x 47	26	20	17	M6	18	8	16	260	31	281	102	0.2	
18 x 47	26	20	17	M6	18	8	16	280	31	270	103	0.2	
19 x 47	26	20	17	M6	18	8	16	290	31	251	101	0.2	●
20 x 47	26	20	17	M6	18	8	16	310	31	242	103	0.2	●
22 x 47	26	20	17	M6	18	8	16	340	31	219	103	0.2	●
24 x 50	26	20	17	M6	18	8	16	370	31	200	96	0.3	●
25 x 50	26	20	17	M6	18	8	16	390	31	195	97	0.3	●
28 x 55	26	20	17	M6	18	12	16	650	46	259	132	0.3	●
30 x 55	26	20	17	M6	18	12	16	700	47	243	132	0.3	●
32 x 60	26	20	17	M6	18	12	16	750	47	229	122	0.3	●
35 x 60	26	20	17	M6	18	12	16	820	47	209	122	0.3	●
38 x 65	26	20	17	M6	18	15	16	1100	58	238	139	0.4	●
40 x 65	26	20	17	M6	18	15	16	1170	59	228	140	0.3	●
42 x 75	32	24	20	M8	22	12	40	1670	80	251	141	0.6	●
45 x 75	32	24	20	M8	22	12	40	1790	80	234	141	0.5	●
48 x 80	32	24	20	M8	22	12	40	1900	79	219	131	0.6	●
50 x 80	32	24	20	M8	22	12	40	1990	80	211	132	0.6	●
55 x 85	32	24	20	M8	22	15	40	2740	100	240	155	0.6	●
60 x 90	32	24	20	M8	22	15	40	2990	100	220	147	0.7	●
65 x 95	32	24	20	M8	22	15	40	3240	100	203	139	0.8	●
70 x 110	38	28	24	M10	25	15	78	5550	159	250	159	1.3	●
75 x 115	38	28	24	M10	25	15	78	5950	159	234	152	1.2	●
80 x 120	38	28	24	M10	25	15	78	6350	159	219	146	1.4	●
85 x 125	38	28	24	M10	25	15	78	6740	159	206	140	1.4	●
90 x 130	38	28	24	M10	25	15	78	7140	159	195	135	1.5	●
95 x 135	38	28	24	M10	25	18	78	9000	189	220	155	1.6	●
100 x 145	44	32	26	M12	30	15	135	11600	232	237	163	2.2	●
110 x 155	44	32	26	M12	30	15	135	12750	232	215	153	2.3	●
120 x 165	44	32	26	M12	30	16	135	14800	247	210	153	2.4	●
130 x 180	50	38	34	M12	30	20	135	20150	310	186	134	3.5	●
140 x 190	50	38	34	M12	30	22	135	23850	341	190	140	3.8	●
150 x 200	50	38	34	M12	30	24	135	27850	371	193	145	4.0	●
160 x 210	50	38	34	M12	30	26	135	32200	403	196	150	4.4	●
170 x 225	58	44	38	M14	45	22	215	40300	474	195	147	5.7	●
180 x 235	58	44	38	M14	45	24	215	46600	518	201	154	6.0	●
190 x 250	66	52	46	M14	45	28	215	57300	603	183	139	8.0	●
200 x 260	66	52	46	M14	45	30	215	71000	710	205	157	8.2	●
220 x 285	72	56	50	M16	50	26	335	93200	847	204	158	11.0	●
240 x 305	72	56	50	M16	50	30	335	117300	978	216	170	12.2	●
260 x 325	72	56	50	M16	50	34	335	144000	1108	226	181	13.2	●
280 x 355	84	66	60	M18	60	32	465	177700	1269	200	158	19.2	●
300 x 375	84	66	60	M18	60	36	465	214100	1427	210	168	20.5	●
320 x 405	98	78	72	M20	70	36	660	295800	1849	213	168	29.6	●
340 x 425	98	78	72	M20	70	36	660	314300	1849	200	160	31.1	●
360 x 455	112	90	84	M22	80	36	900	413300	2296	201	159	42.2	●
380 x 475	112	90	84	M22	80	36	900	436300	2296	191	153	44.0	●
400 x 495	112	90	84	M22	80	36	900	459300	2297	181	147	46.0	●
420 x 515	112	90	84	M22	80	40	900	535800	2551	192	156	50.0	●
440 x 545	130	102	96	M24	90	40	1130	647600	2944	185	149	64.6	●
460 x 565	130	102	96	M24	90	40	1130	677000	2943	177	144	67.4	●
480 x 585	130	102	96	M24	90	42	1130	741800	3091	178	146	71.0	●
500 x 605	130	102	96	M24	90	44	1130	809500	3238	179	148	72.6	●
520 x 630	130	102	96	M24	90	45	1130	861000	3312	176	145	80	●
540 x 650	130	102	96	M24	90	45	1130	894000	3311	169	141	82	●
560 x 670	130	102	96	M24	90	48	1130	989000	3532	174	146	85	●
580 x 690	130	102	96	M24	90	50	1130	1067000	3679	175	147	88	●
600 x 710	130	102	96	M24	90	50	1130	1103800	3679	169	143	91	●
620 x 730	130	102	96	M24	90	52	1130	1186200	3826	171	145	93	●
640 x 750	130	102	96	M24	90	54	1130	1271600	3974	172	146	96	●
660 x 770	130	102	96	M24	90	56	1130	1359900	4121	173	148	99	●
680 x 790	130	102	96	M24	90	56	1130	1401100	4121	167	144	102	●
700 x 810	130	102	96	M24	90	60	1130	1545400	4415	174	151	104	●
720 x 830	130	102	96	M24	90	60	1130	1589500	4415	169	147	107	●
740 x 850	130	102	96	M24	90	62	1130	1688100	4562	170	148	110	●
760 x 870	130	102	96	M24	90	64	1130	1789700	4710	171	150	113	●
780 x 890	130	102	96	M24	90	65	1130	1865500	4783	169	149	116	●
800 x 910	130	102	96	M24	90	66	1130	1942700	4857	168	147	118	●
820 x 930	130	102	96	M24	90	68	1130	2051600	5004	169	149	121	●
840 x 950	130	102	96	M24	90	70	1130	2163500	5151	169	150	124	●
860 x 970	130	102	96	M24	90	72	1130	2278300	5298	170	151	127	●
880 x 990	130	102	96	M24	90	74	1130	2396000	5445	171	152	129	●
900 x 1010	130	102	96	M24	90	75	1130	2483600	5519	169	151	132	●
920 x 1030	130	102	96	M24	90	76	1130	2572600	5593	168	150	135	●
940 x 1050	130	102	96	M24	90	78	1130	2697700	5740	169	151	138	●
960 x 1070	130	102	96	M24	90	80	1130	2825800	5887	169	152	140	●
980 x 1090	130	102	96	M24	90	81	1130	2920700	5961	168	151	143	●
1000 x 1110	130	102	96	M24	90	82	1130	3017100	6034	167	150	146	●

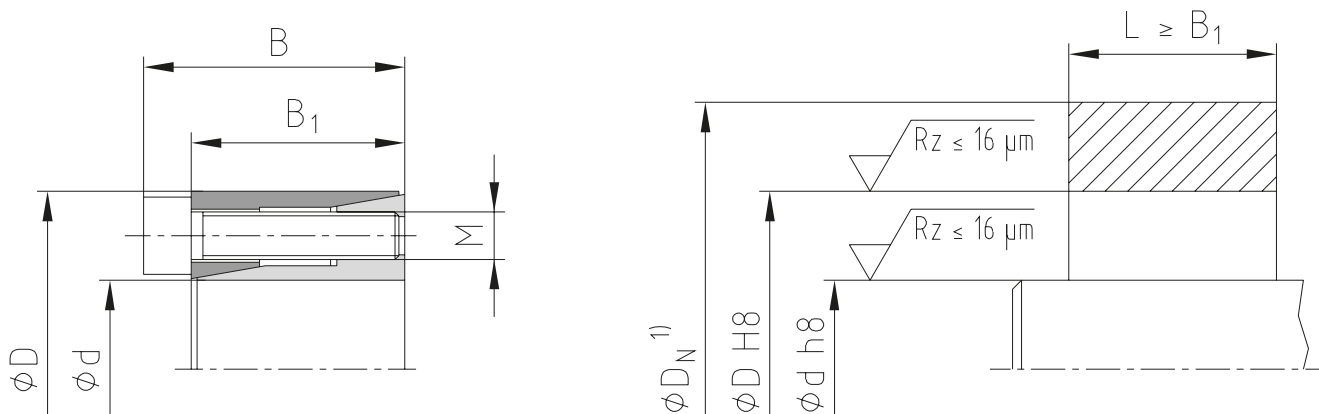
CLAMPEX® KTR 105

Clamping elements

Self-centering clamping element in a compact design

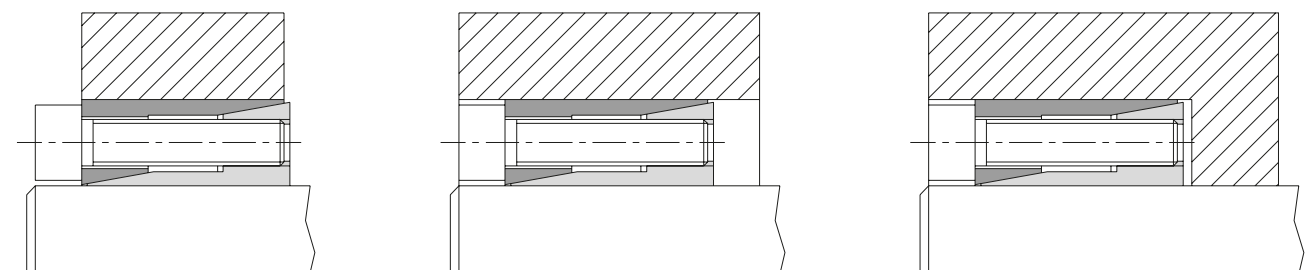


For legend of pictogram please refer to flapper on the cover



¹⁾ Dimension D_N : for calculation see page 323 in our catalogue "Drive Technology"

Example of application of hub type



Ordering example:	KTR 105	8	x	18
	Series	Size of internal diameter d		Size of external diameter D

CLAMPEX® – KTR 105

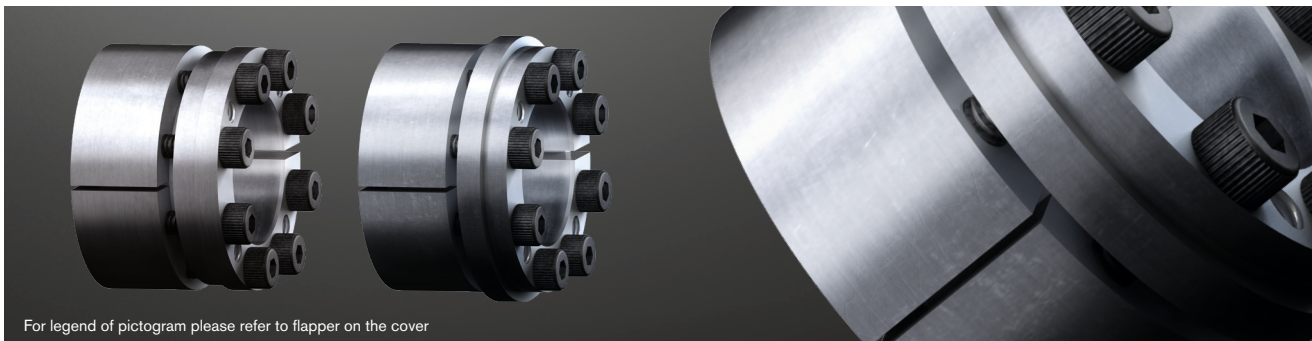
d x D [mm]	Dimensions [mm]		Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{\text{total}}=0.14$				Transmittable torque or axial force		Surface pressure between clamping element		Weight [~kg]	Stock programme
	B	B1	M	Length	z = number	T_A [Nm] ¹⁾	T [Nm]	F_{ax} [kN]	Shaft P_w [N/mm ²]	Hub P_N [N/mm ²]		
5 x 16	13.5	11	M2.5	10	3	1.2	5	2	177	55	0.01	●
6 x 16	13.5	11	M2.5	10	3	1.2	6	2	147	55	0.01	●
6.35 x 16	13.5	11	M2.5	10	3	1.2	6	2	132	52	0.01	●
7 x 17	13.5	11	M2.5	10	3	1.2	8	2	144	59	0.01	●
8 x 18	13.5	11	M2.5	10	3	1.2	10	3	138	61	0.02	●
9 x 20	15.5	13	M2.5	12	4	1.2	15	3	140	63	0.02	●
9.53 x 20	15.5	13	M2.5	12	4	1.2	15	3	125	60	0.02	●
10 x 20	15.5	13	M2.5	12	4	1.2	15	3	114	57	0.02	●
11 x 22	15.5	13	M2.5	12	4	1.2	18	3	113	56	0.02	●
12 x 22	15.5	13	M2.5	12	4	1.2	20	3	105	57	0.02	●
14 x 26	20	17	M3	16	4	2.1	35	5	105	57	0.04	●
15 x 28	20	17	M3	16	4	2.1	40	5	94	51	0.04	●
16 x 32	21	17	M4	16	4	4.9	70	9	132	66	0.07	●
17 x 35	25	21	M4	20	4	4.9	75	9	125	61	0.09	●
18 x 35	25	21	M4	20	4	4.9	80	9	119	61	0.09	●
19 x 35	25	21	M4	20	4	4.9	85	9	114	62	0.08	●
20 x 38	26	21	M5	20	4	9.7	150	15	153	81	0.1	●
22 x 40	26	21	M5	20	4	9.7	160	15	135	74	0.1	●
24 x 47	32	26	M6	25	4	16.5	250	21	154	78	0.2	●
25 x 47	32	26	M6	25	4	16.5	260	21	147	78	0.2	●
28 x 50	32	26	M6	25	6	16.5	440	31	198	111	0.2	●
30 x 55	32	26	M6	25	6	16.5	470	31	185	101	0.3	●
32 x 55	32	26	M6	25	6	16.5	500	31	173	100	0.25	●
35 x 60	37	31	M6	30	8	16.5	730	42	166	97	0.35	●
38 x 65	37	31	M6	30	8	16.5	800	42	155	90	0.4	●
40 x 65	37	31	M6	30	8	16.5	840	42	147	90	0.4	●
42 x 75	44	36	M8	35	6	40	911	43	125	70	0.7	●
45 x 75	44	36	M8	35	8	40	1300	58	155	93	0.6	●
48 x 80	44	36	M8	35	8	40	1824	76	191	115	0.7	●
50 x 80	44	36	M8	35	8	40	1900	76	183	115	0.7	●

● Sizes of clamping elements available from stock.

¹⁾ These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T , F_{ax} , P_w and P_N decreasing proportionately.

CLAMPEX® KTR 200 and KTR 201 Clamping elements

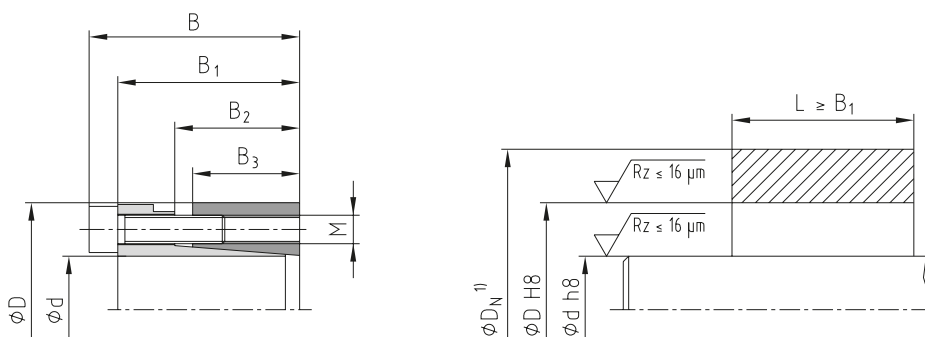
Self-centering clamping elements with a wide range of applications



For legend of pictogram please refer to flapper on the cover

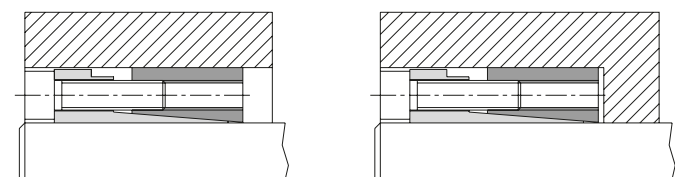


KTR 200

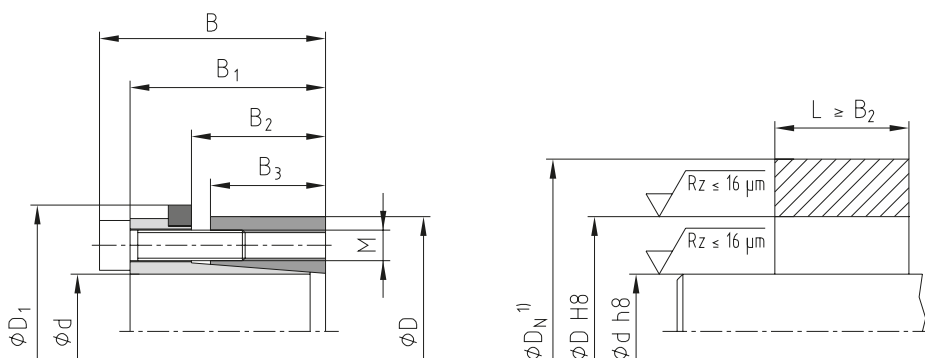


¹⁾ Dimension D_N : for calculation see page 323. in our catalogue "Drive Technology"

Example of application of hub type

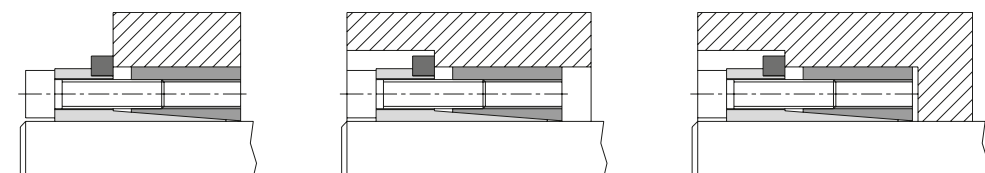


KTR 201



¹⁾ Dimension D_N : for calculation see page 323. in our catalogue "Drive Technology"

Example of application of hub type



Ordering example:

KTR 200	40	x	65
Series	Size of internal diameter d		Size of external diameter D

CLAMPEX® – KTR 200 and KTR 201

d x D [mm]	Dimensions [mm]					Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{0.025}=0.14$					KTR 200						KTR 201					
											Transmittable torque or axial force		Surface pressure between clamping element		Weight [-kg]	Stock programme	Transmittable torque or axial force		Surface pressure between clamping element		Weight [-kg]	Stock programme
	T [Nm]	F _{ax} [kN]	Shaft P _w [N/mm ²]	Hub P _N [N/mm ²]	T [Nm]	F _{ax} [kN]	Shaft P _w [N/mm ²]	Hub P _N [N/mm ²]														
20 x 47	48	42	31	26	53	M6	25	6	17	17	530	53	270	115	0.4	●	320	32	163	69	0.4	●
22 x 47	48	42	31	26	53	M6	25	6	17	17	580	53	245	114	0.4	●	360	33	152	71	0.4	●
24 x 50	48	42	31	26	56	M6	25	6	17	17	630	53	223	107	0.4	●	390	33	138	66	0.4	●
25 x 50	48	42	31	26	56	M6	25	6	17	17	660	53	215	108	0.4	●	400	32	131	65	0.4	●
28 x 55	48	42	31	26	61	M6	25	6	17	17	740	53	193	98	0.5	●	450	32	117	60	0.5	●
30 x 55	48	42	31	26	61	M6	25	6	17	17	790	53	179	98	0.5	●	490	33	111	61	0.5	●
32 x 60	48	42	31	26	66	M6	25	8	17	17	1150	72	229	122	0.6	●	690	43	137	73	0.6	●
35 x 60	48	42	31	26	66	M6	25	8	17	17	1300	74	217	126	0.5	●	750	43	125	73	0.5	●
38 x 65	48	42	31	26	71	M6	25	8	17	17	1300	68	184	107	0.6	●	820	43	116	68	0.6	●
40 x 65	48	42	31	26	71	M6	25	8	17	17	1400	70	179	110	0.6	●	860	43	110	67	0.6	●
42 x 75	59	51	35	30	81	M8	30	6	41	41	2000	95	200	112	1.0	●	1300	62	130	73	1.0	●
45 x 75	59	51	35	30	81	M8	30	6	41	41	2200	98	192	115	1.0	●	1400	62	122	73	1.0	●
48 x 80	59	51	35	30	86	M8	30	8	41	41	3200	133	246	147	1.1	●	1900	79	146	87	1.1	●
50 x 80	59	51	35	30	86	M8	30	8	41	41	3300	132	233	146	1.1	●	2000	80	141	88	1.1	●
55 x 85	59	51	35	30	91	M8	30	8	41	41	3600	131	210	136	1.2	●	2200	80	129	83	1.2	●
60 x 90	59	51	35	30	96	M8	30	8	41	41	3900	130	192	128	1.2	●	2400	80	118	79	1.2	●
65 x 95	59	51	35	30	101	M8	30	8	41	41	4300	132	180	123	1.3	●	2600	80	109	74	1.3	●
70 x 110	71	61	46	40	119	M10	30	8	83	83	7500	214	203	129	2.2	●	4600	131	125	79	2.3	●
75 x 115	71	61	46	40	124	M10	30	8	83	83	8000	213	189	123	2.3	●	5000	133	118	77	2.4	●
80 x 120	71	61	46	40	129	M10	30	8	83	83	8500	213	176	117	2.4	●	5200	130	108	72	2.6	●
85 x 125	71	61	46	40	134	M10	30	10	83	83	11400	268	209	142	2.6	●	7000	165	128	87	2.7	●
90 x 130	71	61	46	40	139	M10	30	10	83	83	12000	267	196	136	2.7	●	7400	164	121	84	2.8	●
95 x 135	71	61	46	40	144	M10	30	10	83	83	12600	265	185	130	2.8	●	7800	164	115	81	2.9	●
100 x 145	80	68	52	45	155	M12	35	8	145	145	15000	300	177	122	3.9	●	9800	196	116	80	4.1	●
110 x 155	80	68	52	45	165	M12	35	8	145	145	16500	300	161	114	4.2	●	10700	195	104	74	4.4	●
120 x 165	80	68	52	45	175	M12	35	10	145	145	22500	375	184	134	4.5	●	14600	243	120	87	4.7	●
130 x 180	80	68	52	45	188	M12	35	12	145	145	29000	446	202	146	5.5	●	19000	292	133	96	5.7	●
140 x 190	90	76	58	50	199	M14	40	10	210	230	32000	457	173	128	6.6	●	23000	329	125	92	6.9	●
150 x 200	90	76	58	50	209	M14	40	12	210	230	41000	547	193	145	6.9	●	30000	400	141	106	7.2	●
160 x 210	90	76	58	50	219	M14	40	12	210	230	44000	550	182	139	7.4	●	32000	400	133	101	7.8	●
170 x 225	90	76	58	50	234	M14	40	14	210	230	54500	641	200	151	8.6	●	39000	459	143	108	9.0	●
180 x 235	90	76	58	50	244	M14	40	14	210	230	57500	639	188	144	9.1	●	41000	456	134	103	9.5	●
190 x 250	90	76	58	50	259	M14	40	15	210	230	65000	684	191	145	10.6	●	46400	488	136	104	11.1	●
200 x 260	90	76	58	50	269	M14	40	15	210	230	68000	680	180	139	11.2	●	48800	488	129	100	11.7	●

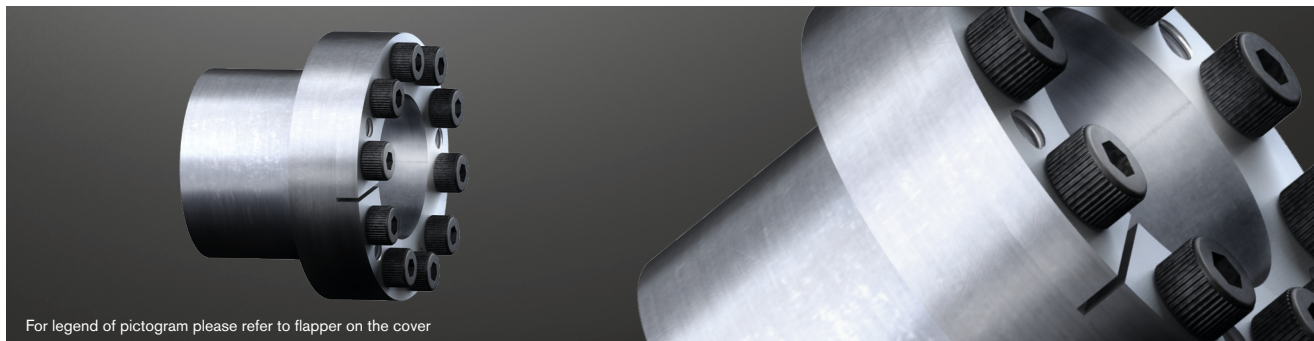
● Sizes of clamping elements available from stock.

¹⁾ These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_w and P_N decreasing proportionately.

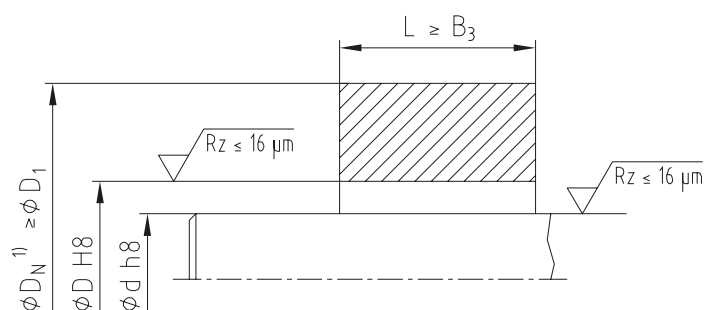
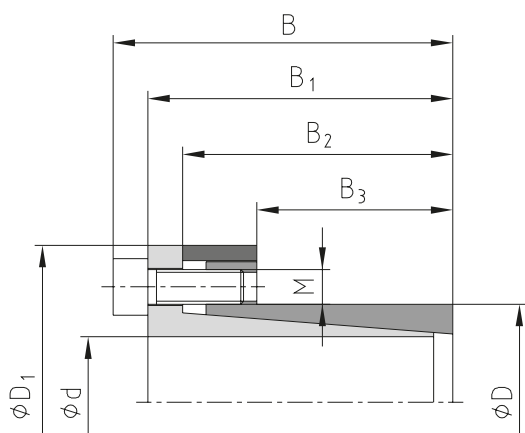
CLAMPEX® KTR 250

Clamping elements

Self-centering clamping element, particularly suitable for thin-walled hubs

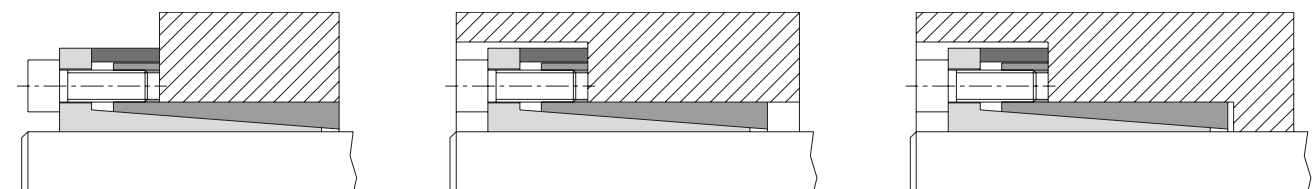


For legend of pictogram please refer to flapper on the cover



¹⁾ Dimension D_N : for calculation see page 323 in our catalogue "Drive Technology"

Example of application of hub type



Ordering example:	KTR 250	28	x	39
	Series	Size of internal diameter d		Size of external diameter D

CLAMPEX® – KTR 250

d x D [mm]	Dimensions [mm]					Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{total}=0.14$				Transmittable torque or axial force		Surface pressure between clamping element		Weight [~kg]	Stock programme
	B	B ₁	B ₂	B ₃	D ₁	M	Length	z = number	T _A [Nm] ¹⁾	T [Nm]	F _{ax} [kN]	Shaft P _w [N/mm ²]	Hub P _N [N/mm ²]		
6 x 14	24.5	21.5	18.5	10	25	M3	10	4	2.6	11	4	162	69	0.05	●
8 x 15	29	25	21.5	11.5	27	M4	10	3	5.6	26	7	187	100	0.05	●
9 x 16	30	26	22.5	14	28	M4	10	4	5.6	37	8	173	97	0.06	●
10 x 16	30	26	22.5	14	29	M4	10	4	5.6	42	8	159	99	0.16	●
11 x 18	30	26	22.5	13.5	32	M4	10	4	5.6	50	9	162	99	0.18	●
12 x 18	30	26	22.5	13.5	32	M4	10	4	5.6	55	9	150	100	0.18	●
14 x 23	30	26	22.5	14	38	M4	10	6	5.6	100	14	193	118	0.20	●
15 x 24	42	36	28.5	16	44	M6	18	4	15	145	19	214	134	0.2	●
16 x 24	42	36	28.5	16	44	M6	18	4	15	155	19	201	134	0.3	●
17 x 25	42	36	28.5	16	45	M6	18	4	15	162	19	186	126	0.2	●
17 x 26	44	38	31	18	47	M6	18	4	17	180	21	184	120	0.2	●
18 x 26	44	38	31	18	47	M6	18	4	17	200	22	182	126	0.2	●
19 x 27	44	38	31	18	48	M6	18	4	17	210	22	171	121	0.3	●
20 x 28	44	38	31	18	49	M6	18	4	17	220	22	162	116	0.2	●
22 x 32	51	45	38	25	54	M6	18	4	17	250	23	110	75	0.3	●
24 x 34	51	45	38	25	56	M6	18	4	17	270	23	99	70	0.3	●
25 x 34	51	45	38	25	56	M6	18	4	17	280	22	95	70	0.3	●
28 x 39	51	45	38	25	61	M6	18	6	17	480	34	130	93	0.4	●
30 x 41	51	45	38	25	62	M6	18	6	17	510	34	120	88	0.4	●
32 x 43	51	45	38	25	65	M6	18	8	17	730	46	151	113	0.5	●
35 x 47	56	50	43	30	69	M6	18	8	17	800	46	115	86	0.5	●
38 x 50	56	50	43	30	72	M6	18	8	17	860	45	105	80	0.6	●
40 x 53	56	50	43	30	75	M6	18	8	17	900	45	99	75	0.6	●
42 x 55	65	57	49	32	78	M8	22	8	41	1800	86	169	129	0.9	●
45 x 59	73	65	57	40	85	M8	22	8	41	1900	84	124	95	1.0	●
48 x 62	78	70	62	45	87	M8	22	8	41	2000	83	102	79	1.0	●
50 x 65	78	70	62	45	92	M8	22	10	41	2600	104	123	94	1.3	●
55 x 71	83	75	67	50	98	M8	22	10	41	2900	105	102	79	1.5	●
60 x 77	83	75	67	50	104	M8	22	10	41	3100	103	91	71	1.7	●
65 x 84	83	75	67	50	111	M8	22	10	41	3400	105	85	66	1.9	●
70 x 90	101	91	80	60	119	M10	25	10	83	5800	166	105	81	2.9	●
75 x 95	101	91	80	60	126	M10	25	10	83	6200	165	97	77	2.3	●
80 x 100	106	96	85	65	131	M10	25	12	83	8000	200	102	82	3.3	●
85 x 106	106	96	85	65	137	M10	25	12	83	8500	200	96	77	3.6	●
90 x 112	106	96	85	65	143	M10	25	15	83	11200	249	113	91	3.9	●
95 x 120	106	96	85	65	153	M10	25	15	83	11800	248	107	84	4.5	●
100 x 125	114	102	89	65	162	M12	30	12	145	14600	292	119	95	5.5	●
110 x 140	140	128	114	90	180	M12	30	12	145	16000	291	78	61	8.0	●
120 x 155	140	128	114	90	198	M12	30	12	145	17400	290	71	55	10.5	●
130 x 165	140	128	114	90	208	M12	30	16	145	25000	385	87	69	11.9	●

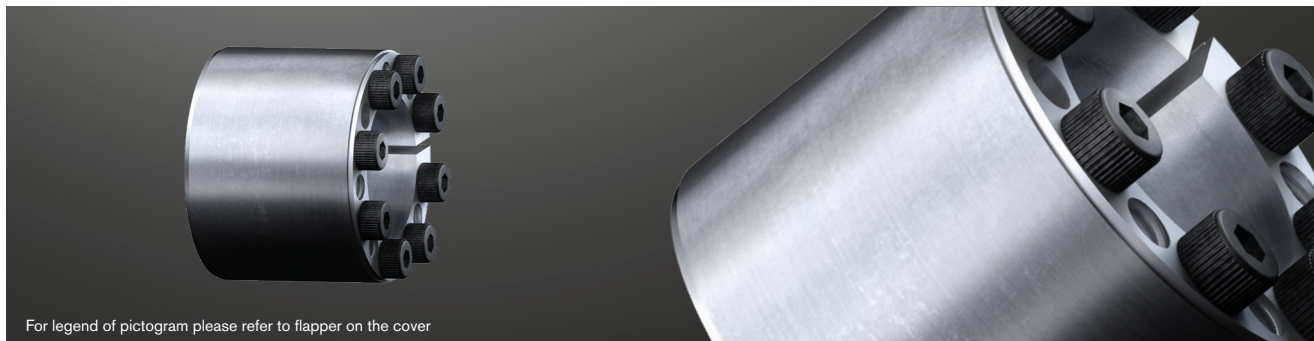
● Sizes of clamping elements available from stock.

¹⁾ These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_w and P_N decreasing proportionately.

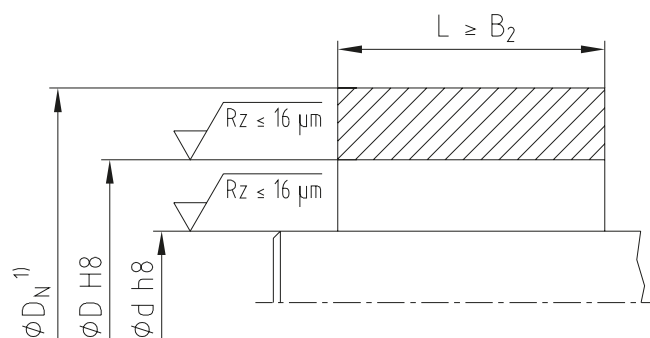
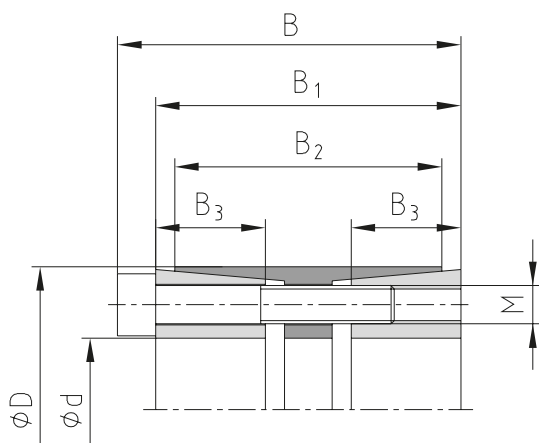
CLAMPEX® KTR 400

Clamping elements

Self-centering clamping element with highest transmission performance

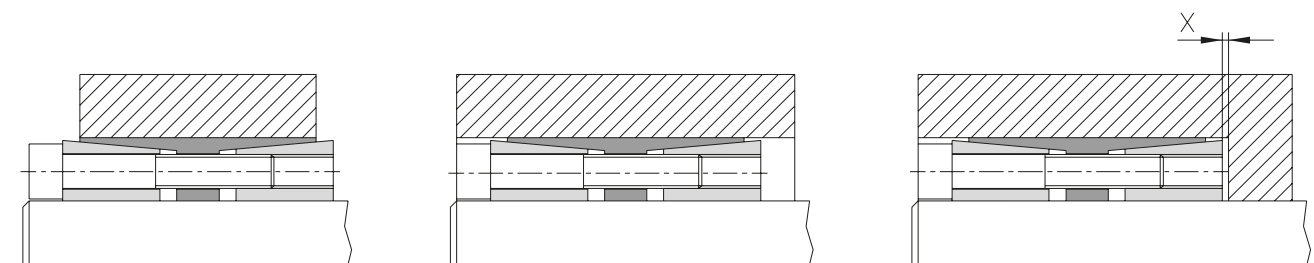


For legend of pictogram please refer to flapper on the cover



¹⁾ Dimension D_N : for calculation see page 323 in our catalogue "Drive Technology"

Example of application of hub type



Formula to calculate space x for disassembly:

$$x = \frac{B_1 - B_2}{2}$$

Ordering example:	KTR 400	100	x	145
	Series	Size of internal diameter d		Size of external diameter D

CLAMPEX® – KTR 400

d x D ¹⁾ [mm]	Dimensions [mm]				Standard applications in industry								Applications with components subjected to bending and torsion stress								Weight [-kg]	Stock programme	
					Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{\text{nom}}=0.14$				Transmittable torque or axial force		Surface pressure between clamp- ing element		Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{\text{nom}}=0.14$				Transmittable torque or axial force		Trans- mittable bending moment				Surface pressure between clamp- ing element
	B	B ₁	B ₂	B ₃	M	z = num- ber	Length	T _A ²⁾ [Nm]	T [Nm]	F _{ax} [kN]	Shaft P _w [N/mm ²]	Hub P _N [N/mm ²]	M	z = num- ber	Length	T _A [Nm]	T [Nm]	F _{ax} [kN]	M _{b,perm.} [Nm]	Shaft P _w [N/mm ²]			Hub P _N [N/mm ²]
24 x 50	51	45	41	16	M6	6	35	17	700	58	202	92	M6	6	35	14	460	38	420	230	93	0.5	●
25 x 50	51	45	41	16	M6	6	35	17	730	58	194	92	M6	6	35	14	470	38	430	222	94	0.5	●
28 x 55	51	45	41	16	M6	8	35	17	1100	79	233	112	M6	8	35	14	740	53	490	257	110	0.5	●
30 x 55	51	45	41	16	M6	8	35	17	1180	79	217	112	M6	8	35	14	790	53	520	243	112	0.5	●
32 x 60	51	45	41	16	M6	8	35	17	1270	79	206	103	M6	8	35	14	830	52	560	230	104	0.8	●
35 x 60	51	45	41	16	M6	8	35	17	1390	79	188	104	M6	8	35	14	890	51	610	214	106	0.7	●
38 x 65	51	45	41	16	M6	10	35	17	1880	99	216	119	M6	10	35	14	1250	66	660	240	119	1.1	●
40 x 65	51	45	41	16	M6	10	35	17	1980	99	205	119	M6	10	35	14	1300	65	700	230	120	1.1	●
40 x 75	51	45	41	16	M8	8	35	41	2850	143	296	149	M8	8	35	35	2030	102	700	320	142	1.1	●
42 x 75	51	45	41	16	M8	8	35	41	3000	143	282	149	M8	8	35	35	2120	101	730	307	142	1.1	●
45 x 75	51	45	41	16	M8	8	35	41	3250	144	266	151	M8	8	35	35	2260	100	780	289	145	1.1	●
48 x 80	70	62	58	23	M8	8	55	41	3450	144	173	98	M8	8	55	35	2160	90	1700	202	101	1.5	●
50 x 80	70	62	58	23	M8	8	55	41	3600	144	166	98	M8	8	55	35	2220	89	1770	196	102	1.4	●
55 x 85	70	62	58	23	M8	8	55	41	3950	144	151	92	M8	8	55	35	2350	85	1950	182	98	1.5	●
60 x 90	70	62	58	23	M8	10	55	41	5400	180	173	109	M8	10	55	35	3380	113	2130	202	113	1.6	●
65 x 95	70	62	58	23	M8	10	55	41	5850	180	160	103	M8	10	55	35	3560	110	2310	190	109	1.7	●
70 x 110	86	76	70	28	M10	10	60	83	10200	291	197	118	M10	10	60	69	6620	189	3650	222	120	3.1	●
75 x 115	86	76	70	28	M10	10	60	83	10950	292	184	113	M10	10	60	69	6970	186	3920	210	117	3.3	●
80 x 120	86	76	70	28	M10	12	60	83	14000	350	207	130	M10	12	60	69	9210	230	4180	231	131	3.5	●
85 x 125	86	76	70	28	M10	12	60	83	15000	353	197	126	M10	12	60	69	9710	228	4440	220	129	3.6	●
90 x 130	86	76	70	28	M10	12	60	83	15800	351	185	121	M10	12	60	69	10000	222	4700	210	124	3.8	●
95 x 135	86	76	70	28	M10	12	60	83	16800	354	176	117	M10	12	60	69	10500	221	4960	201	122	4.0	●
100 x 145	110	98	92	35	M12	12	80	145	26000	520	197	121	M12	12	80	120	16850	337	8580	219	124	6.1	●
110 x 155	110	98	92	35	M12	12	80	145	28600	520	179	114	M12	12	80	120	18000	327	9440	203	118	6.6	●
120 x 165	110	98	92	35	M12	14	80	145	36300	605	191	124	M12	14	80	120	23350	389	10300	214	128	7.1	●
130 x 180	128	114	108	41	M14	12	90	230	46000	708	176	114	M14	12	90	190	29950	461	15300	201	119	10.0	●
140 x 190	128	114	108	41	M14	14	90	230	57800	826	191	126	M14	14	90	190	37200	531	16500	214	129	10.6	●
150 x 200	128	114	108	41	M14	16	90	230	70800	944	204	136	M14	16	90	190	46400	619	17700	226	139	11.2	●
160 x 210	128	114	108	41	M14	16	90	230	75500	944	191	130	M14	16	90	190	48600	608	18800	214	133	11.9	●
170 x 225	162	146	136	52	M16	14	110	355	95900	1128	169	114	M16	14	110	295	59100	695	32000	196	119	17.6	●
180 x 235	162	146	136	52	M16	15	110	355	108800	1209	171	117	M16	15	110	295	67500	750	33900	198	122	18.5	●
190 x 250	162	146	136	52	M16	16	110	355	122500	1289	173	117	M16	16	110	295	76100	801	35800	199	122	21.4	●
200 x 260	162	146	136	52	M16	16	110	355	128900	1289	164	113	M16	16	110	295	78600	786	37700	192	118	22.4	●
220 x 285	162	146	136	52	M16	18	110	355	171800	1562	181	120	M16	18	110	295	105000	955	41400	195	126	26.6	●
240 x 305	162	146	136	52	M16	20	110	355	208000	1733	184	125	M16	20	110	295	128000	1067	45200	198	130	28.7	●
260 x 325	166	150	134	55	M16	21	110	355	237000	1823	169	117	M16	21	110	295	142000	1092	51000	187	123	31.2	●
280 x 355	197	177	165	66	M20	18	130	690	340000	2429	174	119	M20	18	130	580	208000	1486	81300	192	125	46.8	●
300 x 375	197	177	165	66	M20	20	130	690	405000	2700	181	125	M20	20	130	580	252000	1680	87100	198	130	69.7	●
320 x 405	197	177	165	66	M20	21	130	690	453000	2831	178	121	M20	21	130	580	280000	1750	92900	196	127	60.5	●
340 x 425	197	177	165	66	M20	22	130	690	504900	2970	176	121	M20	22	130	580	311000	1829	98700	193	127	63.9	●
360 x 455	224	203	190	76	M22	21	150	930	626000	3478	169	115	M22	21	150	780	381000	2117	138500	189	121	86.8	●
380 x 475	224	203	190	76	M22	22	150	930	692000	3642	167	115	M22	22	150	780	420000	2211	146000	188	122	91.0	●
400 x 495	224	203	190	76	M22	24	150	930	795000	3975	173	121	M22	24	150	780	489000	2445	154000	194	127	95.3	●
420 x 515	224	203	190	76	M22	24	150	930	835000	3976	165	116	M22	24	150	780	505000	2405	161500	186	123	100	●
440 x 535	224	203	190	76	M22	24	150	930	875000	3977	158	112	M22	24	150	780	517000	2350	169000	178	120	105	●
460 x 555	224	203	190	76	M22	24	150	930	914000	3974	151	108	M22	24	150	780	530000	2304	177000	172	117	109	●
480 x 575	224	203	190	76	M22	28	150	930	1113000	4638	169	121	M22	28	150	780	678000	2825	184500	189	128	114	●
500 x 595	224	203	190	76	M22	28	150	930	1160000	4640	162	117	M22	28	150	780	692000	2768	192000	182	125	119	●
520 x 615	224	203	190	76	M22	30	150	930	1292000	4969	167	122	M22	30	150	780	780000	3000	200000	186	129	122.5	●
540 x 635	224	203	190	76	M22	30	150	930	1342000	4970	161	118	M22	30	150	780	799000	2959	207500	180	126	128	●
560 x 655	224	203	190	76	M22	32	150	930	1484000	5300	165	122	M22	32	150	780	893000	3189	215500	184	129	131	●
580 x 675	224	203	190	76	M22	32	150	930	1537000	5300	159	118	M22	32	150	780	912000	3145	223000	179	127	136	●
600 x 695	224	203	190	76	M22	33	150	930	1640000	5467	159	118	M22	33	150	780	972000	3240	231000	179	127	139	●

● Sizes of clamping elements available from stock.

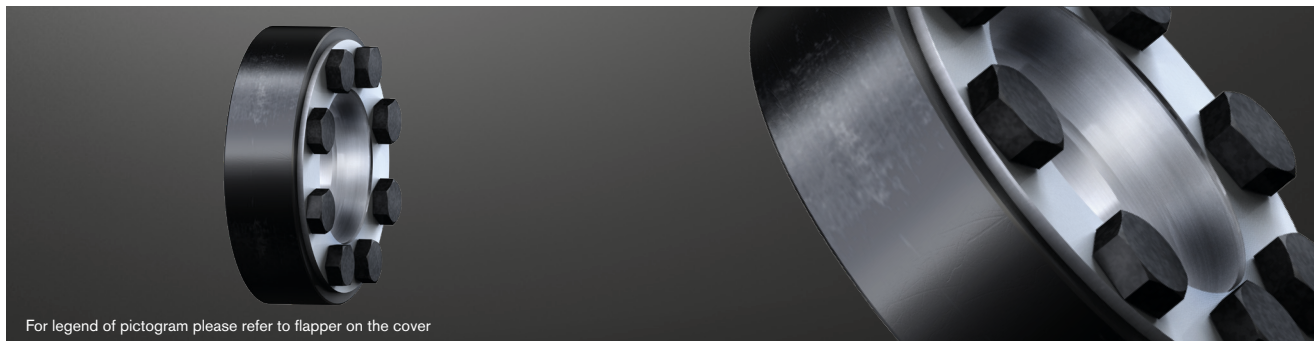
¹⁾ External ring from size 400 x 495 without slot.

²⁾ These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the above-mentioned figures with T, F_{ax}, P_w and P_N decreasing proportionately.

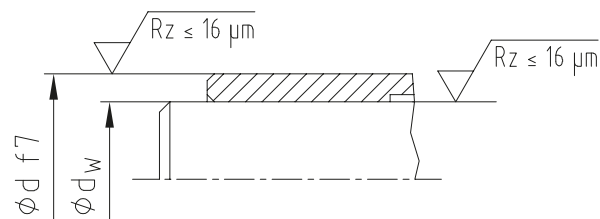
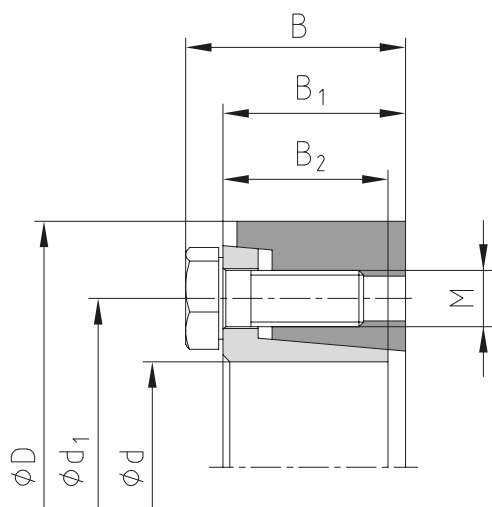
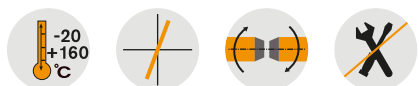
CLAMPEX® KTR 620

Clamping elements

Two-part external clamping set for applications on hollow shafts



For legend of pictogram please refer to flapper on the cover



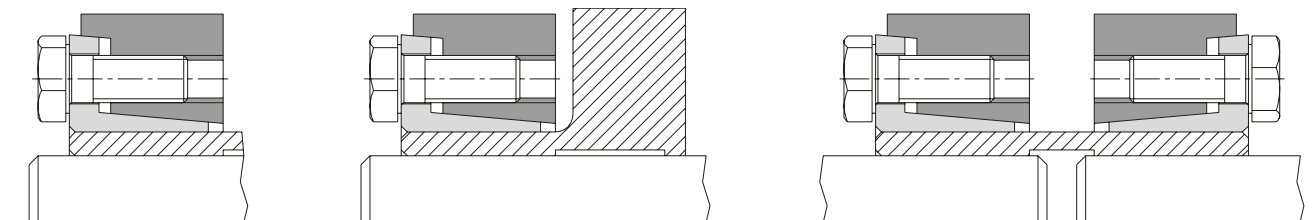
Tolerances for d_w

$d_w \leq \text{Ø } 160 = \text{h6/H7}$

$d_w > \text{Ø } 160 = \text{g6/H7}$

Bigger tolerances are generally possible! Please contact us!

Example of application of hub type



Ordering example:	KTR 620	55	x	100
	Series	Size of internal diameter d		Size of external diameter D

CLAMPEX® – KTR 620

d x D [mm]	Shaft diameter d _w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 ¹⁾ μ _{total} =0.10				Surface pressure of clamping element/hollow shaft	Weight [-kg]	Stock programme
		T [Nm]	F _{ax} [kN]	B	B ₁	B ₂	d ₁	M	Length	z = number	T _A [Nm]	P _H [N/mm ²]		
16 x 41	13	70	11	19.5	15.3	13.5	28	M6	12	3	13	254	0.1	
	14	90	13											
18 x 44	15	80	11	19.5	15.3	13.5	30	M6	12	4	13	222	0.1	
	16	110	14											
20 x 47	17	150	18	19.5	15.3	13.5	32	M6	12	4	13	274	0.1	●
	18	175	19											
24 x 50	19	165	17	22	18.22	16	36	M6	16	5	13	243	0.2	●
	20	215	22											
26 x 51.5	22	280	25	22	18.05	16	38	M6	16	5	13	238	0.2	
	20	200	20											
30 x 60	22	260	24	22	18.05	16	38	M6	16	5	13	238	0.2	
	24	330	28											
36 x 72	24	370	31	24	20.26	18	44	M6	16	6	13	255	0.3	●
	25	420	34											
38 x 72	26	465	36	27.5	22.1	20	52	M8	20	5	30	250	0.5	●
	27	480	36											
40 x 80	30	650	43	27.5	22.1	20	54	M8	20	5	30	240	0.5	●
	33	835	51											
44 x 80	27	480	36	29.5	24.22	22	61	M8	20	6	30	209	0.6	●
	30	645	43											
50 x 90	33	765	46	29.5	24.22	22	61	M8	20	6	30	192	0.6	●
	34	830	49											
55 x 100	35	770	44	31.5	26.1	23.5	68	M8	20	8	30	212	0.8	●
	37	880	48											
60 x 110	38	1130	59	34.5	29	26	72	M8	20	8	30	195	1.1	●
	40	1260	63											
62 x 110	42	1400	67	34.5	29.25	26	80	M8	20	9	30	191	1.3	●
	42	1300	62											
68 x 115	45	1600	71	35	29.4	26	86	M8	20	9	30	206	1.3	●
	48	1900	79											
75 x 138	48	1700	71	37.5	30.7	27	100	M10	25	10	60	211	2.3	●
	50	1950	78											
80 x 141	52	2160	83	37.5	31.1	27	104	M10	25	10	60	215	2.3	●
	48	1700	71											
85 x 155	50	1900	76	44.5	38.2	34	114	M10	25	11	60	216	3.2	
	55	2500	91											
90 x 155	60	3150	105	44.5	38.2	34	114	M10	25	11	60	223	3.2	●
	55	2700	98											
95 x 170	60	3400	113	50	43.45	39	124	M10	30	14	60	182	4.3	
	65	4100	126											
100 x 170	65	5500	169	50	43.45	39	124	M10	30	14	60	176	4.3	●
	70	6400	183											
105 x 185	70	6600	189	56.5	49.1	43.5	136	M12	35	12	100	208	5.8	
	75	7900	211											
110 x 185	75	7400	197	56.5	49.1	43.5	136	M12	35	12	100	202	5.8	●
	80	8600	215											
115 x 197	80	10500	263	60.5	53	48	147	M12	35	14	100	193	6.9	
	85	12500	294											
120 x 197	85	12500	294	60.5	53	48	147	M12	35	14	100	189	6.9	
	90	14100	313											
	95	16000	337											

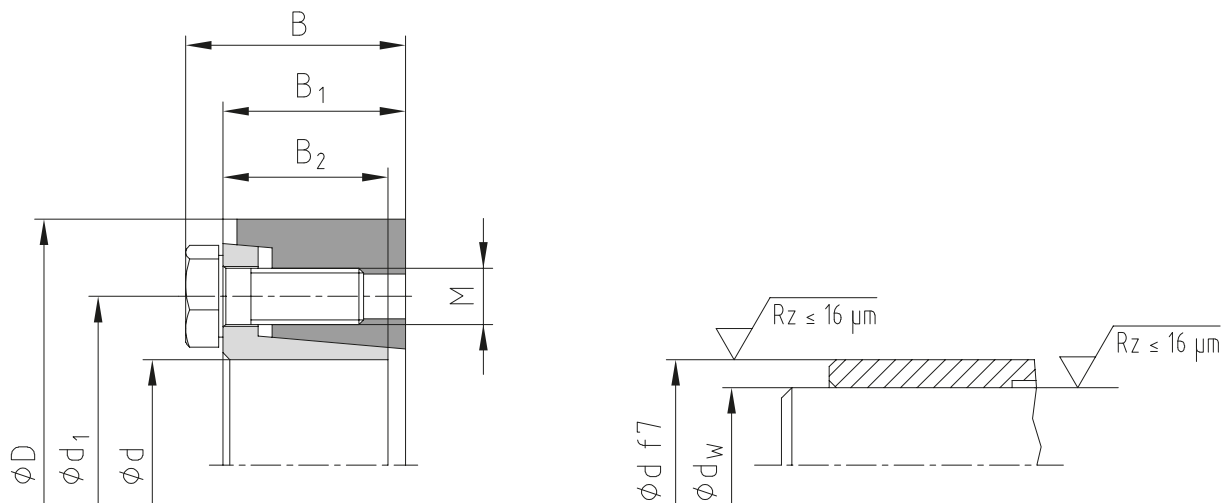
● Sizes of clamping elements available from stock.

¹⁾ DIN EN ISO 4017-10.9 for size 16 x 41 to 20 x 47

CLAMPEX® KTR 620

Clamping elements

Two-part external clamping set for applications on hollow shafts



CLAMPEX® – KTR 620														
d x D [mm]	Shaft diameter d _s [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 μ _{total} =0.10				Surface pressure of clamping element/hollow shaft	Weight [-kg]	Stock programme
		T [Nm]	F _{ax} [kN]	B	B ₁	B ₂	d ₁	M	Length	z = number	T _k [Nm]	P _H [N/mm ²]		
125 x 215	90	14500	322	61	53.4	48	158	M12	35	14	100	196	8.7	●
	95	16600	349											
	100	18800	376											
130 x 215	95	17000	358	61	53.4	48	158	M12	35	14	100	187	9.4	
	100	18400	368											
	110	22000	400											
130 x 230	95	18400	387	66.5	57.5	51	165	M14	40	12	160	213	10.8	●
	100	20800	416											
	110	26200	476											
135x 230	95	18400	387	66.5	57.5	51	165	M14	40	12	160	209	10.8	
	100	20800	416											
	110	26200	476											
140 x 230	100	19900	398	67	57.8	51	172	M14	40	12	160	207	10.3	
	105	22200	423											
	115	27800	483											
150 x 263	110	27000	491	71	62.2	55	186	M14	40	14	160	202	15.2	
	120	32000	533											
	125	36200	579											
155 x 263	110	27000	491	71	62.2	55	186	M14	40	14	160	199	15.2	
	120	32000	533											
	125	36200	579											
160 x 290	120	39000	650	78.5	68.5	61	198	M16	45	12	250	215	21.5	
	130	48000	738											
	135	51000	756											
165 x 290	120	39000	650	78.5	68.5	61	198	M16	45	12	250	212	21.5	
	130	48000	738											
	135	51000	756											
170 x 300	130	46500	715	79	68.9	61	208	M16	50	14	250	212	22.5	
	140	53000	757											
	145	59000	814											
175 x 300	130	46500	715	79	68.9	61	208	M16	50	14	250	209	22.5	●
	140	53000	757											
	145	59000	814											
180 x 320	140	66000	943	95	85	77.5	222	M16	50	16	250	210	32.7	
	150	76000	1013											
	155	83000	1071											
185 x 320	140	66000	943	95	85	77.5	222	M16	50	16	250	207	32.7	
	150	76000	1013											
	155	83000	1071											
190 x 340	150	82000	1093	98	87.7	77.5	238	M16	50	16	250	225	36.3	
	160	91000	1138											
	165	102000	1236											
195 x 340	150	82000	1093	98	87.7	77.5	238	M16	50	16	250	222	36.3	
	160	91000	1138											
	165	102000	1236											
200 x 340	150	82000	1093	98	87.7	77.5	238	M16	50	16	250	219	36.3	
	160	91000	1138											
	165	102000	1236											

● Sizes of clamping elements available from stock.

CLAMPEX® – KTR 620

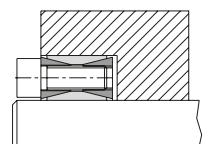
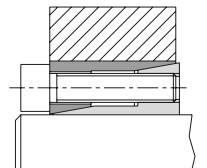
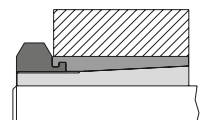
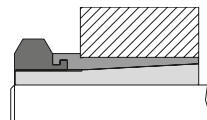
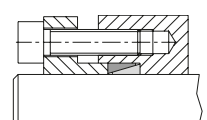
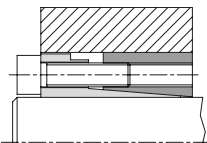
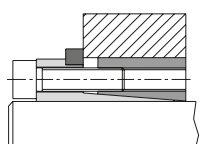
d x D [mm]	Shaft diameter d _w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 ²⁾ μ _{total} =0.10				Surface pressure of clamping element/hollow shaft	Weight [-kg]	Stock programme
		T [Nm]	F _{ax} [kN]	B	B ₁	B ₂	d ₁	M	Length	z = number	T _A [Nm]	P _A [N/mm ²]		
220 x 370	160	105000	1313	120	107.55	96.5	268	M20	60	15	480	205	53	
	170	122000	1435											
	180	138000	1533											
240 x 405	170	125000	1471	123.5	111.1	98	288	M20	60	16	480	214	66	
	180	145000	1611											
	200	182000	1820											
260 x 430	190	165000	1737	138	125.3	110.5	312	M20	60	16	480	202	82	
	200	190000	1900											
	220	238000	2164											
280 x 460	210	220000	2095	152.5	140	121	334	M20	60	18	480	193	103	
	220	245000	2227											
	240	300000	2500											
300 x 485	220	297000	2700	159	139.8	124	360	M24	70	16	840	205	120	
	230	330000	2870											
	250	399000	3192											
320 x 520	240	331000	2758	160.5	141.6	124	380	M24	70	18	840	190	138	
	250	365000	2920											
	270	437000	3237											
340 x 570	250	429000	3432	177.5	158.4	139	402	M24	70	18	840	195	189	
	260	469000	3608											
	280	556000	3971											
360 x 590	270	545000	4037	182	163	143	424	M24	70	20	840	216	207	
	280	592000	4229											
	290	694000	4786											
390 x 650	290	704000	4855	191	169.2	148	454	M27	70	18	1250	216	249	
	300	760000	5067											
	320	879000	5494											
420 x 670	320	827000	5169	208.4	186.4	166	486	M27	70	20	1250	184	285	
	330	876000	5309											
	350	1000000	5714											
440 x 710	340	1117000	6571	220	198	179	506	M27	70	21	1250	222	343	
	350	1190000	6800											
	370	1345000	7270											
460 x 750	360	1306000	7256	223	201	179	534	M27	70	21	1250	230	387	
	370	1386000	7492											
	390	1554000	7969											
470 x 705	370	950000	5135	241.6	219.6	200	538	M27	70	21	1250	151	340	
	380	1000000	5263											
	400	1150000	5750											
480 x 770	380	1557000	8195	247	223	201	552	M30	100	21	1650	223	449	
	390	1648000	8451											
	410	1818000	8868											
500 x 820	400	1653000	8265	241	217	198	572	M30	100	24	1650	214	515	
	410	1725000	8415											
	430	1915000	8907											
530 x 850	430	2048000	9526	262.3	238.3	216	606.5	M30	100	24	1650	208	585	
	440	2154000	9791											
	460	2374000	10322											
560 x 885	450	2306000	10249	266	242	220	632	M30	100	24	1650	212	636	
	460	2419000	10517											
	480	2654000	11058											
590 x 950	470	2735000	11638	281.5	257.5	236	664	M30	100	28	1650	211	805	
	480	2863000	11929											
	500	3128000	12512											
620 x 960	500	3150000	12600	307	283	258	706	M30	100	28	1650	201	853	
	520	3396000	13062											
	540	3689000	13663											
660 x 1020	530	3636000	13721	319	293	267	748	M33	130	28	2250	199	993	
	550	3942000	14335											
	570	4261000	14951											
700 x 1085	560	4189000	14961	318.5	292.5	263	788	M33	130	28	2250	187	1112	
	580	4520000	15586											
	600	4863000	16210											
750 x 1100	600	5281000	17603	346	320	280	850	M33	130	32	2250	202	1111	
	620	5672000	18297											
	650	6287000	19345											
800 x 1230	640	6091000	19034	359	333	296	900	M33	130	32	2250	202	1589	
	660	6511000	19730											
	700	7394000	21126											

● Sizes of clamping elements available from stock.

²⁾ DIN EN ISO 4014-12.9 for size 660 x 1020 to 800 x 1230

CLAMPEX® CLAMPING ELEMENTS TYPES AND OPERATING DESCRIPTION

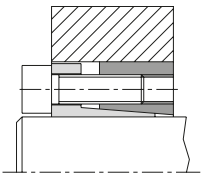
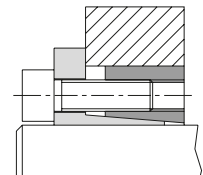
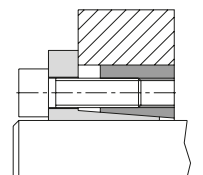
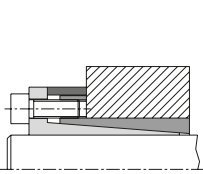
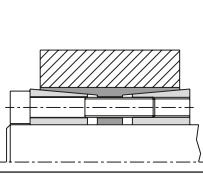
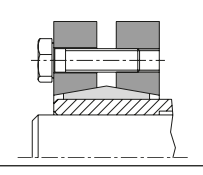
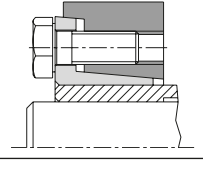
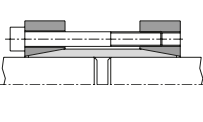
Properties of clamping elements

Type	Series	Shaft diameter [mm]	Transmittable torque T [Nm]	Centering of hub to shaft via the clamping element	Centering between hub and shaft required	Axial displacement of hub during assembly of clamping element	Details on page in our catalogue "Drive Technology"
Internal clamping elements	 KTR 100	17 – 1,000	260 – 3,017,100		●		326 327
	 KTR 105	5 – 50	5 – 1,900	●		●	328 329
	 KTR 130	5 – 50	10 – 2,320	●		●	330 331
	 KTR 131	5 – 35	10 – 836	●		●	330 331
	 KTR 150	6 – 440	2 – 215,000		●	●*	332 333
	 KTR 200	20 – 200	530 – 68,000	●		●	334 335
	 KTR 201	20 – 200	320 – 48,800	●			334 335

* Depending on mounting position

CLAMPEX® CLAMPING ELEMENTS

TYPES AND OPERATING DESCRIPTION

Type	Series	Shaft diameter [mm]	Transmittable torque T [Nm]	Centering of hub to shaft via the clamping element	Centering between hub and shaft required	Axial displacement of hub during assembly of clamping element	Details on page in our catalogue "Drive Technology"
Internal clamping elements	 KTR 203	18 – 400	370 – 487,000	●		●	336 337
	 KTR 206	18 – 400	290 – 342,000	●			336 337
	 KTR 225	14 – 50	287 – 1,796	●			338 339
	 KTR 250	6 – 130	11 – 25,000	●			340 341
	 KTR 400	24 – 600	700 – 1,640,000	●		●	342 343
External clamping elements	 KTR 603	10 – 420	28 – 1,460,000	●			344 - 347
	 KTR 620	13 – 700	70 – 7,394,000	●			348 - 351
Shaft couplings	 KTR 700	10 – 100	62 – 8,350	●			352 353

KTR Precision joints type G and GD

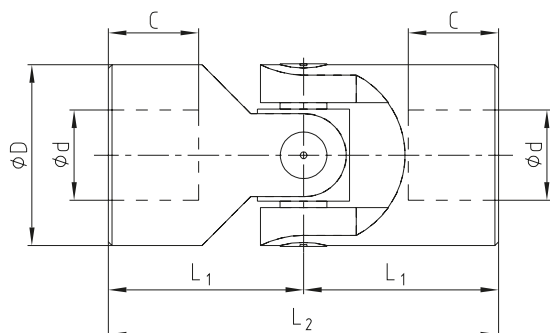
According to DIN 808 with plain bearing



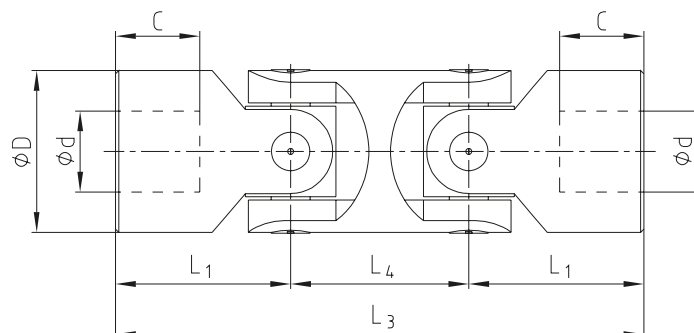
For legend of pictogram please refer to flapper on the cover



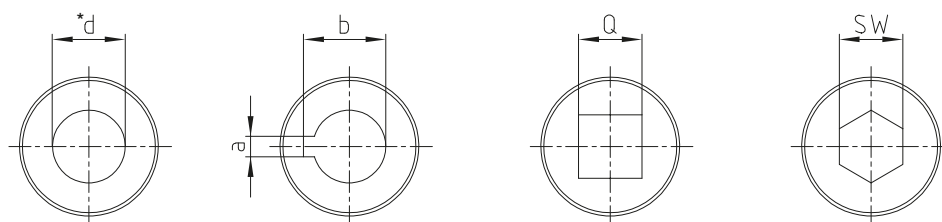
Precision single joint G



Precision double joint GD



Finish bores:



* Standard type of bore, unless requested/ordered otherwise

Type G and GD																
Types and size															Weight [kg]	
Size G	DIN designation G	Size GD	DIN designation GD	d (H7)	D	L ₂	L ₁	C	L ₄	L ₃	a (JS9)	b	Q (H10)	SW (H10)	G	GD
01 G	E6 x 16-G	01 GD	D6 x 16-G	6	16	34	17	8	22	56	2	7.0	6	6	0.05	0.08
02 G	E8 x 16-G	02 GD	D8 x 16-G	8	16	40	20	11	22	62	2	9.0	8	8	0.05	0.08
03 G	E10 x 22-G	03 GD	D10 x 22-G	10	22	48	24	12	26	74	3	11.4	10	10	0.10	0.15
04 G	E12 x 25-G	04 GD	D12 x 25-G	12	25	56	28	13	30	86	4	13.8	12	12	0.16	0.25
05 G	E14 x 28-G	05 GD	D14 x 28-G	14	28	60	30	14	36	96	5	16.3	14	14	0.20	0.40
1 G	E16 x 32-G	1 GD	D16 x 32-G	16	32	68	34	16	37	105	5	18.3	16	16	0.30	0.45
2 G	E18 x 36-G	2 GD	D18 x 36-G	18	36	74	37	17	40	114	6	20.8	18	18	0.45	0.70
3 G	E20 x 42-G	3 GD	D20 x 42-G	20	42	82	41	18	47	129	6	22.8	20	20	0.60	1.00
4 G	E22 x 45-G	4 GD	D22 x 45-G	22	45	95	47.5	22	50	145	6	24.8	22	22	0.95	1.55
5 G	E25 x 50-G	5 GD	D25 x 50-G	25	50	108	54	26	55	163	8	28.3	25	25	1.20	2.00
6 G	E30 x 58-G	6 GD	D30 x 58-G	30	58	122	61	29	68	190	8	33.3	30	30	1.85	2.90
6 G1	E32 x 58-G	6 GD1	D32 x 58-G	32	58	130	65	33	68	198	10	35.3	30	30	2.00	3.00
7 G	E35 x 70-G	7 GD	D35 x 70-G	35	70	140	70	33	72	212	10	38.3	-	-	3.15	4.75
8 G	E40 x 80-G	8 GD	D40 x 80-G	40	80	160	80	38	85	245	12	43.3	-	-	4.60	7.20
9 G	E50 x 95-G	9 GD	D50 x 95-G	50	95	190	95	46	100	290	14	53.8	-	-	7.60	12.0

Ordering example:	04 G	Ø12	Ø12 keyway to DIN
	Size and type of joint	Finish bore (H7)	Finish bore (H7), feather keyway acc. to DIN 6885 sheet 1 (JS9)

KTR Precision joints type H and HD

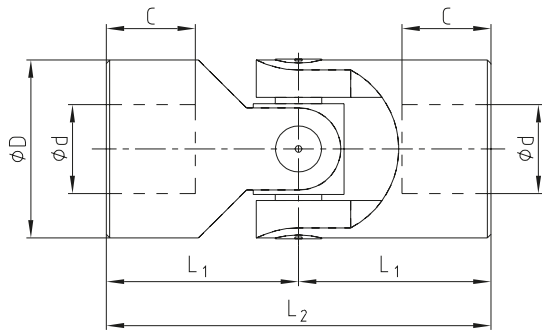
According to DIN 808 with needle bearing



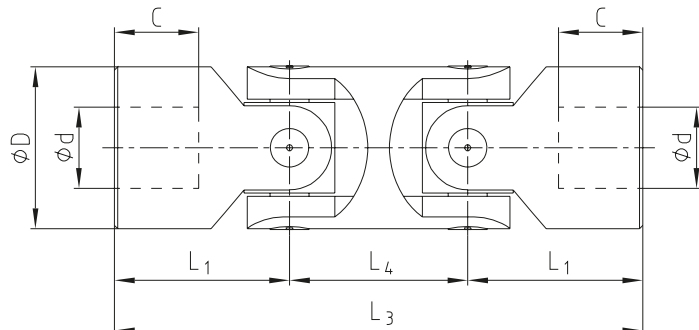
For legend of pictogram please refer to flapper on the cover



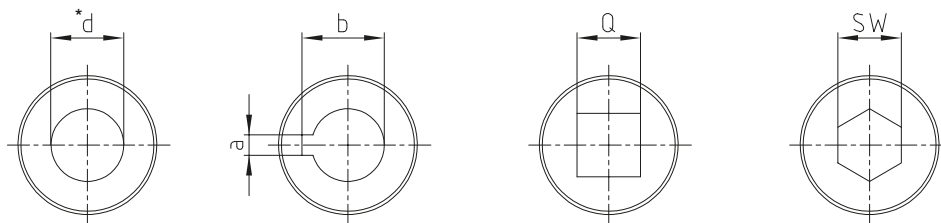
Precision single joint type H



Precision double joint type HD



Finish bores:



* Standard type of bore, unless requested/ordered otherwise

Type H and HD																
Types and size				Dimensions [mm]											Weight [kg]	
Size H	DIN designation H	Size HD	DIN designation HD	d (H7)	D	L_2	L_1	C	L_4	L_3	a (JS9)	b	Q (H10)	SW (H10)	H	HD
03 H	E10 x 22-W	03 HD	D10 x 22-W	10	22	48	24	12	26	74	3	11.4	10	10	0.10	0.15
04 H	E12 x 25-W	04 HD	D12 x 25-W	12	25	56	28	13	30	86	4	13.8	12	12	0.16	0.25
05 H	E14 x 28-W	05 HD	D14 x 28-W	14	28	60	30	14	36	96	5	16.3	14	14	0.20	0.40
1 H	E16 x 32-W	1 HD	D16 x 32-W	16	32	68	34	16	37	105	5	18.3	16	16	0.30	0.45
2 H	E18 x 36-W	2 HD	D18 x 36-W	18	36	74	37	17	40	114	6	20.8	18	18	0.45	0.70
3 H	E20 x 42-W	3 HD	D20 x 42-W	20	42	82	41	18	47	129	6	22.8	20	20	0.60	1.00
4 H	E22 x 45-W	4 HD	D22 x 45-W	22	45	95	47.5	22	50	145	6	24.8	22	22	0.95	1.55
5 H	E25 x 50-W	5 HD	D25 x 50-W	25	50	108	54	26	55	163	8	28.3	25	25	1.20	2.00
6 H	E30 x 58-W	6 HD	D30 x 58-W	30	58	122	61	29	68	190	8	33.3	30	30	1.85	2.90
6 H1	E32 x 58-W	6 HD1	D32 x 58-W	32	58	130	65	33	68	198	10	35.3	30	30	2.00	3.00
7 H	E35 x 70-W	7 HD	D35 x 70-W	35	70	140	70	33	72	212	10	38.3	-	-	3.15	4.75
8 H	E40 x 80-W	8 HD	D40 x 80-W	40	80	160	80	38	85	245	12	43.3	-	-	4.60	7.20
9 H	E50 x 95-W	9 HD	D50 x 95-W	50	95	190	95	46	100	290	14	53.8	-	-	7.60	12.0

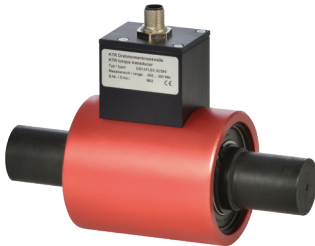
Ordering example:	1 H	Ø16	Ø16 keyway to DIN
	Size and type of joint	Finish bore (H7)	Finish bore (H7), feather keyway acc. to DIN 6885 sheet 1 (JS9)

Torque measuring technology

Types and operating description

Properties of torque measuring shafts

DATAFLEX® 16, 32, 42, 70, 110 – Dual-range measuring shaft providing for high precision with each revolution



The KTR torque sensors type DATAFLEX® 16 to DATAFLEX® 110 cover a torque range from 10 Nm to 20,000 Nm.

The torque is measured using the approved technology of wire strain gauges DMS while processing contactlessly with a resolution of 24 bits. Thus, the inaccuracy of torque measuring is reduced to less than 0.1 % of the measuring range. By integrating a high-resolution speed sensor the new series combines four measurements in one: Measuring the torque, speed, rotation angle and rotation direction is part of the standard equipment. A new feature is the option to switch the measuring range of each measuring shaft to one fifth of the rated torque. This option allows to measure smaller torques precisely without changing the design.

Customised solutions and special designs



In addition to KTR precision measuring shafts KTR manufactures and calibrates customised measuring shafts for measuring ranges up to 500 kNm. In this context key parameters such as measuring range, size, length and coupling type can be adjusted to the specifications. The torque is measured contactlessly so that bearings are not required.

Apart from customised torque sensors KTR provides special solutions with couplings equipped with torque measuring technology so that the design does not have to be modified.

Couplings adjusted to any application



Matching with all series of DATAFLEX® we recommend to use the servo laminae coupling RADEX®-NC and the steel laminae coupling RADEX®-N. Together they form a compact solution which is easy to integrate while having a high stiffness. Basically it is also possible to use backlash-free, plug-in types of couplings such as ROTEX® GS or to fit an overload coupling.

TORQUE MEASURING TECHNOLOGY TYPES AND OPERATING DESCRIPTION

Product finder of torque measuring shafts

Product	DATAFLEX® 16	DATAFLEX® 32	DATAFLEX® 42	DATAFLEX® 70	DATAFLEX® 110	customised
Maintenance-free	●	●	●	●	●	●
For rotating applications	●	●	●	●	●	●
Dual-range measuring shaft	●	●	●	●	●	–
Measuring range 1 T_{KN} [Nm]	10, 30, 50	100, 300, 500	1000	3000, 5000	10000, 20000	20000 - 500000
Measuring range 2 T_{KN2} [Nm]	2, 6, 10	20, 60, 100	200	600, 1000	2000, 4000	–
Inaccuracy (% of T_{KN}/T_{KN2})	< 0.1/0.2	< 0.1/0.2	< 0.1/0.2	< 0.1/0.2	< 0.1/0.2	< 0.2
Torque output	-10 ... 10 V	-10 ... 10 V	-10 ... 10 V	-10 ... 10 V	-10 ... 10 V	-10 ... 10 V, 4 ... 20 mA
Speed output						
Square-wave signal [pulses/rev.]	2 x 360	2 x 720	2 x 720	2 x 450	2 x 720	–
DC - direct voltage signal [0 ... 10V]	●	●	●	●	●	–
Direction signal	●	●	●	●	●	–
Maximum speed [rpm]	10,000	7,500	6,500	4,000	3,000	miscellaneous
Recommended coupling	RADEX®-NC 21, 26	RADEX®-NC 36 RADEX®-N 60	RADEX®-N 80	RADEX®-N 90, 115	as specified	as specified
Connection housing DF2	●	●	●	●	●	–

Connection housing DF2 - All inclusive



The connection housing DF2 can easily be combined with all DATAFLEX® torque measuring shafts disposing of a retainer for top hat rail assembly as well as terminal screws for an easy connection of external devices.

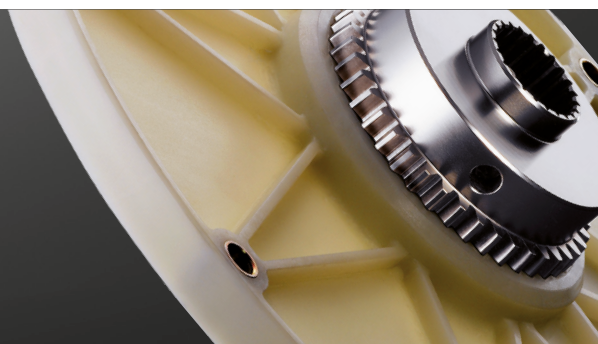
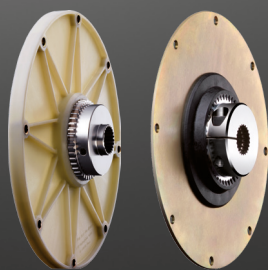
The following features save the purchase of expensive measuring amplifiers and converters:

- The torque output can be filtered over 5 steps so that short torque peaks in the display can be reduced.
- The pulsed outputs of the speed signals can be configured both for 5 V (TTL) and 24 V (HTL) controls. This makes the outputs compatible with data logging boards and SPS controls.
- In parallel with the pulse signal an integrated frequency voltage converter supplies a DC voltage from 0 – 10 V proportionally to the speed, the scaling of which can be individually adapted. This makes an expensive counter superfluous so that the signal can either be processed as a voltage or displayed.
- A direction signal indicates the rotational direction of the drive (with DATAFLEX® 16, 32, 42, 70 and 110).

BoWex® Flange couplings

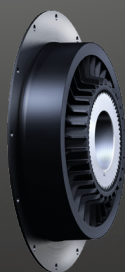
Other types

BoWex® FLE-PA BoWex® FLE-PAC



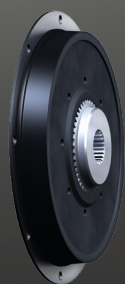
- For I. C.-engines
- Engine power up to 2500 kW
- Axial plug-in, easy assembly
- Compact dimension
- Torsionally rigid

BoWex-ELASTIC®



- Highly flexible flange coupling with SAE and special dimensions
- For the drive with diesel engines up to 2500 kW
- Available as a Shore hardness (T) 40, (T) 50 and (T) 65 Shore
- Damping torsional vibrations
- Compensating for displacements on the driving and driven side
- Axial fitting without subsequent screwing
- Available as a Shore hardness 40, 50 and 65 Shore A
- Specifically short dimensions
- Special dimensions without adapter possible

MONOLASTIC®

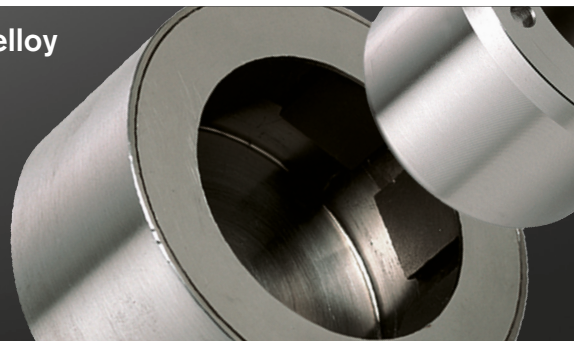
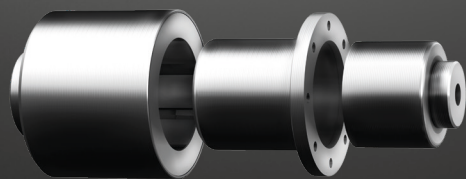


- One-piece, flexible flange coupling
- For the drive in diesel engine/hydraulic pump up to 250 kW
- Available in various kinds of Shore hardness
- Axial plug-in in combination with pump spline shaft
- Available for SAE and DIN pump spline shaft
- Available with connection with 3 holes and acc. to SAE

MINEX[®]-S Magnetic couplings

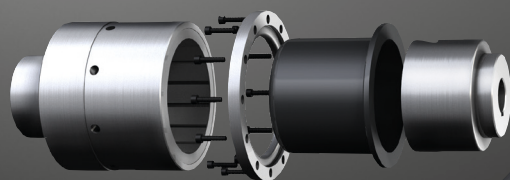
Other types

MINEX[®]-S - Containment shroud – material Hastelloy



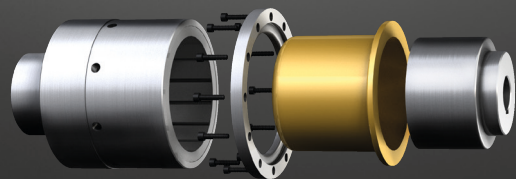
- Contactless torque transmission with permanent magnets
- Hermetical separation of driving and driven side
- Torque range from 10 to 1,000 Nm
- Containment shroud made of Hastelloy

MINEX[®]-S - Containment shroud – material PEEK



- No eddy current losses
- No generation of heat in the coupling caused by the containment shroud
- Low sensitivity to fracture, low weight, easy handling
- Ideally suitable with low demands on temperature and pressure resistance (up to 16 bars and +130 °C)
- Torque range from 10 to 390 Nm
- Internal cooling measures not required
- Specifically suitable for dry-running drives

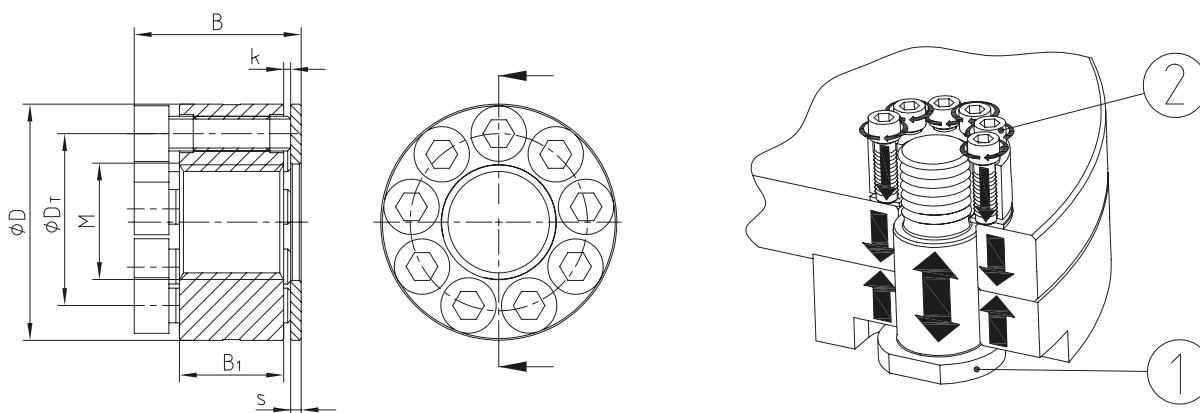
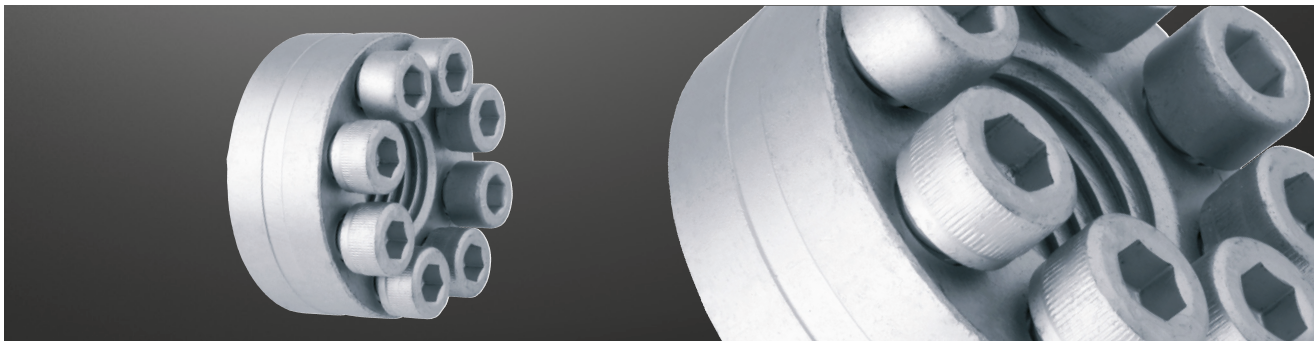
MINEX[®]-S - containment shroud made of ceramics



- No eddy current losses
- No generation of heat in the coupling caused by the containment shroud
- Ideally suitable with low demands on temperature and pressure resistance (up to 25 bars and + +300 °C)
- Torque range from 25 to 550 Nm
- Internal cooling measures not required
- Specifically suitable for dry-running drives

KTR Clamping nuts

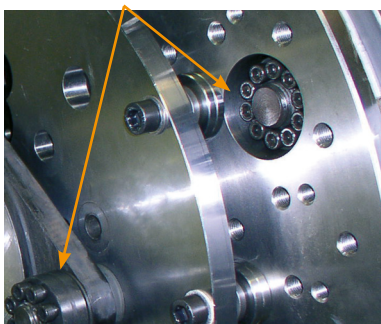
Large screw connections for easy and quick assembly



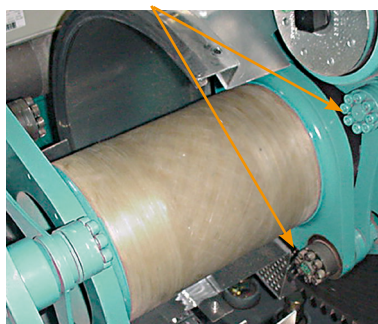
KTR Clamping nuts													
Size	Dimensions [mm]						Pressure screw pos. 2		Property class 8.8, screw pos. 1		Property class 10.9, screw pos. 1		
	D	D _T	B	B ₁	s	k	DIN EN ISO 4762	z = number	Tightening torque * [Nm]	Preload force [N]	Tightening torque * [Nm]	Preload force [N]	
M24 x 3.0	52	39	36.0	20	3.0	1 - 2	M8	8	21	174000	30	249000	
M27 x 3.0	57	42	41.0	25	3.0	1 - 2	M8	9	24	224000	30	280000	
M30 x 3.5	65	48	43.0	25	3.0	1 - 2	M10	8	41	274000	60	401000	
M33 x 3.5	68	51	48.0	30	3.0	1 - 2	M10	9	45	338000	60	451000	
M36 x 4.0	80	58	50.0	30	3.0	1 - 2	M12	8	71	396000	105	586000	
M42 x 4.5	86	64	55.0	35	3.0	1 - 2	M12	10	78	544000	105	732000	
M48 x 5.0	90	72	60.0	40	3.0	1 - 2	M12	11	94	721000	105	806000	
M52 x 5.0	100	79	66.5	42	4.5	1 - 2	M12	13	95	862000	105	952000	
M56 x 5.5	108	83	75.5	45	4.5	1 - 2	M16	9	210	1001000	250	1192000	
M60 x 5.5	112	86	80.5	48	4.5	1 - 2	M16	10	215	1139000	250	1325000	
M64 x 6.0	120	92	84.0	52	8.0	1 - 2	M16	11	225	1311000	250	1457000	
M72 x 6.0	142	107	98.0	58	8.0	1 - 2	M20	10	400	1696000	490	2077000	
M80 x 6.0	164	122	103.0	64	8.0	1 - 2	M20	12	420	2137000	490	2493000	

* each screw pos. 2

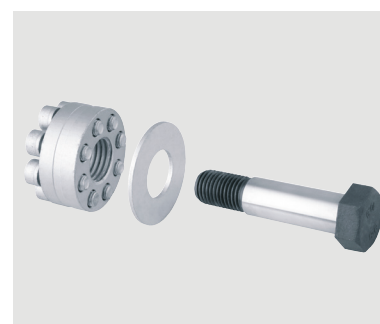
Used on 100 kNm test bench flanges



Used on couplings for wind power stations



Available as a complete unit including dowel screw



Ordering example:	KTR clamping nut	M33 x 3.5
	Description	Size

Summary of literature

No matter if a perfect drive, a brake that takes effect, space-saving cooling or accurate hydraulics is required, if on land, by sea or at an airy height - KTR's product portfolio is just as manifold as its applications. The following catalogues and leaflets provide an overview. Available at www.ktr.com

Product catalogues



Drive Technology

Couplings
Torque Limiters
Clamping Sets
Torque Measuring Shafts

www.ktr.com



Brake Systems

KTR-STOP®
EMB-STOP

www.ktr.com



Hydraulic Components

Bellhousings
Damping Elements
Tanks

www.ktr.com



Cooling systems

For mobile machines and stationary hydraulics
Customised solutions or standard design

www.ktr.com

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Certificates and Approvals



Being one of the first companies in the field of drive technology, KTR was certified in accordance with DIN EN ISO 9001 already in 1993, including the plants in Poland, China, India and USA.

Currently KTR products have been approved by numerous internationally renowned societies for standardization and classification. Individual approvals by other societies can be implemented on request without fail.



Legend of pictograms



Torsionally stiff



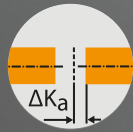
Light-weight



Maintenance-free



Torsionally flexible



Axial compensation



Protected against corrosion



Highly flexible



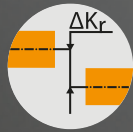
Angular compensation



Electrically insulating



Damping vibrations



Radial compensation



Maximum speed



Axial plug-in



Shiftable at standstill



No eddy current losses



Consider shaft distance



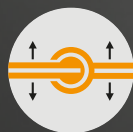
Double-cardanic



Torque limiter slipping



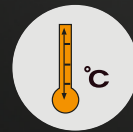
Relatively short shaft distance



Radial disassembly, ease of service



Torque limiter with synchronous ratcheting



Maximum operating temperature



Standard drop-out center lengths available



Torque limiter with idle rotation type



High speeds



Available in accordance with API



Hardened surface



Backlash-free



Complying with ATEX
For details refer to our ATEX leaflet



Accuracy X %



Shear type, separating, slipping



Certified in accordance with ABS



Consider axial displacement



Additional features compared to standard version