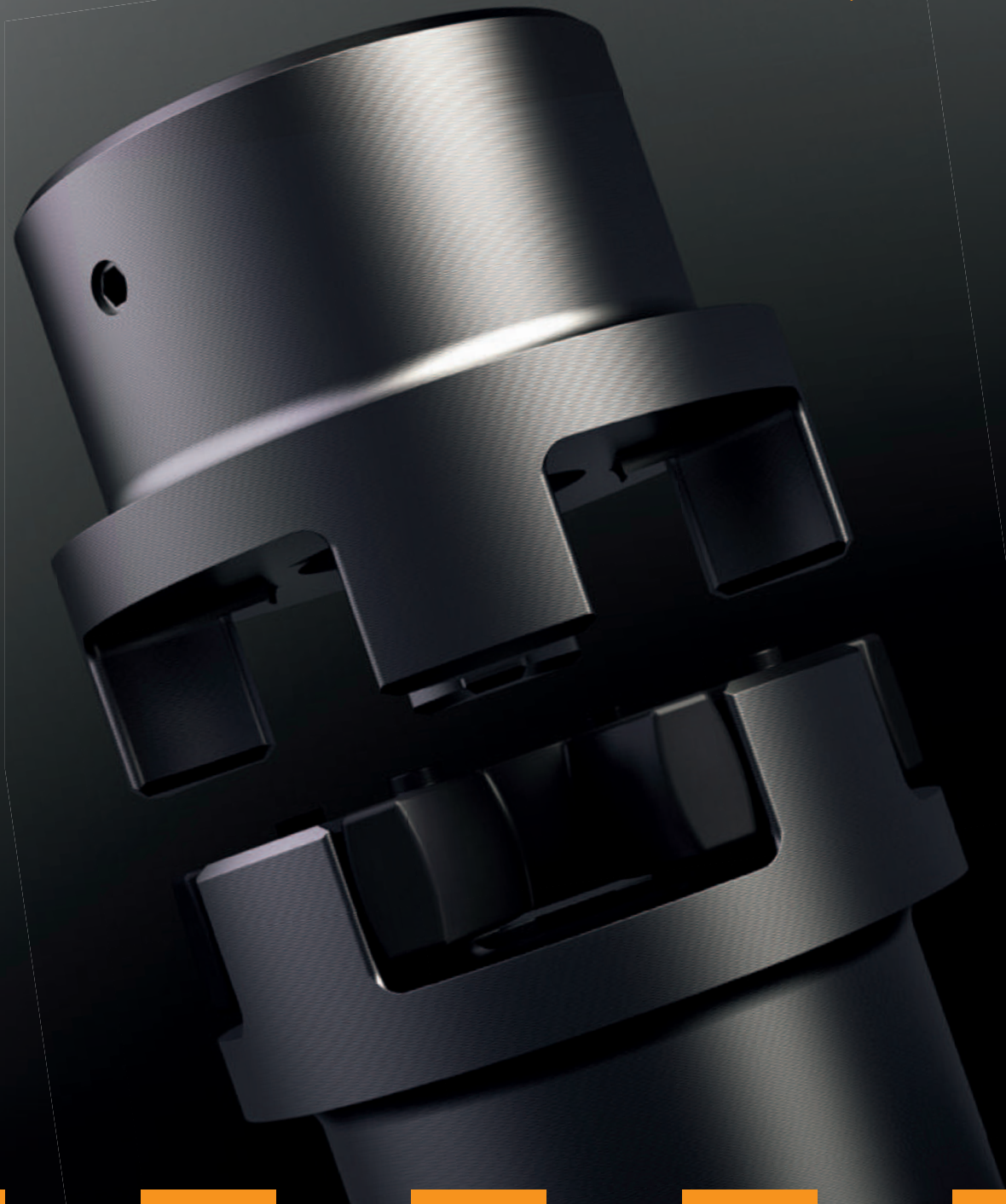


Made for Motion



## Cross Section

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

## **MADE FOR MOTION: WHAT IT IS ALL ABOUT.**

KTR has set things in motion for more than 50 years. And since you can go far if you move a lot, KTR has meanwhile become a worldwide leader in the range of drive and fluid technology for industrial applications. We provide significant impetus and set technical benchmarks on numerous occasions which is finally due to the high competence and creativity of our design engineers. To implement their ideas in a perfect way, KTR has a production plan providing for product-related assembly lines. Every year several millions of couplings covering a weight from 5 grams to 2 tons or more roll off the line doing their job reliably even under hardest conditions all over the world. Since KTR is a competent and reliable partner for companies operating in all industries of mechanical and plant engineering globally. In total 23 subsidiary companies and more than 90 sales partners throughout the world make sure that our customers can operate smoothly as far as motion is concerned.





**“Made for Motion – Our products are moving the world. KTR provides the solutions, so that you reach new targets“**

Andreas Nauen, CEO of KTR





# Cross Section



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# ROTEX®

## Flexible jaw couplings

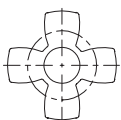
### Properties of standard spiders

Spider type (Shore hardness)	92 Shore-A (T-PUR®)	92 Shore-A
	 <b>T-PUR®</b>	
Size	14 to 180	14 to 90
Material	T-PUR®	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	-50 °C to +120 °C -50 °C to +150 °C	-40 °C to +90 °C -50 °C to +120 °C
Properties	<ul style="list-style-type: none"> <li>- significantly higher service life expectancy</li> <li>- very good temperature resistance</li> <li>- improved damping of vibrations</li> <li>- good damping, average flexibility</li> <li>- suitable for all hub materials</li> </ul>	<ul style="list-style-type: none"> <li>- good damping, average flexibility</li> <li>- suitable for all hub materials</li> </ul>

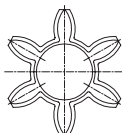
Spider type (Shore hardness)	98 Shore-A (T-PUR®) <sup>1)</sup>	98 Shore-A <sup>1)</sup>
	 <b>T-PUR®</b>	
Size	14 to 180	14 to 90
Material	T-PUR®	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	-50 °C to +120 °C -50 °C to +150 °C	-30 °C to +90 °C -40 °C to +120 °C
Properties	<ul style="list-style-type: none"> <li>- significantly higher service life expectancy</li> <li>- very good temperature resistance</li> <li>- improved damping of vibrations</li> <li>- transmission of high torques with average damping</li> <li>- recommended hub material: steel, GJL and GJS</li> </ul>	<ul style="list-style-type: none"> <li>- transmission of high torques with average damping</li> <li>- recommended hub material: steel, GJL and GJS</li> </ul>

Spider type (Shore hardness)	64 Shore-D (T-PUR®)	64 Shore-D
	 <b>T-PUR®</b>	
Size	14 to 180	14 to 90
Material	T-PUR®	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	-50 °C to +120 °C -50 °C to +150 °C	-30 °C to +110 °C -30 °C to +130 °C
Properties	<ul style="list-style-type: none"> <li>- significantly higher service life expectancy</li> <li>- very good temperature resistance</li> <li>- improved damping of vibrations</li> <li>- transmission of very high torques with low damping</li> <li>- recommended hub material: steel and GJS</li> </ul>	<ul style="list-style-type: none"> <li>- transmission of very high torques with low damping</li> <li>- suitable for displacing critical speeds</li> <li>- suitable with high humidity, resistant to hydrolysis</li> <li>- recommended hub material: steel and GJS</li> </ul>

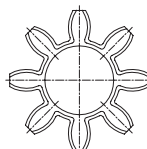
ROTEX® 14



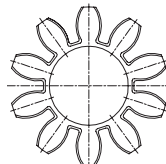
ROTEX® 19



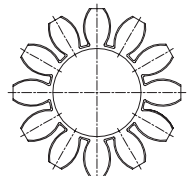
ROTEX® 24 - 65



ROTEX® 75 - 160



ROTEX® 180



**Technical data of standard spiders**

Spider 92 Shore-A made of T-PUR® and PUR														
ROTEX® Size	Max. speed		Twisting angle $\phi$ with		Torque [Nm]			Damping power $P_{KW}$ [W] <sup>1)</sup>	Relative damping $\psi$	Resonance factor $V_R$	Torsion spring stiffness C dyn. [Nm/rad]			
	V=35 m/s GJL	V=40 m/s steel	T <sub>KN</sub>	T <sub>K max</sub>	Rated (T <sub>KN</sub> )	Max (T <sub>K max</sub> )	Vibratory (T <sub>KW</sub> )				1,0 T <sub>KN</sub>	0,75 T <sub>KN</sub>	0,5 T <sub>KN</sub>	0,25 T <sub>KN</sub>
14	22200	25400	6,4°	10°	7,5	15	2,0	–			0,38x10 <sup>3</sup>	0,31x10 <sup>3</sup>	0,24x10 <sup>3</sup>	0,14x10 <sup>3</sup>
19	16700	19000			10	20	2,6	4,8			1,28x10 <sup>3</sup>	1,05x10 <sup>3</sup>	0,8x10 <sup>3</sup>	0,47x10 <sup>3</sup>
24	12100	13800			35	70	9,1	6,6			4,86x10 <sup>3</sup>	3,98x10 <sup>3</sup>	3,01x10 <sup>3</sup>	1,79x10 <sup>3</sup>
28	10100	11500			95	190	25	8,4			10,9x10 <sup>3</sup>	8,94x10 <sup>3</sup>	6,76x10 <sup>3</sup>	4,01x10 <sup>3</sup>
38	8300	9500			190	380	49	10,2			21,05x10 <sup>3</sup>	17,26x10 <sup>3</sup>	13,05x10 <sup>3</sup>	7,74x10 <sup>3</sup>
42	7000	8000			265	530	69	12,0			23,74x10 <sup>3</sup>	19,47x10 <sup>3</sup>	14,72x10 <sup>3</sup>	8,73x10 <sup>3</sup>
48	6350	7250			310	620	81	13,8			36,7x10 <sup>3</sup>	30,09x10 <sup>3</sup>	22,75x10 <sup>3</sup>	13,49x10 <sup>3</sup>
55	5550	6350			410	820	107	15,6			50,7x10 <sup>3</sup>	41,59x10 <sup>3</sup>	31,45x10 <sup>3</sup>	18,64x10 <sup>3</sup>
65	4950	5650	3,2°	5°	625	1250	163	18,0	0,80	7,90	97,1x10 <sup>3</sup>	79,65x10 <sup>3</sup>	60,2x10 <sup>3</sup>	35,7x10 <sup>3</sup>
75	4150	4750			1280	2560	333	21,6			113,3x10 <sup>3</sup>	92,9x10 <sup>3</sup>	70,3x10 <sup>3</sup>	41,65x10 <sup>3</sup>
90	3300	3800			2400	4800	624	30,0			190,1x10 <sup>3</sup>	155,9x10 <sup>3</sup>	117,9x10 <sup>3</sup>	69,9x10 <sup>3</sup>
100	2950	3350			3300	6600	858	36,0			253,1x10 <sup>3</sup>	207,5x10 <sup>3</sup>	156,9x10 <sup>3</sup>	93x10 <sup>3</sup>
110	2600	2950			4800	9600	1248	42,0			415,5x10 <sup>3</sup>	336,9x10 <sup>3</sup>	257,6x10 <sup>3</sup>	177,4x10 <sup>3</sup>
125	2300	2600			6650	13300	1729	48,0			647,7x10 <sup>3</sup>	537,3x10 <sup>3</sup>	412,2x10 <sup>3</sup>	277,5x10 <sup>3</sup>
140	2050	2350			8550	17100	2223	54,6			813,4x10 <sup>3</sup>	670,2x10 <sup>3</sup>	519,7x10 <sup>3</sup>	351,7x10 <sup>3</sup>
160	1800	2050			12800	25600	3328	75,0			1298x10 <sup>3</sup>	1104x10 <sup>3</sup>	901,9x10 <sup>3</sup>	655,7x10 <sup>3</sup>
180	1550	1800			18650	37300	4849	78,0			2327x10 <sup>3</sup>	1981x10 <sup>3</sup>	1618x10 <sup>3</sup>	1176x10 <sup>3</sup>

Spider 98 Shore-A made of T-PUR® and PUR														
ROTEX® Size	Max. speed		Twisting angle $\phi$ with		Torque [Nm]			Damping power $P_{KW}$ [W] <sup>1)</sup>	Relative damping $\psi$	Resonance factor $V_R$	Torsion spring stiffness C Dyn. [Nm/rad]			
	V=35 m/s GJL	V=40 m/s steel	T <sub>KN</sub>	T <sub>K max</sub>	Rated (T <sub>KN</sub> )	Max (T <sub>K max</sub> )	Vibratory (T <sub>KW</sub> )				1,0 T <sub>KN</sub>	0,75 T <sub>KN</sub>	0,5 T <sub>KN</sub>	0,25 T <sub>KN</sub>
14	22200	25400	6,4°	10°	12,5	25	3,3	–			0,56x10 <sup>3</sup>	0,46x10 <sup>3</sup>	0,35x10 <sup>3</sup>	0,21x10 <sup>3</sup>
19	16700	19000			17	34	4,4	4,8			2,92x10 <sup>3</sup>	2,39x10 <sup>3</sup>	1,81x10 <sup>3</sup>	1,07x10 <sup>3</sup>
24	12100	13800			60	120	16	6,6			9,93x10 <sup>3</sup>	8,14x10 <sup>3</sup>	6,16x10 <sup>3</sup>	3,65x10 <sup>3</sup>
28	10100	11500			160	320	42	8,4			26,77x10 <sup>3</sup>	21,95x10 <sup>3</sup>	16,6x10 <sup>3</sup>	9,84x10 <sup>3</sup>
38	8300	9500			325	650	85	10,2			48,57x10 <sup>3</sup>	39,83x10 <sup>3</sup>	30,11x10 <sup>3</sup>	17,85x10 <sup>3</sup>
42	7000	8000			450	900	117	12,0			54,5x10 <sup>3</sup>	44,69x10 <sup>3</sup>	33,79x10 <sup>3</sup>	20,03x10 <sup>3</sup>
48	6350	7250			525	1050	137	13,8			65,3x10 <sup>3</sup>	53,54x10 <sup>3</sup>	40,48x10 <sup>3</sup>	24x10 <sup>3</sup>
55	5550	6350			685	1370	178	15,6			95x10 <sup>3</sup>	77,9x10 <sup>3</sup>	58,88x10 <sup>3</sup>	34,9x10 <sup>3</sup>
65	4950	5650	3,2°	5°	940	1880	244	18,0	0,80	7,90	129,5x10 <sup>3</sup>	106,2x10 <sup>3</sup>	80,3x10 <sup>3</sup>	47,6x10 <sup>3</sup>
75	4150	4750			1920	3840	499	21,6			197,5x10 <sup>3</sup>	162x10 <sup>3</sup>	122,5x10 <sup>3</sup>	72,6x10 <sup>3</sup>
90	3300	3800			3600	7200	936	30,0			312,2x10 <sup>3</sup>	256x10 <sup>3</sup>	193,6x10 <sup>3</sup>	114,7x10 <sup>3</sup>
100	2950	3350			4950	9900	1287	36,0			383,3x10 <sup>3</sup>	314,3x10 <sup>3</sup>	237,6x10 <sup>3</sup>	140,9x10 <sup>3</sup>
110	2600	2950			7200	14400	1872	42,0			805,9x10 <sup>3</sup>	663,1x10 <sup>3</sup>	515,3x10 <sup>3</sup>	360,5x10 <sup>3</sup>
125	2300	2600			10000	20000	2600	48,0			1207x10 <sup>3</sup>	1003x10 <sup>3</sup>	787,6x10 <sup>3</sup>	552,5x10 <sup>3</sup>
140	2050	2350			12800	25600	3328	54,6			1549x10 <sup>3</sup>	1283x10 <sup>3</sup>	979,8x10 <sup>3</sup>	674,1x10 <sup>3</sup>
160	1800	2050			19200	38400	4992	75,0			2481x10 <sup>3</sup>	2137x10 <sup>3</sup>	1781x10 <sup>3</sup>	1275x10 <sup>3</sup>
180	1550	1800			28000	56000	7280	78,0			4220x10 <sup>3</sup>	3635x10 <sup>3</sup>	3031x10 <sup>3</sup>	2170x10 <sup>3</sup>

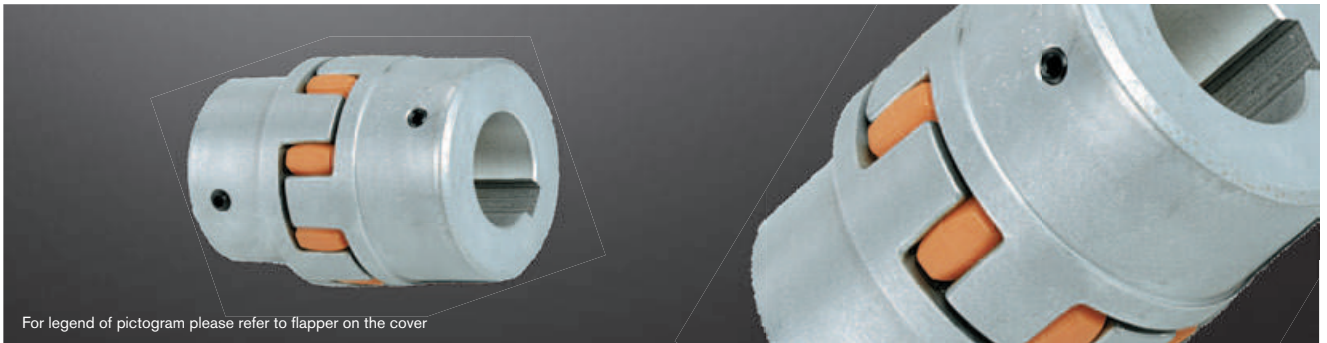
Spider 64 Shore-D made of T-PUR® and PUR														
ROTEX® Size	Max. speed		Twisting angle $\phi$ with		Torque [Nm]			Damping power $P_{KW}$ [W] <sup>1)</sup>	Relative damping $\psi$	Resonance factor $V_R$	Torsion spring stiffness C dyn.. [Nm/rad]			
	V=35 m/s GJL	V=40 m/s steel	T <sub>KN</sub>	T <sub>K max</sub>	Rated (T <sub>KN</sub> )	Max (T <sub>K max</sub> )	Vibratory (T <sub>KW</sub> )				1,0 T <sub>KN</sub>	0,75 T <sub>KN</sub>	0,5 T <sub>KN</sub>	0,25 T <sub>KN</sub>
14	22200	25400	4,5°	7,0°	16	32	4,2	9,0			0,76x10 <sup>3</sup>	0,62x10 <sup>3</sup>	0,47x10 <sup>3</sup>	0,28x10 <sup>3</sup>
19	16700	19000			21	42	5,5	7,2			5,35x10 <sup>3</sup>	4,39x10 <sup>3</sup>	3,32x10 <sup>3</sup>	1,97x10 <sup>3</sup>
24	12100	13800			75	150	19,5	9,9			15,11x10 <sup>3</sup>	12,39x10 <sup>3</sup>	9,37x10 <sup>3</sup>	5,55x10 <sup>3</sup>
28	10100	11500			200	400	52	12,6			27,52x10 <sup>3</sup>	22,57x10 <sup>3</sup>	17,06x10 <sup>3</sup>	10,12x10 <sup>3</sup>
38	8300	9500			405	810	105	15,3			70,15x10 <sup>3</sup>	57,52x10 <sup>3</sup>	43,49x10 <sup>3</sup>	25,78x10 <sup>3</sup>
42	7000	8000			560	1120	146	18,0			79,9x10 <sup>3</sup>	65,5x10 <sup>3</sup>	49,52x10 <sup>3</sup>	29,35x10 <sup>3</sup>
48	6350	7250			655	1310	170	20,7			95,5x10 <sup>3</sup>	78,3x10 <sup>3</sup>	59,22x10 <sup>3</sup>	35,1x10 <sup>3</sup>
55	5550	6350			825	1650	215	23,4			107,9x10 <sup>3</sup>	88,5x10 <sup>3</sup>	66,9x10 <sup>3</sup>	39,66x10 <sup>3</sup>
65	4950	5650	2,5°	3,6°	1175	2350	306	27,0	0,75	8,50	151,1x10 <sup>3</sup>	123,9x10 <sup>3</sup>	93,7x10 <sup>3</sup>	55,53x10 <sup>3</sup>
75	4150	4750			2400	4800	624	32,4			248,2x10 <sup>3</sup>	203,5x10 <sup>3</sup>	153,9x10 <sup>3</sup>	91,2x10 <sup>3</sup>
90	3300	3800			4500	9000	1170	45,0			674,5x10 <sup>3</sup>	553,1x10 <sup>3</sup>	418,2x10 <sup>3</sup>	247,9x10 <sup>3</sup>
100	2950	3350			6185	12370	1608	54,0			861,2x10 <sup>3</sup>	706,2x10 <sup>3</sup>	533,9x10 <sup>3</sup>	316,5x10 <sup>3</sup>
110	2600	2950			9000	18000	2340	63,0			1230x10 <sup>3</sup>	1001x10 <sup>3</sup>	773,1x10 <sup>3</sup>	531,4x10 <sup>3</sup>
125	2300	2600			12500	25000	3250	72,0			1749x10 <sup>3</sup>	1436x10 <sup>3</sup>	1149x10 <sup>3</sup>	832,1x10 <sup>3</sup>
140	2050	2350			16000	32000	4160	81,9			2312x10 <sup>3</sup>	1929x10 <sup>3</sup>	1521x10 <sup>3</sup>	1082x10 <sup>3</sup>
160	1800	2050			24000	48000	6240	112,5			3415x10 <sup>3</sup>	2961x10 <sup>3</sup>	2471x10 <sup>3</sup>	1830x10 <sup>3</sup>
180	1550	1800			35000	70000	9100	117,0			5670x10 <sup>3</sup>	4917x10 <sup>3</sup>	4103x10 <sup>3</sup>	3038x10 <sup>3</sup>

Temperature factor $S_t$											
	-50 °C	-30 °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	1,1	1,2	1,3	1,45	1,6	1,8	2,1	2,5	3,0
PUR	–	1,0	1,2	1,3	1,4	1,55	1,8	2,2	–	–	–

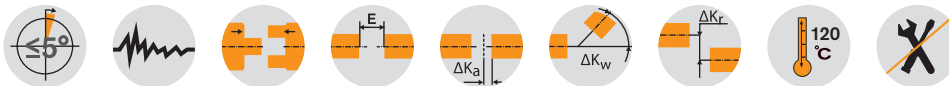
Unless explicitly specified in your order, we will supply spiders with Shore hardness 92 Sh-A T-PUR®.  
For circumferential speeds exceeding V = 30 m/s dynamic balancing is necessary. For circumferential speeds exceeding V = 35 m/s steel or nodular iron only.  
<sup>1)</sup>with +30 °C

# ROTEX® Standard Flexible jaw couplings

## Material cast + powder metal



For legend of pictogram please refer to flapper on the cover



ROTEX® Sintered steel (Sint)																			
Size	Component	Spider (part 2) <sup>1)</sup> Rated torque [Nm]			Finish bore d	Dimensions [mm]													
		92 Sh-A	98 Sh-A	64 Sh-D		General													
					L	l <sub>1</sub> ; l <sub>2</sub>	E	b	s	D <sub>H</sub>	d <sub>H</sub>	D	N	G	t	T <sub>A</sub> [Nm]			
14	1a	7,5	12,5	16	unbored: 8, 10, 11, 12, 14, 15, 16	35	11	13	10	1,5	30	10	30	-	M4	5	1,5		
19	1a	10	17	21	unbored, 14, 16, 19, 20, 22, 24	66	25	16	12	2,0	40	18	40	-	M5	10	2		
24	1a	35	60	75	unbored, Ø 24	78	30	18	14	2,0	56	27	40	-	M5	10	2		

ROTEX® Aluminium diecast (Al-D)																			
Size	Component	Spider (part 2) <sup>1)</sup> Rated torque [Nm]			Finish bore d	Dimensions [mm]													
		92 Sh-A	98 Sh-A	64 Sh-D		General													
					L	l <sub>1</sub> ; l <sub>2</sub>	E	b	s	D <sub>H</sub>	d <sub>H</sub>	D	N	G	t	T <sub>A</sub> [Nm]			
19	1	10	17	-	6-19	66	25	16	12	2	41	18	32	20	M5	10	2		
	19-24				41														
24	1	35	60	-	9-24	78	30	18	14	2	56	27	40	24	M5	10	2		
	22-28				56														
28	1	95	160	-	10-28	90	35	20	15	2,5	66	30	48	28	M8	15	10		
	28-38				66														

ROTEX® Cast iron (GJL)																			
Size	Component	Spider (part 2) <sup>1)</sup> Rated torque [Nm]			Finish bore d	Dimensions [mm]													
		92 Sh-A	98 Sh-A	64 Sh-D		General													
					L	l <sub>1</sub> ; l <sub>2</sub>	E	b	s	D <sub>H</sub>	d <sub>H</sub>	D	N	G	t	T <sub>A</sub> [Nm]			
38	1	190	325	405	12-40	114	45	24	18	3	80	38	66	M8	15	10			
	1a				38-48								78				62		
	1b				12-48								164				70	62	
42	1	265	450	560	14-45	126	50	26	20	3	95	46	75	M8	20	10			
	1a				42-55								94				65		
	1b				14-55								176				75	65	
48	1	310	525	655	15-52	140	56	28	21	3,5	105	51	85	M8	20	10			
	1a				48-62								104				69		
	1b				15-62								188				80	69	
55	1	410	685	825	20-60	160	65	30	22	4	120	60	98	M10	20	17			
	1a				55-74								118				52		
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)																			
Size	Component	Spider (part 2) <sup>1)</sup> Rated torque [Nm]			Finish bore d	Dimensions [mm]													
		92 Sh-A	98 Sh-A	64 Sh-D		General													
					L	l <sub>1</sub> ; l <sub>2</sub>	E	b	s	D <sub>H</sub>	d <sub>H</sub>	D	N	G	t	T <sub>A</sub> [Nm]			
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		

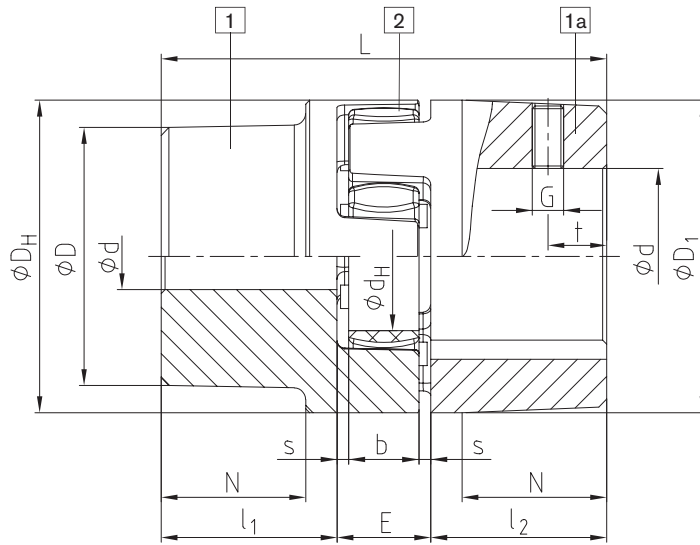
■ = If no material is specified in the order, it is stipulated in the calculation/order.

<sup>1)</sup> Maximum torque of coupling T<sub>Kmax.</sub> = rated torque of coupling T<sub>K</sub> rated x 2. For selection see catalogue "Drive Technology" 2016 page 10 et seqq.

Ordering example:	ROTEX® 38	GJL	92 Sh-A	1a	Ø 45	1	Ø 25
	Coupling size	Material	Spider hardness	Component	Finish bore	Component	Finish bore

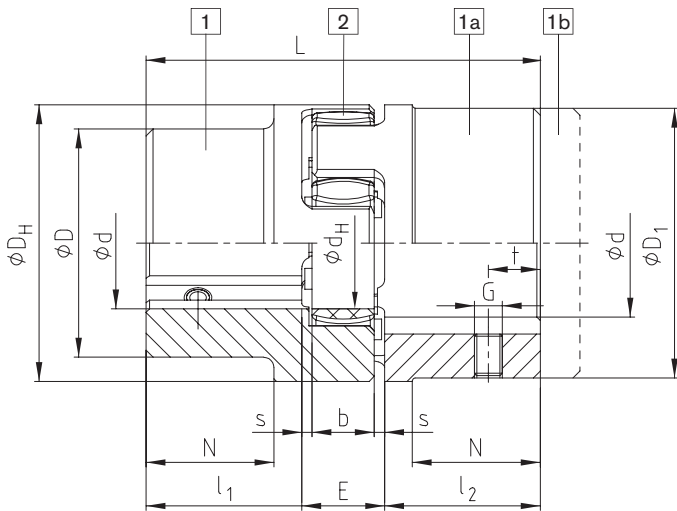
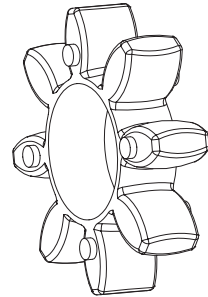


Components

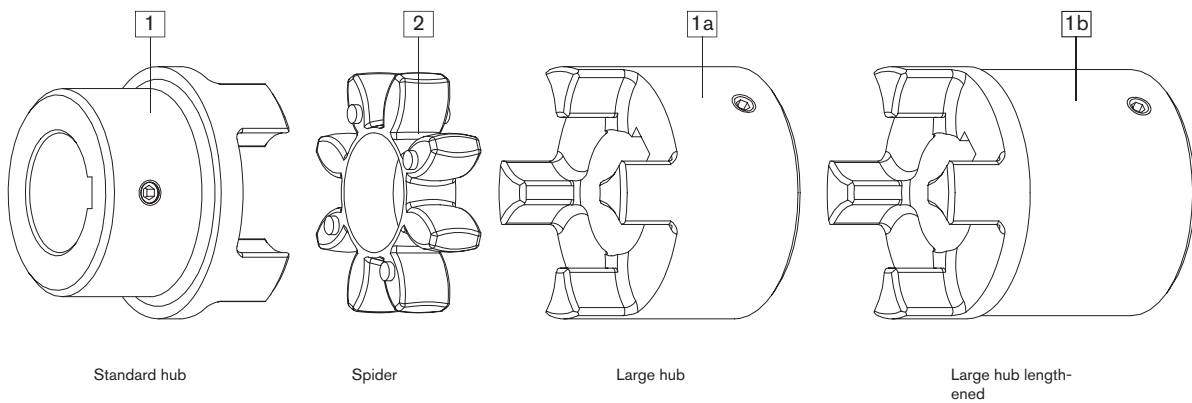


AL-D (Thread opposite to the keyway)

Spider  
Hardness 92Sh-A, 98Sh-A,  
64Sh-D  
Standard from size  
14 - 180



GJL / GJS (Thread on the keyway)



Standard hub

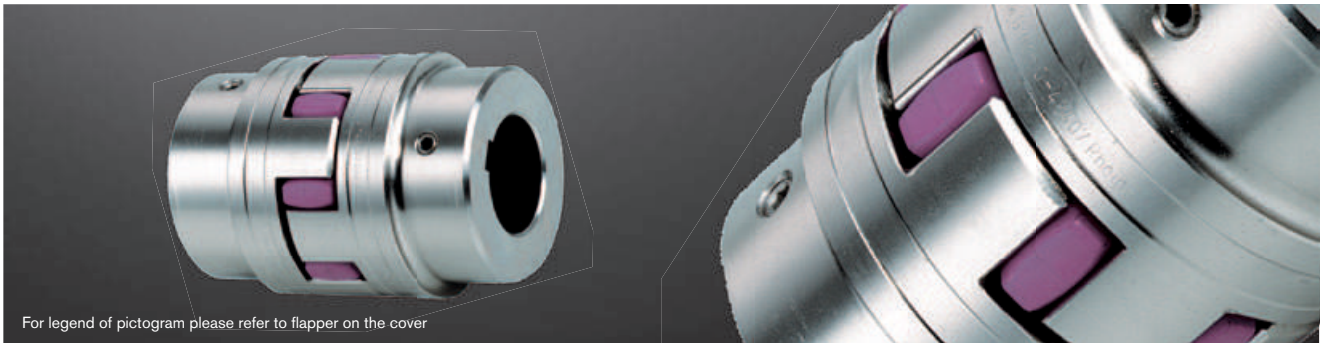
Spider

Large hub

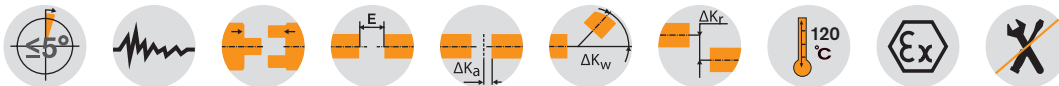
Large hub lengthened

# ROTEX® Standard Flexible jaw couplings

## Material steel



For legend of pictogram please refer to flapper on the cover



ROTEX® Steel (St)																			
Size	Component	Spider (part 2) Rated torque [Nm]			Finish bore d (min-max)	Dimensions [mm]													
		92 Sh-A	98 Sh-A	64 Sh-D		General											Thread for setscrew		
						L	l <sub>1</sub> ; l <sub>2</sub>	E	b	s	D <sub>H</sub>	d <sub>H</sub>	D	N	G	t	T <sub>A</sub> [Nm]		
14	1a	7,5	12,5	16	0-16	35	11	13	10	1,5	30	10	30	—	M4	5	1,5		
	1b					50	18,5												
19	1a	10	17	21	0-25	66	25	16	12	2	40	18	40	—	M5	10	2		
	1b					90	37												
24	1a	35	60	75	0-35	78	30	18	14	2	55	27	55	—	M5	10	2		
	1b					118	50												
28	1a	95	160	200	0-40	90	35	20	15	2,5	65	30	65	—	M8	15	10		
	1b					140	60												
38	1	190	325	405	0-48	114	45	24	18	3	80	38	70	27	M8	15	10		
	1b					164	70						80	—					
42	1	265	450	560	0-55	126	50	26	20	3	95	46	85	28	M8	20	10		
	1b					176	75						95	—					
48	1	310	525	655	0-62	140	56	28	21	3,5	105	51	95	32	M8	20	10		
	1b					188	80						105	—					
55	1	410	685	825	0-74	160	65	30	22	4	120	60	110	37	M10	20	17		
	1b					210	90						120	—					
65	1	625	940	1175	0-80	185	75	35	26	4,5	135	68	115	47	M10	20	17		
	1b					235	100						135	—					
75	1	1280	1920	2400	0-95	210	85	40	30	5	160	80	135	53	M10	25	17		
	1b					260	110						160	—					
90	1	2400	3600	4500	0-110	245	100	45	34	5,5	200	100	160	62	M12	30	40		
	1b					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		

1) If no material is specified in the order, it is stipulated in the calculation/order.

2) Maximum torque of coupling TKmax. = rated torque of coupling TK rated x 2. For selection see catalogue "Drive Technology" 2016 on page 10 et seqq.



Use in fire extinguisher pumps  
ROTEX® couplings comply with the specifications of NFPA 20 standard for the installation of stationary pumps for fire protection and on completion of the necessary permanent tests they also comply with the specifications of UL 448A, flexible couplings and connection shafts for stationary fire extinguisher pumps.

Sizes available:

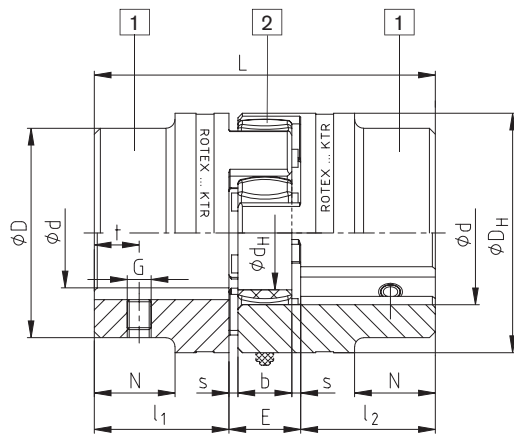


ROTEX® UL-Listed									
Size	Component	Material	Spider (part 2) Rated torque [Nm]	Dimensions [mm]					
				Finish bore d (min-max)	L	l <sub>1</sub> ; l <sub>2</sub>	E	D <sub>H</sub>	N
42	1	St	265	18-55	126	50	26	95	—
55	1	St	410	24-74	160	65	30	120	—
65	1	St	625	24-80	185	75	35	135	—
75	1	St	1280	24-95	210	85	40	160	—
90	1	St	2400	30-110	245	100	45	200	—

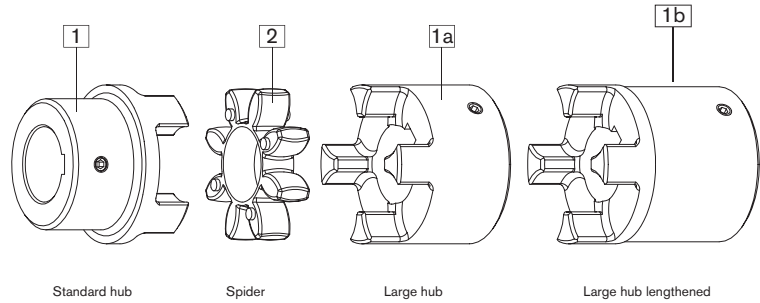
\* For complete dimensions see catalogue "Drive Technology" 2016 table on page 36.

Ordering example:	ROTEX® 38	St	92 Sh-A	1 – Ø 45	1 – Ø 25
	Coupling size	Material	Spider hardness	Component	Finish bore
				Component	Finish bore

## Components



Steel (thread on the keyway)



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

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

<sup>2)</sup> Notch impact strength with -40°C

<sup>3)</sup> Notch impact strength with -20°C

### Marine programme:

Hub materials S355J2+N and 42CrMo4+QT acc. to DIN EN10204-3.1+3.2 size 75-180 available from stock.

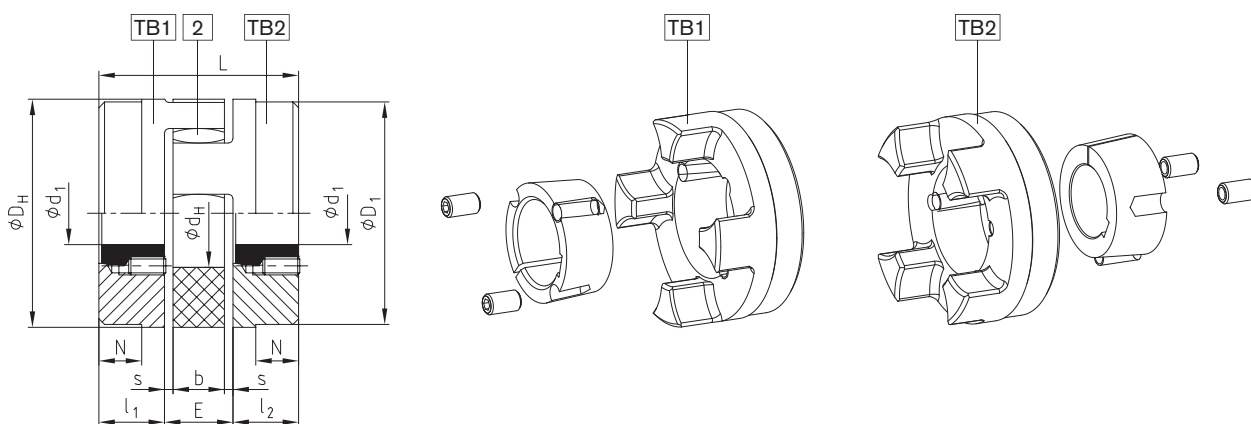


# ROTEX® Flexible jaw couplings

## Taper clamping bush



For legend of pictogram please refer to flapper on the cover



ROTEX® Shaft coupling for taper clamping bush

Size	Taper clamping bush	Dimensions [mm]									Fastening screw for taper bush			
		l <sub>1</sub> ;l <sub>2</sub>	E	s	b	L	N	D <sub>H</sub>	D <sub>1</sub>	d <sub>H</sub>	Size [Inch] <sup>1)</sup>	Length [mm]	No. z	T <sub>A</sub> [Nm]
24	1008	22	18	2,0	14	62	–	55	55	27	1/4"	13	2	5,7
28	1108	23	20	2,5	15	66	–	65	65	30	1/4"	13	2	5,7
38	1108	23	24	3,0	18	70	15	80	78	38	1/4"	13	2	5,7
42	1610	26	26	3,0	20	78	16	95	94	46	3/8"	16	2	20
48	1615	39	28	3,5	21	106	28	105	104	51	3/8"	16	2	20
55	2012	33	30	4,0	22	96	20	120	118	60	7/16"	22	2	31
65	2012	33	35	4,5	26	101	19	135	115	68	7/16"	22	2	31
75	2517	52	40	5,0	30	144	36	160	158	80	1/2"	25	2	49
	5/8"										32	2	92	
90	3020	52	45	5,5	34	149	33	200	160	100	5/8"	32	2	92
100	3535	90	50	6	38	230	69	225	180	113	1/2"	49	3	113
125	4545	114	60	7,0	46	288	86	290	230	147	3/4"	49	3	192

Taper clamping bush

Size	Bore dimensions d1 [mm] available; H7 fit – keyways 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 <sup>2)</sup>							
1610	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42*				
1615	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42*				
2012	Ø14	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	
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							

• Only available for type TB 2

<sup>1)</sup> 1. BSW thread

Coupling type TB 1/1; TB 2/2; TB 1/2 possible

Please order our separate dimension sheet (M 373054).

<sup>2)</sup> Bores with feather keyway (flat design) acc. to DIN 6885 sheet

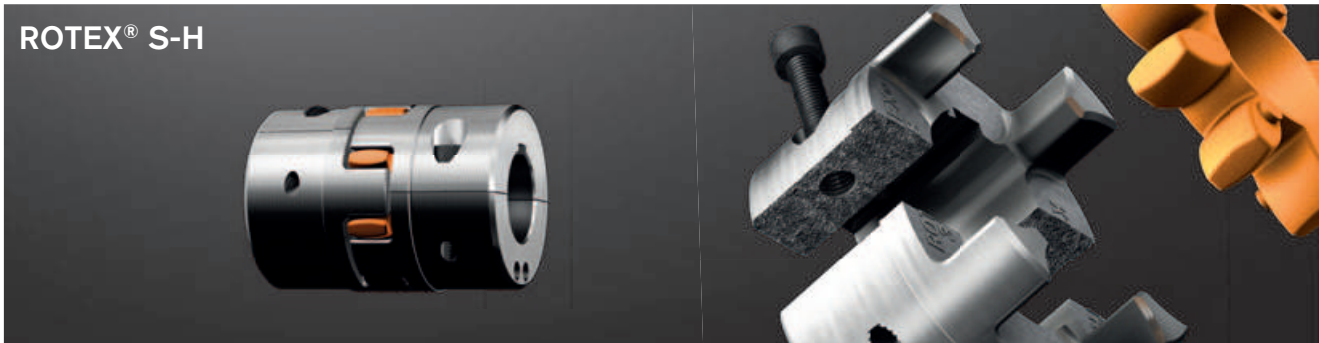
Ordering example:	ROTEX® 38	92 Sh-A	1108	TB1 – Ø 24		TB2 – Ø 22	
	Coupling size	Spider hardness	Taper clamping bush	Hub type	Finish bore	Hub type	Finish bore

# ROTEX®

## Flexible jaw couplings

### Other types

#### ROTEX® S-H



- Material cast iron
- Easy assembly/disassembly by means of 4-off screws
- Centering of both halves of the hubs through the fracture surface
- There is no need to displace the power packs for assembly
- Replacement of spider with no need to shift the driving and driven side
- Specifically suitable for tight mounting spaces

#### ROTEX® ZS-DKM-H



- Double-cardanic jaw coupling suitable for large shaft displacements
- Good damping properties by dual arrangement of spiders
- Spacers adapted to the drop-out center length of standard pumps
- Suitable for larger radial displacements resulting from thermal expansion
- Assembly/disassembly by means of 4-off screws
- For reduced loads on bearings / axial forces on shaft seals

#### ROTEX® SP ZS-DKM-C

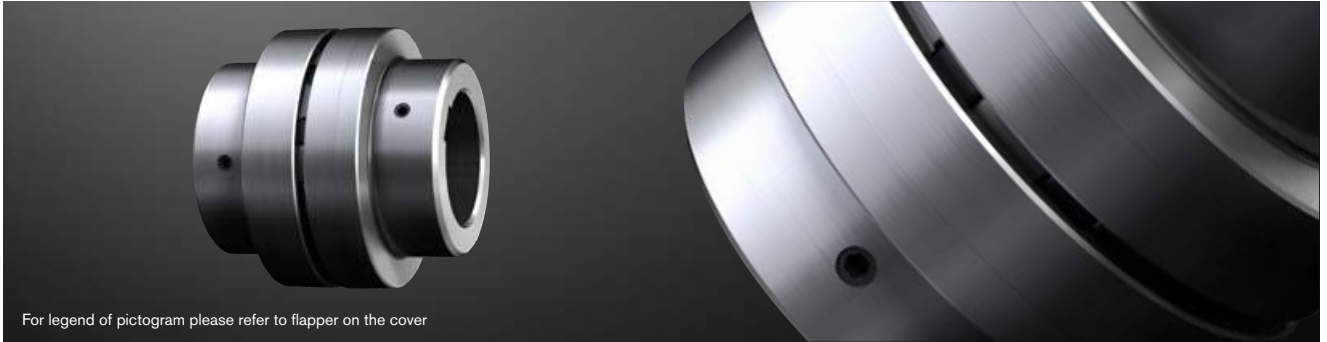


- Cam geometry consisting of conductive and high-strength nylon material
- Maintenance-free in areas with potentially explosive atmospheres
- Fail-safe while non-sparking
- Material of base body of hub: steel, aluminium or other metal materials
- Standard spacers up to a shaft distance dimension of 250 mm
- Assembly/disassembly by means of 4-off screws only
- Compensates for high shaft displacements due to double-cardanic design
- Low restoring forces, thus increase of the overall service life of all adjacent components (bearings, seals etc.)
- Assessed and approved according to EC standard 94/9/EC (type 7.6 marked by stock, type 7.5 shell clamping hub without feather keyway according to category <sup>3)</sup>)

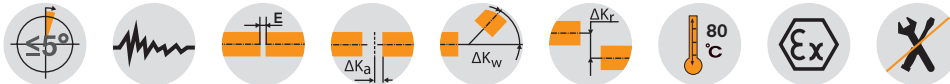
# POLY-NORM® AR

## Flexible couplings

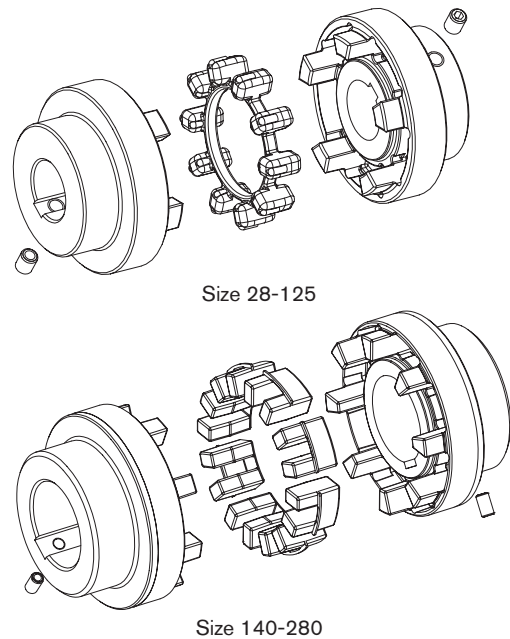
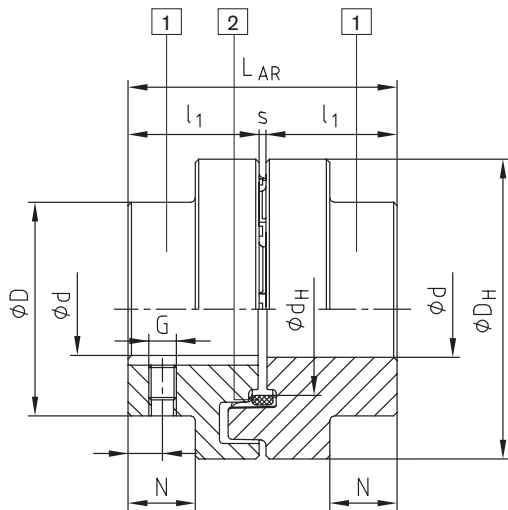
### Two-part



For legend of pictogram please refer to flapper on the cover



### Components



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

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

<sup>1)</sup> Standard material Perbunan (NBR) 78 Shore-A, size 140-280 double tooth elastomers, for selection see catalogue "Drive Technology" 2016 on page 10 et seqq.

<sup>2)</sup> Bores H7 with keyway to DIN 6885 sheet 1 [JS9] and threads for setscrews on the feather keyway.

<sup>3)</sup> Referring to average bore

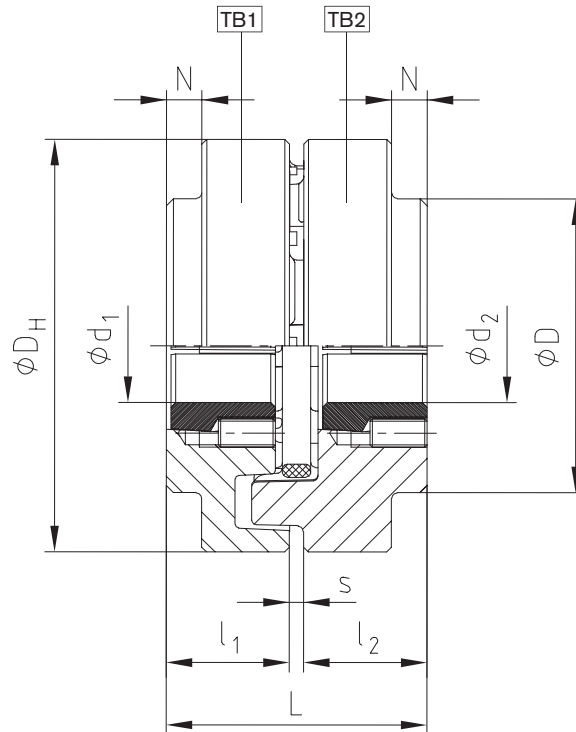
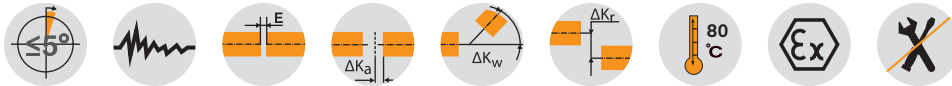
# POLY-NORM® AR

## Flexible couplings

### For taper clamping bush



For legend of pictogram please refer to flapper on the cover



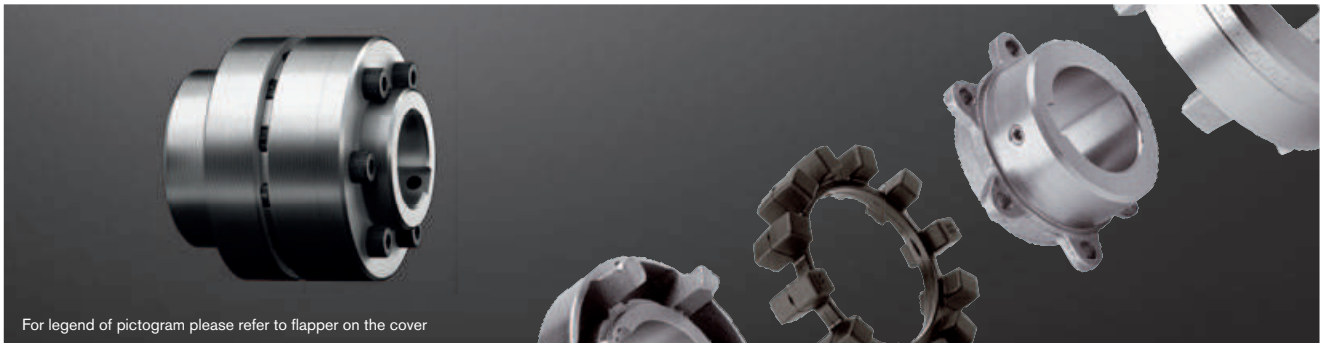
POLY-NORM® for taper clamping bush															
Size	Taper clamping bush	Dimensions [mm]		Fastening screws <sup>1)</sup> for taper clamping bush				Size	Taper clamping bush	Dimensions [mm]		Fastening screws <sup>1)</sup> for taper clamping bush			
		max. d <sub>1</sub> ;d <sub>2</sub>	l <sub>1</sub> ;l <sub>2</sub>	Size [inch]	Length [mm]	SW [mm]	T <sub>A</sub> [Nm]			max. d <sub>1</sub> ;d <sub>2</sub>	l <sub>1</sub> ;l <sub>2</sub>	Size [inch]	Length [mm]	SW [mm]	T <sub>A</sub> [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

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

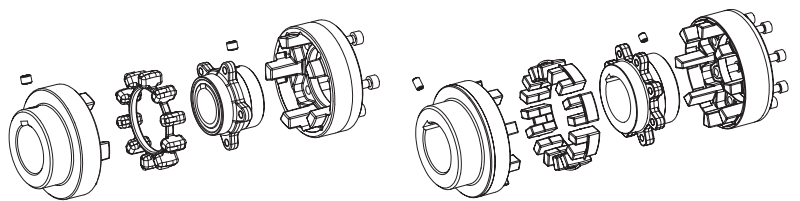
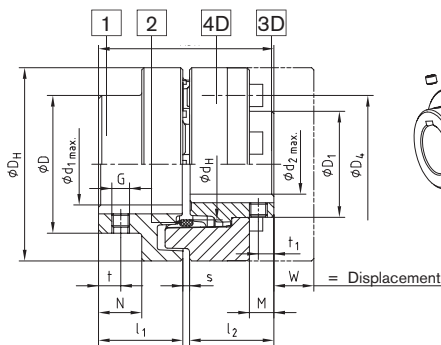
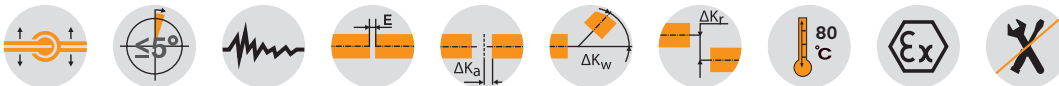
Ordering example:	POLY-NORM® 38	AR	Ø38	Ø30
	Coupling size	Type	Finish bore	Finish bore

# POLY-NORM® ADR Flexible couplings

## Three-part



For legend of pictogram please refer to flapper on the cover



Size 38-125

Size 140-280

Components:

Type ADR (Three-part)

1 = Standard hub\* (GJL)

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

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

\* To be used preferably on driving side

### POLY-NORM® Type ADR

Size	Elastomer ring Torque [Nm] <sup>1)</sup>		Dimensions [mm]															
			Max. finish bore <sup>2)</sup>		General										Thread for setscrews			
			d1	d2	LADR	l <sub>1</sub> ; l <sub>2</sub>	s	D <sub>H</sub>	D	D <sub>1</sub>	d <sub>H</sub>	N	M	W	G	t	t <sub>1</sub>	T <sub>A</sub> [Nm]
38	90	180	40	34	80	38	4	87	62	48	50	19,5	11,0	12	M8	10	7	10
42	150	300	45	38	88	42	4	96	69	54	55,5	20	12,0	16	M8	10	7	10
48	220	440	50	44	101	48	5	106	78	62	64	24	13,7	16	M8	15	7	10
55	300	600	60	50	115	55	5	118	90	72	73	29	18,7	15	M8	14	14	10
60	410	820	65	56	125	60	5	129	97	80	81	33	22,2	14	M8	15	15	10
65	550	1100	70	60	135	65	5	140	105	86	86	36	26,7	11	M10	20	20	17
75	850	1700	80	68	155	75	5	158	123	98	100	42,5	27,8	16	M10	20	20	17
85	1350	2700	90	78	175	85	5	182	139	112	116	48,5	33,7	18	M10	25	25	17
90	2000	4000	95	85	185	90	5	200	148	122	128	49	31,5	26	M12	25	25	40
100	2900	5800	110	95	206	100	6	224	165	136	143	55	37,5	28	M12	25	25	40
110	3900	7800	50-120	105	226	110	6	250	185	150	158	60	39,5	30	M16	30	30	80
125	5500	11000	55-140	115	256	125	6	280	210	168	178	70	48,0	35	M16	35	35	80
140	7200	14400	65-155	55-135	286	140	6	315	235	195	216	76,5	47,0	59	M20	35	35	140
160	10000	20000	75-175	65-155	326	160	6	350	265	225	246	94,5	65,0	43	M20	45	45	140
180	13400	26800	75-200	65-175	366	180	6	400	300	255	290	111,5	79,0	33	M20	50	50	140
200	19000	38000	85-200	200	408	200	8	450	335	290	-	126	95	7	M24	50	50	240
220	30000	60000	95-220	220	448	220	8	500	370	320	-	140	103	8	M24	50	50	240
240	43000	86000	105-240	240	488	240	8	550	405	350	-	154	119	1	M24	50	50	240
260	55000	110000	115-260	260	530	260	10	650	440	380	-	158	109	34	M24	60	60	240
280	67000	134000	125-280	280	570	280	10	700	475	410	-	172	109	29	M24	60	60	240

### Classification of cap screws DIN EN ISO 4762-12.9

Size	M x l [mm]	Number z	Pitch z x angle	D <sub>4</sub> [mm]	T <sub>A</sub> [Nm] <sup>3)</sup>	Size	M x l [mm]	Number z	Pitch z x angle	D <sub>4</sub> [mm]	T <sub>A</sub> [Nm] <sup>3)</sup>
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

<sup>1)</sup> Standard material Perbunan (NBR) 78 Shore A, size 140 - 180 double tooth elastomers, for selection see catalogue "Drive Technology" 2016 on page 10 et seqq.

<sup>2)</sup> Bore H7 with feather keyway to DIN 6885 sheet 1 [JS9] and threads for setscrews <sup>3)</sup> Screw tightening torques acc. to 8.8

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

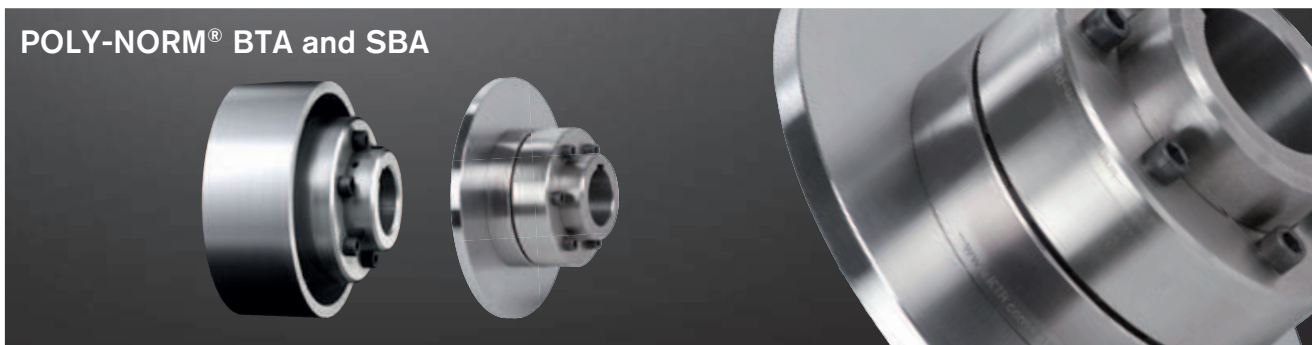


# POLY-NORM®

## Flexible couplings

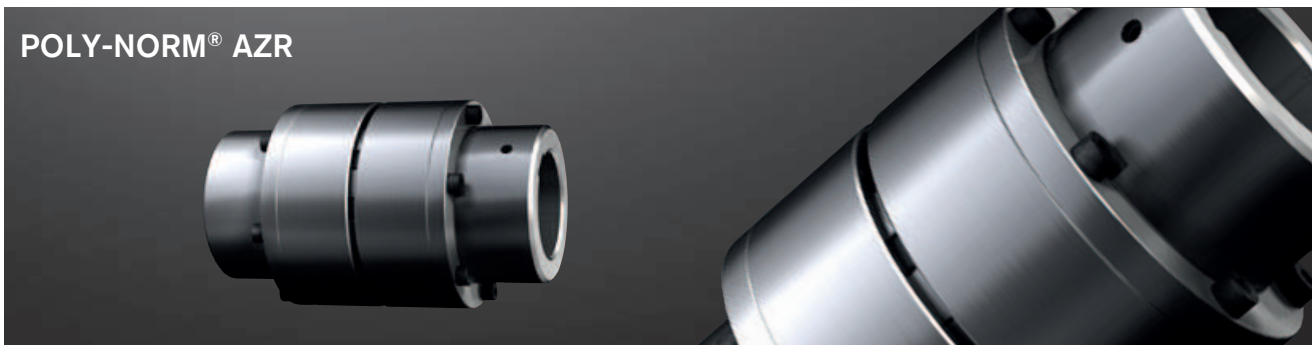
### Other types

#### POLY-NORM® BTA and SBA



- Suitable for drum brakes used as stop brake
- Elastomer spider can be replaced when being mounted
- Axial plug-in, easy assembly
- Maintenance-free
- Short overall length; small shaft distance dimension
- Torques from 40 to 5,500 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
- Applications: mainly pump industry and compressor technology

#### POLY-NORM® ADR-SB



- Elastomer spider can be replaced when being mounted
- Axial plug-in, easy assembly
- Maintenance-free
- Short overall length; small shaft distance dimension
- Torques from 40 to 5,500 Nm

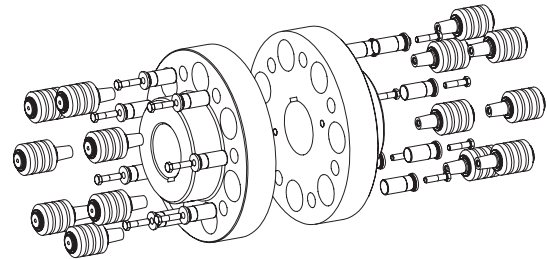
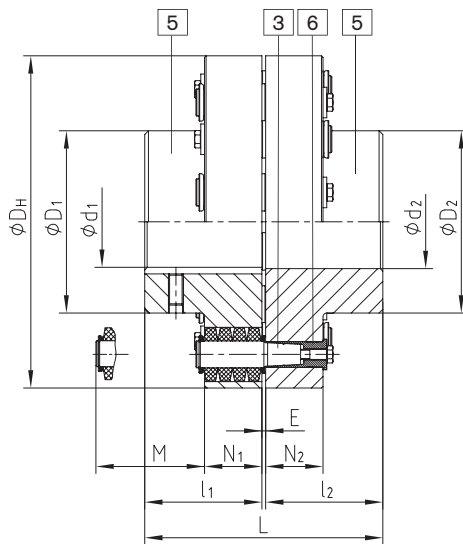
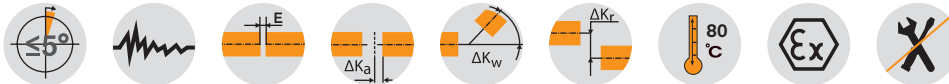
# REVOLEX® KX-D

## Flexible pin & bush coupling

### Casted material



For legend of pictogram please refer to flapper on the cover



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

REVOLEX® Type KX-D													
Size	Torque <sup>1)</sup> [Nm]		Max. speed <sup>2)</sup> [rpm]	Finish bore [min. - max.] d <sub>1</sub> ; d <sub>2</sub>	Dimensions [mm]							Mass moments of inertia <sup>3)</sup>	Approx. weight <sup>3)</sup> [kg]
	T <sub>KN</sub>	T <sub>Kmax.</sub>			L	l <sub>1</sub> ; l <sub>2</sub>	E	D <sub>H</sub>	D <sub>1</sub> ; D <sub>2</sub>	N <sub>1</sub> ; N <sub>2</sub>	M*		
KX-D 105	8650	17300	2000	34-110	237	117	3	330	180	56	76	0,907	68
KX-D 120	14110	28220	1800	50-125	270	132	6	370	206	76	100	1,867	108
KX-D 135	18690	37380	1600	70-140	300	147	6	419	230	76	100	3,144	145
KX-D 150	23100	46200	1450	82-160	336	165	6	457	256	76	100	4,573	180
KX-D 170	36900	73800	1250	95-180	382	188	6	533	292	92	130	10,259	291
KX-D 190	48210	96420	1100	110-205	428	211	6	597	330	92	130	16,601	385
KX-D 215	61900	123800	1000	125-230	480	237	6	660	368	92	130	25,495	498
KX-D 240	92030	184060	900	140-250	534	264	6	737	407	122	170	50,147	760
KX-D 265	121900	243800	800	160-285	590	292	6	826	457	122	170	80,796	997
KX-D 280	158800	317600	720	180-315	628	311	6	927	508	122	170	129,979	1301
KX-D 305	191060	382120	675	180-330	654	324	6	991	533	122	170	170,016	1509
KX-D 330	251200	502400	625	200-355	666	330	6	1067	572	122	170	227,451	1755
KX-D 355	300000	600000	575	225-450	721	356	9	1156	610	164	220	415,259	2263
KX-D 370	400000	800000	535	225-530	773	382	9	1250	720	164	220	586,686	2701

\* Drop-out center dimension

<sup>1)</sup> Standard material NBR 80 Shore-A, for selection see catalogue "Drive Technology" 2016 on page 14 et seqq.

<sup>2)</sup> Higher speeds on request

<sup>3)</sup> Relating to max. bore

Finish bore according to ISO tolerance H7, feather keyway according to DIN 6885 sheet 1 - JS9

If requested, coupling is dynamically balanced (semi-key balancing G 6,3; speed as per customer's specifications). For circumferential speeds exceeding 30 m/s we would recommend dynamic balancing.

■ = predrilled in stock

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

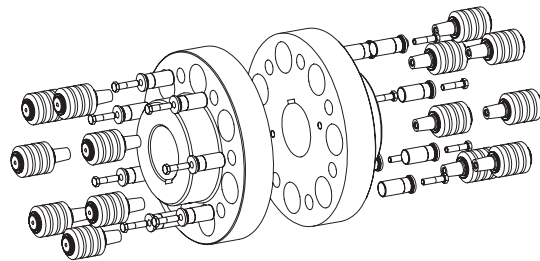
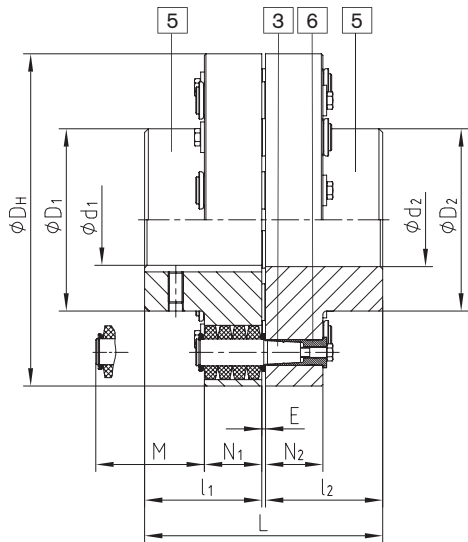
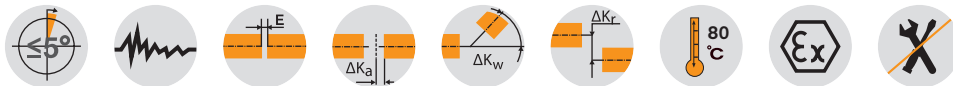
# REVOLEX® KX-D

## Flexible pin & bush coupling

Material steel



For legend of pictogram please refer to flapper on the cover



Components  
Type KX-D  
5 = Hub part 5  
3 = Pins complete  
6 = KX-D sleeve (hardened and corrosion-resistant)

REVOLEX® Type KX-D													
Size	Torque <sup>1)</sup> [Nm]		Max. speed <sup>2)</sup> [rpm]	Finish bore [min. - max.] d <sub>1</sub> ; d <sub>2</sub>	Dimensions [mm]							Mass moments of inertia <sup>3)</sup>	Approx. weight <sup>3)</sup> [kg]
	T <sub>KN</sub>	T <sub>Kmax</sub>			L	l <sub>1</sub> ; l <sub>2</sub>	E	D <sub>H</sub>	D <sub>1</sub> ; D <sub>2</sub>	N <sub>1</sub> ; N <sub>2</sub>	M*		
KX-D 75	3800	7600	4500	0-90	193	95	3	255	136	56	76	0,325	39
KX-D 85	5000	10000	4175	0-100	213	105	3	274	152	56	76	0,440	46
KX-D 95	6600	13200	3825	0-110	227	112	3	298	168	56	76	0,624	56
KX-D 105	8650	17300	3475	0-120	237	117	3	330	180	56	76	0,907	80
KX-D 120	14110	28220	3100	0-140	270	132	6	370	206	76	100	1,867	124
KX-D 135	18690	37380	2725	70-160	300	147	6	419	230	76	100	3,144	165
KX-D 150	23100	46200	2500	82-185	336	165	6	457	256	76	100	4,573	205
KX-D 170	36900	73800	2150	95-220	382	188	6	533	292	92	130	10,259	322
KX-D 190	48210	96420	1900	110-245	428	211	6	597	330	92	130	16,601	431
KX-D 215	61900	123800	1725	125-275	480	237	6	660	368	92	130	25,495	559
KX-D 240	92030	184060	1550	140-310	534	264	6	737	407	122	170	50,147	833
KX-D 265	121900	243800	1375	160-350	590	292	6	826	457	122	170	80,796	1099
KX-D 280	158800	317600	1225	180-385	628	311	6	927	508	122	170	129,979	1436
KX-D 305	191060	382120	1150	180-405	654	324	6	991	533	122	170	170,016	1669
KX-D 330	251200	502400	1075	200-435	666	330	6	1067	572	122	170	227,451	1954
KX-D 355	300000	600000	975	225-450	721	356	9	1156	610	164	220	415,259	2451
KX-D 370	400000	800000	900	225-530	773	382	9	1250	720	164	220	584,686	2925
KX-D 470	510000	1020000	855	240-520	969 <sup>4)</sup>	480 <sup>4)</sup>	9	1340	705 <sup>4)</sup>	164	220	785,489	3631
KX-D 520	715000	1430000	760	240-520 <sup>4)</sup>	1089 <sup>4)</sup>	540 <sup>4)</sup>	9	1540	780 <sup>4)</sup>	164	220	1264,725	5155
KX-D 590	950000	1900000	680	260-590 <sup>4)</sup>	1212 <sup>4)</sup>	600 <sup>4)</sup>	12	1735	885 <sup>4)</sup>	164	220	2081,885	6895
KX-D 650	1220000	2440000	610	280-650 <sup>4)</sup>	1332 <sup>4)</sup>	660 <sup>4)</sup>	12	1935	975 <sup>4)</sup>	164	220	3228,297	8893

\* Drop-out center dimension

<sup>1)</sup> Standard material NBR 80 Shore-A, for selection see catalogue "Drive Technology" 2016 on page 14 et seqq. <sup>2)</sup> Higher speeds on request <sup>3)</sup> Relating to max. bore <sup>4)</sup> Variable according to customer's requests

Finish bore according to ISO tolerance H7, feather keyway according to DIN 6885 sheet 1 - JS9

If requested, coupling is dynamically balanced (semi-key balancing G 6,3; speed as per customer's details). For circumferential speeds exceeding 30 m/s we would recommend dynamic balancing.

■ = predrilled in stock

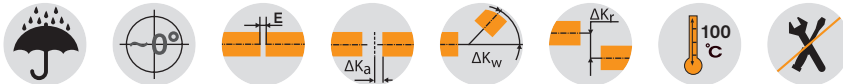
Ordering example:	REVOLEX® KX-D 170	Steel	Ø120	Ø150
	Size and type of coupling	Material	Finish bore	Finish bore

# BoWex® junior und junior M Curved-tooth gear coupling®

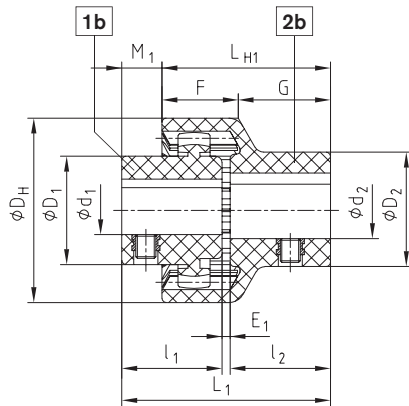
## Plug-in coupling made of nylon (two-part and three-part)



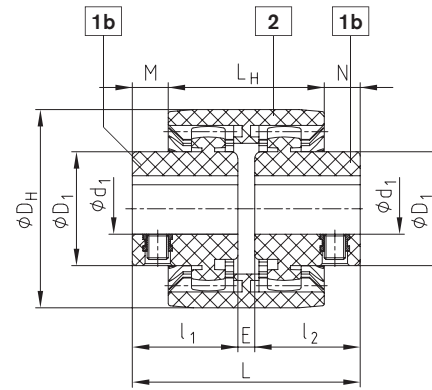
For legend of pictogram please refer to flapper on the cover



### Components



Type junior plug-in coupling (2 parts)



Type junior M coupling (three-part)

BoWex® junior plug-in coupling (two-part) and BoWex® junior M (three-part)																				
Size	Torque TK [Nm]		Finish bore				Dimensions [mm]											Max. speed [rpm]		
			Hub Component 1b <sup>1)</sup>		Plug-in sleeve Component 2b <sup>1)</sup>		D <sub>H</sub>	l <sub>1</sub> , l <sub>2</sub>	E <sub>1</sub>	L <sub>1</sub>	L <sub>H1</sub>	M <sub>1</sub>	F	G	E	L	L <sub>H</sub>		M, N	
	d <sub>1</sub>	D <sub>11</sub>	d <sub>2</sub>	D <sub>21</sub>																
14	5	10	Ø6, Ø7,	22	Ø8	22	40	23	2	48	40	8	18,5	21,5	4	50	37	6,5	6000	
M-14			Ø8, Ø9	25	Ø10, Ø11	25														
			Ø12, Ø14	26	Ø12, Ø14	26														
19	8	16	Ø12, Ø14	27	Ø14, Ø15	29	47	25	2	52	42	10	19,0	23,0	4	54	37	8,5	6000	
M-19			Ø16	30																
			Ø19	32	Ø19	35														
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	
M-24			Ø14, Ø15,	32																
			Ø16	32																
			Ø18, Ø19,	36	Ø19, Ø20	36														
			Ø20	36																
			Ø24	38	Ø24	40														

<sup>1)</sup> Finish bores with tolerance +0.05 / -0.1, feather keyways +0.08

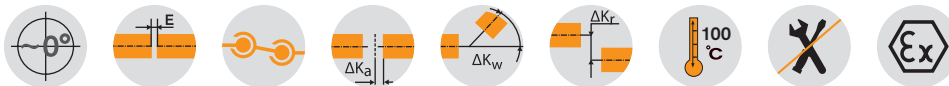
Ordering example:	BoWex® junior 19	d <sub>1</sub> Ø19	d <sub>2</sub> Ø14
	Coupling size two-part type or BoWex® junior M-19 three-part type	Finish bore	Finish bore

# BoWex® M, I und M...C Curved-tooth gear coupling®

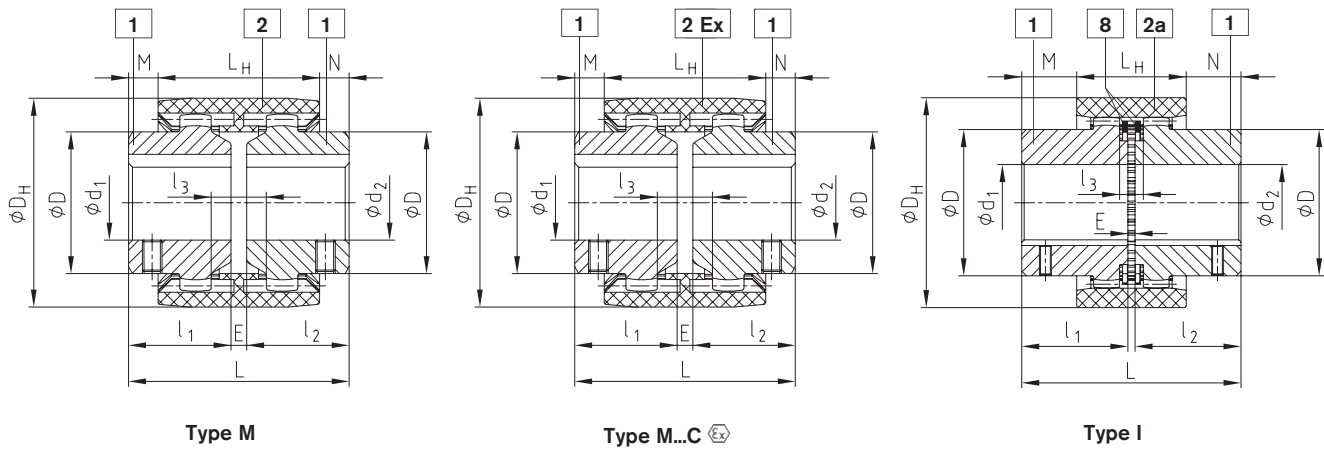
Compact and maintenance-free



For legend of pictogram please refer to flapper on the cover



## Components



BoWex® type M, type I and type M...C																				
Size		Finish bore $d_1, d_2$		Dimensions [mm]											Weight with max. bore $\varnothing$			Mass moment of inertia J with max. bore $\varnothing$		
		Pilot bored	max.	$l_1, l_2$	E	L	$L_H$	M, N	$l_3$	D	$D_H$	Tip circle $\varnothing D_Z$ hub	Number of teeth	Hub length. $l_1, l_2$ max.	Sleeve [kg]	Hub [kg]	Total [kg]	Sleeve [kgcm <sup>2</sup> ]	Hub [kgcm <sup>2</sup> ]	Total [kgcm <sup>2</sup> ]
M-14	M-14C	-	15	23	4	50	37	6,5	10	25	40	33	20	40	0,03	0,07	0,10	0,08	0,09	0,26
M-19	M-19C	-	20	25	4	54	37	8,5	10	32	47	39	24	40	0,03	0,10	0,23	0,15	0,16	0,47
M-24	M-24C	-	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	M-28C	-	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	M-32C	-	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	M-38C	-	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		-	42	42	4	88	50	19	13	65	92	78	50	60	0,14	0,68	1,50	2,32	5,98	14,28
M-48	M-48C	-	48	50	4	104	50	27	13	68	95	78	50	60	0,23	0,79	1,81	3,90	7,22	18,34
M-65	M-65C	21	65	55	4	114	68	23	16	96	132	110	42	70	0,55	1,90	4,35	21,2	31,8	84,8
I-80		31	80	90	6	186	93	46,5	20	124	178	145	46	-	1,13	5,20	11,53	68,9	150,8	370,5
I-100		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		45	125	140	10	290	134	78	30	192	270	225	54	-	3,88	19,44	42,76	562,9	1362,3	3287,5

BoWex® M applicable up to +120°C with black sleeve

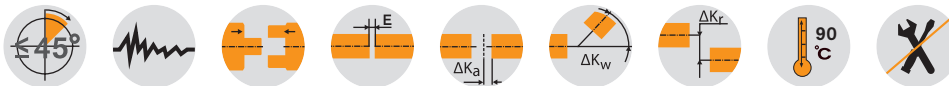
Ordering example:	BoWex® M-28	$d_1 \varnothing 20$	$d_2 \varnothing 28$
	Size and type of coupling	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

# BoWex® HEW Compact Curved-tooth gear coupling®

Compensating for large displacements, very compact type



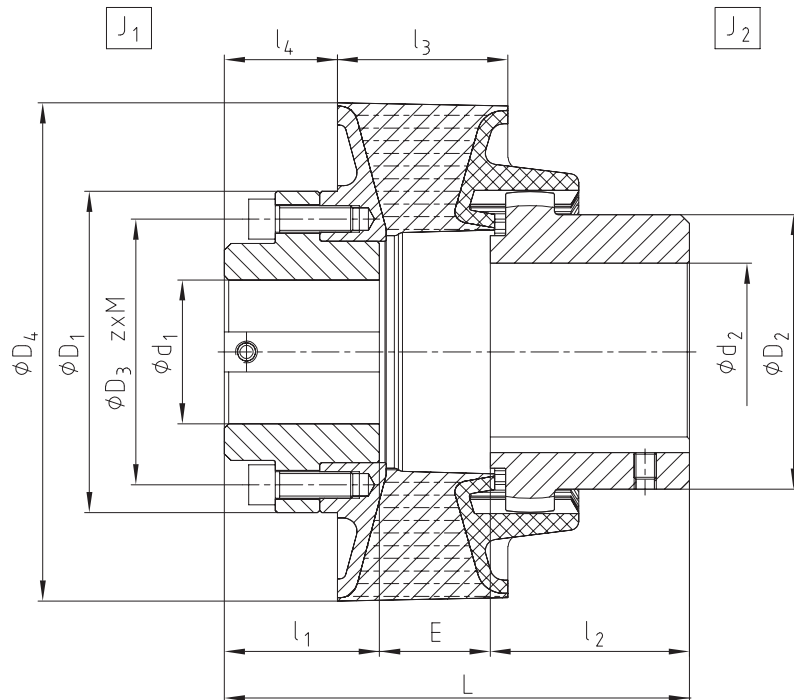
For legend of pictogram please refer to flapper on the cover



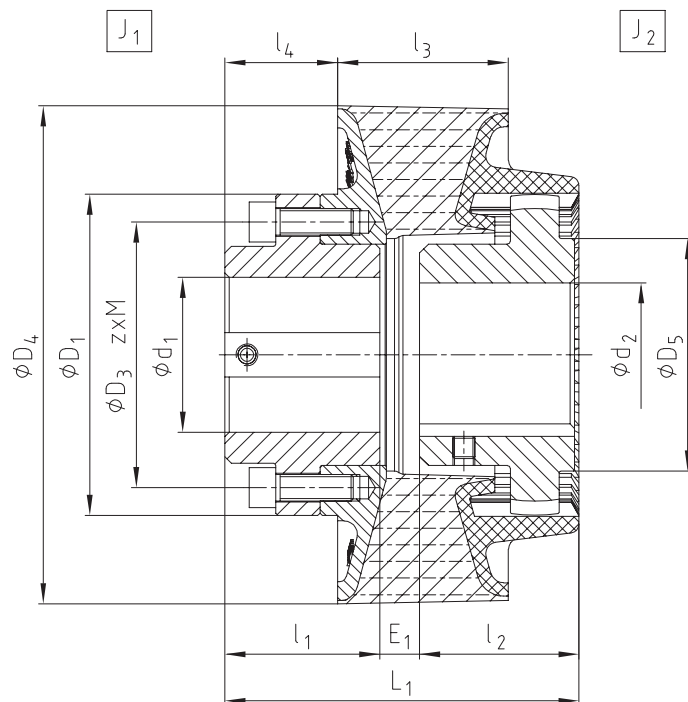
BoWex® Type HEW Compact																Weight with pilot bored coupling [kg]	Mass moment of inertia with pilot bored coupling J <sub>1</sub> [kgm <sup>2</sup> ]	Mass moment of inertia with pilot bored coupling J <sub>2</sub> [kgm <sup>2</sup> ]
Size	Max. finish bore d		Dimensions [mm]															
	d <sub>1</sub>	d <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>4</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	E	L	L <sub>1</sub>	D <sub>3</sub>	z	M			
42-130	42	42	90	65	131	42	42	45	37	34	118	98	78	6	M6	3,4	0,003	0,001
65-180	65	65	130	96	180	60	55	55	47	30	145	122	110	8	M10	9	0,014	0,006
80-225	75	80	145	124	225	70	90	77	51	50	210	158	120	10	M12	18,9	0,035	0,029
100-305	100	100	200	152	305	90	110	90	73	58	258	187	175	16	M12	40,2	0,152	0,087
125-365	125	125	235	192	365	120	140	150	90	68	328	240	205	12	M16	75	0,36	0,26

Technical data															
Coupling size	Elastomer hardness [Shore A]	Torque			Perm. operating speed n <sub>max</sub> [rpm]	Perm. damping power			Dynamic torsion spring stiffness C <sub>t,dyn</sub> [Nm/rad]	Relative damping ψ	Resonance factor V <sub>R</sub> ≈ 2 · Π / ψ	Radial spring stiffness C <sub>r</sub> [N/mm]			
		T <sub>KN</sub> [Nm]	T <sub>Kmax</sub> [Nm]	with 10 Hz T <sub>KW</sub> [Nm]		P <sub>KW</sub> [W]									
						60 °C	80 °C	90 °C							
BoWex 42 HEW Compact	T50	150	450	45	7300	24	12	6	780	0,6	10,5	178			
	T65	180	540	54					2400				0,8	7,9	600
	T70	210	630	63					2900						
BoWex 65 HEW Compact	T50	400	1200	120	5500	48	24	12	2850	0,6	10,5	379			
	T65	500	1500	150					7800				0,8	7,9	955
	T70	575	1725	173					9500						
BoWex 80 HEW Compact	T50	900	2700	270	4400	96	48	24	5000	0,6	10,5	420			
	T65	1100	3300	330					13000				0,8	7,9	1090
	T70	1300	3900	390					16500						
BoWex 100 HEW Compact	T50	2000	6000	600	3200	156	78	39	17000	0,6	10,5	760			
	T65	2600	7800	780					44000				0,8	7,9	1850
	T70	3000	9000	900					50000						
BoWex 125 HEW Compact	T40	3000	9000	900	2900	192	96	48	15000	0,6	10,5	476			
	T50	4000	12000	1200					25000				0,8	7,9	750
	T65	5000	15000	1500					62000						

Ordering example:	BoWex® 65 HEW Compact	T50	d <sub>1</sub> Ø40	d <sub>2</sub> Ø65
	Coupling size and type	Elastomer hardness	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)	Finish bore H7 keyway to DIN 6885 sheet 1 (JS9)

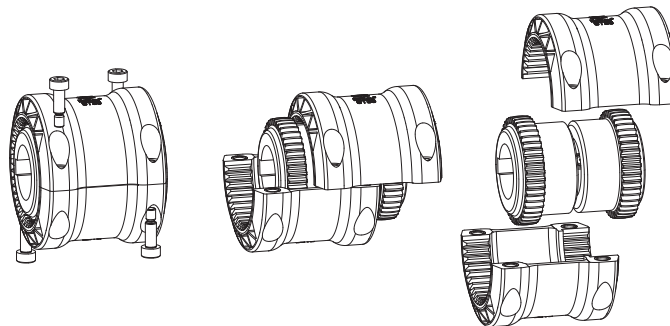
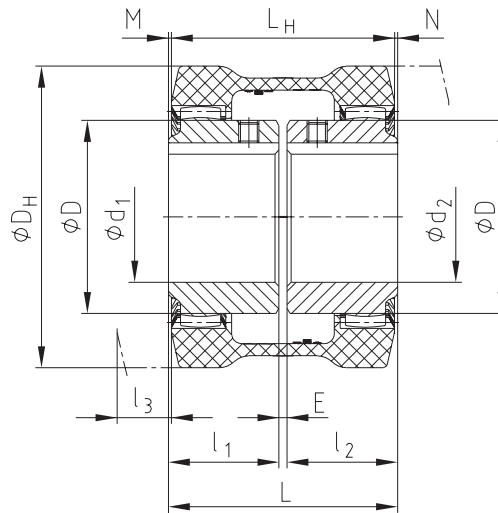
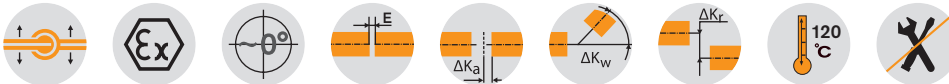


**BoWex® HEW Compact with reduced hub**



# BoWex® GT Curved-tooth gear coupling®

Split CFK sleeve for high power density



BoWex® type GT with split sleeve																		
Size	Finish bore $d_{max}$		Dimensions [mm]									Weight with max. bore-Ø			Mass moment of inertia J with max. bore-Ø			
	$d_1$	$d_2$	D	$D_H$	$L_H$	$l_1$	$l_2$	$l_3$	E	L	M, N	Sleeve [kg]	Hub [kg]	Total [kg]	Sleeve [kgcm <sup>2</sup> ]	Hub [kgcm <sup>2</sup> ]	Total [kgcm <sup>2</sup> ]	
28	28	28	44	80	80	40	40	15	4	84	2	0,158	0,22	0,702	1,77	1,22	4,21	
38	38	38	58	98	83	40	40	18	4	84	0,5	0,25	0,45	1,15	4,43	3,36	11,15	
48	48	48	68	110	106	50	50	21	4	104	0	0,33	0,67	1,68	7,39	6,11	19,61	
65	65	65	96	150	111	55	55	27	4	114	1,5	0,69	1,54	3,77	28,9	31,80	92,5	

l3 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<sup>®</sup> Curved-tooth gear coupling<sup>®</sup>

## Other types

### BoWex<sup>®</sup> SD / SD-D



- Curved-tooth gear coupling<sup>®</sup> shiftable at standstill
- Quick connection and disconnection of power packs at standstill
- Suitable for all applications in mechanical engineering
- Maintenance-free due to the material combination nylon/steel

### BoWex<sup>®</sup> AS and Spec.-I



- Double-cardanic curved-tooth gear coupling<sup>®</sup>
- Separable coupling type
- Sleeve can be axially displaced in assembled condition
- Operating range from -25° C to +100° C
- Maintenance-free due to the material combination nylon/steel

### BoWex<sup>®</sup> SG, SSR and Spec.-I/CD



- Double-cardanic curved-tooth gear coupling<sup>®</sup>
- Type with dust protection circlips for drives subject to dirt
- Maintenance-free due to the 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]														Grease feeding [dm <sup>3</sup> ] <sup>2)</sup>
		d1; d2	l1, l2	Hub lengthened max l1, l2	EFA	EFB	EFAB	LFA	LFB	LFAB	L3	D	DA1	DA2	F <sup>1)</sup>	d3 <sup>1)</sup>		
10	26	50	43	105	3	21	12	89	107	98	55	67	111	84	74	52	0,02	
15	26	64	50	115	3	15	9	103	115	109	59	87	152	107	84	68	0,04	
20	31	80	62	130	3	31	17	127	155	141	79	108	178	130	104	85	0,08	
25	38	98	76	150	5	29	17	157	181	169	93	130	213	158	123	110	0,12	
30	44,5	112	90	170	5	33	19	185	213	199	109	153	240	182	148	130	0,18	
35	46	133	105	185	6	40	23	216	250	233	128	180	280	214	172	150	0,22	
40	52	158	120	215	6	42	24	246	282	264	144	214	318	250	192	175	0,35	
45	80	172	135	245	8	50	29	278	320	299	164	233	347	274	216	190	0,45	
50	80	192	150	295	8	56	32	308	356	332	182	260	390	309	241	220	0,70	
55	90	210	175	300	8	70	39	358	420	389	214	283	425,5	334	275	250	0,90	
60	100	232	190	305	8	84	46	388	464	426	236	312	457	365,5	316	265	1,15	
70	100	276	220	310	10	76	43	450	516	483	263	371	527	425	360	300	1,50	

Technical data										
Size	Torque [Nm]		Max. speed [rpm]	Weight with max. bore [kg]			Mass moment of inertia J with max. bore Ø [kgm <sup>2</sup> ]	Dowel screw (10.9)		
	T <sub>KN</sub>	T <sub>KN</sub> (42CrMo4)		Sleeve	Hub	Total		z	M	T <sub>A</sub> [Nm]
10	930	1580	8500	0,75	0,55	2,73	0,00436	6	M6	15
15	2000	3300	7700	1,88	1,12	6,38	0,01894	8	M8	36
20	3500	6300	6900	2,60	2,09	9,94	0,04000	6	M10	72
25	6500	11000	6200	4,43	3,56	16,83	0,09749	6	M12	125
30	10000	17400	5800	5,83	6,18	25,21	0,18080	8	M12	125
35	17000	28800	5100	9,71	9,87	41,25	0,41419	8	M14	200
40	28500	48500	4500	11,88	16,07	58,14	0,75535	8	M14	200
45	37000	62000	4000	15,72	21,42	77,08	1,17590	10	M14	200
50	51000	86000	3750	25,66	29,59	114,40	2,24991	8	M18	430
55	65000	110000	3550	31,52	40,30	150,41	3,45102	14	M18	430
60	85000	145000	3400	32,82	52,96	177,44	4,16734	14	M18	430
70	135000	240000	3200	43,52	85,77	268,20	9,32429	16	M20	610

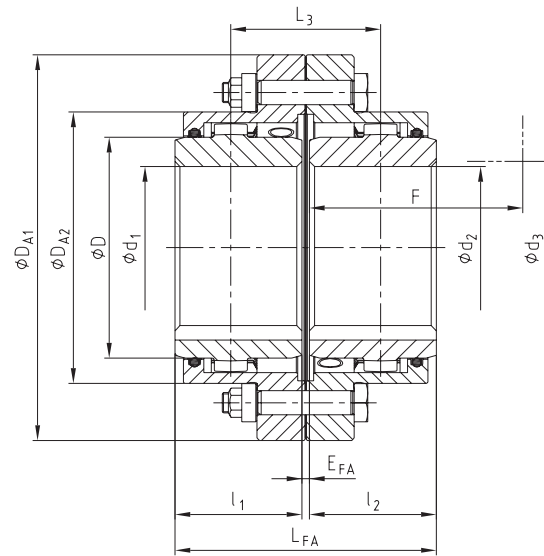
■ = Standard

<sup>1)</sup> Space required to align the coupling or replace the sealing ring

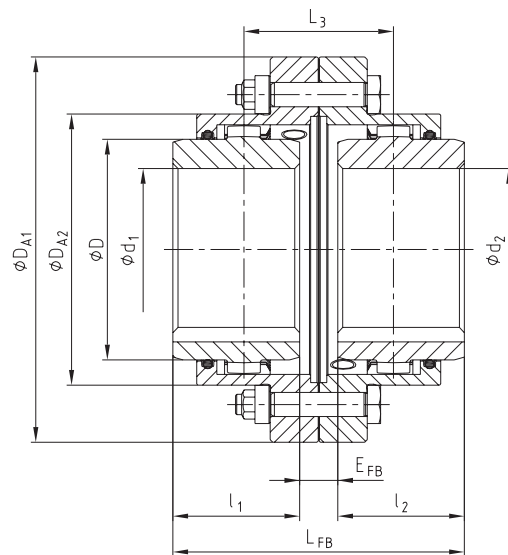
<sup>2)</sup> Grease feeding for each coupling half

Ordering example:	GEARex® FA 10	d <sub>1</sub> Ø50	d <sub>2</sub> Ø50
	Size and type of coupling	Finish bore with keyway to DIN 6885 sheet 1	Finish bore with keyway to DIN 6885 sheet 1

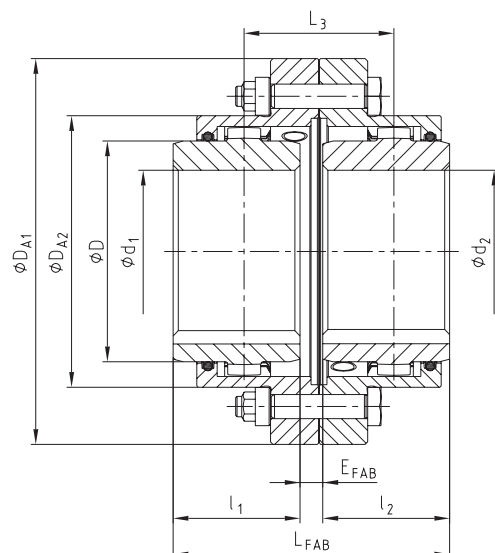
### Type FA



### Type FB

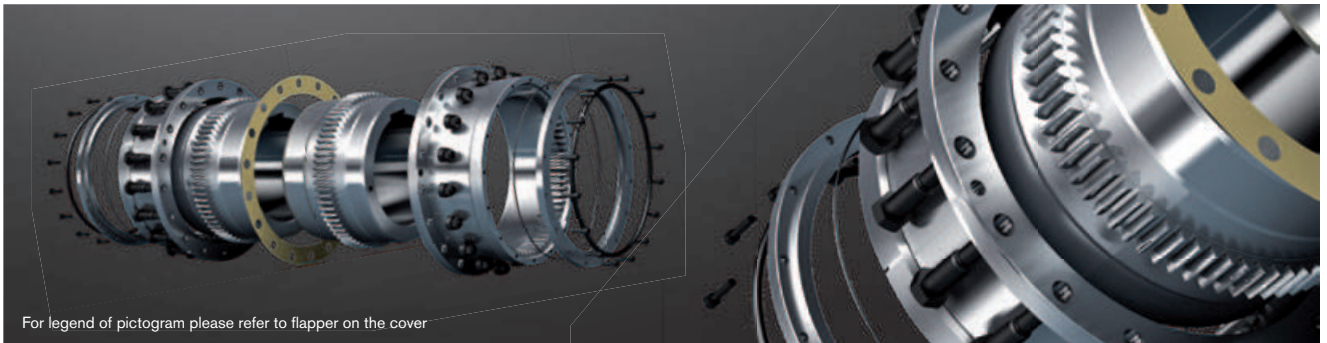


### Type FAB

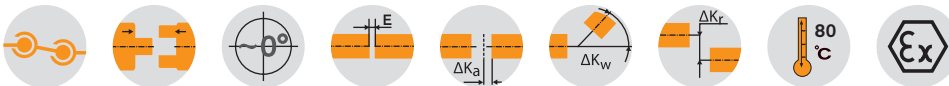


# GEARex® DA, DB and DAB All-steel gear couplings

Easy to assemble, high power density



For legend of pictogram please refer to flapper on the cover



Dimensions																
Size	Pilot bore	Max. finish bore d <sub>1</sub> ; d <sub>2</sub>	Dimensions [mm]													Grease feeding [dm <sup>3</sup> ] <sup>2)</sup>
			l <sub>1</sub> ; l <sub>2</sub>	EDA	EDB	EDAB	LDA	LDB	LDAB	L <sub>3</sub>	D	DA <sub>1</sub>	DA <sub>2</sub>	F <sup>1)</sup>	d <sub>3</sub> <sup>1)</sup>	
20	31	80	62	3	31	17	133	155	144	79	108	187	146	105	85	0,08
25	38	98	76	5	29	17	157	181	169	93	130	220	172	115	105	0,12
30	44,5	112	90	5	33	19	185	213	199	109	153	248	182	140	120	0,18
35	46	133	105	6	40	23	216	250	233	128	180	285	214	165	145	0,22
40	52	158	120	6	42	24	246	282	264	144	214	335	250	180	160	0,35
45	80	172	135	8	50	29	278	320	299	164	233	358	294	195	185	0,45
50	80	192	150	8	56	32	388	356	332	182	260	390	309	215	205	0,70
55	90	210	175	8	70	39	358	420	389	214	283	425,5	348	240	220	0,90
60	100	232	190	8	84	46	388	464	426	236	312	457	380	260	245	1,15
70	100	276	220	10	76	43	450	516	483	263	371	527	445	300	290	1,50
80	140	300	280	10	50	30	570	610	590	310	394	545	475	340	310	2,50
85	160	325	292	13	53	33	597	637	617	325	430	585	515	352	330	3,00
90	180	350	305	13	83	48	623	693	658	353	464	640	560	365	360	4,00
100	220	390	330	13	93	53	673	753	713	383	512	690	612	390	400	5,00
110	220	420	350	20	296	158	720	996	858	508	560	765	665	410	420	6,00
120	260	450	420	25	421	223	864	1261	1063	643	608	825	720	480	470	7,50
130	300	500	440	25	415	220	905	1295	1100	660	684	950	805	520	520	9
140	380	550	460	20	430	225	940	1350	1145	685	750	1010	875	570	590	12
150	460	630	520	30	460	245	1070	1500	1285	765	850	1140	975	630	670	15

Technical data										
Size	Torque [Nm]		Max. speed [rpm]	Weight with max. bore [kg]			Mass moment of inertia J with max. bore Ø [kgm <sup>2</sup> ]	Dowel screw (10.9)		
	T <sub>KN</sub>	T <sub>KN</sub> (42CrMo4)		Sleeve	Hub	Total		z	M	T <sub>A</sub> [Nm]
20	3500	6300	6900	3,6	2,1	12,8	0,056	6	M10	72
25	6500	11000	6200	5,5	3,6	20,3	0,125	6	M12	125
30	10000	17400	5800	6,9	6,2	28,9	0,219	8	M12	125
35	17000	28800	5100	11,2	9,8	46,6	0,488	8	M14	200
40	28500	48500	4500	16,3	15,9	70,9	1,011	8	M14	200
45	37000	62000	4000	20,2	21,4	90,7	1,482	10	M14	200
50	51000	86000	3750	27,0	29,5	123,5	2,474	8	M18	430
55	65000	110000	3550	32,6	40,2	159,1	3,714	14	M18	430
60	85000	145000	3400	32,0	52,8	184,4	4,810	14	M18	430
70	135000	240000	3200	43,8	85,5	280	9,907	16	M20	610
80	175000	300000	1900	64	117	362	14,214	18	M20	610
85	225000	380000	1900	75	148	446	20,320	20	M20	610
90	290000	500000	1700	101	183	568	31,036	20	M24	1000
100	380000	650000	1600	117	232	698	45,358	24	M24	1000
110	480000	820000	1450	140	295	940	73,880	20	M30	1700
120	620000	1050000	1350	188	430	1312	118,40	24	M30	1700
130	-	1450000	1150	319	603	1954	226,732	20	M36	2800
140	-	1950000	1050	373	758	2391	328,567	24	M36	2800
150	-	2750000	950	475	983	3069	540,298	30	M36	2800

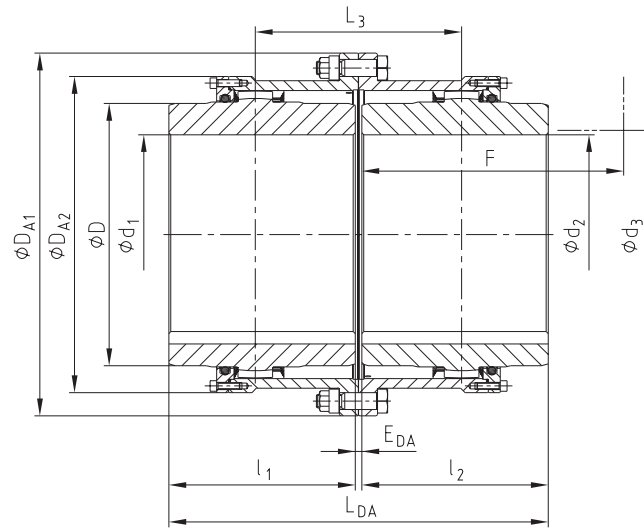
■ = Standard

<sup>1)</sup> Space required to align the coupling or replace the sealing ring

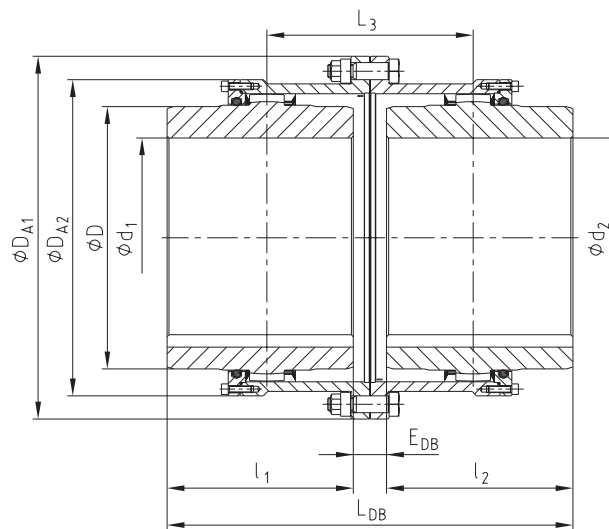
<sup>2)</sup> Grease feeding for each coupling half

Ordering example:	GEARex® DA 80	d <sub>1</sub> Ø300	d <sub>2</sub> Ø300
		Size and type of coupling	Finish bore with keyway to DIN 6885 sheet 1

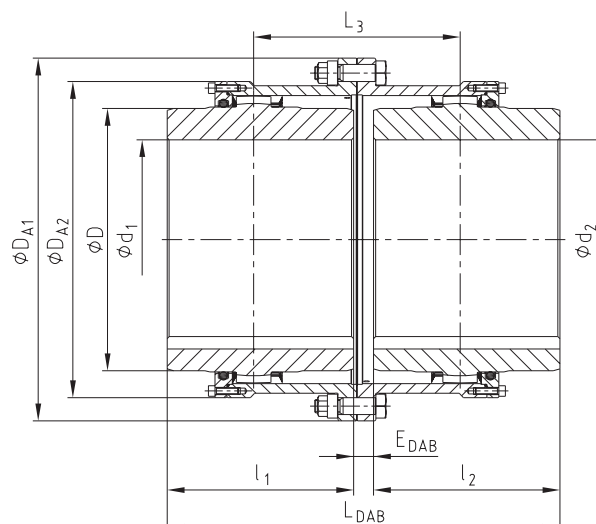
### Type DA



### Type DB



### Type DAB



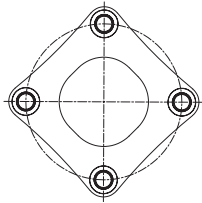
# RADEX®-N

## Steel lamina couplings

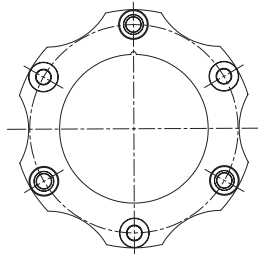
### Technical data

The following lamina types are distinguished with RADEX®-N:

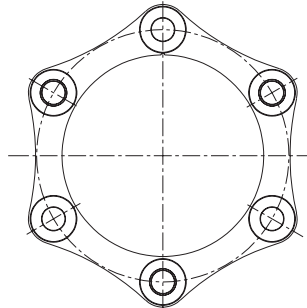
Size 20 – 50  
(lamina with 4 holes)



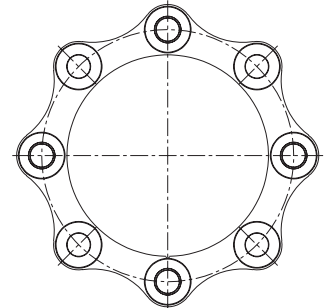
Size 60 – 135  
(lamina with 6 holes)



Size 136 – 336  
(lamina with 6 holes)



Size 138 – 338  
(lamina with 8 holes)



Torques and displacements									
Size	Lamina type	Torques [Nm] <sup>1)</sup>			Angle [°] each lamina	Perm. displacements <sup>2)</sup>			
		TKN	TK max	TKW		Axial [mm]		Radial [mm]	
						NN	NANA 1/ NANA2/ NNZ	NANA 1	NANA 2/NNZ
20		15	30	5	1,0	0,60	1,2	1,0	0,2
25		30	60	10	1,0	0,80	1,6	1,0	0,2
35	lamina with 4 holes	60	120	20	1,0	1,00	2,0	1,1	0,3
38		120	240	40	1,0	1,20	2,4	1,2	0,3
42		180	360	60	1,0	1,40	2,8	1,2	0,4
50		330	660	110	1,0	1,60	3,2	1,5	0,4
60		690	1380	230	1,0	1,00	2,0	1,5	0,8
70		1100	2200	370	1,0	1,10	2,2	1,8	1,0
80		1500	3000	500	1,0	1,30	2,6	2,1	1,2
85		2400	4800	800	1,0	1,30	2,6	2,2	1,2
90		4500	9000	1500	1,0	1,00	2,0	2,2	1,1
105		5100	10200	1700	1,0	1,20	2,4	2,4	1,4
115		9000	18000	3000	1,0	1,40	2,8	2,5	1,5
135	lamina with 6 holes	12000	24000	4000	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		23000	46000	11500	0,5	1,30	2,6	Depending on drop-out center dimension	
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			

Permissible speeds and torsional stiffness figures					
Size	Max. speed [rpm] (higher speeds on request)	Torsion spring stiffness x 106 [Nm/rad] per lamina set	Size	Max. speed [rpm] (higher speeds on request)	Torsion spring stiffness x 106 [Nm/rad] per lamina 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

<sup>1)</sup> For selection of coupling see catalogue "Drive Technology" 2016 on page 14 et seqq.

<sup>2)</sup> The permissible displacement figures specified are maximum figures which must not arise at the same time. If radial, axial and angular displacements arise in parallel, the figures need to be reduced.

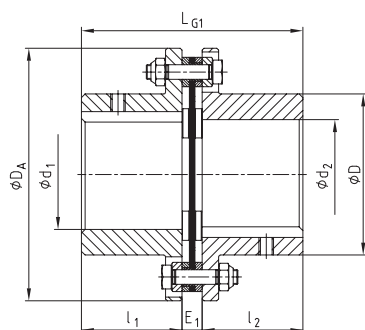
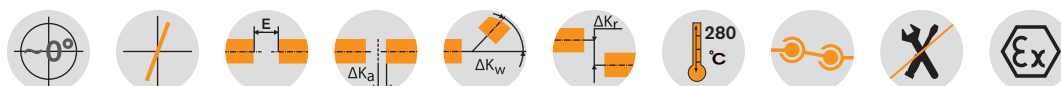
# RADEX®-N NN, NANA 1 and NANA 2

## Steel lamina couplings

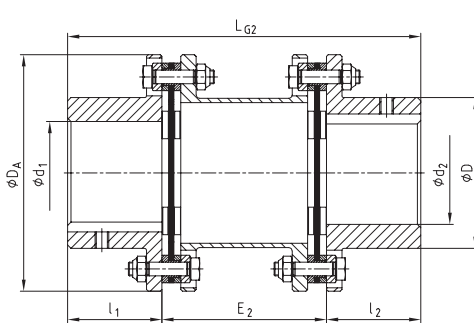
### Standard types



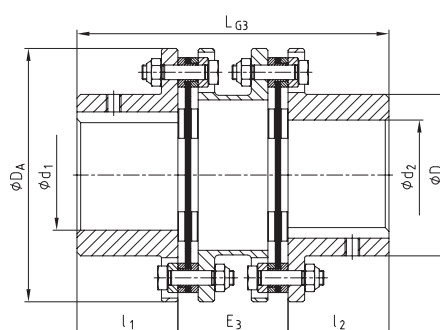
For legend of pictogram please refer to flapper on the cover



Type NN



Type NANA 1



Type NANA 2

### RADEX®-N Types NN, NANA 1, NANA 2

Size	Max. finish bore	Dimensions [mm]								
	d <sub>1</sub> /d <sub>2</sub>	D	DA	l <sub>1</sub> /l <sub>2</sub>	LG1	E <sub>1</sub>	LG2	E <sub>2</sub>	LG3	E <sub>3</sub>
20	20	32	56	20	45	5	100	60	-	-
25	25	40	68	25	56	6	110	60	-	-
35	35	54	82	40	86	6	150	70	-	-
38	38	58	94	45	98	8	170	80	-	-
42	42	68	104	45	100	10	170	80	-	-
50	50	78	126	55	121	11	206	96	-	-
60	60	88	138	55	121	11	206	96	170	60
70	70	102	156	65	141	11	246	116	200	70
80	80	117	179	75	164	14	286	136	233	83
85	85	123	191	80	175	15	300	140	246	86
90	90	132	210	80	175	15	300	140	251	91
105	105	147	225	90	200	20	340	160	281	101
115	115	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	165	225	350	165	361	31				
186	180	250	380	185	401	31				
206	200	275	420	200	437	37				
246	240	320	500	240	524	44				
286	280	383	567	280	612	52				
336	330	445	660	330	718	58				
138	135	180	300	135	293	23				
158	150	195	325	150	327	27				
168	165	225	350	165	361	31				
188	180	250	380	185	401	31				
208	200	275	420	200	437	37				
248	240	320	500	240	524	44				
288	280	383	567	280	612	52				
338	330	445	660	330	718	58				

As indicated by the customer

#### Ordering example:

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

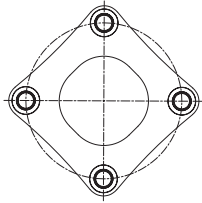
# RIGIFLEX®-N

## Steel lamina couplings

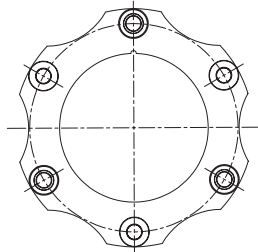
### Technical data

The following lamina types are distinguished with RIGIFLEX®-N:

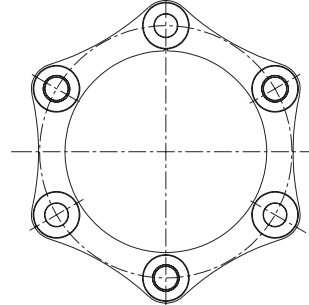
Size 35 - 65  
(lamina with 4 holes)



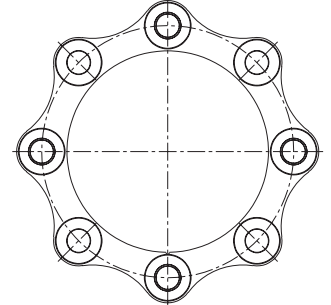
Size 75 - 160  
(lamina with 6 holes)



Size 166 - 406  
(lamina with 6 holes)



Size 168 - 408  
(lamina with 8 holes)



Torques and displacements											
Size	Lamina type	Torques [Nm]				Permissible displacements					
		TKN	TK max.	TKW	Angular ± Kw <sup>1)</sup> [°]	Axial displacement ± Ka [mm]	Radial ± Kr [mm]				
							E=100	E=140	E=180	E=200	E=250
35	lamina with 4 holes	130	260	65	0,7	1,2	0,90	1,40	-	-	-
50		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	lamina with 6 holes	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		19000	38000	9500	0,7	3,7	Mounting dimension E as indicated by the customer				
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	lamina 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					

<sup>1)</sup> Angular displacement each lamina set

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

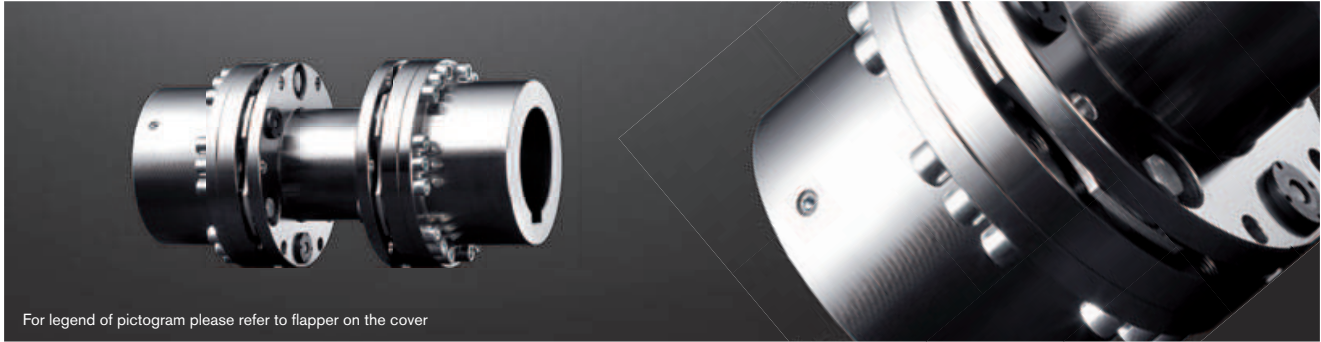
Size	Permissible angular displacement								
	0	0,1	0,2	0,3	0,4	0,5	0,6	0,7	
	Permissible axial displacement								
35	1,20	1,00	0,85	0,74	0,60	0,40	0,20	0,00	
50	1,40	1,20	1,00	0,80	0,60	0,40	0,20	0,00	
65	1,50	1,29	1,07	0,86	0,64	0,43	0,22	0,00	
75	1,80	1,54	1,29	1,03	0,77	0,52	0,26	0,00	
85	2,10	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	-	-	



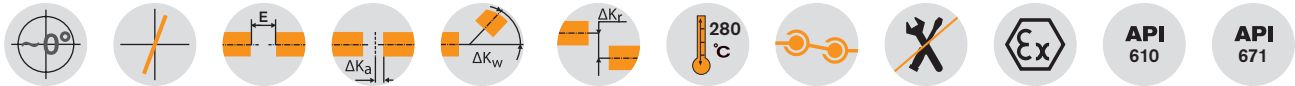
# RIGIFLEX®-N

## Steel lamina coupling

### Standard type A



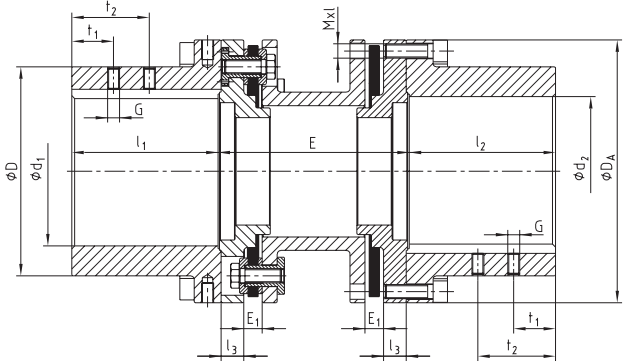
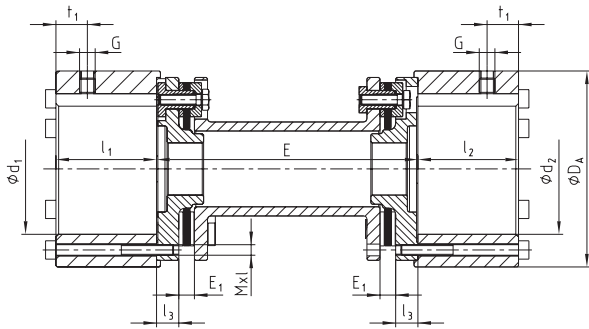
For legend of pictogram please refer to flapper on the cover



### Components

Size 35

Size 50 - 408



RIGIFLEX®-N Type A																			
Size	Torques [Nm]			Max. finish bore d1/d2	Dimensions [mm]											Screws DIN EN ISO 4762			
	T <sub>KN</sub>	T <sub>K max.</sub>	T <sub>KW</sub>		D	DA	l1/2	l3	G	t1	t2	E1	E <sup>1)</sup>				Mxl	T <sub>A</sub> [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	65	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	85	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	140	200	265	126	25	M12	30	-	15	-	-	-	200	250	M16x50	295
160	16000	32000	8000	160	230	305	145	31	M12	30	-	15	-	-	-	-	250	M16x55	295
166	19000	32000	9500	160	230	305	155	31	M16	30	70	17					M20x50	560	
196	22500	45000	11250	190	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	250	350	440	245	38	M20	70	130	31					M24x80	970	
306	86000	172000	43000	300	400	515	295	43	M24	70	130	36					M27x100	1450	
346	135000	270000	67500	340	460	590	335	55	M24	95	175	45					M30x110	1950	
406	210000	420000	105000	400	530	675	395	58,5	M24	95	175	50	As indicated by the customer				M36x130	3300	
168	25000	50000	12500	160	230	305	155	31	M16	30	70	17					M20x50	560	
198	30000	60000	15000	190	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	250	350	440	245	38	M20	70	130	31					M24x80	970	
308	115000	230000	57500	300	400	515	295	43	M24	70	130	36					M27x100	1450	
348	180000	360000	90000	340	460	590	335	55	M24	95	175	45					M30x110	1950	
408	280000	560000	140000	400	530	675	395	58,5	M24	95	175	50					M36x130	3300	

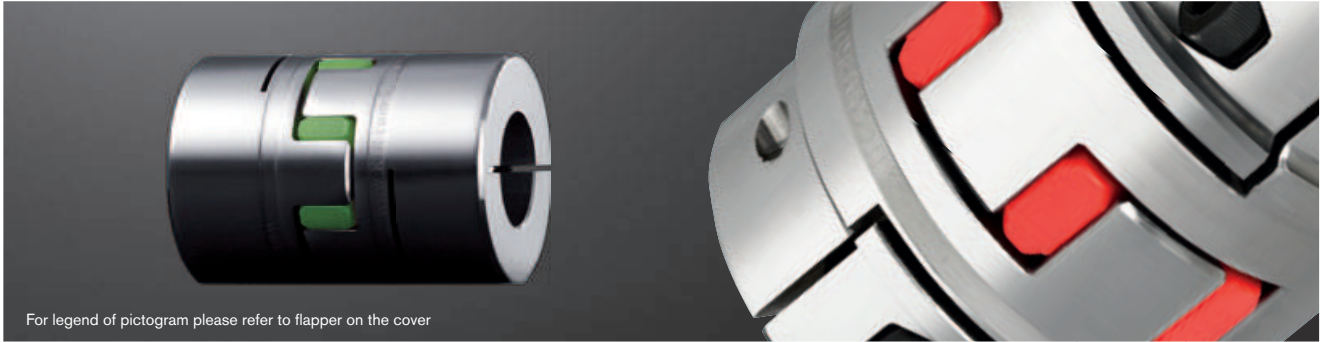
<sup>1)</sup> Other shaft distance dimensions available on request.  
For selection of coupling see catalogue "Drive Technology" 2016 on page 14 et seqq. Mounting instructions No. 47410 available at [www.ktr.com](http://www.ktr.com).

Ordering example:	RIGIFLEX®-N 120	A	Ø 100	Ø 120	200
	Coupling size	Type	Bore d1	Bore d2	Shaft distance dimension E

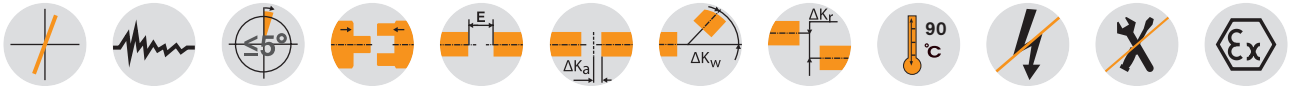
# ROTEX® GS

## Backlash-free jaw couplings

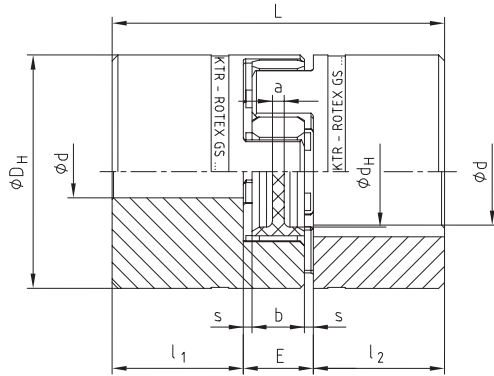
### Standard types



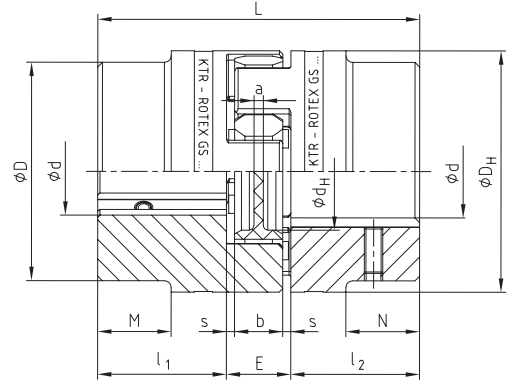
For legend of pictogram please refer to flapper on the cover



ROTEX® GS 5 - 38

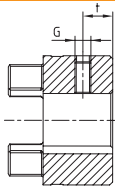


ROTEX® GS 42 - 90



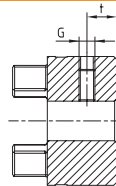
#### Hub types:

Type 1.0



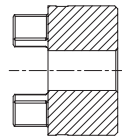
with keyway  
and set screw

Type 1.1



without keyway  
and with set screw

Type 1.2



without keyway  
and without set screw

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

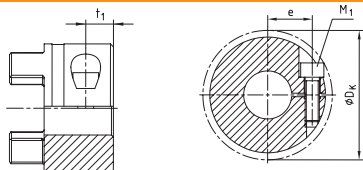
Size	Spider torque TKN [Nm] for 98Sh-A <sup>1)</sup>	Maximum finish bore $\phi D$ for hub type			Dimensions [mm]											Setscrew DIN EN ISO 4029 Hub type 1.0/1.1		
		1.0	1.1	1.2	D	D <sub>H</sub>	d <sub>H</sub>	L	l <sub>1</sub> :l <sub>2</sub>	M:N	E	b	s	a	G	t	T <sub>A</sub>	
5	0,9	-	6	5	-	10	-	15	5	-	5	4	0,5	4,0	M2	2,5	0,2	
7	2,0	7	7	7	-	14	-	22	7	-	8	6	1,0	6,0	M3	3,5	0,3	
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	28	-	-	-	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	

<sup>1)</sup> Other spiders/selection see catalogue "Drive Technology" 2016 on page 18 et seqq.

Ordering example:	ROTEX® GS 24	98 Sh-A-GS	d20	2.5 - Ø 24		1.0 - Ø 20	
	Coupling size	Spider hardness	Optional: Bore in spider	Type of hub	Finish bore	Type of hub	Finish bore

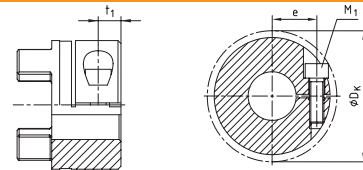
**Hub types:**

Type 2.0  
Type 2.1



Size 5 to 14  
Type 2.0 Single slotted clamping hub without feather keyway (only for ATEX category 3), torques depending on bore diameter  
Design 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 category 3), torques depending on bore diameter.  
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 torque TKN [Nm] for 98Sh-A1)	Maximum finish bore Ød for hub type				Dimensions [mm]											Clamping screw DIN EN ISO 4762 (ROTEX® 5 DIN 84) Hub design 2.0/2.1/2.5/2.6				
		2.0	2.1	2.5	2.6	D	D <sub>H</sub>	d <sub>H</sub>	L	l <sub>1,2</sub>	M;N	E	b	s	a	M <sub>1</sub>	t <sub>1</sub>	e	D <sub>K</sub>	T <sub>A</sub> [Nm]	
5	0,9	5	5	-	-	-	10	-	15	5	-	5	4	0,5	4,0	M1,2	2,5	3,5	11,4	- <sup>2)</sup>	
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	46	126	50	28	26	20	3,0	4,0	M10	18	32,0	93,5	69	
48	525	-	-	55	55	95	105	51	140	56	32	28	21	3,5	4,0	M12	21	36,0	105	120	
55	685	-	-	68 <sup>3)</sup>	68 <sup>3)</sup>	110	120	60	160	65	37	30	22	4,0	4,5	M12	26	42,5	119,5	120	
65	940	-	-	70 <sup>3)</sup>	70 <sup>3)</sup>	115	135	68	185	75	47	35	26	4,5	4,5	M12	33	45,0	124	120	
75	1920	-	-	80	80	135	160	80	210	85	53	40	30	5,0	5,0	M16	36	51,0	147,5	295	
90	3600	-	-	90	90	160	200	104	245	100	62	45	34	5,5	6,5	M20	40	60,0	192	580	

<sup>1)</sup> Other spiders/selection see catalogue "Drive Technology" 2016 on page 18 et seq.  
<sup>2)</sup> No TA defined (slotted screw)  
<sup>3)</sup> From Ø60 keyway opposite to the clamping screw  
<sup>4)</sup> Clamping hub single slotted with 2-off clamping screws M4 and dimension e=15

**Review of shaft-hub-connection: Friction torques for hub type 2.0**

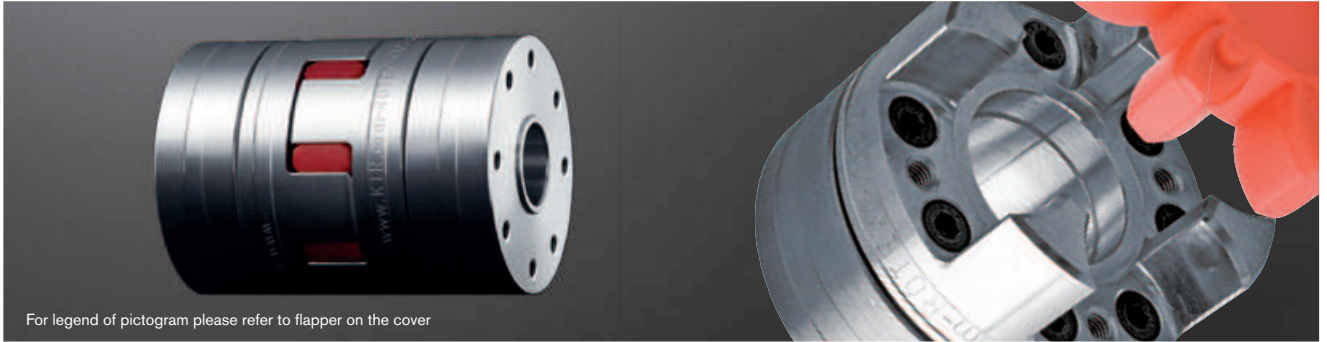
Size	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16
7		0,8	0,9	0,95	1,0	1,1								
9			2,1	2,2	2,3	2,4	2,5	2,6	2,7	2,8				
12			3,6	3,8	4,0	4,1	4,3	4,5	4,7	4,8	5,0			
14				4,7	4,8	5,0	5,1	5,3	5,5	5,6	5,8	6,1	6,3	6,5

**Review of shaft-hub-connection: Friction torques 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	Ø90	
19	25	27	29	30	31	32	32	34	30 <sup>4)</sup>	32 <sup>4)</sup>																				
24		34	35	36	38	38	39	40	41	42	43	45	46																	
28				80	81	81	84	85	87	89	91	92	97	99	102	105	109													
38					92	94	97	98	99	102	104	105	109	112	113	118	122	123	126	130										
42										232	238	244	246	255	260	266	274	283	288	294	301	309	315							
48												393	405	413	421	434	445	454	462	473	486	494	514							
55															473	486	498	507	514	526	539	547	567	587	608					
65																507	518	526	535	547	559	567	587	608	627	648				
75																			1102	1124	1148	1163	1201	1239	1278	1316	1354	1393		
90																				1944	1980	2016	2040	2100	2160	2220	2280	2340	2400	2520

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

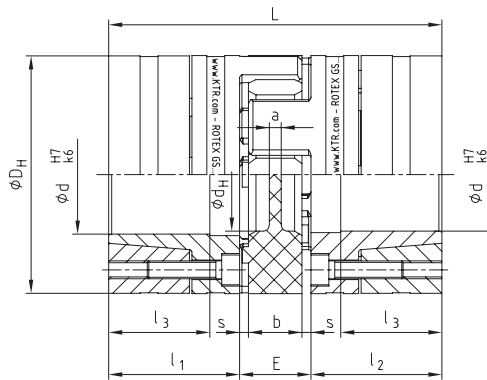
Integrated clamping system made of aluminium



For legend of pictogram please refer to flapper on the cover



Tack thread M1 between clamping screws



ROTEX® GS clamping ring hubs light																			
Size	Torque of spider $T_{KN}$ [Nm] <sup>1)</sup>					Dimensions [mm]								Clamping screws DIN EN ISO 4762			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kg m <sup>2</sup> ]	
	92 Sh-A	98Sh-A	64 Sh-D	maxi.d	$D_H$ <sup>2)</sup>	$d_H$	L	$l_1; l_2$	$l_3$	E	b	s	a	M	Anzahl z	$T_A$ [Nm]			$M_1$
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	$0,04 \times 10^{-4}$
19	12	21	26	20	40	18	66	25	18	16	12	2,0	3,0	M4	6	3	M4	0,077	$0,19 \times 10^{-4}$
24	35	60	75	32	55	27	78	30	22	18	14	2,0	3,0	M5	4	6	M5	0,162	$0,78 \times 10^{-4}$
28	95	160	200	38	65	30	90	35	27	20	15	2,5	4,0	M5	8	6	M5	0,240	$1,70 \times 10^{-4}$
38	190	325	405	48	80	38	114	45	35	24	18	3,0	4,0	M6	8	10	M6	0,490	$5,17 \times 10^{-4}$
42	265	450	560	51	95	46	126	50	35	26	20	3,0	4,0	M8	4	25	M8	0,772	$11,17 \times 10^{-4}$
48	310	525	655	55	105	51	140	56	41	28	21	3,5	4,0	M10	4	49	M10	1,066	$18,81 \times 10^{-4}$

<sup>1)</sup> Other spiders/selection see catalogue "Drive Technology" 2016 on page 18 et seqq.

<sup>2)</sup>  $\Delta D_H + 2$  mm with high speeds for expansion of spider

Review of shaft-hub-connection: Friction torques for hub type 6.0 light																									
Size		$\varnothing 6$	$\varnothing 8$	$\varnothing 9$	$\varnothing 10$	$\varnothing 11$	$\varnothing 14$	$\varnothing 15$	$\varnothing 16$	$\varnothing 19$	$\varnothing 20$	$\varnothing 24$	$\varnothing 25$	$\varnothing 28$	$\varnothing 30$	$\varnothing 32$	$\varnothing 35$	$\varnothing 38$	$\varnothing 40$	$\varnothing 42$	$\varnothing 45$	$\varnothing 48$	$\varnothing 50$	$\varnothing 55^*$	
14	H7/k6	6,9	11	16	17	22	31																		
	H7/h6	4,7	8	13	14	19	22																		
19	H7/k6				28	35	51	61	43	68	78														
	H7/h6				23	30	44	55	32	58	70														
24	H7/k6						72	85	79	119	134	145	160	211	177	199									
	H7/h6						64	79	67	106	124	108	123	172	147	157									
28	H7/k6							120	177	161	247	271	305	355	294	366	382								
	H7/h6							102	160	132	224	250	281	336	222	294	311								
38	H7/k6										248	376	411	486	563	553	673	665	748	832	732	848			
	H7/h6										210	344	382	453	536	454	577	550	632	718	614	732			
42	H7/k6													559	645	666	806	859	957	924	1069	1221	1229		
	H7/h6													522	616	558	703	800	909	806	960	1125	1173		
48	H7/k6														706	795	962	1047	1165	1160	1339	1527	1393	1662	
	H7/h6														650	735	914	983	1110	1025	1216	1422	1207	—	

\* Standard bore tolerance H7, special tolerances on request \* From  $\varnothing 55$  tolerance G7/m6

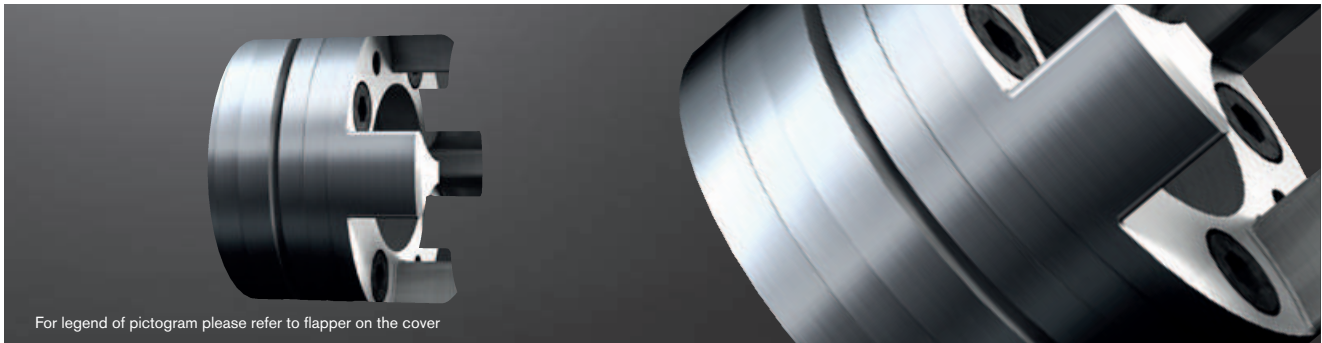
With a bigger fit clearance the torque is reduced. Steel or nodular iron with a yield strength of approx. 250 N/mm<sup>2</sup> or more can be used as shaft material. For the strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage www.ktr.com.

Ordering example:	ROTEX® GS 24	98 Sh-A-GS	d20	6.0 light – $\varnothing 24$		6.0 light – $\varnothing 20$	
	Coupling size	Hardness of spider	Optional Bore in spider	Type of hub	Finish bore	Type of hub	Finish bore

# ROTEX® GS Clamping ring hubs made of steel

## Backlash-free jaw couplings

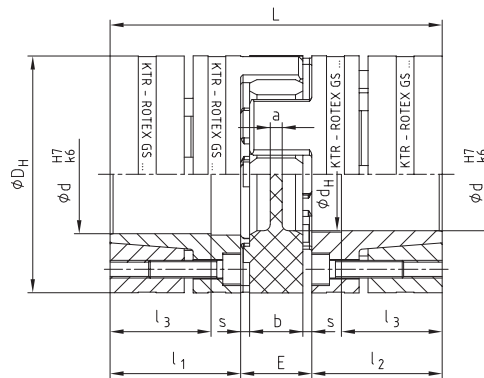
### Integrated clamping system made of steel



For legend of pictogram please refer to flapper on the cover



Tack thread M1 between clamping screws



ROTEX® GS clamping ring hubs made of steel

Size	Torque of spider $T_{KN}$ [Nm] <sup>1)</sup>			Dimensions [mm] [mm]										Clamping screws DIN EN ISO 4762			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kg m <sup>2</sup> ]	
	98 Sh-A	64 Sh-D	72 Sh-D	maxi.d	$D_H$ <sup>2)</sup>	$d_H$	L	$l_1$ ; $l_2$	$l_3$	E	b	s	a	M	Number z	$T_A$ [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	$0,44 \times 10^{-4}$
24	60	75	97	28	55	27	78	30	22	18	14	2,0	3,0	M5	4	8,5	M5	0,399	$1,91 \times 10^{-4}$
28	160	200	260	38	65	30	90	35	27	20	15	2,5	4,0	M5	8	8,5	M5	0,592	$4,18 \times 10^{-4}$
38	325	405	525	48	80	38	114	45	35	24	18	3,0	4,0	M6	8	14	M6	1,225	$12,9 \times 10^{-4}$
42	450	560	728	51	95	46	126	50	35	26	20	3,0	4,0	M8	4	35	M8	2,30	$31,7 \times 10^{-4}$
48	525	655	852	55	105	51	140	56	41	28	21	3,5	4,0	M10	4	69	M10	3,08	$52,0 \times 10^{-4}$
55	685	825	1072	70	120	60	160	65	45	30	22	4,0	4,5	M10	4	69	M10	4,67	$103,0 \times 10^{-4}$
65	940	1175	1527	70	135	68	185	75	55	35	26	4,5	4,5	M12	4	120	M12	6,70	$191,0 \times 10^{-4}$
75	1920	2400	—	80	160	80	210	85	63	40	30	5,0	5,0	M12	5	120	M12	9,90	$396,8 \times 10^{-4}$
90	3600	4500	—	105	200	104	245	100	75	45	34	5,5	6,5	M16	5	295	M16	17,7	$1136 \times 10^{-4}$

<sup>1)</sup> Other spiders/selection see catalogue "Drive Technology" 2016 on page 18 et seqq.

<sup>2)</sup>  $\phi D_H + 2$  mm with high speeds for expansion of spider

Review of shaft-hub-connection: Friction torques for hub type 6.0 steel

Size		$\phi 10$	$\phi 11$	$\phi 14$	$\phi 15$	$\phi 16$	$\phi 19$	$\phi 20$	$\phi 24$	$\phi 25$	$\phi 28$	$\phi 30$	$\phi 32$	$\phi 35$	$\phi 38$	$\phi 40$	$\phi 42$	$\phi 45$	$\phi 48$	$\phi 50$	$\phi 55^*$	$\phi 60^*$	$\phi 65^*$	$\phi 70^*$	$\phi 80^*$	$\phi 90^*$	$\phi 95^*$	$\phi 100^*$	$\phi 105^*$	
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								358	398	483	416	547	536	625	571	704	851	865											
	H7/h6								299	331	428	320	470	434	537	452	605	778	781											
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	4794	5858	5900	7036	8047	9247	9575	10845
	H7/h6																				3445	—	—	—	—	—	—	—	—	

\* From  $\phi 55$  tolerance G7/m6

With a bigger fit clearance the torque is reduced. For the strength calculation of shaft/hollow shaft see KTR standard 45510 at our homepage at [www.ktr.com](http://www.ktr.com).

Ordering example:	ROTEX® GS 24	98 Sh-A-GS	d20	6.0 Stahl	$\phi 24$	6.0 Stahl	$\phi 20$
		Coupling size	Hardness of spider	Optional: Bore in spider	Type of hub	Finish bore	Type of hub

# ROTEX® GS

## Backlash-free jaw couplings

### Technical description



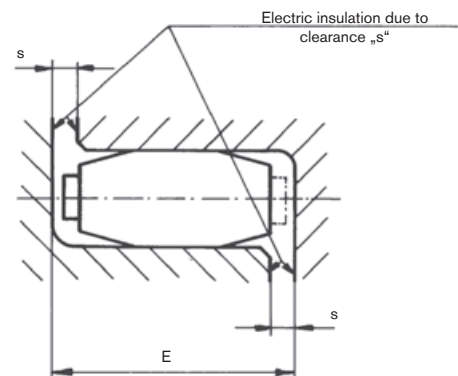
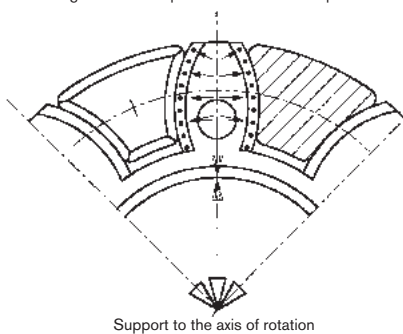
**ROTEX® GS** is a three-part, axial plug-in coupling backlash-free under prestress. It is convincing even with critical applications by its backlash-free power transmission, its stiffness which is each adapted to the application and its optimum damping of vibrations. This principle of installation provides for options of assembly which optimize the assembly times and the production significantly.

#### ROTEX® GS (straight tooth, backlash-free)

The straight spline of the spider mounted under prestress results in a smaller surface pressure and consequently higher stiffness of the coupling system. The flexible teeth compensate for misalignment but are supported radially in the inside diameter by a central web. This avoids too high internal or external deformation with high acceleration or high speeds. This is vital for a smooth operation and a long service life. The pegs arranged reciprocally on the spider prevent the spider from touching the hub over the entire surface. Observing the distance dimension E ensures the ability of the coupling to compensate for displacements.

Observing the clearance „s“ ensures the electrical insulation as well as a long service life of the coupling. This fact is gaining more and more importance, due to the increasing accuracy of shaft encoders and the existing demand for electro-magnetic compatibility.

Limitation by concave cams in case of too high speeds/centrifugal forces and prestress of elastomer parts



#### Notes

- Feather keyways available from a bore  $\geq \varnothing 6$ . Feather keyways acc. to DIN 6885 sheet 1, tolerance JS9.
- Finish bore tolerance H7 (except for clamping hubs), from  $\varnothing 55$  G7 with clamping ring hubs
- Finish bore tolerance H6 for ROTEX® GS P
- Recommended insertion dimension of shafts into coupling hubs: l1/l2; for clamping ring hubs the minimum insertion dimension l3 applies
- Spider with bore available on request. Please specify in the order as specified in the example on page 126.

#### Use in explosive applications

ROTEX® GS couplings are suitable for power transmission on drives in hazardous areas. The couplings are certified and confirmed according to EC standard 94/9/EC (ATEX 95) as units of category 2G/2D and are thus suitable for the use in hazardous areas 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](http://www.ktr.com).

Selection: In case of use in hazardous areas the clamping ring hubs (clamping hubs without feather keyway only for use in category 3<sup>)</sup> must be selected such 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.

# ROTEX® GS

## Backlash-free jaw couplings

### Other types

#### ROTEX® GS Compact



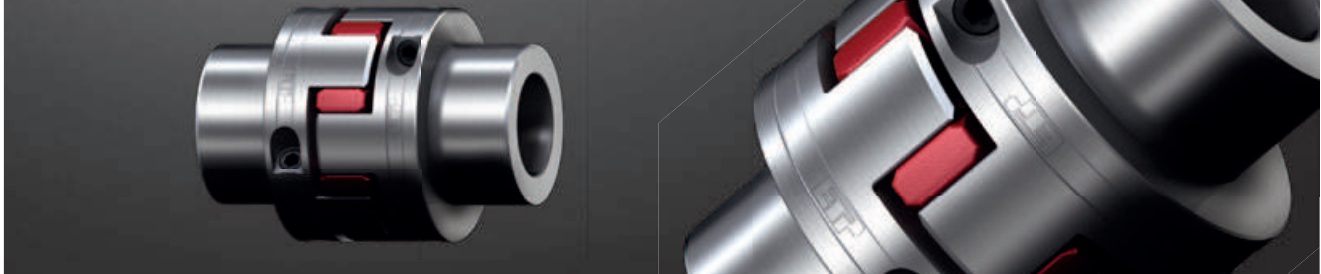
- Shorter than standard types by up to 1/3
- Axial slots, patent pending
- Good concentric running properties
- Uniform power transmission due to cams without slots

#### ROTEX® GS P acc. to DIN 69002



- Highly accurate jaw coupling with integrated clamping system made of steel
- Developed for stub spindles on multiple spindle heads acc. to DIN 69002
- Easy assembly due to internal clamping screws
- Used on main spindle drives with high speeds, peripheral speeds > 50 m/s
- High friction torques

#### ROTEX® GS ETP®

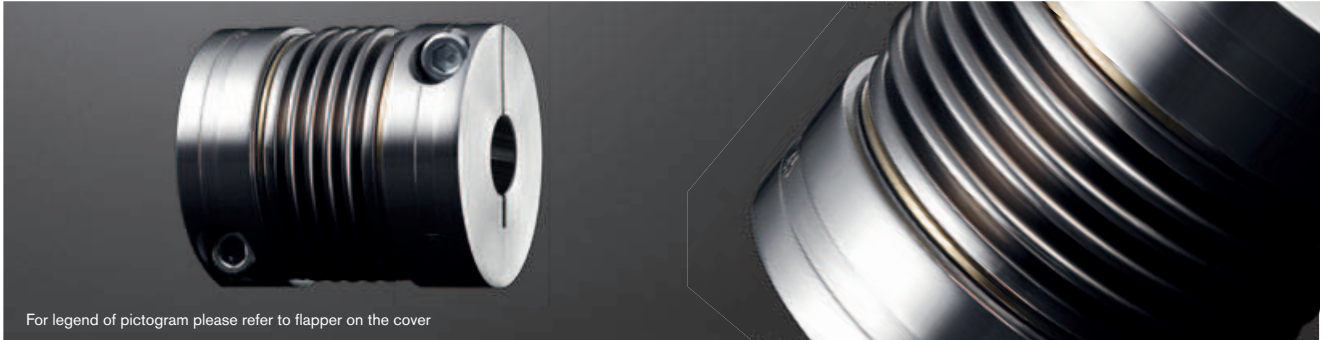


- Backlash-free shaft coupling damping vibrations with integrated quick clamping system ETP
- Fast assembly/disassembly since one screw only needs to be tightened
- Extremely good concentric running properties even after several assemblies
- Assembly/disassembly for thousands of times
- Can be mounted in inaccessible spaces, since the pressure screw is fastened in radial direction towards the shaft
- Small mounting dimensions
- The hub can be set easily and accurately

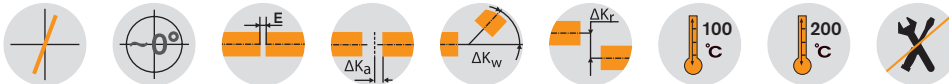
# TOOLFLEX® S

## 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

Size	Dimensions [mm]											
	Min./max. finish bore		General					Clamping screw DIN EN ISO 4762				
	min. d	max. d	L	l <sub>1</sub> ; l <sub>2</sub>	E	D <sub>H</sub>	d <sub>H</sub>	M <sub>1</sub>	D <sub>3</sub>	t <sub>1</sub>	e <sub>1</sub>	T <sub>A</sub> [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 <sup>3)</sup>	20	55	111	40,0	31	100	73	M12	106,0	14	37	120
65 <sup>3)</sup>	30	65	126	45,0	36	125	95	M14	127,2	15	45	185

NEW

#### Technical Data

Size	Bellow-hub connection	Torque of bellow T <sub>KN</sub> <sup>1)</sup> [Nm]	Max. speed n [rpm]	Hub material	Moment of inertia <sup>2)</sup> [x10 <sup>-8</sup> kgm <sup>2</sup> ]	Torsion spring stiffness C <sub>T</sub> [Nm/rad]	Axial spring stiffness [N/mm]	Radial spring stiffness [N/mm]	Perm. displacements			Weight <sup>2)</sup> [kg]
									Axial [mm]	Radial [mm]	Angular [degrees]	
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	Flanged	15	11950	Aluminium	30	9600	63	189	±0,4	0,15	1,0	0,12
30		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 <sup>3)</sup>		340	4800	Stahl	4996	144100	160	894	±1,0	0,25	1,5	3,20
65 <sup>3)</sup>	600	3850	Stahl	13318	322740	212	1365	±1,0	0,30	1,5	5,50	

<sup>1)</sup> For selection see catalogue "Drive Technology" 2016 on page 18 et seqq.

<sup>2)</sup> Details referring to the overall coupling with max. bore

<sup>3)</sup> Hub made of steel welded to bellow

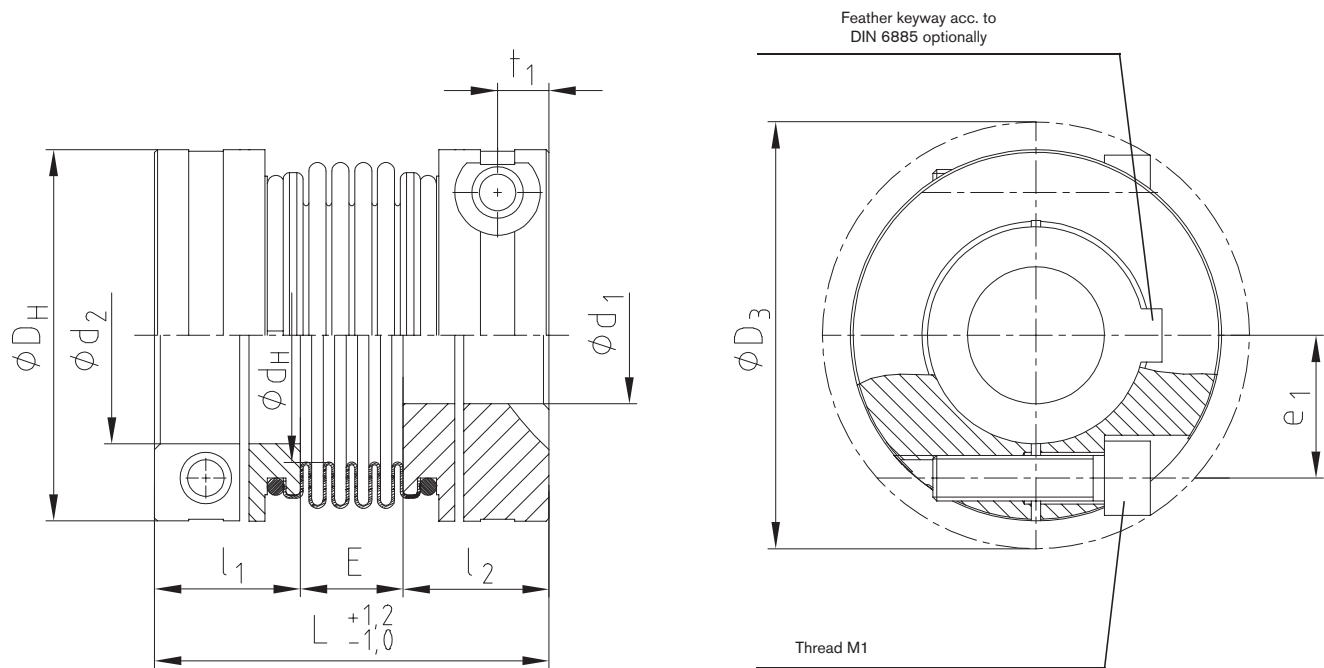
#### Review of shaft-hub-connection: Friction torques for hub type 2.5

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 <sup>3)</sup>																397	401	413	421	429	442	454	462	470	482	502	523				
65 <sup>3)</sup>																					720	732	750	768	780	792	810	840	870	900	930

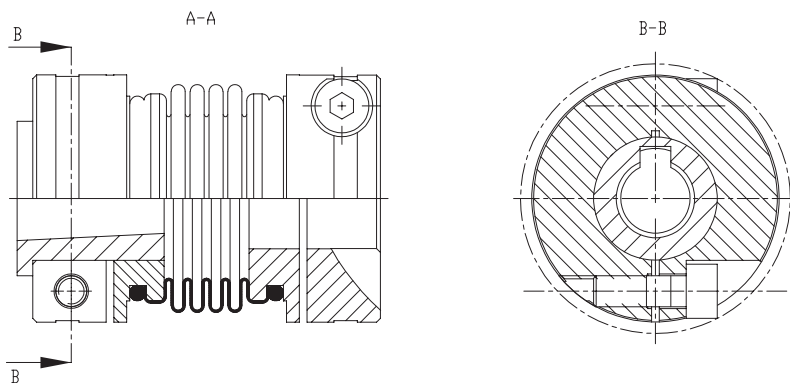
Ordering example:

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





**Other types:**  
Type for FANUC motors



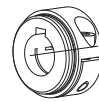
## Types of hubs

Type 2.5



Clamping hub, double slotted, without feather keyway

Type 2.6

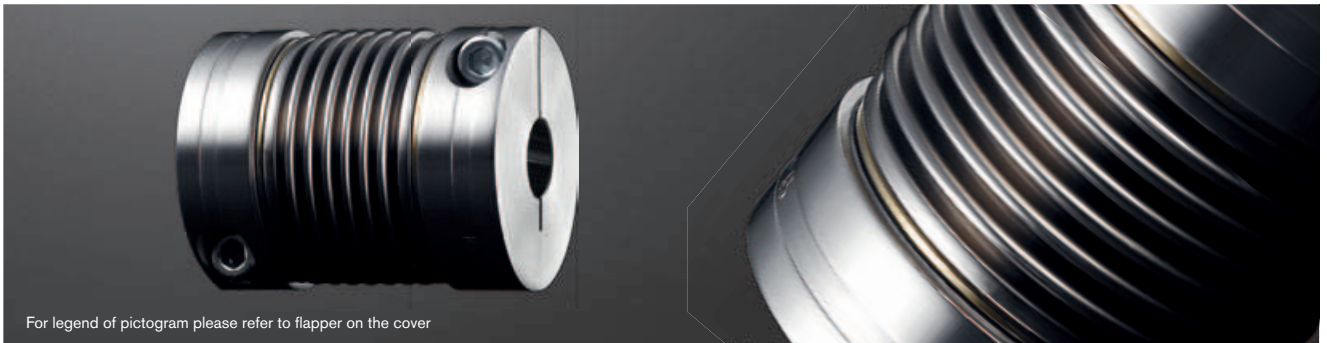


Clamping hub, single slotted, with feather keyway

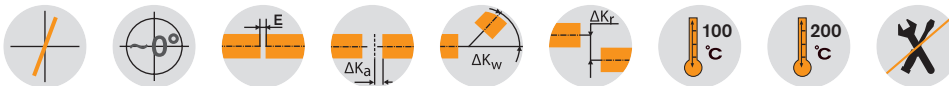
# TOOLFLEX® M

## 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]											
	min./max. finish bore		General					Clamping screw DIN EN ISO 4762				
	min. d	max. d	L	l <sub>1</sub> ; l <sub>2</sub>	E	D <sub>H</sub>	d <sub>H</sub>	M <sub>1</sub>	D <sub>3</sub>	t <sub>1</sub>	e <sub>1</sub>	T <sub>A</sub> [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 <sup>3)</sup>	20	55	125	40,0	45	100	73	M12	106,0	14	37	120
65 <sup>3)</sup>	30	65	142	45,0	52	125	95	M14	127,2	15	45	185

NEW

#### Technical data

Size	Bellow-hub-connection	Torque of bellow T <sub>KN</sub> [Nm] <sup>1)</sup>	Max. speed [rpm]	Hub material	Moment of inertia <sup>2)</sup> [x10 <sup>-8</sup> kgm <sup>2</sup> ]	Torsion spring stiffness CT [Nm/rad]	Axial spring stiffness [N/mm]	Radial spring stiffness [N/mm]	Perm. displacements			Weight <sup>2)</sup> [kg]
									Axial [mm]	Radial [mm]	Angular [°]	
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		340	4800	Aluminium	1706	96100	107	598	±1,1	0,30	2,0	2,0
55 <sup>3)</sup>		340	4800	Steel	5118	96100	107	598	±1,0	0,30	2,0	3,3
65 <sup>3)</sup>		600	3850	Steel	13727	226550	135	910	±2,0	0,35	2,0	5,6

<sup>1)</sup> For selection see catalogue "Drive Technology" 2016 on page 18 et seqq.

<sup>2)</sup> Details referring to the overall coupling with max. bore

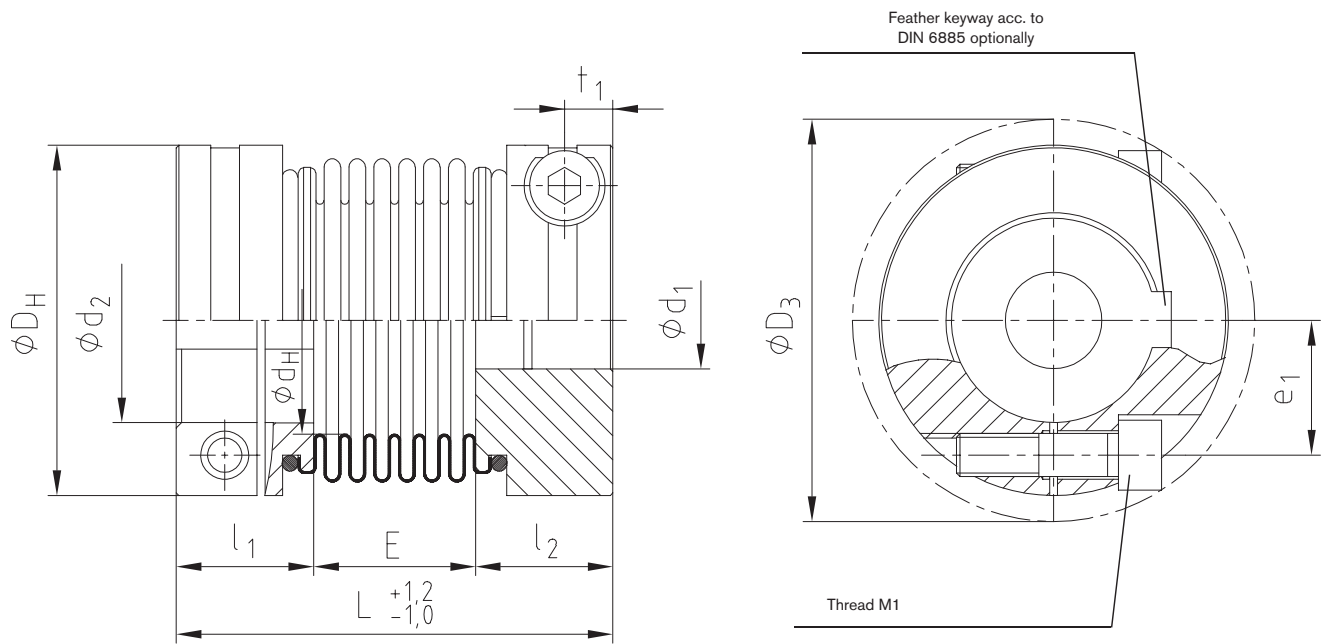
<sup>3)</sup> Hub made of steel welded to bellow

#### Review of shaft-hub-connection: Friction torques for hub type 2.5

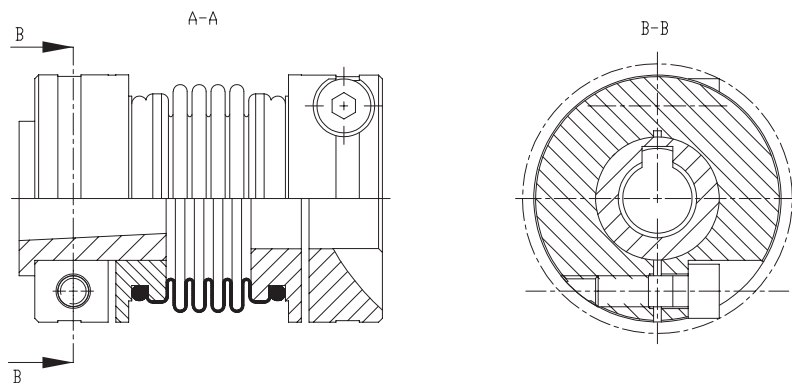
Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø50	Ø55	Ø60	Ø65	
7	0,84	0,91	0,97	1,04	1,10																										
9	1,87	1,98	2,09	2,20	2,31	2,41	2,52																								
12		3,48	3,65	3,81	3,98	4,14	4,31	4,48	4,64	4,81																					
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 <sup>3)</sup>																	397	401	413	421	429	442	454	462	470	482	502	523			
65 <sup>3)</sup>																					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	Type of hub	Finish bore	Type of hub	Finish bore



**Other types:**  
Type for FANUC motors



## Types of hubs

Type 2.5



Clamping hub, double slotted, without feather keyway

Type 2.6



Clamping hub, single slotted, with feather keyway

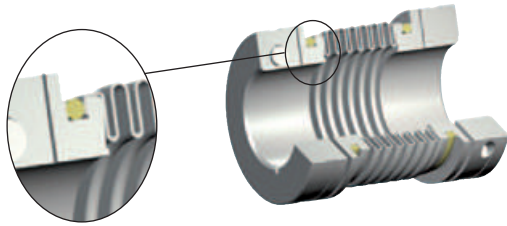
# TOOLFLEX®

## Metal bellow-type couplings

### Technical description

TOOLFLEX® is a metal bellow-type coupling which has proven its worth in the field many times. The metal bellow compensates perfectly 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.

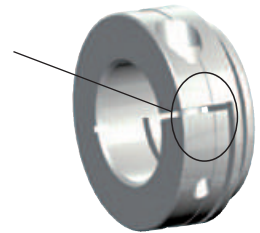
Its main application ranges are both positioning drives, e. g. ball spindles with a high incline, and indexing tables or planetary and worm gears with small gear ratios.



Subject to their well-proven joint procedure a non-positive, backlash-free connection of the aluminium hubs and the multi-layer bellows made of stainless steel is generated. The flanged insert connection for sizes 16 to 55 ensures a torque transmission by 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 or critical operating conditions, respectively.

The well-known shaft-hub-connection by means of 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.

clamping hub with two slots



### Types



Type with thread for setscrews



Type with clamping hubs



Type KN



Type PI



Type CF

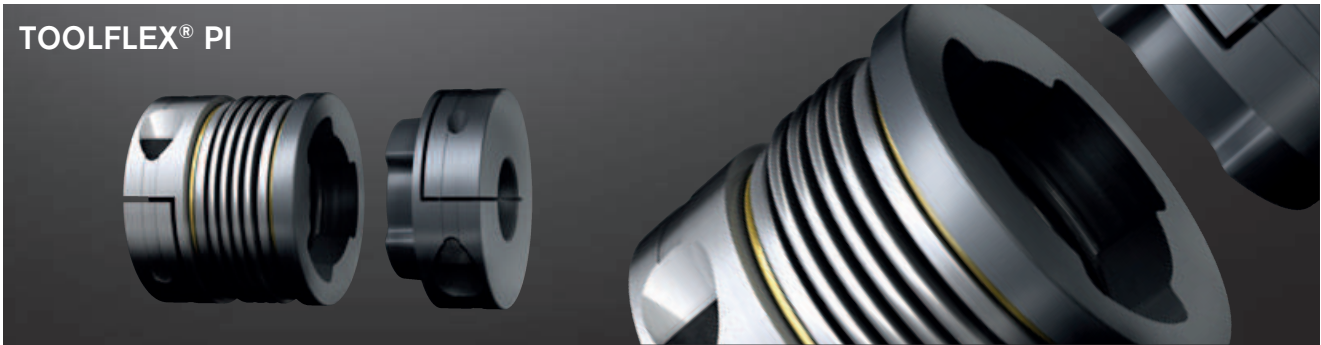
Summary																	
Size	Type	Bellow-hub-connection	Thread for setscrews (hub type 1.0/1.1)			Clamping hubs (hub type 2.5/2.6)			KN			PI			CF		
			Torque of bellow T <sub>KN</sub> [Nm]	Torque of bellow T <sub>K</sub> max. [Nm]	Max. speed [rpm]	Torque of bellow T <sub>KN</sub> [Nm]	Torque of bellow T <sub>K</sub> max. [Nm]	Max. speed [rpm]	Torque of bellow T <sub>KN</sub> [Nm]	Torque of bellow T <sub>K</sub> max. [Nm]	Max. speed [rpm]	Torque of bellow T <sub>KN</sub> [Nm]	Torque of bellow T <sub>K</sub> max. [Nm]	Max. speed [rpm]	Torque of bellow T <sub>KN</sub> [Nm]	Torque of bellow T <sub>K</sub> max. [Nm]	Max. speed [rpm]
5	S	Bonded Maximum ambient temperature 100°C	0,1	0,15	47700												
	M																
7	S		1	1,5	31800	1	1,5	31800									
	M																
9	S		1,5	2,25	23800	1,5	2,25	23800									
	M																
12	S	2	3	19000	2	3	19100										
	M																
16	S	Flanged Maximum ambient temperature 200°C	5	7,5	14900	5	7,5	14900									
	M																
20	S		15	22,5	11900	15	22,5	11950				15	22,5	11950			
	M																
30	S					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	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

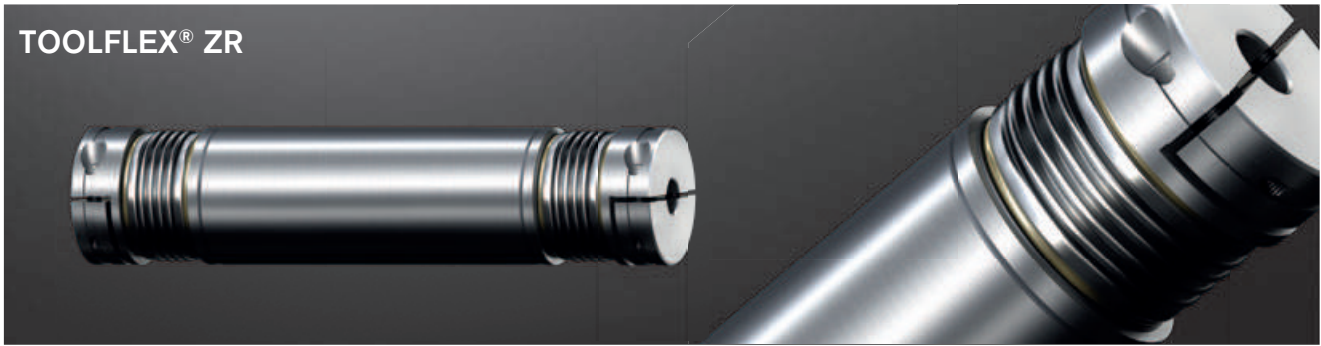
### Other types

#### TOOLFLEX® PI



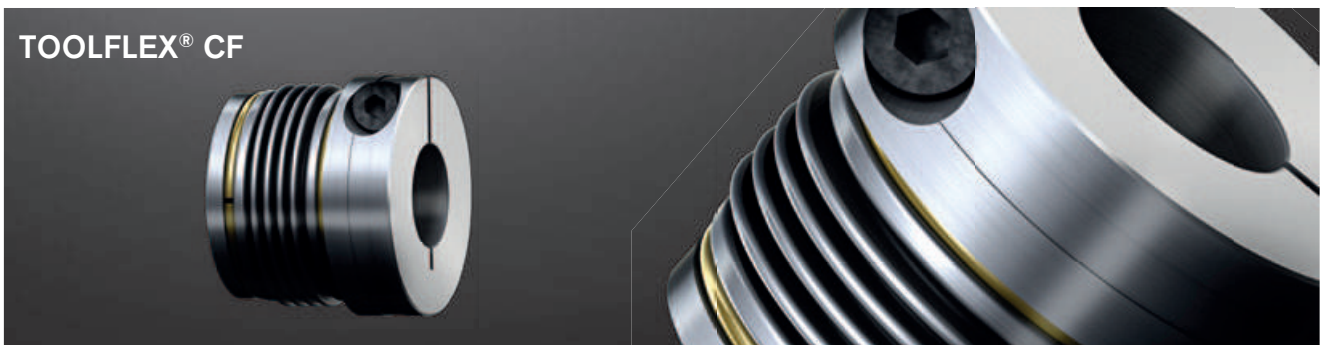
- Axial plug-in
- Optionally available with a short bellow with 4 layers (type S) or bellow with 6 layers (type M)

#### TOOLFLEX® ZR



- Mounting length variable up to 4 metres
- High torsional 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
- Torques higher by 25 % available than with type M
- or type S
- Higher torsional stiffness
- Backlash-free, torsionally rigid
- Maintenance-free
- Suitable for high temperatures (max. 280 °C) subject to welded joints
- Specifically suitable for the use on gearboxes
- Flange-to-shaft connection
- Optionally available with a short bellow with 4 layers (type S) or with 6 layers (type M)
- Torques from 35 - 340 Nm
- Special types available with bellow with 1, 2 or 3 layers

# RADEX®-NC

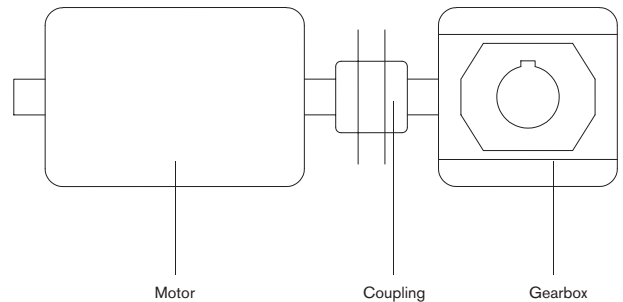
## Servo lamina couplings

### Technical description

RADEX®-NC is a line particularly developed for servo technology. With this coupling a set of torsionally rigid steel laminae that are soft in bending ensures a 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. The RADEX®-NC is manufactured in 7 sizes from size 5 to 42 for max. torques up to 360 Nm. The hubs are frictionally engaged clamping hubs made of aluminium (size 42 made of steel) and thus provide for backlash-free operation even with reversing operation.



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



### Use in explosive applications

RADEX®-NC couplings are suitable for power transmission in drives in hazardous areas. The couplings are certified and confirmed according to EC standard 94/9/EC (ATEX 95) as units of category 2G/2D and thus suitable for the use in hazardous areas of zone 1, 2, 21 and 22. Please read through our specifications included in the respective Type Examination Certificate and the operating and mounting instructions at [www.ktr.com](http://www.ktr.com).

Selection:

If used in hazardous areas the clamping hubs without feather keyway, only for use in category 3 (with feather keyway for category 2), must be selected in a way 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.



### Hub types



Type 2.5 Clamping hub double slot, without feather keyway  
Frictionally engaged, backlash-free shaft-hub-connection. Transmittable torques depend on bore diameter.



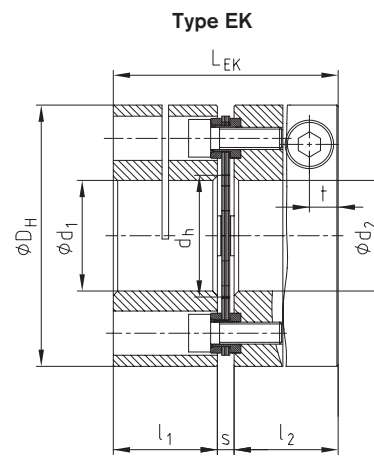
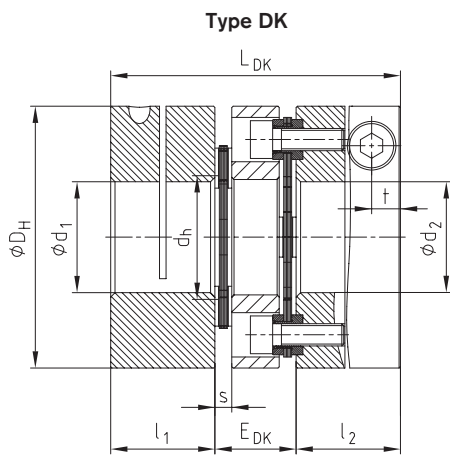
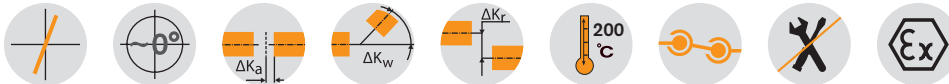
Type 2.6 Clamping hub double slot, with feather keyway  
Positive locking power transmission with additional frictionally engaged condition. The frictionally engaged condition prevents or reduces reverse backlash, respectively. Surface pressure of the keyway connection is reduced.

# RADEX®-NC DK and EK Servo lamina couplings

## Double- and single-cardanic types



For legend of pictogram please refer to flapper on the cover



RADEX®-NC types DK and EK Hub and spacer material aluminium (size 42 steel) / lamina stainless steel														
Size	Dimensions [mm]										Clamping screw		Mass moments of inertia	
	max. d1/d2	DH	l1:l2	LDK	EDK	LEK	dh	s	t	M	TA [Nm]	DK [kgm²]	EK [kgm²]	
5	12	26	12	34	10	26,5	12	2,5	3,5	M2,5	0,8	0,000004	0,000003	
10	15	35	16	44	12	35	14,5	3	5,0	M4	3	0,000016	0,000012	
15	20	47	21	55	13	45	19,5	3	6,8	M6	10	0,000065	0,000053	
20	25	59	24	67	19	52	24	4	6,5	M6	10	0,000199	0,000154	
25	35	70	32	88	24	69	30	5	9,0	M8	25	0,000508	0,000393	
35	42	84	35	98	28	77	38	7	10,5	M10	49	0,001153	0,000911	
42	55	104	40	116	36	91	48	11	10,5	M10	69	0,007458	0,006153	

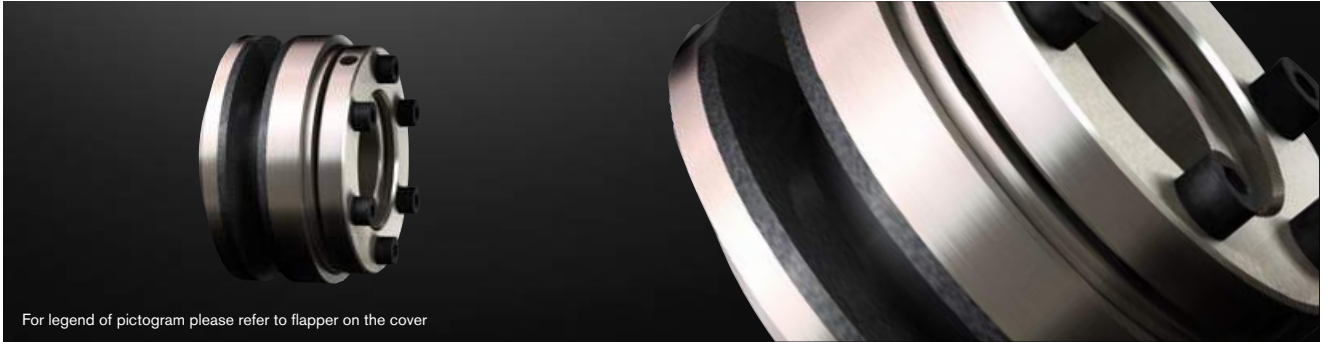
Technical data												
Size	TKN <sup>1)</sup> [Nm]	TK max <sup>1)</sup> [Nm]	Max. speed [rpm <sup>-1</sup> ]	Torsion spring rigidity [Nm/rad]			Displacement type DK			Displacement type EK		
				Type EK	Type DK	Radial [mm]	Axial [mm]	Angle each lamina [°]	Radial [mm]	Axial [mm]	Angle each lamina [°]	
5	2,5	5	25000	2400	1200	0,10	0,4	1	—	0,2	1	
10	7,5	15	20000	5600	2800	0,14	0,8	1	—	0,4	1	
15	20	40	16000	12000	6000	0,16	1,0	1	—	0,5	1	
20	30	60	12000	30000	15000	0,25	1,2	1	—	0,6	1	
25	60	120	10000	60000	30000	0,30	1,6	1	—	0,8	1	
35	100	200	9000	72000	36000	0,40	2,0	1	—	1,0	1	
42	300	600	7000	240000	120000	0,50	2,8	1	—	1,4	1	

<sup>1)</sup> See catalogue "Drive Technology" 2016 on page 18 et seqq.

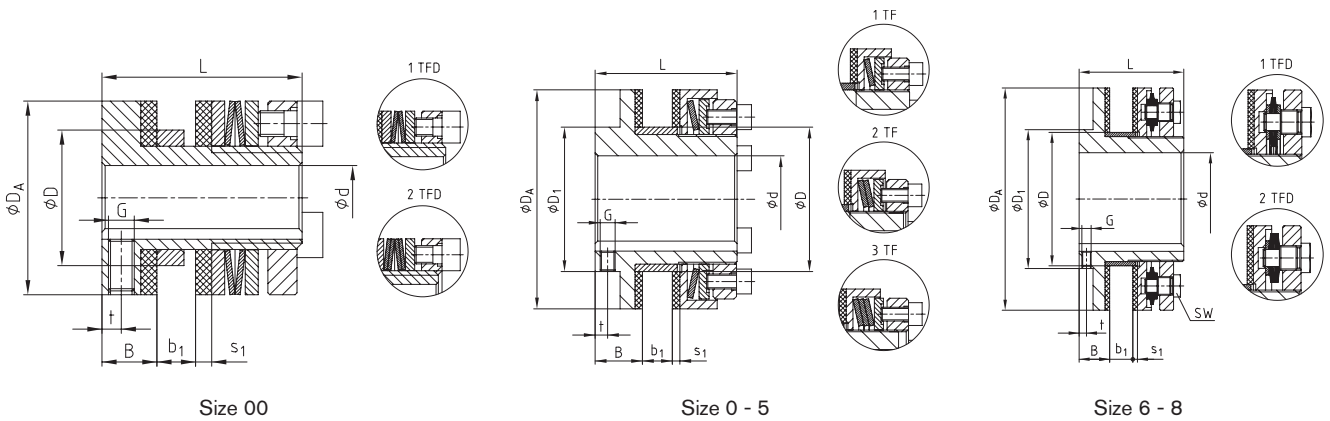
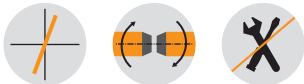
Review of shaft-hub-connection: Friction torques for hub type 2.5																						
Size	Pilot bored	Ø3	Ø5	Ø8	Ø10	Ø12	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø45	Ø50	Ø55
5	2,5	2,2	2,3	2,4	2,5																	
10	4,5		8	9	10	10	11	11														
15	5,5				28	30	31	32	32	34	35											
20	7,5					36	37	38	39	40	41	44	45									
25	9,5							82	83	87	88	93	94	98	100	103	106					
35	11,5									155	157	165	167	173	177	181	187	193	197			
42	15,0											285	287	296	301	307	315	323	329	343	357	370

Ordering example:	RADEX®-NC 20	DK	2.5	Ø20	2.5	Ø25
	Coupling size	Type	Type of hub	Finish bore	Type of hub	Finish bore

## Standard width of drive component



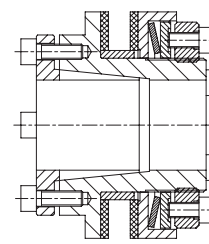
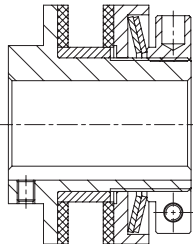
For legend of pictogram please refer to flapper on the cover



Technical data – Dimensions																
Size	Max. speed <sup>4)</sup> [rpm]	Torques [Nm]			Dimensions [mm]											
					Bore d		Drive component b <sub>1</sub>						Setscrew			
		1TF	2TF	3TF <sup>3)</sup>	Pilot bore	max.	D <sup>2)</sup>	D <sub>1</sub>	D <sub>A</sub>	B	Min.	max.	S <sub>1</sub>	L	t	G
00	10000	0,5-3	1-5	–	–	10	21	30	30	8,5	2	6	2,5	31	3	M4
0	8500	2-10	4-20	–	–	20 <sup>1)</sup>	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

<sup>1)</sup> Finish bore exceeding Ø19, keyway to DIN 6885 sheet 3  
<sup>2)</sup> Bore tolerance (drive component): F8 with size 00-4, H8 with size 5-8  
<sup>3)</sup> With clamping setting nut, to be used on types with limited dimensions only  
<sup>4)</sup> See catalogue "Drive Technology" 2016 on comments on page 230.

On request:



- with clamping setting nut for size 00 – 5. (standard with 3TF)
- for radial torque setting
- with taper bush (hub design 4.5)
- frictionally engaged shaft-hub-connection

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



# RUFLEX®

## Torque limiters

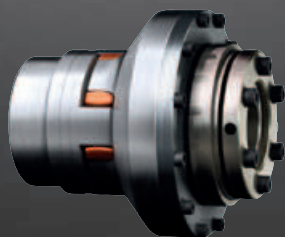
### Other types

#### RUFLEX® with sprocket



- Torque limiter with integrated sprocket
- Overload protection up to 800 Nm
- Components ready for assembly
- Customized torque to be set by the manufacturer available
- Available with standard sprockets from stock
- Other types of sprockets available according to customers' request

#### RUFLEX® with torsionally flexible ROTEX®



- Torque limiter for shaft-to-shaft connections
- Torsionally flexible flange coupling compensating for displacements
- Axial plug-in
- Easy setting of slipping torque via usual tools
- Overload protection up to 6,800 Nm

#### RUFLEX® with torsionally rigid BoWex®



- Torque limiter as a torsionally rigid, double-cardanic shaft-to-shaft connection
- Compensating for large displacements due to its double-cardanic design
- Low-cost protection of torque for shaft-to-shaft connection
- Axial plug-in
- Easy setting of slipping torque via usual tools
- Overload protection up to 400 Nm

# KTR-SI Overload systems

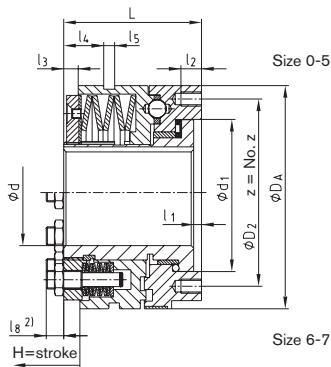
## Flange type



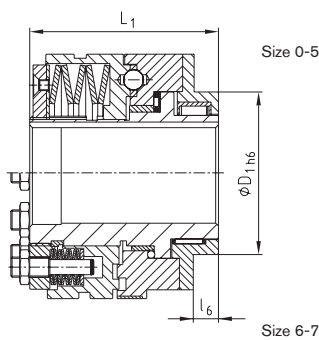
For legend of pictogram please refer to flapper on the cover



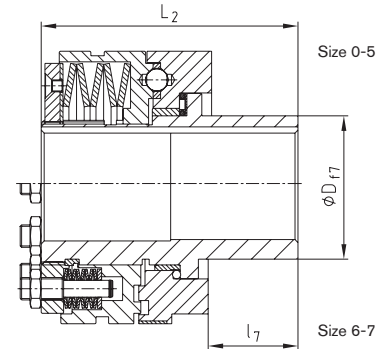
Type FT



Type KT



Type LT



### 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	$n_{\text{max.}}$ [rpm] <sup>3)</sup>	
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	48	55	4,0	6,5	3,0	7,5	9	8	27,5	38,5	51,0	66,0	6xM5	1,4	1,2	0,6	1,6
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 <sup>1)</sup>	3,7	2,5	1,2	3,8
5	30	65	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 <sup>2)</sup>	4,6	3,0	1,6	4,5
6 <sup>2)</sup>	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 <sup>2)</sup>	5,0	3,5	2,5	-
7 <sup>2)</sup>	50	100	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 <sup>3)</sup>	5,5	4,0	2,7	-

<sup>1)</sup> Type T4 SR and SGR: tightening torques according to 12.9

<sup>2)</sup> Size 6: dimension  $l_8 = 15$  mm, size 7: dimension  $l_8 = 21$  mm

<sup>3)</sup> See catalogue "Drive Technology" 2016 on comments on page 230

### Ordering example:

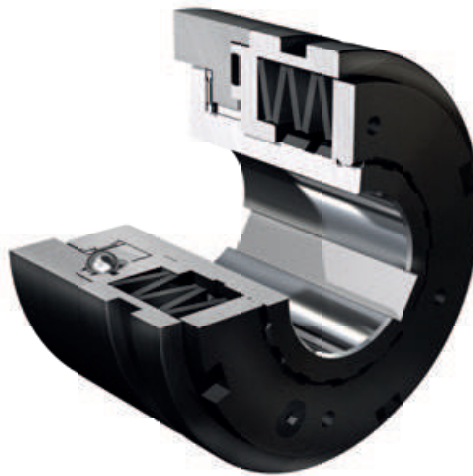
KTR-SI 2	FR	FT	T2	d Ø20	40 Nm
Type / size	Type [DK/SR/SGR]	Type	Disk spring layer	Bore	Torque set

# KTR-SI

## Overload systems

### Structure and operation

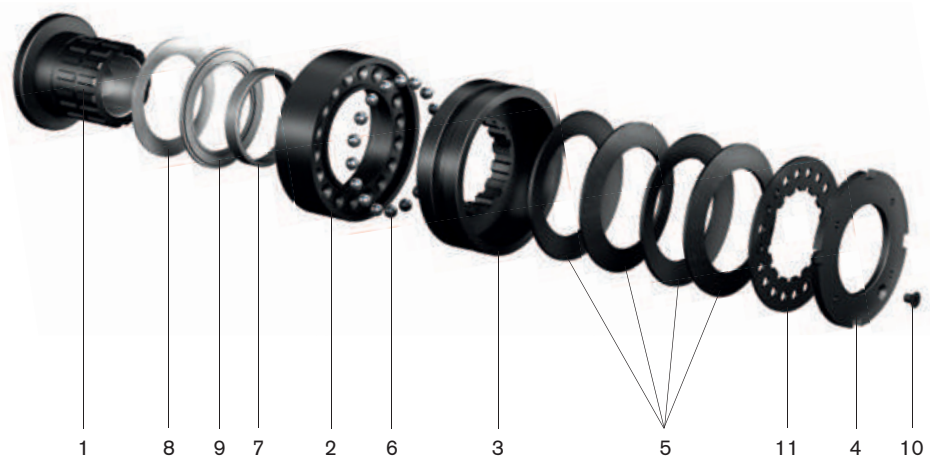
- Overload protection up to 8,200 Nm
- Available as a ratchet, synchronous and fail-safe design with the same dimensions
- Reduction of torque peaks
- High repeating accuracy even after a long operation period
- Disconnection of the drive with overload by retrieving limit switch
- Automatically operative



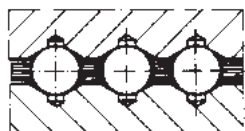
- Different types also suitable for your application
- Easy assembly and torque setting
- Maintenance-free
- Insensitive to oil and grease
- High service life due to high-quality materials

In case of overload the ratchet parts (balls or rollers) leave their indentations, and a relative motion between the driving and driven side is generated. In this way damages caused by overload are avoided. The shift ring (3) makes an axial motion to the switching travel „S“ and activates the limit switch or proximity initiator. The signal can be used for control functions or for disconnection of the drive. For restarting we would recommend to bypass the limit switch or proximity initiator electrically for a short time.

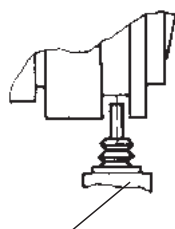
Component	Description
1	Hub
2	Flange ring
3	Shift ring
4	Setting nut
5	Disk spring
6	Ball retainer
7	Slide bush
8	Axial disk
9	Axial needle bearing
10	Setscrew
11	Locking washer



#### No signal with normal operation

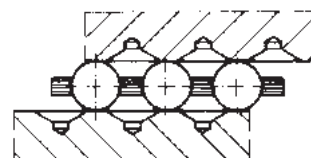


Engaged

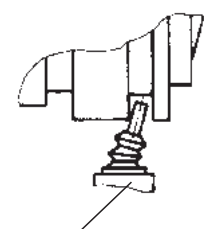


Limit switch

#### Signal with overload



Disengaged



Limit switch

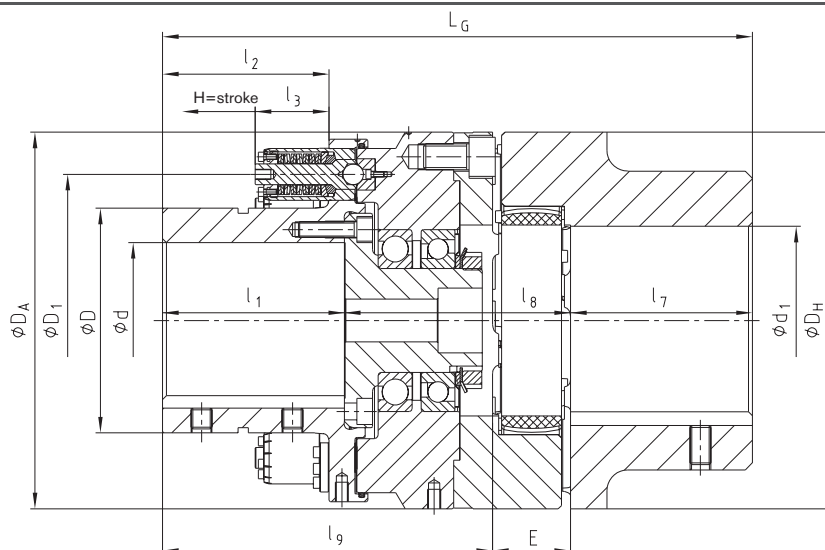
# KTR-SI FRE

## Idle rotating overload system

With torsionally flexible ROTEX®



For legend of pictogram please refer to flapper on the cover



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	1T2	1000	4000	2000	8000	-	-
	1T3	2000	5500	4000	11000	-	-
12	1T2	1300	5000	2600	10000	3900	15000
	1T3	2400	6700	4800	13400	7200	20100
15	1T2	1700	6000	3400	12000	5100	18000
	1T3	3000	8200	6000	16400	9000	24600
20	2T2	5000	15000	10000	30000	15000	45000
	2T3	10000	20000	20000	40000	30000	60000

Technical data – Dimensions																						
Size <sup>1)</sup>	ROTEX®			Max. bore		Dimensions [mm]														T <sub>A</sub> [Nm]	Speed <sup>2)</sup> [rpm]	Weight with max. bore [kg]
	Size	Torque [Nm] 64 Sh-D <sup>3)</sup>		d	d <sub>1</sub>	D	D <sub>1</sub>	D <sub>H</sub>	D <sub>A</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>7</sub>	l <sub>8</sub>	l <sub>9</sub>	E	L <sub>G</sub>	H=stroke				
		T <sub>KN</sub>	T <sub>Kmax</sub>																			
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	125	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	

<sup>1)</sup> Other sizes available on request

<sup>2)</sup> Higher speeds available on request, see catalogue "Drive Technology" 2016 on comments on page 230

<sup>3)</sup> See catalogue "Drive Technology" 2016 on selection of ROTEX® coupling on page 10 et seqq.

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

# KTR-SI FRE

## Idle rotating overload system

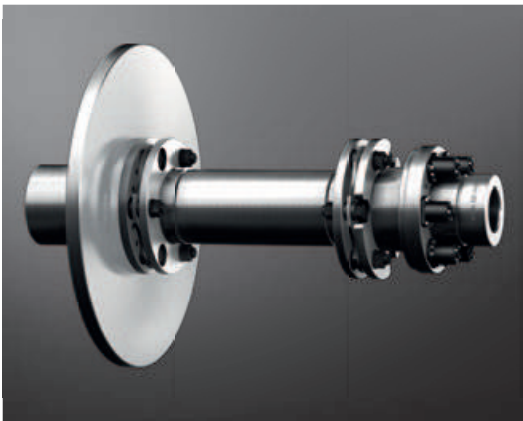
### Other types



KTR-SI FRE with GEARex® and integrated brake disk



KTR-SI FRE with REVOLEx® and limitation of axial backlash



KTR-SI FRE with RADEX®-N and integrated brake disk



KTR-SI FRE with sprocket

# SYNTEX®

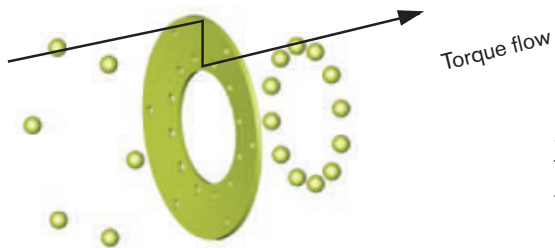
## Backlash-free overload systems

### Structure and operation

- Backlash-free, torsionally rigid overload protection, suitable for reversing drives
- Disconnection of the drive in case of overload
- Reduction of torque peaks
- High repeating accuracy even after a long operation period
- Easy integration of customers' 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 applications
- 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 operative



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

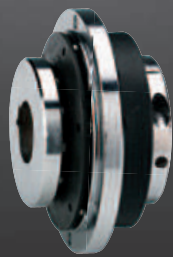


# SYNTEX®

## Backlash-free overload systems

### Other types

#### SYNTEX® Flange type



- Overload system with positive locking operation suitable for torques up to 400 Nm
- Backlash-free, torsionally rigid
- High repeating accuracy
- Available as 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
- Reduction of components and cost by integrated sprocket
- Torque setting while in place

#### SYNTEX® With toothed belt pulley



- Backlash-free overload system with integrated toothed belt pulley
- Available ready for assembly with the torque set
- Available as a synchronous and ratchet design
- Torque setting while in place
- Reduction of components and cost by integrated toothed belt pulley

# SYNTEX®-NC

## Backlash-free overload systems

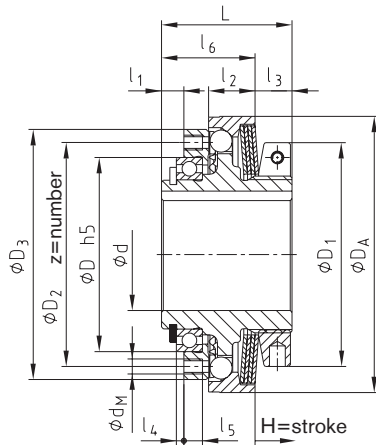
### Type of hub



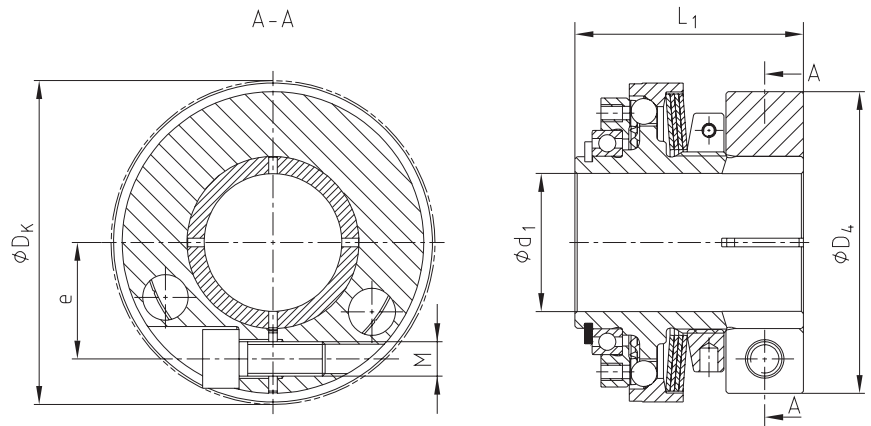
For legend of pictogram please refer to flapper on the cover



Hub type 1.0 (keyway to DIN 6885)



Hub type 6.1 (clamping ring)



#### Technical data – Dimensions

Size	Max. speed [rpm] <sup>3)</sup>	Torques [Nm]			Max. bore d	Dimensions [mm]														
		T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>		Dh5	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>A</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	L	z x dM	H-stroke	
25	3000	9 - 15	20 - 35	40 - 65	22 <sup>1)</sup>	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	30 <sup>1)</sup>	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	38 <sup>1)</sup>	65	72	75	83	90	7	16	11,2	2	6	31,8	43	8xM5	1,5	

#### Dimensions of hub type 6.1

Size	Bore d1		Dimensions [mm]						T <sub>A</sub> [Nm]	Weight with max. bore [kg]	Mass moment of inertia <sup>2)</sup> J <sub>total</sub> [kgm <sup>2</sup> ]
	Pilot bore	max.	D <sub>4</sub>	D <sub>K</sub>	L <sub>1</sub>	e	M				
25	9,5	25	55	-	45	21	M6	14	0,282	0,14 x 10 <sup>-3</sup>	
32	13,5	32	70	-	53	27	M8	34	0,471	0,35 x 10 <sup>-3</sup>	
42	18,5	42	86	91,2	63	33	M10	67	0,815	0,95 x 10 <sup>-3</sup>	

#### Transmittable friction torques TR [Nm] of hub type 6.1

Size	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø36	Ø38	Ø40	Ø42
25	34	41	48	63	71	79	55	61	67	79	92	98								
32					87	95	118	130	143	169	132	143	174	197	220					
42									170	203	238	257	314	354	301	353	371	407	444	482

<sup>1)</sup> Max. bore, feather keyway acc. to DIN 6885 sheet 3

<sup>2)</sup> With maximum bore

<sup>3)</sup> See catalogue "Drive Technology" 2016 on comments on page 230.

#### Ordering example:

SYNTEX®-NC 32	SK	6.1	T3	d <sub>1</sub> Ø25	120
Type / size	Type [DK/SK]	Type of hub	Disk springs	Bore	Torque set

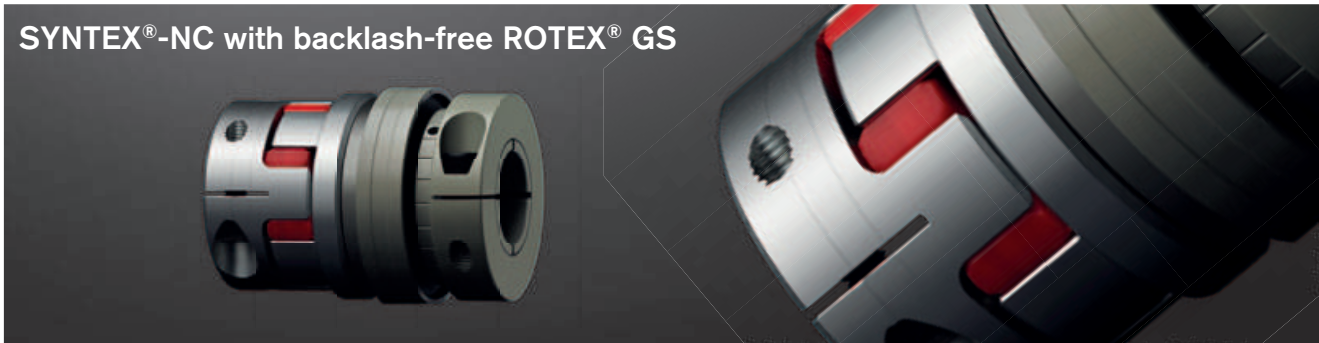


# SYNTEX®-NC

## Backlash-free overload systems

### Other types

#### SYNTEX®-NC with backlash-free ROTEX® GS



- Overload system in combination with the backlash-free ROTEX® GS
- Short design
- Torsionally flexible, able to compensate for misalignment
- Axial plug-in
- Electric insulation

#### SYNTEX®-NC with torsionally rigid TOOLFLEX®



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

### Operating principle

- Backlash-free torque transmission
- Light-weight design
- Declining spring characteristic
- Overload protection up to 265 Nm
- Lower mass moment of inertia
- Large bore diameters
- Short reaction 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 ROTEX®-GS or backlash-free, torsionally rigid TOOLFLEX®
- Direct assembly of toothed belt pulley, as an example, possible (integrated groove ball bearing)

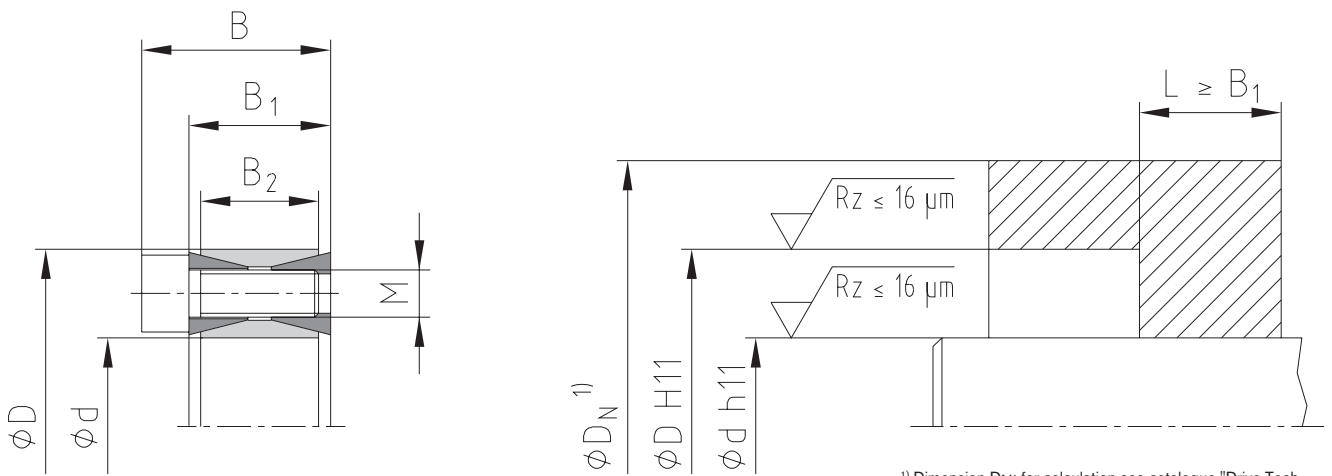
# CLAMPEX® KTR 100

## Clamping elements

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

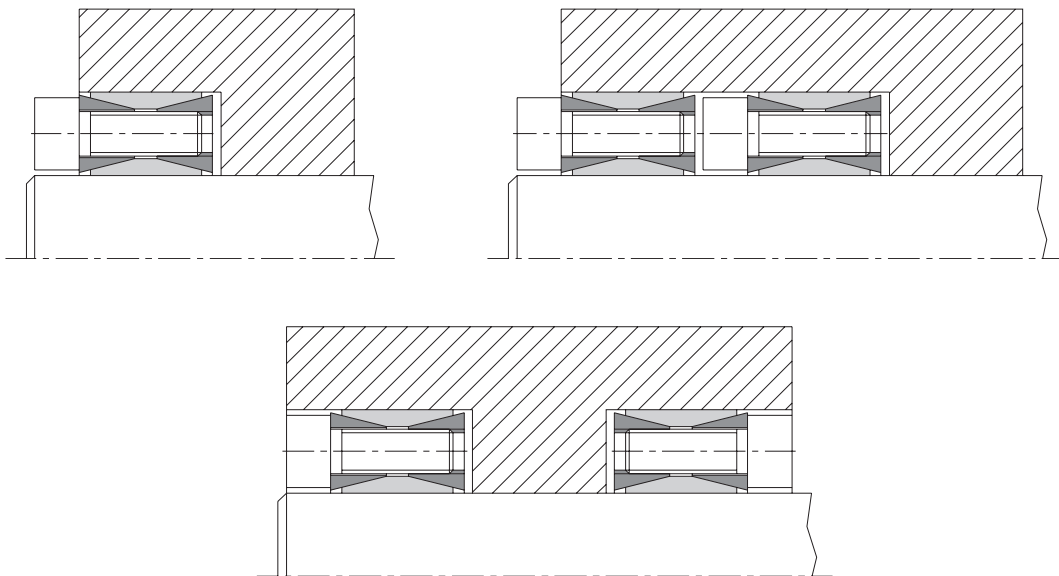


For legend of pictogram please refer to flapper on the cover



<sup>1)</sup> Dimension  $D_N$ : for calculation see catalogue "Drive Technology" 2016 on page 267-269.

### Example of application of hub type



● Sizes of clamping elements available from stock.

<sup>1)</sup> These are the maximum screw tightening torques. They can be reduced by a maximum of 40% of the aforementioned figures with  $T$ ,  $F_{ax}$ ,  $P_W$  and  $P_N$  being reduced proportionally.

<b>Ordering example:</b>	KTR 100	50	x	80
	Series	Size of inside diameter d		Size of outside diameter D

**CLAMPEX® – KTR 100**

	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	
	d x D [mm]	B	B <sub>1</sub>	B <sub>2</sub>	M	Length	Number z	T <sub>A</sub> [Nm] <sup>1)</sup>	T [Nm]	F <sub>ax</sub> [kN]	Shaft P <sub>W</sub> [N/mm <sup>2</sup> ]			Hub P <sub>N</sub> [N/mm <sup>2</sup> ]
<b>NEW</b>	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	180	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	●
<b>NEW</b>	620 x 730	130	102	96	M24	90	52	1130	1186200	3826	171	145	93	●
<b>NEW</b>	640 x 750	130	102	96	M24	90	54	1130	1271600	3974	172	146	96	●
<b>NEW</b>	660 x 770	130	102	96	M24	90	56	1130	1359900	4121	173	148	99	●
<b>NEW</b>	680 x 790	130	102	96	M24	90	56	1130	1401100	4121	167	144	102	●
<b>NEW</b>	700 x 810	130	102	96	M24	90	60	1130	1545400	4415	174	151	104	●
<b>NEW</b>	720 x 830	130	102	96	M24	90	60	1130	1589500	4415	169	147	107	●
<b>NEW</b>	740 x 850	130	102	96	M24	90	62	1130	1688100	4562	170	148	110	●
<b>NEW</b>	760 x 870	130	102	96	M24	90	64	1130	1789700	4710	171	150	113	●
<b>NEW</b>	780 x 890	130	102	96	M24	90	65	1130	1865500	4783	169	149	116	●
<b>NEW</b>	800 x 910	130	102	96	M24	90	66	1130	1942700	4857	168	147	118	●
<b>NEW</b>	820 x 930	130	102	96	M24	90	68	1130	2051600	5004	169	149	121	●
<b>NEW</b>	840 x 950	130	102	96	M24	90	70	1130	2163500	5151	169	150	124	●
<b>NEW</b>	860 x 970	130	102	96	M24	90	72	1130	2278300	5298	170	151	127	●
<b>NEW</b>	880 x 990	130	102	96	M24	90	74	1130	2396000	5445	171	152	129	●
<b>NEW</b>	900 x 1010	130	102	96	M24	90	75	1130	2483600	5519	169	151	132	●
<b>NEW</b>	920 x 1030	130	102	96	M24	90	76	1130	2572600	5593	168	150	135	●
<b>NEW</b>	940 x 1050	130	102	96	M24	90	78	1130	2697700	5740	169	151	138	●
<b>NEW</b>	960 x 1070	130	102	96	M24	90	80	1130	2825800	5887	169	152	140	●
<b>NEW</b>	980 x 1090	130	102	96	M24	90	81	1130	2920700	5961	168	151	143	●
<b>NEW</b>	1000 x 1110	130	102	96	M24	90	82	1130	3017100	6034	167	150	146	●

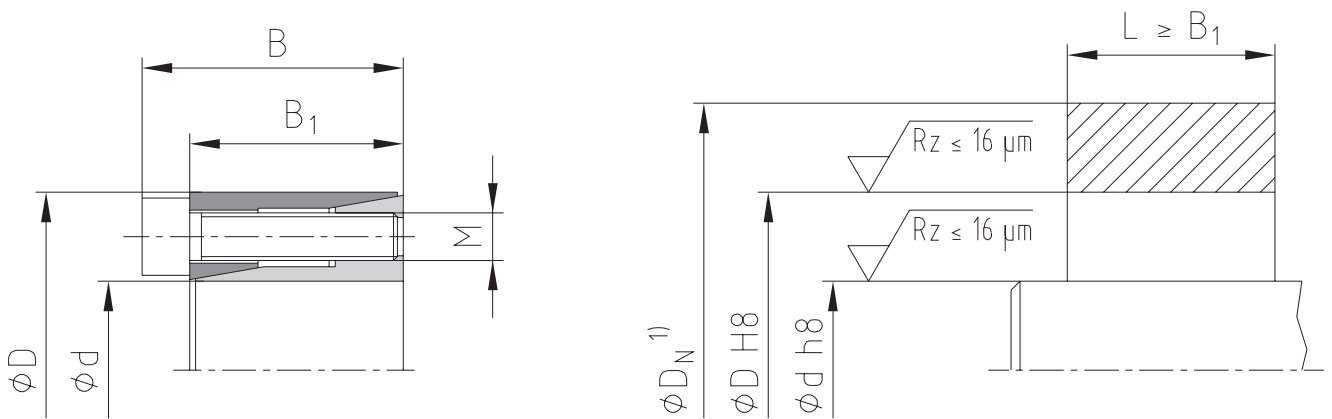
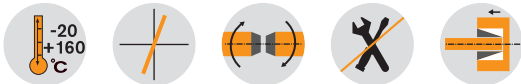
# CLAMPEX® KTR 105

## Clamping elements

### Self-centering clamping element in a compact design

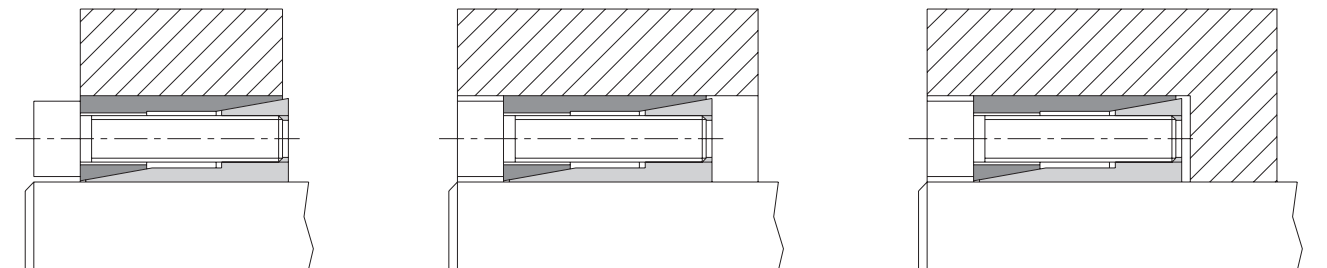


For legend of pictogram please refer to flapper on the cover



<sup>1)</sup> Dimension  $D_N$ ; for calculation see catalogue "Drive Technology" 2016 on page 267-269.

#### Example of application of hub type



Ordering example:

KTR 105	8	x	18
Series	Size of inside diameter d		Size of outside diameter D

# CLAMPEX® KTR 105

## Clamping elements

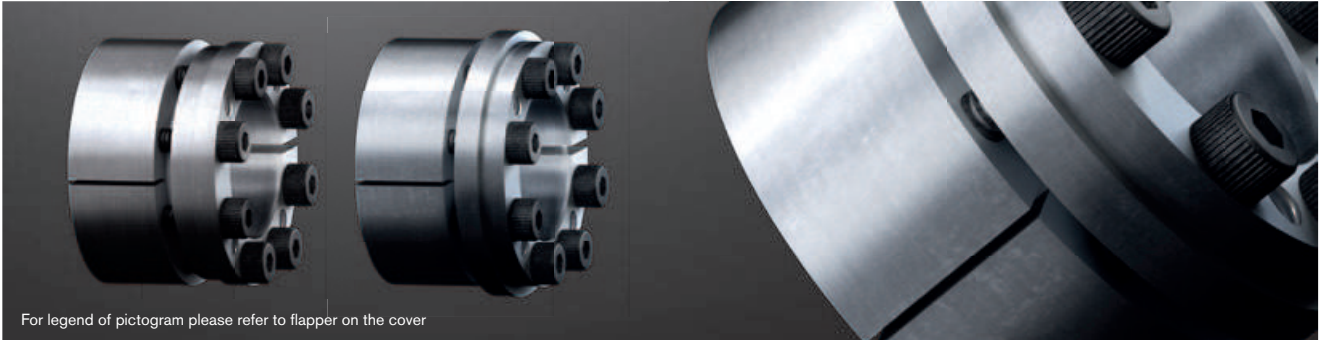
CLAMPEX® – KTR 105													
d x D [mm]	Dimensions [mm]		Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{\text{tpal}}=0,14$				Transmittable torque or axial force			Surface pressure between clamping element		Weight [-kg]	Stock programme
	B	B1	M	Length	Number z	$T_A$ [Nm] <sup>1)</sup>	T [Nm]	$F_{\text{ax}}$ [kN]	Shaft $P_W$ [N/mm <sup>2</sup> ]	Hub $P_N$ [N/mm <sup>2</sup> ]			
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.

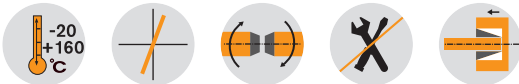
<sup>1)</sup> These are the maximum screw tightening torques. They can be reduced by a maximum of 40% of the aforementioned figures with  $T$ ,  $F_{\text{ax}}$ ,  $P_W$  and  $P_N$  being reduced proportionally.

# CLAMPEX® KTR 200 and KTR 201 Clamping elements

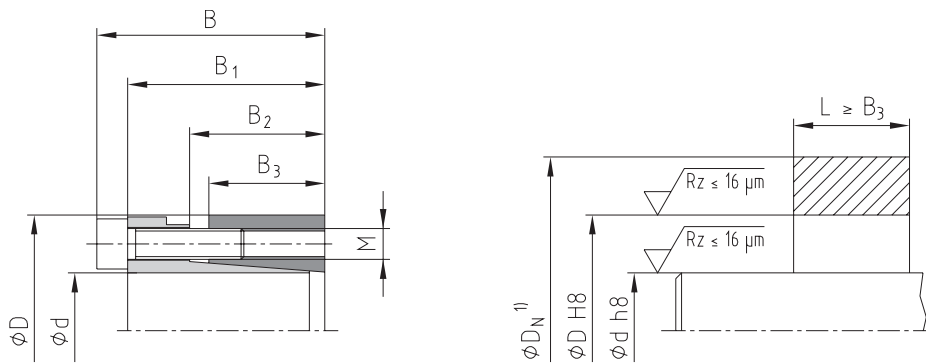
Self-centering clamping elements with a wide range of applications



For legend of pictogram please refer to flapper on the cover

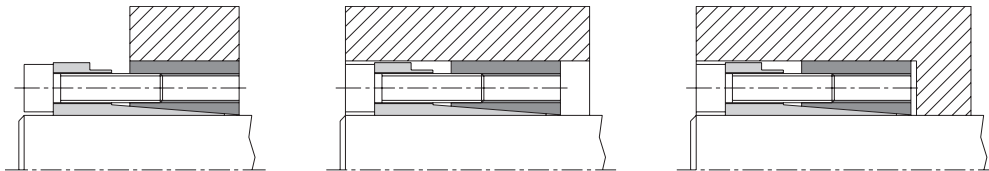


## KTR 200

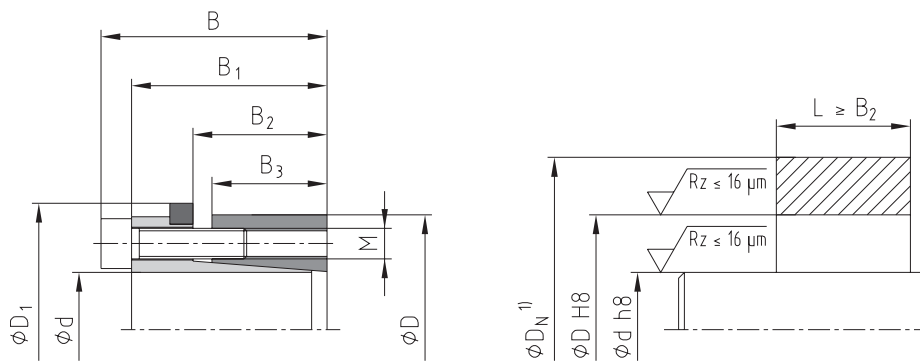


<sup>1)</sup> Dimension DN: for calculation see catalogue "Drive Technology" 2016 on page 267-269.

### Example of application of hub type

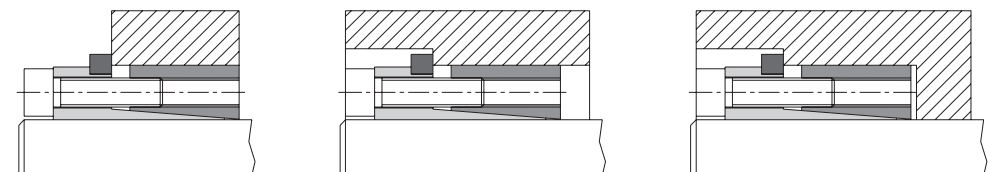


## KTR 201



<sup>1)</sup> Dimension DN: for calculation see catalogue "Drive Technology" 2016 on page 263-265.

### Example of application of hub type



Ordering  
example:

KTR 200	40	x	65
Series	Size of inside diameter d		Size of outside diameter D

# CLAMPEX® KTR 200 and KTR 201

## Clamping elements

CLAMPEX® – KTR 200 und KTR 201																						
d x D [mm]	Dimensions [mm]					Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{\text{tptal}}=0,14$				KTR 200				KTR 201								
						M	Length	z No. z	T <sub>A</sub> [Nm] <sup>1)</sup>		T [Nm]	F <sub>ax</sub> [kN]	Surface pressure between clamping element		T [Nm]	F <sub>ax</sub> [kN]	Surface pressure between clamping element		Weight [-kg]	Stock programme		
	KTR 200	KTR 201	Shaft P <sub>W</sub> [N/mm <sup>2</sup> ]	Hub P <sub>N</sub> [N/mm <sup>2</sup> ]	Shaft P <sub>W</sub> [N/mm <sup>2</sup> ]				Hub P <sub>N</sub> [N/mm <sup>2</sup> ]													
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	0,6	●	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.

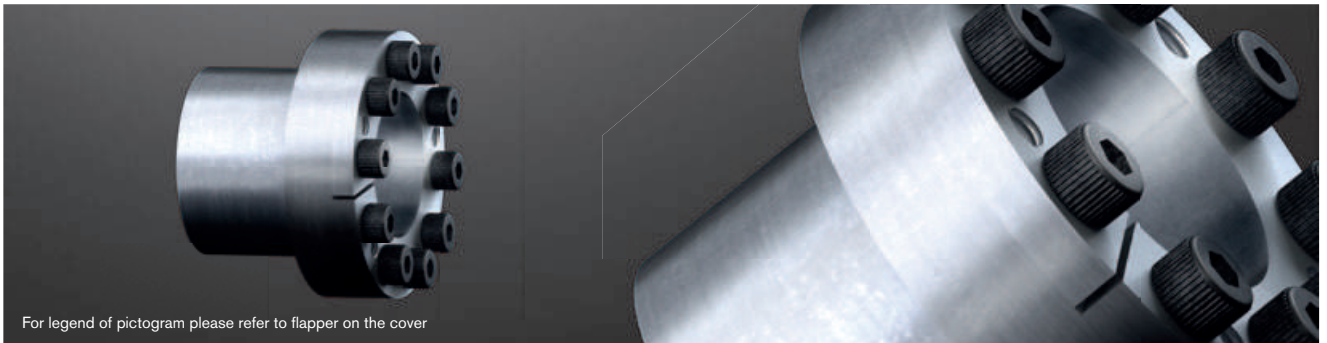
<sup>1)</sup> These are the maximum screw tightening torques. They can be reduced by a maximum of 40% of the aforementioned figures with T, F<sub>ax</sub>, P<sub>W</sub> and P<sub>N</sub> being reduced proportionally.

NEW  
NEW

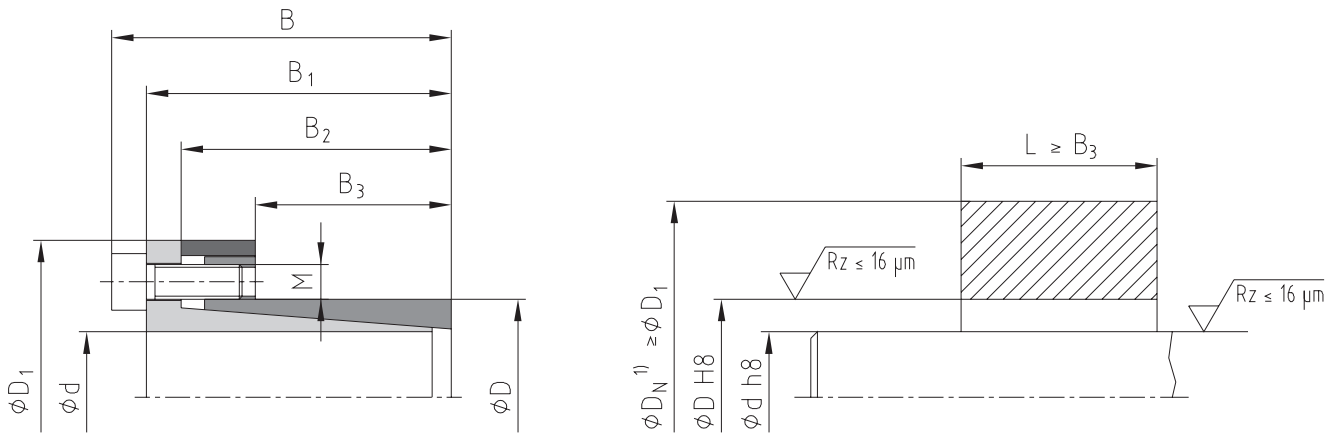
# CLAMPEX® KTR 250

## Clamping elements

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

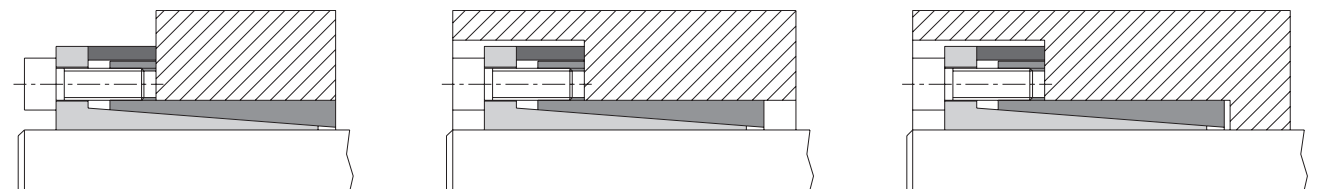


For legend of pictogram please refer to flapper on the cover



<sup>1)</sup> Dimension  $D_N$ : for calculation see catalogue "Drive Technology" 2016 on page 267-269.

### Example of application of hub type



Ordering example:

KTR 250	28	x	39
Series	Size of inside diameter d		Size of outside diameter D



# CLAMPEX® KTR 250

## Clamping elements

NEW  
NEW

CLAMPEX® – KTR 250															
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 pro- gramme
	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	D <sub>1</sub>	M	Length	z No. z	T <sub>A</sub> [Nm] <sup>1)</sup>	T [Nm]	F <sub>ax</sub> [kN]	Shaft P <sub>W</sub> [N/mm <sup>2</sup> ]	hub P <sub>N</sub> [N/ mm <sup>2</sup> ]		
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	●

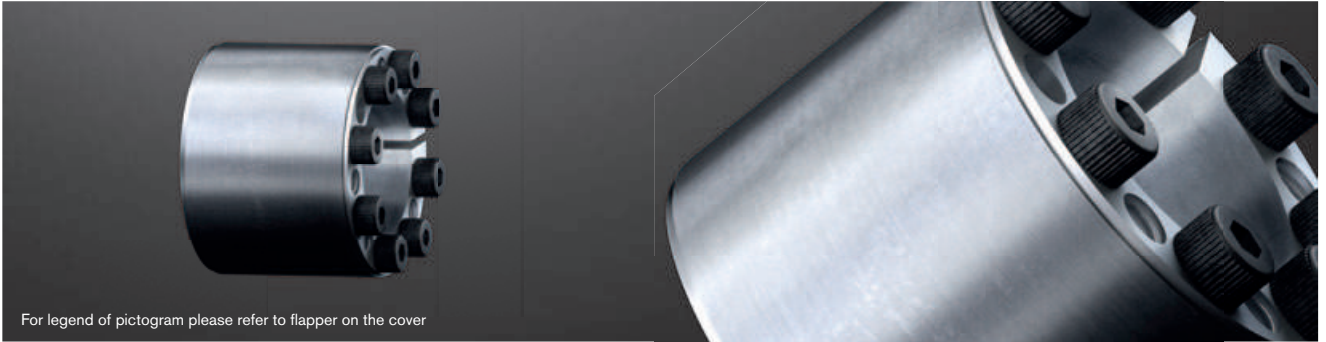
● Sizes of clamping elements available from stock.

<sup>1)</sup> These are the maximum screw tightening torques. They can be reduced by a maximum of 40% of the aforementioned figures with T, F<sub>ax</sub>, P<sub>W</sub> and P<sub>N</sub> being reduced proportionally.

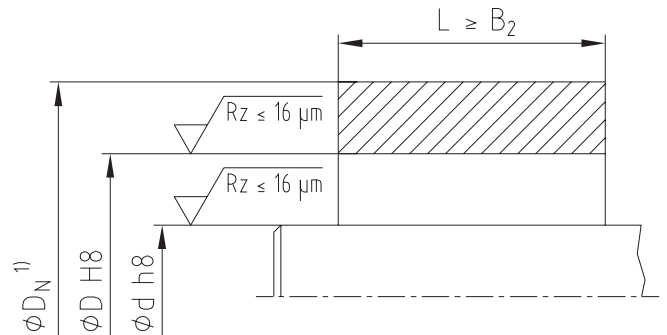
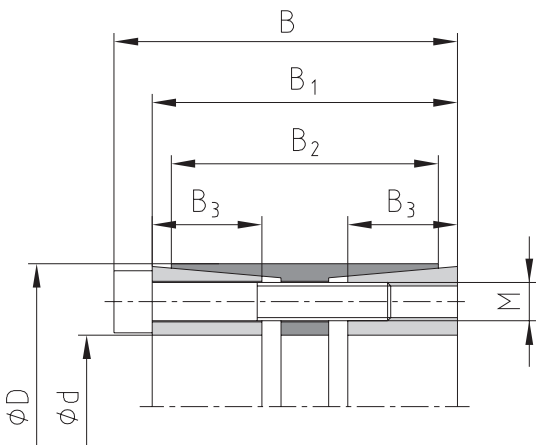
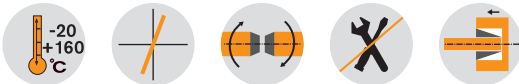
# CLAMPEX® KTR 400

## Clamping elements

Self-centering clamping element with the highest transmission performance

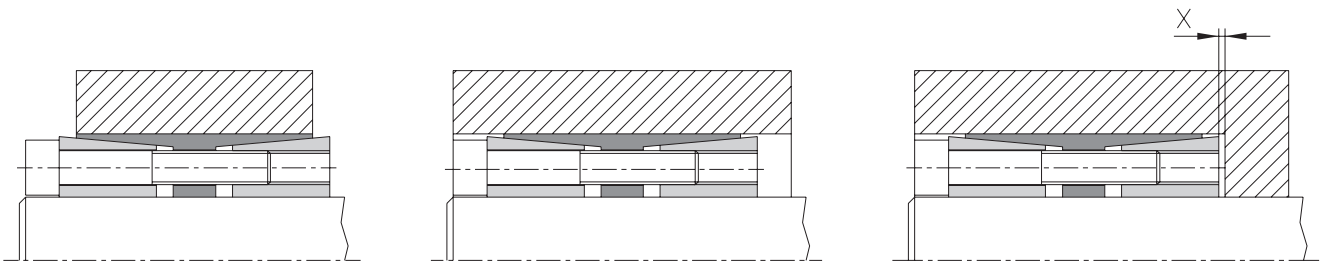


For legend of pictogram please refer to flapper on the cover



<sup>1)</sup> Dimension  $D_N$ : for calculation see catalogue "Drive Technology" 2016 on page 267-269.

### Example of application of hub type



Formula to calculate space  $x$  left for disassembly:

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

Ordering example:

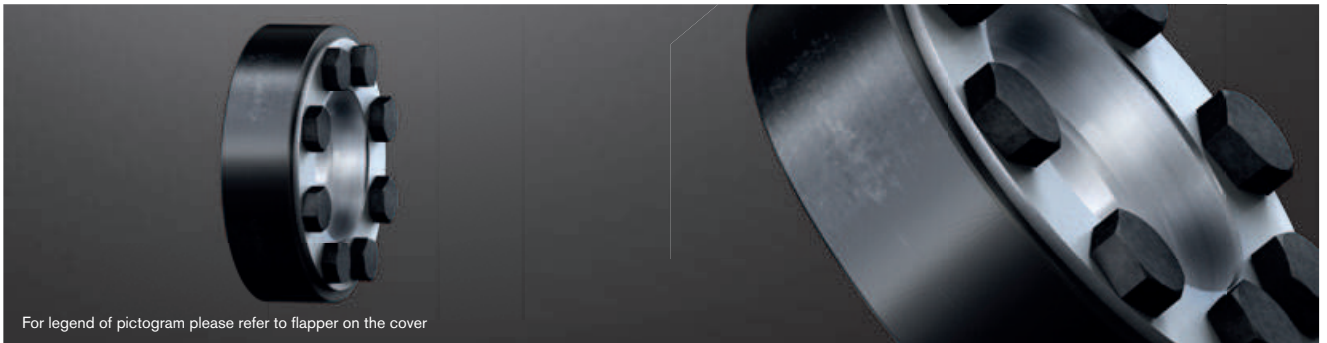
KTR 400	100	x	145
Series	Size of inside diameter $d$		Size of outside diameter $D$



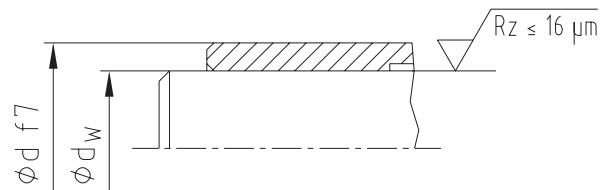
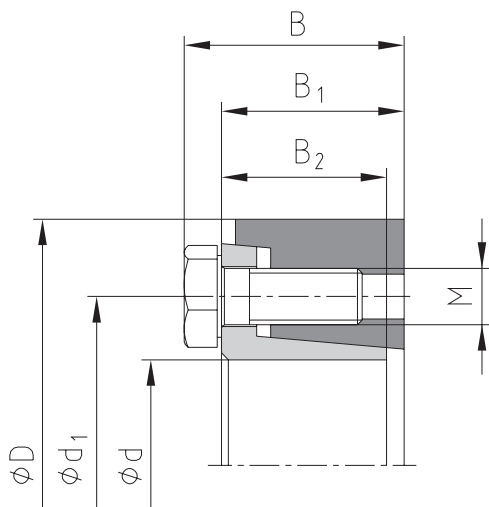
# CLAMPEX® KTR 620

## Clamping elements

Two-part external clamping set for applications on hollow shafts



For legend of pictogram please refer to flapper on the cover



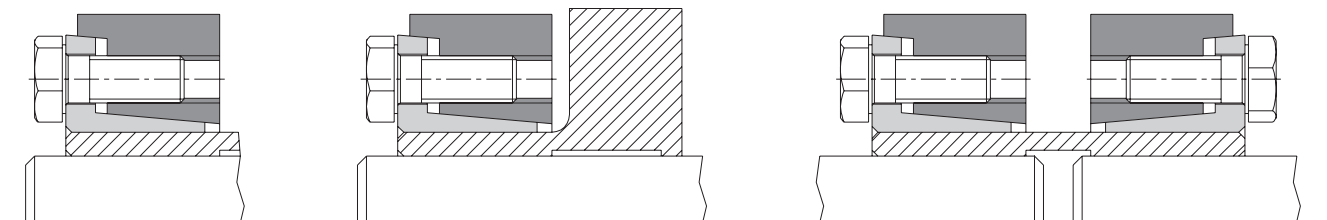
Tolerances for  $d_w$

$$d_w \leq \varnothing 160 = h6/H7$$

$$d_w > \varnothing 160 = g6/H7$$

Bigger tolerances are generally available! Please send us your inquiry!

Example of application of hub type



Ordering example:

KTR 620	55	x	100
Series	Size of inside diameter d		Size of outside diameter D

# CLAMPEX® KTR 620

## Clamping elements

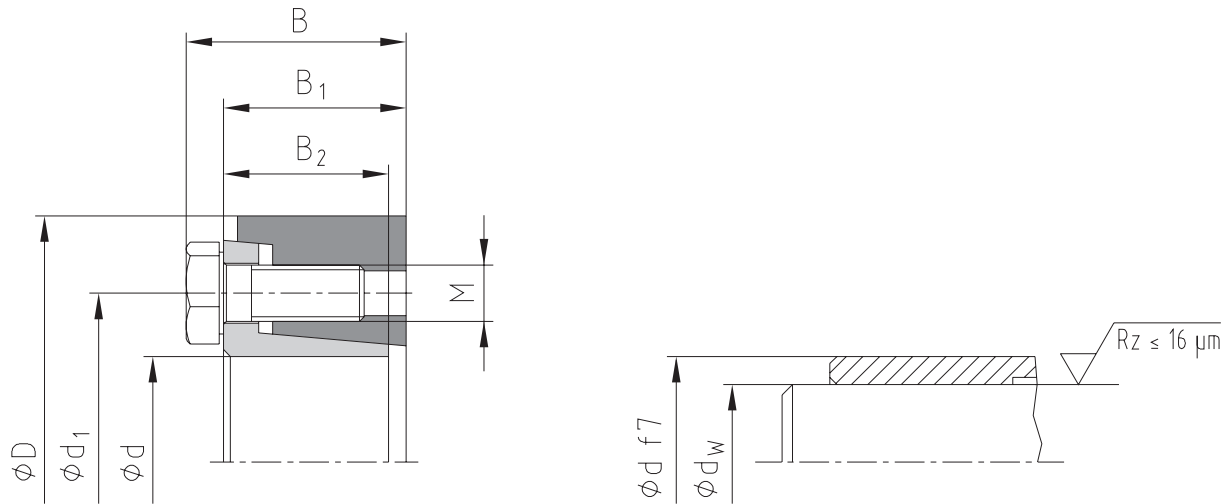
CLAMPEX® – KTR 620														
d x D [mm]	Shaft diameter d <sub>w</sub> [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 <sup>1)</sup> μ <sub>total</sub> =0,10				Surface pressure of clamping element/hollow shaft P <sub>H</sub> [N/mm <sup>2</sup> ]	Weight [-kg]	Stock programme
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	d <sub>1</sub>	M	Length	Number z	T <sub>A</sub> [Nm]			
16 x 41	13	70	11	19,5	15,3	13,5	28	M6	12	3	13	254	0,1	
	14	90	13											
NEW 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											
NEW 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	24	20,26	18	44	M6	16	6	13	255	0,3	●
	24	330	28											
36 x 72	24	370	31	27,5	22,1	20	52	M8	20	5	30	250	0,5	●
	25	420	34											
38 x 72	26	465	36	27,5	22,1	20	52	M8	20	5	30	240	0,5	●
	27	480	36											
40 x 80	30	650	43	29,5	24,22	22	61	M8	20	6	30	209	0,6	●
	33	835	51											
44 x 80	27	480	36	29,5	24,22	22	61	M8	20	6	30	192	0,6	●
	34	830	49											
50 x 90	35	770	44	31,5	26,1	23,5	68	M8	20	8	30	212	0,8	●
	37	880	48											
55 x 100	42	1300	62	34,5	29	26	72	M8	20	8	30	195	1,1	●
	40	1260	63											
60 x 110	42	1300	62	34,5	29,25	26	80	M8	20	9	30	191	1,3	●
	48	1900	79											
62 x 110	45	1600	71	34,5	29,25	26	80	M8	20	9	30	189	1,3	●
	48	1700	71											
68 x 115	50	1950	78	35	29,4	26	86	M8	20	9	30	206	1,3	●
	52	2160	83											
75 x 138	50	1900	76	37,5	30,7	27	100	M10	25	10	60	211	2,3	●
	55	2500	91											
80 x 141	60	3400	113	37,5	31,1	27	104	M10	25	10	60	215	2,3	●
	65	4100	126											
NEW 85 x 155	65	5500	169	44,5	38,2	34	114	M10	25	11	60	216	3,2	
	70	6400	183											
90 x 155	75	7300	195	44,5	38,2	34	114	M10	25	11	60	223	3,2	●
	70	5500	169											
NEW 95 x 170	75	6200	177	50	43,45	39	124	M10	30	14	60	182	4,3	
	80	8600	215											
100 x 170	70	6200	177	50	43,45	39	124	M10	30	14	60	176	4,3	●
	75	7400	197											
NEW 105 x 185	80	8600	215	56,5	49,1	43,5	136	M12	35	12	100	208	5,8	
	80	10500	263											
110 x 185	85	11800	278	56,5	49,1	43,5	136	M12	35	12	100	202	5,8	●
	90	13700	304											
NEW 115 x 197	80	10500	263	60,5	53	48	147	M12	35	14	100	193	6,9	
	85	12500	294											
120 x 197	90	14100	313	60,5	53	48	147	M12	35	14	100	189	6,9	
	95	16000	337											
	85	12500	294	60,5	53	48	147	M12	35	14	100	189	6,9	
	90	14100	313											
	95	16000	337	60,5	53	48	147	M12	35	14	100	189	6,9	
	95	16000	337											

● Sizes of clamping elements available from stock.  
<sup>1)</sup> 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 <sub>w</sub> [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 μptal=0,10				Surface pressure of clamping element/hollow shaft		Weight [- kg]	Stock programme
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	d <sub>1</sub>	M	Length	Number z	T <sub>A</sub> [Nm]	P <sub>H</sub> [N/mm <sup>2</sup> ]			
125 x 215	90	14500	322	61	53,4	48	158	M12	35	14	100	196	8,7	●	
	95	16600	349												
	100	18800	376												
NEW 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												
NEW 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												
NEW 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												
NEW 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												
NEW 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												
NEW 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												
NEW 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												
NEW 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

## Clamping elements

CLAMPEX® – KTR 620														
d x D [mm]	Shaft diameter d <sub>w</sub> [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 12.9 <sup>2)</sup> μ <sub>total</sub> =0,10				Surface pressure of clamping element/hollow shaft P <sub>H</sub> [N/mm <sup>2</sup> ]	Weight [-kg]	Stock programme
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	d <sub>1</sub>	M	Length	Number z	T <sub>A</sub> [Nm]			
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											
NEW 390 x 650	290	704000	4855	191	169,2	148	454	M27	70	18	1250	216	249	
	300	760000	5067											
	320	879000	5494											
NEW 420 x 670	320	827000	5169	208,4	186,4	166	486	M27	70	20	1250	184	285	
	330	876000	5309											
	350	1000000	5714											
NEW 440 x 710	340	1117000	6571	220	198	179	506	M27	70	21	1250	222	343	
	350	1190000	6800											
	370	1345000	7270											
NEW 460 x 750	360	1306000	7256	223	201	179	534	M27	70	21	1250	230	387	
	370	1386000	7492											
	390	1554000	7969											
NEW 470 x 705	370	950000	5135	241,6	219,6	200	538	M27	70	21	1250	151	340	
	380	1000000	5263											
	400	1150000	5750											
NEW 480 x 770	380	1557000	8195	247	223	201	552	M30	100	21	1650	223	449	
	390	1648000	8451											
	410	1818000	8868											
NEW 500 x 820	400	1653000	8265	241	217	198	572	M30	100	24	1650	214	515	
	410	1725000	8415											
	430	1915000	8907											
NEW 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											
NEW 560 x 885	450	2306000	10249	266	242	220	632	M30	100	24	1650	212	636	
	460	2419000	10517											
	480	2654000	11058											
NEW 590 x 950	470	2735000	11638	281,5	257,5	236	664	M30	100	28	1650	211	805	
	480	2863000	11929											
	500	3128000	12512											
NEW 620 x 960	500	3150000	12600	307	283	258	706	M30	100	28	1650	201	853	
	520	3396000	13062											
	540	3689000	13663											
NEW 660 x 1020	530	3636000	13721	319	293	267	748	M33	130	28	2250	199	993	
	550	3942000	14335											
	570	4261000	14951											
NEW 700 x 1085	560	4189000	14961	318,5	292,5	263	788	M33	130	28	2250	187	1112	
	580	4520000	15586											
	600	4863000	16210											
NEW 750 x 1100	600	5281000	17603	346	320	280	850	M33	130	32	2250	202	1111	
	620	5672000	18297											
	650	6287000	19345											
NEW 800 x 1230	640	6091000	19034	359	333	296	900	M33	130	32	2250	202	1589	
	660	6511000	19730											
	700	7394000	21126											

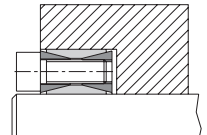
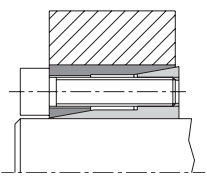
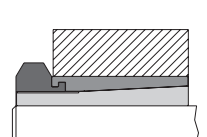
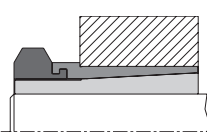
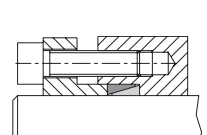
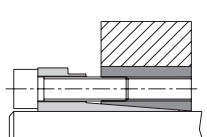
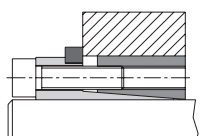
● Sizes of clamping elements available from stock.

<sup>2)</sup> 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

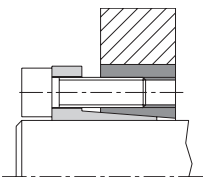
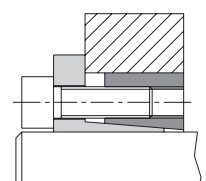
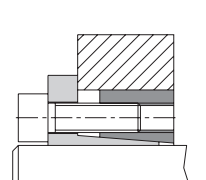
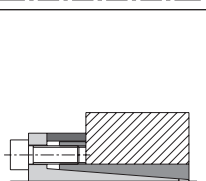
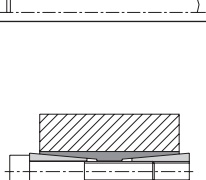
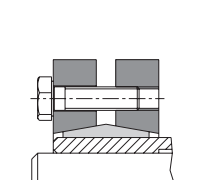
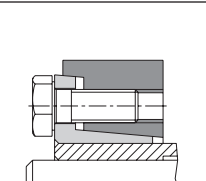
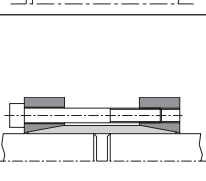
Type	Series	Shaft diameter [mm]	Transmittable torque T [Nm]	Centering of hub to shaft via the clamping element	Centering between hub and shaft required	Axial displacement of hub during assembly of clamping element	For details see catalogue "Drive Technology" 2016 on page
Internal clamping elements	 KTR100	17 – 1.000	260 – 3.017.100		●		270 271
	 KTR 105	5 – 50	5 – 1.900	●		●	272 273
	 KTR130	5 – 50	10 – 2.320	●		●	274 275
	 KTR 131	5 – 35	10 – 836	●		●	274 275
	 KTR 150	6 – 400	2 – 178.138		●	●*	276 277
	 KTR 200	20 – 200	530 – 68.000	●		●	278 279
	 KTR 201	20 – 200	320 – 48.800	●			278 279

\* 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	For details see catalogue "Drive Technology" 2016 on page
Internal clamping elements	 KTR 203	18 – 400	370 – 487.000	●		●	280 281
	 KTR 206	18 – 400	290 – 342.000	●			280 281
	 KTR 225	14 – 50	287 – 1.796	●			282 283
	 KTR 250	6 – 130	11 – 25.000	●			284 285
	 KTR 400	24 – 600	700 – 1.640.000	●		●	286 287
External clamping elements	 KTR 603	10 – 420	28 – 1.460.000	●			288 – 291
	 KTR 620	13 – 700	70 – 7.394.000	●			292 – 295
Shaft couplings	 KTR 700	10 – 100	62 – 8.350	●			296 297

# KTR Precision joints type G and GD

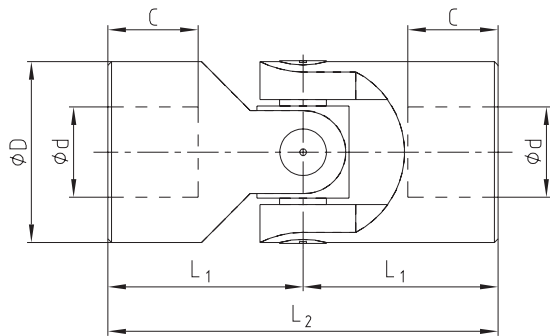
According to DIN 808 with plain bearing



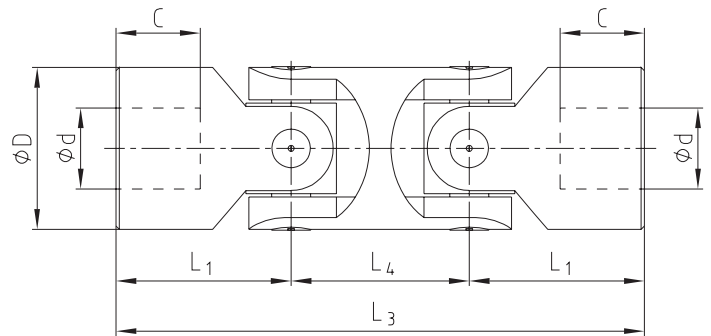
For legend of pictogram please refer to flapper on the cover



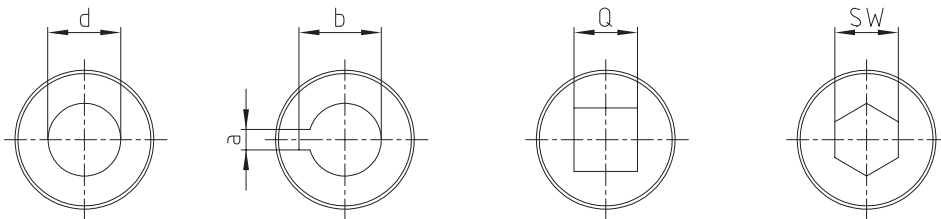
Precision single joint G



Precision double joint GD



Finish bores:



Type G and GD																
Types and size															Weight [kg]	
Size G	Description to DIN G	Size GD	Description to DIN GD	d [H7]	D	L <sub>2</sub>	L <sub>1</sub>	C	L <sub>4</sub>	L <sub>3</sub>	a [JS9]	b	Q [H10]	SW [H8]	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	35	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	39	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

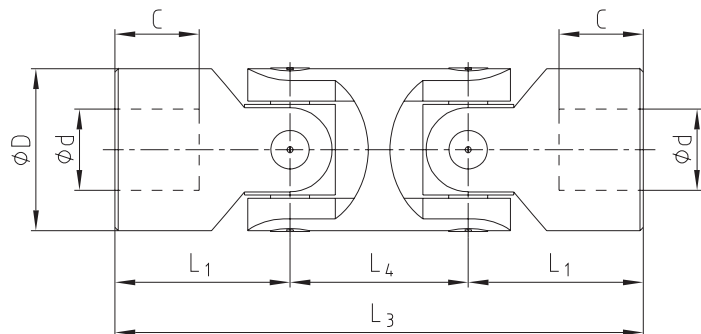
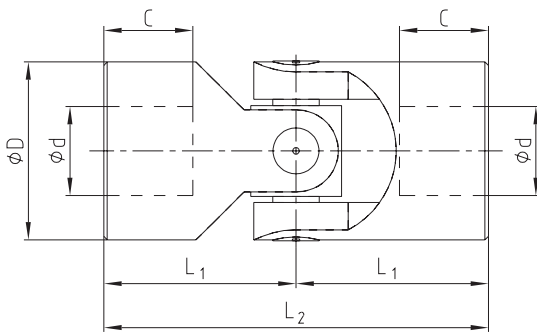


For legend of pictogram please refer to flapper on the cover

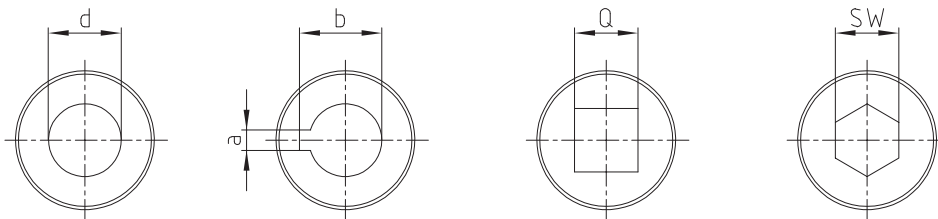


Precision single joint H

Precision double joint HD



Finish bores:



Type H and HD																
Types and size				Dimensions [mm]											Weight [kg]	
Size H	Description to DIN H	Size HD	Description to DIN HD	d [H7]	D	L <sub>2</sub>	L <sub>1</sub>	C	L <sub>4</sub>	L <sub>3</sub>	a [JS9]	b	Q [H10]	SW [H8]	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	35	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	39	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 - High accuracy with each revolution



With the new size of DATAFLEX® 70 KTR extend their range of precision measuring shafts for bigger torques. Along with the established sizes of DATAFLEX® 16 to DATAFLEX® 42 measuring ranges from 10 Nm to 5000 Nm are covered now.

With the new series the torque is measured using the approved technology of wire strain gauges DMS while processing without contact at a resolution of 24 bit. Thus, the inaccuracy of torque measuring is reduced to less than 0.1 % of the final value. 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.

### DATAFLEX® 85, 140 - Patented technology at top prices



The DATAFLEX® torque measuring shafts sizes 85 to 140 measure the torques without contact and free from wear. Their secret is a patented measuring method sensing twisting of the torsion shaft by measuring the quantity of light. For that purpose the light is directed through two disks the transparency of which is amended proportionally to the torque. The overall electronics are installed in a stationary housing to make sure that no signals have to be transmitted by the rotating shaft and the torque is available accurately with a high band width of 16 kHz. This allows to measure and analyze highly dynamic processes accurately.

The analog output values are available both as a voltage signal from 0 – 10 V and as a current signal from 4 – 20 mA. In addition a speed encoder is integrated providing a signal at a resolution of 60 impulses per revolution.

### Couplings adjusted to every application



Matching with all series of DATAFLEX® we recommend to use the servo lamina coupling RADEX®-NC and the steel lamina 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® 85	DATAFLEX® 140
Maintenance-free	●	●	●	●	●	●
For rotating applications	●	●	●	●	●	●
Torque range TKN [Nm]	10, 30, 50	100, 300, 500	1000	3000, 5000	10000	20000, 50000
Measuring inaccuracy [% of terminal value]	0,1	0,1	0,1	0,1	1	1
Torque output	-10 ... 10 V	-10 ... 10 V	-10 ... 10 V	-10 ... 10 V	0 ... 10 V, 4 ... 20 mA	0 ... 10 V, 4 ... 20 mA
Speed output						
Square wave signal [pulses/revolution]	2 x 360	2 x 720	2 x 720	2 x 540	1 x 60	1 x 60
DC - direct voltage signal [0 .. 10V]	●	●	●	●	●	●
Direction signal	●	●	●	●	-	-
Maximum speed [RPM]	10.000	7.500	6.500	4000	2.500	2.000
Coupling recommended	RADEX®-NC 20, 25	RADEX®-N42, N60	RADEX®-N80	RADEX®-N90, N115	RADEX®-N135	as specified
Connection housing DF2	●	●	●	●	●	●

### Connection housing DF2 – All Inclusive



The connection housing DF2 can easily be combined with all DATAFLEX® torque measuring shafts and has 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:

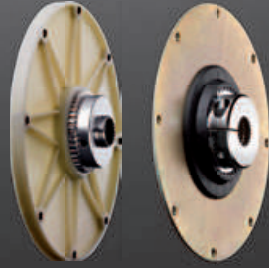
- The torque output can be filtered in five stages so that short torque peaks in the display can be reduced.
- The pulse signal of the speed output can be configured both for 5V (TTL) and 24V (HTL). This makes the speed signal compatible for data logging boards and SPS controls.
- In parallel with the 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 changed individually. This makes an expensive counter superfluous so that the signal can either be processed as a voltage or can be displayed.
- A direction signal indicates the rotational direction of the drive (with DATAFLEX® 16, 32, 42 and 70).

# BoWex®

## Flange couplings

### Other types

#### BoWex® FLE-PA BoWex® FLE-PAC



- Suitable for I. C.-engines
- Motor output up to 2,500 kW
- Axial plug-in, easy assembly
- Compact design
- Torsionally rigid

#### BoWex-ELASTIC®



- Highly flexible flange coupling with dimensions to SAE and special flange dimensions
- Suitable for the drive of diesel engines up to 2,500 kW
- Available in Shore hardness (T) 40, (T) 50 and (T) 65 Shore.
- Damping torsional vibrations
- Compensating for misalignment on driving and driven side
- Axial joining without subsequent screwing
- Available in Shore hardness 40, 50 and 65 Shore A
- Particularly short design
- Special dimensions without adapter available

#### MONOLASTIC®



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

# MINEX<sup>®</sup>-S

## Magnetic couplings

### Other types

#### MINEX<sup>®</sup>-S - Containment shroud – material Hastelloy



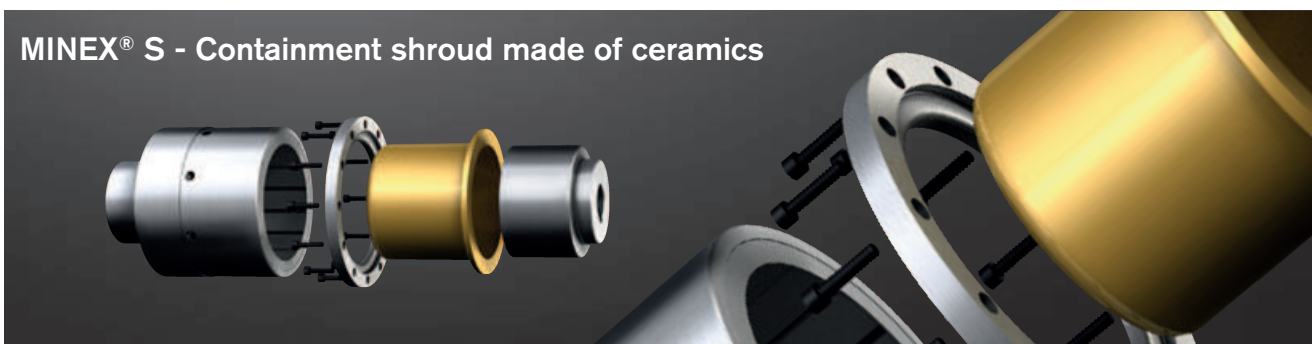
- Contactless torque transmission with permanent magnets
- Hermetic separation of driving and driven side
- Torque range from 10 to 1,000 Nm
- Containment shroud made of Hastelloy

#### MINEX<sup>®</sup>-S - Containment shroud – material PEEK



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

#### MINEX<sup>®</sup> S - Containment shroud made of ceramics



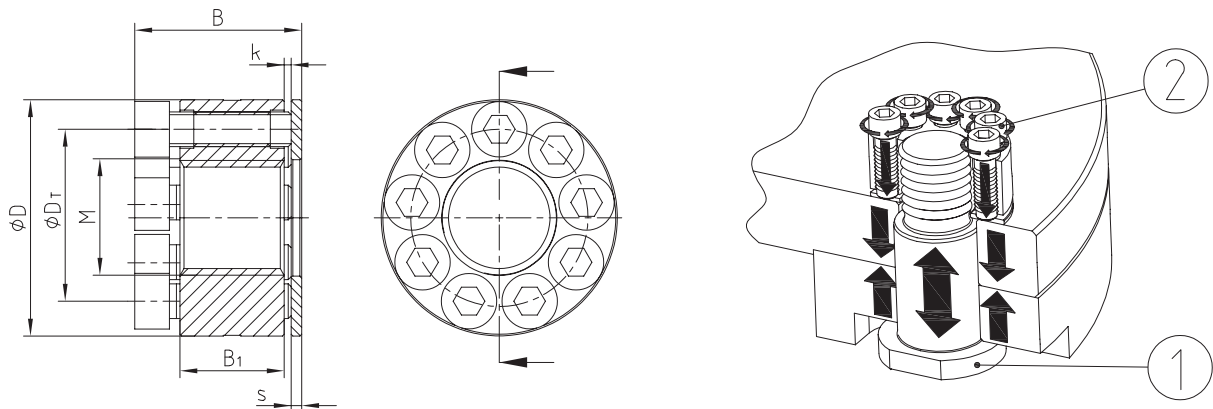
- No eddy current losses
- No generation of heat in the coupling caused by the containment shroud
- Suitable for higher demands on temperature and pressure resistance (up to 25 bar and + 300 °C)
- Torque range from 25 to 550 Nm
- Internal cooling measures are not required
- Particularly suitable for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

# KTR Clamping nuts

Large screw connections for easy and quick assembly



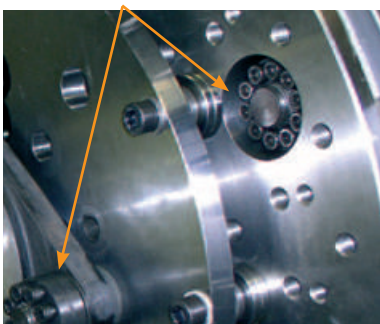
For legend of pictogram please refer to flapper on the cover



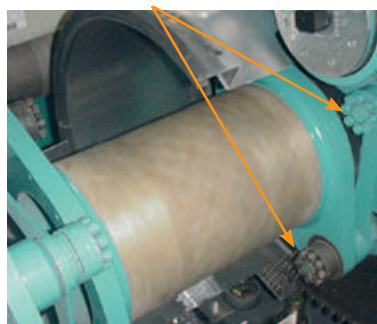
KTR Clamping nuts													
Size	Dimensions [mm]						Thrust bolt item 2		Property class 8.8 screw pos. 1		Property class 10.9 screw pos. 1		
	D	DT	B	B1	s	k	DIN EN ISO 4762	No. z	Tightening torque * [Nm]	Prestress [N]	Tightening torque * [Nm]	Prestress [N]	
M24 x 3,0	52	39	36,0	20	3,0	1 - 2	M8	8	21	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 item 2

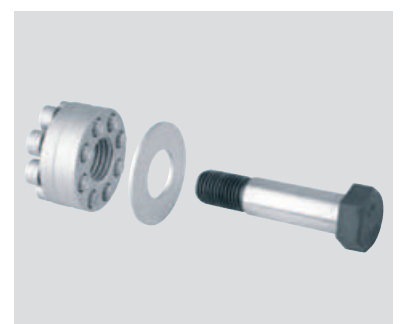
Used on a 100 kNm test bench bottle



Used on couplings for wind power stations



Available as a complete unit including setscrew



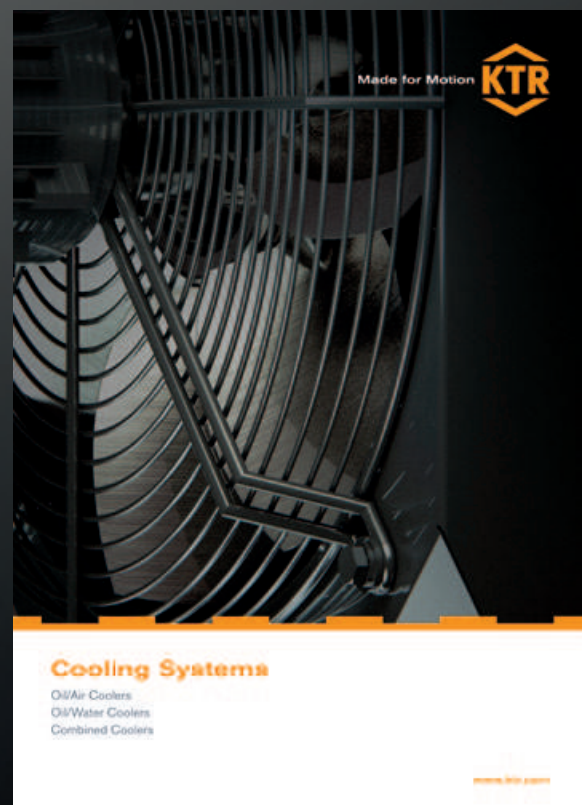
KTR clamping nut	M33 x 3,5
Spider type	Size



# 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 - our product portfolio is just as manifold as its applications. The following catalogues and leaflets provide for a survey, available at [www.ktr.com](http://www.ktr.com)

## Product catalogues



# KTR worldwide:

## Algeria

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All current representations and trading partners can be found at [www.ktr.com](http://www.ktr.com).

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All current representations and trading partners can be found at [www.ktr.com](http://www.ktr.com).



# Certificates and Approvals

Being one of the first companies in the range of drive technology, KTR was certified in accordance with DIN EN ISO 9001 already in 1993.

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

Bureau Veritas Certification certifies that the Management System of the above organisation has been assessed and found to be in accordance with the requirements of the standards detailed below.

Standard  
DIN EN ISO 9001:2008  
DIN EN ISO 14001:2009  
Scope of supply



# Legend of pictograms



Torsionally rigid



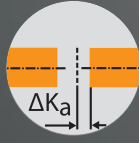
Light-weight



Protected against corrosion



Torsionally flexible



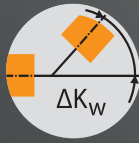
Axial compensation



Electrically insulating



Highly flexible



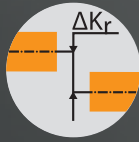
Angular compensation



Maximum speed



Damping vibrations



Radial compensation



No eddy current losses



Axial plug-in



Shiftable at standstill



Torque limiter slipping



Consider shaft distance



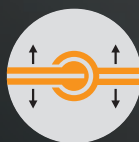
Double-cardanic



Torque limiter with synchronous ratcheting



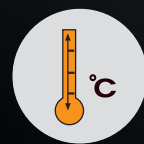
Relatively short shaft distance



Can be disassembled radially service friendly



Torque limiter with idle rotation type



Maximum operating temperature



Standard drop-out center lengths available



Hardened surface



High speeds



Available in accordance with API



Accuracy X%



Backlash-free



Complying with ATEX  
For details refer to our ATEX leaflet



Consider axial displacement



Shear type, separating, slipping



Maintenance-free



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Made for Motion 

The KTR logo is a stylized orange hexagon with the letters "KTR" inside in a bold, sans-serif font.