

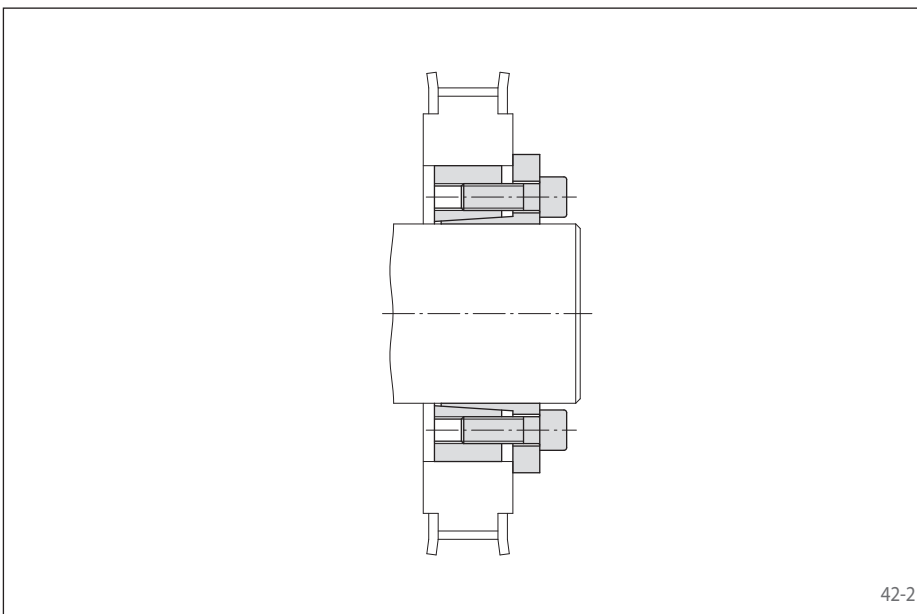
# Cone Clamping Elements RLK 133

centres the hub to the shaft  
short axial width with fixed backstop point



## Features

- Centres the shaft to the hub
- Short axial width
- No axial displacement between hub and shaft during clamping procedure due to fixed backstop point
- Transmissible torque of 350 Nm up to 51 500 Nm
- For shaft diameters between 20 mm and 200 mm



## Application example

Backlash free connection of a timing belt pulley to the drive shaft with a Cone Clamping Element RLK 133. Due to the fixed backstop point, the timing belt pulley is not displaced axially during clamping. The Cone Clamping Element also centres the timing belt pulley to the shaft. The compact Cone Clamping Element is a cost-efficient solution especially for applications with low space requirements.

## Transmissible torques and axial forces

The transmissible torques or axial forces listed on the following page are subject to the following tolerances, surface characteristics and material requirements. Please contact us in the case of deviations.

### Tolerances

- h8 for shaft diameter d
- H8 for hub bore D

### Surfaces

Average surface roughness at the contact surfaces between the shaft and the hub bore:  
 $R_z = 10 \dots 25 \mu\text{m}$ .

### Materials

The following apply to the shaft and the hub:

- E-module  $\geq 170 \text{ kN/mm}^2$

## Installation

Please request our installation and operating instructions for Cone Clamping Elements RLK 133.

## Simultaneous transmission of torque and axial force

The transmissible torques M which are shown in the tables apply for axial forces  $F = 0 \text{ kN}$  and conversely, the indicated axial forces F apply to torques  $M = 0 \text{ Nm}$ . If torque and axial force are to be transmitted simultaneously, the transmissible torque and the transmissible axial force are reduced. Please refer to the technical points on pages 72 and 73.

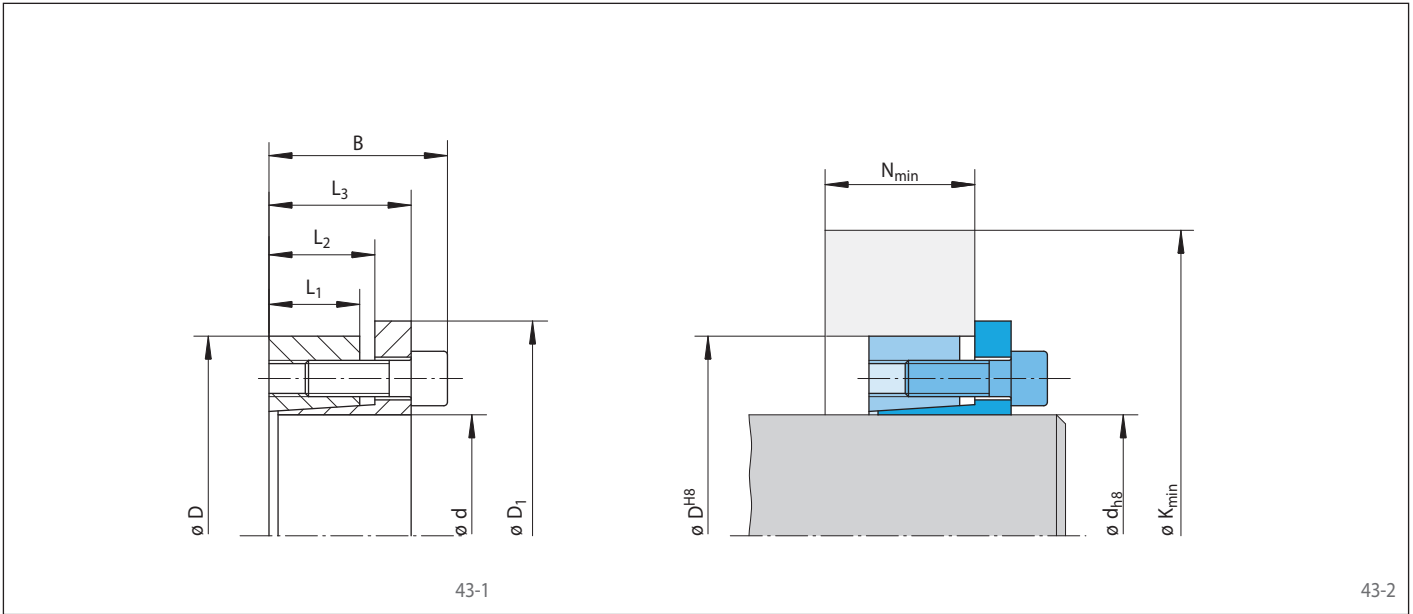
## Example for ordering

Cone Clamping Element RLK 133 for shaft diameter  $d = 100 \text{ mm}$ :

- RLK 133, size 100 x 145  
Article number 4204-100301-000000

# Cone Clamping Elements RLK 133

centres the hub to the shaft  
short axial width with fixed backstop point



Dimensions													Technical Data										Article number
Size		D <sub>1</sub> mm	B mm	L <sub>1</sub> mm	L <sub>2</sub> mm	L <sub>3</sub> mm	Yield strength R <sub>e</sub> of the hub material [N/mm <sup>2</sup> ]						Transmissible torque or axial force		Contact pressure at		Clamping screws			Weight kg			
d mm	D mm						200	320	500	K <sub>min</sub> mm	N <sub>min</sub> mm	K <sub>min</sub> mm	N <sub>min</sub> mm	K <sub>min</sub> mm	N <sub>min</sub> mm	M Nm	F kN	Shaft P <sub>W</sub> N/mm <sup>2</sup>	Hub P <sub>N</sub> N/mm <sup>2</sup>		Tightening torque M <sub>5</sub> Nm	Number	
20	47	53	34	17	22	28	96	30	74	24	63	21	350	35	277	118	17,4	6	M 6	20	0,3	4204-020301-000000	
22	47	53	34	17	22	28	96	30	74	24	63	21	390	35	252	118	17,4	6	M 6	20	0,3	4204-022301-000000	
24	50	56	34	17	22	28	96	29	76	24	66	21	430	35	231	111	17,4	6	M 6	20	0,3	4204-024301-000000	
25	50	56	34	17	22	28	96	29	76	24	66	21	440	35	222	111	17,4	6	M 6	20	0,3	4204-025301-000000	
28	55	62	34	17	22	28	98	28	80	24	70	21	500	35	198	101	17,4	6	M 6	20	0,4	4204-028301-000000	
30	55	62	34	17	22	28	98	28	80	24	70	21	530	35	185	101	17,4	6	M 6	20	0,4	4204-030301-000000	
32	60	69	34	17	22	28	117	32	93	26	80	22	760	47	231	123	17,4	8	M 6	20	0,4	4204-032301-000000	
35	60	69	34	17	22	28	117	32	93	26	80	22	830	47	211	123	17,4	8	M 6	20	0,4	4204-035301-000000	
38	65	72	34	17	22	28	119	31	97	25	85	22	900	47	194	114	17,4	8	M 6	20	0,5	4204-038301-000000	
40	65	72	34	17	22	28	119	31	97	25	85	22	940	47	185	114	17,4	8	M 6	20	0,4	4204-040301-000000	
42	75	84	41	20	25	33	165	43	127	33	106	28	1800	86	273	153	42,2	8	M 8	25	0,8	4204-042301-000000	
45	75	84	41	20	25	33	165	43	127	33	106	28	1950	86	255	153	42,2	8	M 8	25	0,7	4204-045301-000000	
48	80	89	41	20	24	33	165	42	130	33	111	28	2050	86	239	143	42,2	8	M 8	25	0,8	4204-048301-000000	
50	80	89	41	20	24	33	165	42	130	33	111	28	2150	86	229	143	42,2	8	M 8	25	0,8	4204-050301-000000	
55	85	91	41	20	24	33	166	41	133	32	115	28	2350	86	208	135	42,2	8	M 8	25	0,8	4204-055301-000000	
60	90	99	41	20	24	33	168	40	137	32	120	28	2600	86	191	128	42,2	8	M 8	25	0,9	4204-060301-000000	
65	95	104	41	20	24	33	171	39	141	32	124	28	2800	86	176	121	42,2	8	M 8	25	0,9	4204-065301-000000	
70	110	119	50	24	29	40	213	50	172	40	149	34	4800	140	215	137	83,0	8	M 10	30	1,7	4204-070301-000000	
75	115	124	50	24	29	40	215	49	176	40	153	34	5100	140	201	131	83,0	8	M 10	30	1,8	4204-075301-000000	
80	120	129	50	24	29	40	218	49	179	39	158	34	5400	140	188	126	83,0	8	M 10	30	1,9	4204-080301-000000	
85	125	134	50	24	29	40	246	55	198	43	172	36	7200	170	221	151	83,0	10	M 10	30	2,0	4204-085301-000000	
90	130	139	50	24	29	40	248	54	202	42	176	36	7600	170	209	145	83,0	10	M 10	30	2,1	4204-090301-000000	
95	135	144	50	24	29	40	250	53	206	42	180	36	8100	170	198	140	83,0	10	M 10	30	2,2	4204-095301-000000	
100	145	154	56	26	31	44	269	57	221	45	194	39	10000	200	204	141	144,0	8	M 12	30	2,8	4204-100301-000000	
110	155	164	56	26	31	44	274	56	229	45	203	38	11000	200	186	132	144,0	8	M 12	30	3,0	4204-110301-000000	
120	165	174	56	26	31	44	295	59	246	47	218	40	13500	220	191	139	144,0	9	M 12	30	3,4	4204-120301-000000	
130	180	189	64	34	39	52	326	71	269	57	237	49	19500	300	180	130	144,0	12	M 12	30	5,1	4204-130301-000000	
140	190	199	68	34	39	54	336	71	280	57	248	49	21500	310	172	127	229,0	9	M 14	40	5,3	4204-140301-000000	
150	200	209	68	34	39	54	358	74	298	59	263	50	25500	340	178	134	229,0	10	M 14	40	5,6	4204-150301-000000	
160	210	219	68	34	39	54	395	81	325	63	284	53	33000	410	200	153	229,0	12	M 14	40	6,0	4204-160301-000000	
170	225	234	78	44	49	64	381	83	321	68	286	60	35000	410	146	110	229,0	12	M 14	40	8,2	4204-170301-000000	
180	235	244	78	44	49	64	387	82	329	68	295	59	37000	410	138	106	229,0	12	M 14	40	8,6	4204-180301-000000	
190	250	259	78	44	49	64	435	91	365	73	324	63	48500	510	163	124	229,0	15	M 14	40	10,0	4204-190301-000000	
200	260	269	78	44	49	64	441	90	373	73	333	63	51500	510	155	119	229,0	15	M 14	40	10,4	4204-200301-000000	

# Cone Clamping Elements RLK 133 TC

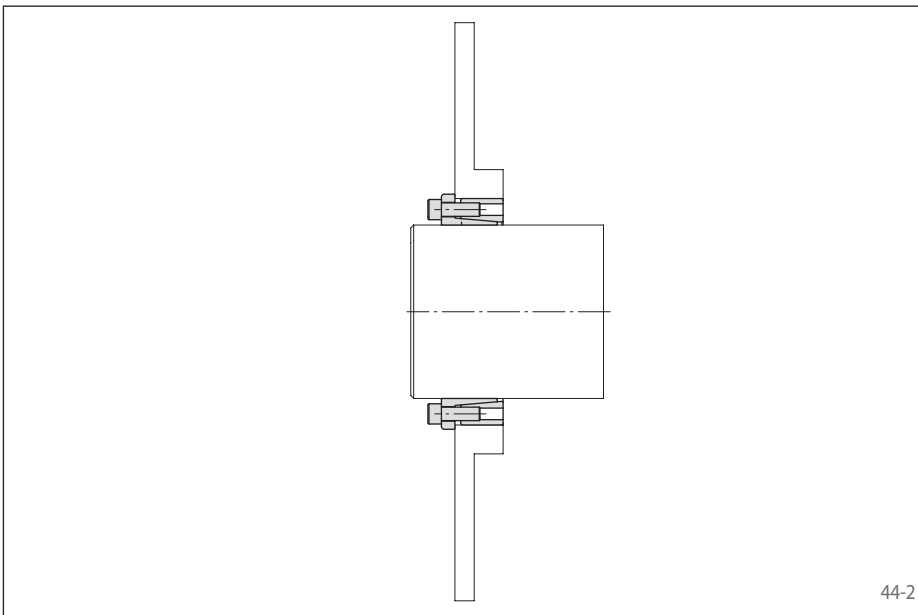
Premium quality for high centering accuracy  
Can be assembled multiple times



44-1

## Features

- Centres the shaft to the hub. Double slot for high centering accuracy.
- Can be assembled multiple times
- Highest transmissible torque
- Short axial width
- No axial displacement between hub and shaft during clamping procedure due to fixed backstop point
- Highest machining quality
- Transmissible torque of 4800 Nm up to 567 500 Nm
- For shaft diameters between 70 mm and 520 mm



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## Application example

Backlash free connection of a brake disc to the drive shaft with a Cone Clamping Element RLK 133 TC. Due to the fixed backstop point, the brake disc is not displaced axially during clamping. The Cone Clamping Element also centres the brake disc to the shaft. The compact Cone Clamping Element is a cost-efficient solution especially for applications with low space requirements.

## Transmissible torques and axial forces

The transmissible torques or axial forces listed on the following page are subject to the following tolerances, surface characteristics and material requirements. Please contact us in the case of deviations.

### Tolerances

- h8 for shaft diameter d
- H8 for hub bore D

### Surfaces

Average surface roughness at the contact surfaces between the shaft and the hub bore:  
 $R_z = 10 \dots 25 \mu\text{m}$ .

### Materials

The following apply to the shaft and the hub:

- E-module  $\geq 170 \text{ kN/mm}^2$

## Installation

Please request our installation and operating instructions for Cone Clamping Elements RLK 133 TC.

## Simultaneous transmission of torque and axial force

The transmissible torques M which are shown in the tables apply for axial forces  $F = 0 \text{ kN}$  and conversely, the indicated axial forces F apply to torques  $M = 0 \text{ Nm}$ . If torque and axial force are to be transmitted simultaneously, the transmissible torque and the transmissible axial force are reduced. Please refer to the technical points on pages 72 and 73.

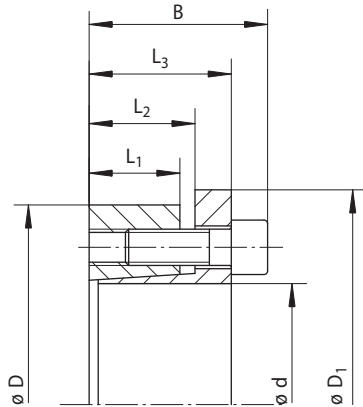
## Example for ordering

Cone Clamping Element RLK 133 TC for shaft diameter  $d = 100 \text{ mm}$ :

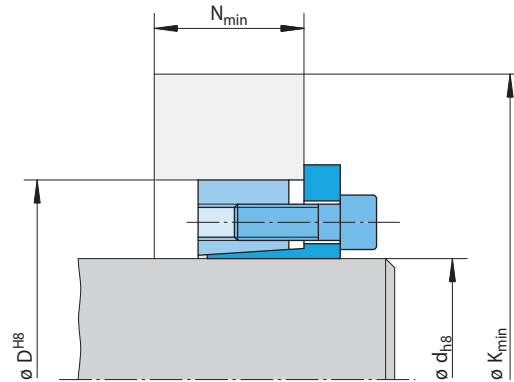
- RLK 133 TC, size 100 x 145  
Article number 4204-100301-TC0000

# Cone Clamping Elements RLK 133 TC

Premium quality for high centering accuracy  
Can be assembled multiple times



45-1



45-2

Dimensions										Technical Data										Article number		
Size		Yield strength $R_e$ of the hub material [N/mm <sup>2</sup> ]						Transmissible torque or axial force		Contact pressure at Shaft		Clamping screws			Weight							
d	D	200		320		500		M	F	$P_W$	$P_N$	Tightening torque	Number	Size		Length	kg					
mm	mm	$D_1$	B	$L_1$	$L_2$	$L_3$	$K_{min}$	$N_{min}$	$K_{min}$	$N_{min}$	$K_{min}$	$N_{min}$	Nm	kN	N/mm <sup>2</sup>	N/mm <sup>2</sup>	$M_5$		mm			
70	110	119	50	24	30	40	213	50	172	40	149	34	4800	140	215	137	83	8	M 10	30	1,7	4204-070301-TC0000
75	115	124	50	24	30	40	215	49	176	40	153	34	5100	140	201	131	83	8	M 10	30	1,8	4204-075301-TC0000
80	120	129	50	24	30	40	218	49	179	39	158	34	5400	140	188	126	83	8	M 10	30	1,9	4204-080301-TC0000
85	125	134	50	24	30	40	233	51	191	41	167	35	6500	150	199	136	83	9	M 10	30	2,0	4204-085301-TC0000
90	130	139	50	24	30	40	235	51	195	41	171	35	6900	150	188	130	83	9	M 10	30	2,1	4204-090301-TC0000
95	135	144	50	24	30	40	250	53	206	42	180	36	8100	170	198	140	83	10	M 10	30	2,2	4204-095301-TC0000
100	145	154	56	26	32	44	269	57	221	45	194	39	10000	200	204	141	144	8	M 12	30	2,8	4204-100301-TC0000
110	155	164	56	26	32	44	274	56	229	45	203	38	11000	200	186	132	144	8	M 12	30	3,0	4204-110301-TC0000
120	165	174	56	26	32	44	295	59	246	47	218	40	13500	220	191	139	144	9	M 12	30	3,4	4204-120301-TC0000
130	180	189	64	34	40	52	326	71	269	57	237	49	19500	300	180	130	144	12	M 12	30	5,1	4204-130301-TC0000
140	190	199	68	34	40	54	336	71	280	57	248	49	21500	310	172	127	229	9	M 14	40	5,3	4204-140301-TC0000
150	200	209	68	34	40	54	358	74	298	59	263	50	25500	340	178	134	229	10	M 14	40	5,6	4204-150301-TC0000
160	210	219	68	34	40	54	379	77	315	61	278	51	30000	380	184	140	229	11	M 14	40	6,0	4204-160301-TC0000
170	225	234	78	44	50	64	381	83	321	68	286	60	35000	410	146	110	229	12	M 14	40	8,2	4204-170301-TC0000
180	235	244	78	44	50	64	387	82	329	68	295	59	37000	410	138	106	229	12	M 14	40	8,6	4204-180301-TC0000
190	250	259	78	44	50	64	435	91	365	73	324	63	48500	510	163	124	229	15	M 14	40	10,0	4204-190301-TC0000
200	260	269	78	44	50	64	441	90	373	73	333	63	51500	510	155	119	229	15	M 14	40	10,4	4204-200301-TC0000
220	285	294	88	50	56	72	463	95	396	78	356	68	61500	560	136	105	354	12	M 16	40	13,9	4204-220301-TC0000
240	305	314	88	50	56	72	520	104	440	84	392	72	84000	700	155	122	354	15	M 16	40	14,8	4204-240301-TC0000
260	325	334	88	50	56	72	575	113	482	90	427	76	109500	840	172	138	354	18	M 16	40	16,1	4204-260301-TC0000
280	355	364	102	60	66	84	592	120	503	97	451	84	127500	910	144	114	492	16	M 18	50	23,6	4204-280301-TC0000
300	375	384	102	60	66	84	635	125	538	101	481	87	154000	1050	152	121	492	18	M 18	50	25,7	4204-300301-TC0000
320	405	414	121	74	81	101	692	146	582	119	519	103	210500	1300	148	117	692	18	M 20	50	36,1	4204-320301-TC0000
340	425	434	121	74	81	101	753	156	628	125	556	107	261000	1550	162	130	692	21	M 20	50	38,3	4204-340301-TC0000
360	455	464	138	86	94	116	769	165	648	135	578	117	294500	1650	141	111	945	18	M 22	60	52,5	4204-360301-TC0000
380	475	484	138	86	94	116	835	176	697	142	617	122	363000	1900	155	124	945	21	M 22	60	55,0	4204-380301-TC0000
400	495	504	138	86	94	116	846	174	713	141	636	122	382000	1900	148	119	945	21	M 22	60	60,3	4204-400301-TC0000
420	515	524	138	86	94	116	876	176	740	143	661	123	420000	2000	147	120	945	22	M 22	60	62,9	4204-420301-TC0000
440	535	544	138	86	94	116	888	174	757	142	679	122	440000	2000	141	116	945	22	M 22	60	65,6	4204-440301-TC0000
460	555	564	138	86	94	116	902	173	774	141	698	122	460000	2000	135	112	945	22	M 22	60	68,3	4204-460301-TC0000
480	575	584	138	86	94	116	947	179	810	145	729	125	523500	2200	141	118	945	24	M 22	60	71,0	4204-480301-TC0000
500	595	604	138	86	94	116	960	177	828	145	748	125	545500	2200	135	114	945	24	M 22	60	73,7	4204-500301-TC0000
520	615	624	138	86	94	116	975	176	845	144	766	124	567500	2200	130	110	945	24	M 22	60	75,9	4204-520301-TC0000

**Morskate®**



Any questions? Please contact us.

**Morskate Aandrijvingen BV**

Oosterveldsingel 47A  
7558 PJ Hengelo (Ov)  
The Netherlands

NL

T +31 (0)74 - 760 11 11  
info@morskateaandrijvingen.nl  
www.morskateaandrijvingen.nl

DE

T +49 692 - 222 34 95  
info@morskateantriebstechnik.de  
www.morskateantriebstechnik.de

EN

T +31 (0)74 - 760 11 11  
info@morskatedrivetechnology.com  
www.morskatedrivetechnology.com