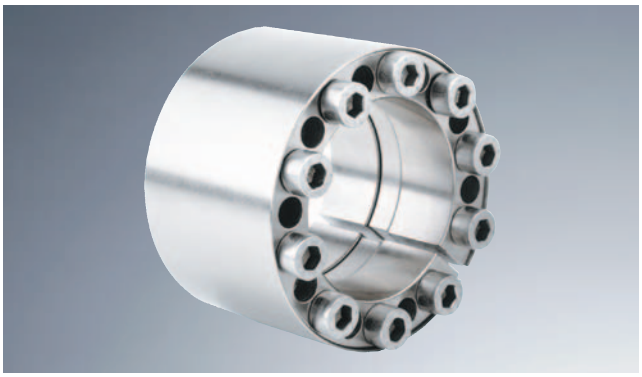
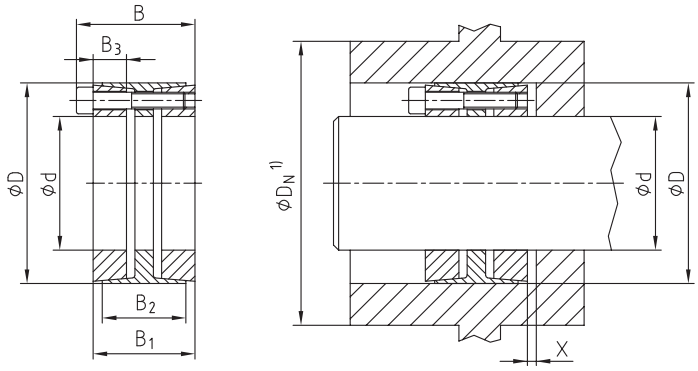
KTR 400 (self-centering)



- Clamping set suitable for high loads
- Specifically suitable for vibratory torques
- Typical applications: flywheels, belt drums
- Torque factor
  1 off 1 x T
  2 off 1,9 x T
  3 off 2,7 x T
  4 off 3,6 x T
- KTR 402 for shaft Ø 320 mm to Ø 560 mm and high torques, please order dimension sheet M483041.
- Mounting instructions at www.ktr.com



Formula to calculate space x left for disassembly:

$x = (B1-B2) / 2$

[1)] Dimension D_N: for calculation see page 304 / 305.

Assembly
Clean the contact surfaces of the clamping set as well as the shaft and the hub and afterwards apply thin-bodied oil. Insert the clamping set into the hub fit and push it onto the shaft. Tighten the clamping screws evenly and crosswise. Here please increase the tightening torque step by step. This must be repeated until reaching the indicated tightening torque with all clamping screws.

Please note: Oils and greases containing molybdenum disulphide or high-pressure additives, additives of teflon and silicone as well as sliding grease paste reducing the coefficient of friction considerably must not be used. For assembly of the clamping set tapers without oil, the figures mentioned in the table deviate from the calculated figures.

Disassembly
Unscrew all clamping screws and screw them into the pull-off threads of the front taper ring. Tighten the screws crosswise by degrees and evenly to half the tightening torque T_A. Afterwards repeat this process to the full tightening torque. As soon as the front taper ring is released, screw the clamping screws into the pull-off threads of the spacer ring in order to release the rear taper ring.

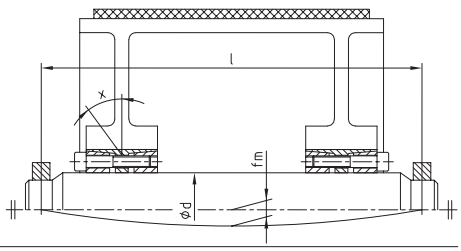
Please note: If the clamping element KTR 400 is reused it has to be made sure that the pull-off threads of the front taper ring and the spacer are in their original position. Here the slots of the front and the back pressure ring and those of the external ring must be flush.

Tolerances, surfaces
One accurate turning process is sufficient:
RZ ≤ 16µm
Maximum permissible tolerances:
h8 for the shaft - H8 for the hub

Axial displacement
During the assembly a slight axial displacement of the hub towards the shaft may arise.

Centering
The clamping element KTR 400 is self-centering. The concentricity of the clamping set between shaft and hub is between **0,02** and **0,08** mm.

Example of installation
Drive of conveyor belt drum
The following conditions should be adhered to as limiting values for CLAMPEX® clamping sets with load by bending: Direction angles x on the contact position shaft-clamping set ≤ 6' or maximum shaft bending fm in the bearing area:
fm ≤ l (1/2000 - 1/3000).



Ordering example:	KTR 400	100	x	145
	Type	Size of inside diameter d		Size of outside diameter D

KTR 400 (self-centering) – Technical data

CLAMPEX® – KTR 400

d x D [1] [mm]	Dimensions [mm]				Standard industrial applications: Clamping screws DIN EN ISO 4762 - 12.9 μges.=0,14			Transmittable torque or axial force		Surface pressure between clamping set		Applications with components subject to bending and torsion: Clamping screws DIN EN ISO 4762 - 12.9 μges.=0,14			Transmittable torque or axial force		Transmittable bending moment	Surface pressure between clamping set		Weight [~kg]	Stock programme
	B	B_1	B_2	B_3	M	z number	T_A [2] [Nm]	T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]	M	z number	T_A [Nm]	T [Nm]	F_{ax} [kN]	Mbperm. [Nm]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]		
24 x 50	51	45	41	16	M6	6	17	712	59	205	85	M6	6	14	505	42	420	242	82	0,54	
25 x 50	51	45	41	16	M6	6	17	742	59	197	85	M6	6	14	521	42	437	234	83	0,53	
28 x 55	51	45	41	16	M6	8	17	831	59	176	78	M6	8	14	811	58	490	270	107	0,50	
30 x 55	51	45	41	16	M6	8	17	1187	79	219	103	M6	8	14	856	57	525	255	109	0,47	●
32 x 60	51	45	41	16	M6	8	17	1266	79	205	95	M6	8	14	899	56	560	242	101	0,77	
35 x 60	51	45	41	16	M6	8	17	1385	79	187	95	M6	8	14	960	55	612	224	102	0,71	●
38 x 65	51	45	41	16	M6	10	17	1880	99	216	109	M6	10	14	1350	71	665	252	100	1,25	
40 x 65	51	45	41	16	M6	10	17	1979	99	205	109	M6	10	14	1404	70	700	242	101	1,21	●
42 x 75	51	45	41	16	M8	8	41	3071	146	289	140	M8	8	35	2326	111	735	323	141	1,16	
45 x 75	51	45	41	16	M8	8	41	3290	146	269	140	M8	8	35	2463	109	787	304	142	1,08	●
48 x 80	70	62	58	23	M8	8	41	3518	147	196	93	M8	8	35	2377	99	1708	212	101	1,45	●
50 x 80	70	62	58	23	M8	8	41	3664	147	188	93	M8	8	35	2267	91	1779	196	97	1,38	●
55 x 85	70	62	58	23	M8	8	41	4031	147	171	88	M8	8	35	2408	88	1957	182	93	1,49	●
60 x 90	70	62	58	23	M8	10	41	5497	183	196	103	M8	10	35	3447	115	2134	203	107	1,60	●
65 x 95	70	62	58	23	M8	10	41	5955	183	181	98	M8	10	35	3633	112	2312	190	103	1,70	●
70 x 110	86	76	70	28	M10	10	83	10182	291	219	111	M10	10	69	6619	189	3659	222	113	3,12	●
75 x 115	86	76	70	28	M10	10	83	10910	291	204	107	M10	10	69	6950	185	3920	210	110	3,29	●
80 x 120	86	76	70	28	M10	12	83	13964	349	230	122	M10	12	69	9200	230	4181	231	123	3,46	●
85 x 125	86	76	70	28	M10	12	83	14837	349	216	118	M10	12	69	9613	226	4443	220	120	3,64	●
90 x 130	86	76	70	28	M10	12	83	15710	349	204	113	M10	12	69	10008	222	4704	210	116	3,81	●
95 x 135	86	76	70	28	M10	12	83	16583	349	193	109	M10	12	69	10383	219	4965	201	113	3,98	●
100 x 145	110	98	92	35	M12	12	145	25415	508	214	112	M12	12	120	16527	331	8587	219	115	6,12	●
110 x 155	110	98	92	35	M12	12	145	27956	508	195	105	M12	12	120	17658	321	9445	203	110	6,62	●
120 x 165	110	98	92	35	M12	14	145	35581	593	208	115	M12	14	120	22948	382	10304	214	119	7,12	●
130 x 180	128	114	108	41	M14	12	230	45333	697	193	106	M14	12	190	28502	438	15350	201	110	9,98	●
140 x 190	128	114	108	41	M14	14	230	56957	814	209	117	M14	14	190	36719	525	16531	215	120	10,62	●
150 x 200	128	114	108	41	M14	16	230	69743	930	223	127	M14	16	190	45796	611	17712	226	129	11,26	●
160 x 210	128	114	108	41	M14	16	230	74392	930	209	121	M14	16	190	47959	599	18893	215	124	11,91	●
170 x 225	162	146	136	52	M16	14	355	96123	1131	189	109	M16	14	295	59316	698	32060	196	113	17,66	●
180 x 235	162	146	136	52	M16	15	355	116317	1292	203	119	M16	15	295	67564	751	33946	198	116	18,49	●
190 x 250	162	146	136	52	M16	16	355	122779	1292	193	112	M16	16	295	76340	804	35831	200	116	21,39	●
200 x 260	162	146	136	52	M16	16	355	129241	1292	183	108	M16	16	295	78946	789	37717	192	113	22,36	●
220 x 285	162	146	136	52	M16	18	355	177706	1616	208	123	M16	18	295	98472	895	41489	195	115	26,59	●
240 x 305	162	146	136	52	M16	20	355	200324	1777	210	126	M16	20	295	120113	1001	45261	198	119	28,70	●
260 x 325	166	150	134	52	M16	21	355	233398	1795	185	122	M16	21	295	145842	1122	48311	202	126	31,23	
280 x 355	197	177	165	66	M20	18	690	336303	2402	192	121	M20	18	580	210027	1500	81312	200	126	46,77	
300 x 375	197	177	165	66	M20	20	690	400360	2669	199	127	M20	20	580	253018	1687	87120	206	132	49,72	
320 x 405	197	177	165	66	M20	21	690	448404	2803	196	124	M20	21	580	281947	1762	92928	203	128	60,52	
340 x 425	197	177	165	66	M20	22	690	499116	2936	193	123	M20	22	580	312383	1838	98736	201	128	63,86	
360 x 455	224	202	190	76	M22	21	930	627940	3489	188	119	M22	21	780	389170	2162	138624	196	124	86,78	
380 x 475	224	202	190	76	M22	22	930	694389	3655	186	119	M22	22	780	429232	2259	146325	195	125	91,04	
400 x 495	224	202	190	76	M22	24	930	797384	3987	193	125	M22	24	780	498899	2494	154027	201	130	95,30	
420 x 515	224	202	190	76	M22	24	930	837254	3987	184	120	M22	24	780	515180	2453	161728	193	126	100	
440 x 535	224	202	190	76	M22	24	930	877123	3987	176	116	M22	24	780	530636	2412	169429	186	123	105	
460 x 555	224	202	190	76	M22	24	930	916992	3987	168	111	M22	24	780	545266	2371	177131	180	119	109	
480 x 575	224	202	190	76	M22	28	930	1116338	4651	188	125	M22	28	780	691858	2883	184832	196	131	114	
500 x 595	224	202	190	76	M22	28	930	1162852	4651	180	121	M22	28	780	710371	2841	192533	190	128	119	
520 x 615	224	202	190	76	M22	30	930	1295750	4984	186	126	M22	30	780	799984	3077	200235	195	132	112,5	
540 x 635	224	202	190	76	M22	30	930	1345586	4984	179	122	M22	30	780	819613	3036	207936	189	129	128	
560 x 655	224	202	190	76	M22	32	930	1488451	5316	184	126	M22	32	780	915876	3271	215637	193	132	131	
580 x 675	224	202	190	76	M22	32	930	1541610	5316	178	122	M22	32	780	936621	3230	223339	188	129	136	
600 x 695	224	202	190	76	M22	33	930	1644606	5482	177	122	M22	33	780	998037	3327	231040	188	130	139	

● Clamping sets available from stock.

[1] External ring from size 400 x 495 without slot.

[2] These are the maximum screw tightening torques. They can be reduced to a maximum of 40 % of the aforementioned figures with T, F_{ax}, P_W and P_N being reduced proportionally.