CLAMPEX® Shaft-hub-connection

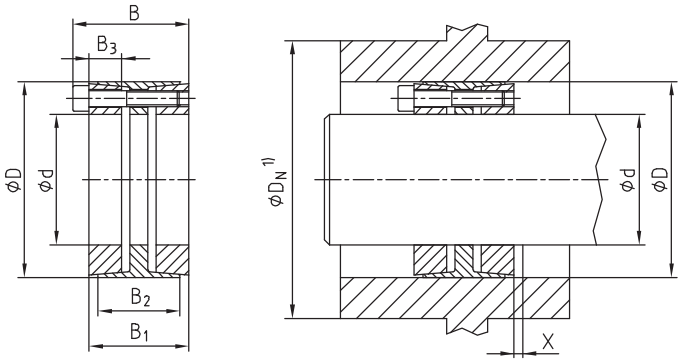
Self-centering

KTR 400

- 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

- Please find our detailed mounting instructions on our homepage (www.ktr.com)



Formula to calculate space x left for disassembly:

$$x = \frac{(B1 - B2)}{2}$$

1) Dimension D_N: For calculation see page 270/271.

Assembly

Clean and lightly oil the contact surfaces of shaft and hub. Insert the clamping element 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.

Note: Do not use any oil with molybdenum sulphide or high-pressure additions or grease reducing the coefficient of friction considerably. The clamping sets are delivered with oil. For assembly without oil the figures mentioned in the table deviate.

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.

Note: If the clamping element KTR 400 is reused, please make sure that the pull-off thread of the front taper ring and the spacer ring are situated in the original position. Here the slots of the front and of the back pressure ring and those of the external ring must be flush.

Tolerances, surfaces

One accurate turning process is sufficient:
$R_Z \leq$ 16 µm.
Maximum permissible tolerances:
h8 for the shaft – H8 for the hub.

Centering

The clamping element KTR 400 is **self-centering**. Between shaft and hub the concentricity of the clamping set is between **0,02** and **0,04** mm.

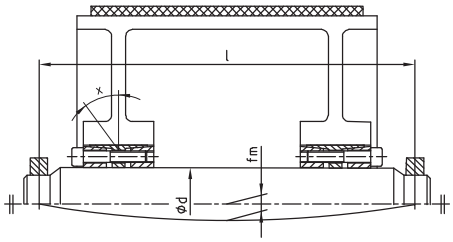
Axial movement

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

Example of assembly

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 ($^1/_{2000}$ - $^1/_{3000}$).



Order form:

KTR 400	100 x 145	
Type	Size of inside diameter	Size of outside diameter

CLAMPEX® Shaft-hub-connection

Technical data

KTR 400

Dimensions [mm]					Standard industrial applications							Applications with components subject to bending and torsion									Stock programme
					Clamping screws DIN EN ISO 4762 12.9 μ_{total} = 0,14			Transmittable torque or axial force		Surface pressure between clamping set Shaft / Hub		Clamping screws DIN EN ISO 4762 12.9 μ_{total} = 0,14			Transmittable torque or axial force with $Mb_{perm.}$		Transmittable bending moment	Surface pressure between clamping set		Weight	
d x D	B	B_1	B_2	B_3	M	z No.	T_A [1] [Nm]	T [Nm]	F_{ax} [kN]	P_W	P_N [N/mm²]	M	z No..	T_A [Nm]	T [Nm]	F_{ax} [kN]	$Mb_{perm.}$ [Nm]	Shaft P_W	Hub P_N [N/mm²]	~kg	
24x50	51	45	41	16	M6	6	17	714	59	187	86	M6	6	14	535	45	320	190	87	0,54	
25x50	51	45	41	16	M6	6	17	744	59	180	86	M6	6	14	553	44	333	184	87	0,53	
28x55	51	45	41	16	M6	6	17	833	59	161	78	M6	6	14	606	43	373	167	81	0,50	
30x55	51	45	41	16	M6	8	17	1190	79	200	104	M6	8	14	872	58	480	206	107	0,47	●
32x60	51	45	41	16	M6	8	17	1269	79	187	95	M6	8	14	918	57	512	195	99	0,77	
35x60	51	45	41	16	M6	8	17	1388	79	171	95	M6	8	14	983	56	560	181	101	0,71	●
38x65	51	45	41	16	M6	10	17	1884	99	197	110	M6	10	14	1282	67	810	214	119	1,25	
40x65	51	45	41	16	M6	10	17	1983	99	187	110	M6	10	14	1328	66	853	205	120	1,21	●
42x75	53	45	41	16	M8	8	41	3098	147	264	140	M8	8	35	2242	107	895	272	145	1,16	
45x75	53	45	41	16	M8	8	41	3298	147	246	140	M8	8	35	2367	105	959	257	146	1,08	●
48x80	72	64	58	23	M8	8	41	3518	147	196	93	M8	8	35	2467	103	1494	207	99	1,45	●
50x80	72	64	56	23	M8	8	41	3664	147	188	93	M8	8	35	2267	91	1779	196	97	1,38	●
55x85	72	64	58	23	M8	8	41	4031	147	171	88	M8	8	35	2408	88	1957	182	93	1,49	●
60x90	72	64	58	23	M8	10	41	5497	183	196	103	M8	10	35	3447	115	2134	203	107	1,60	●
65x95	72	64	58	23	M8	10	41	5955	183	181	98	M8	10	35	3633	112	2312	190	103	1,70	●
70x110	88	78	70	28	M10	10	83	10182	291	219	111	M10	10	69	6619	189	3659	222	113	3,12	●
75x115	88	78	70	28	M10	10	83	10910	291	204	107	M10	10	69	6950	185	3920	210	110	3,29	●
80x120	88	78	70	28	M10	12	83	13964	349	230	122	M10	12	69	9200	230	4181	231	123	3,46	●
85x125	88	78	70	28	M10	12	83	14837	349	216	118	M10	12	69	9613	226	4443	220	120	3,64	●
90x130	88	78	70	28	M10	12	83	15710	349	204	113	M10	12	69	10008	222	4704	210	116	3,81	●
95x135	88	78	70	28	M10	12	83	16583	349	193	109	M10	12	69	10383	219	4965	201	113	3,98	●
100x145	112	100	92	35	M12	12	145	25415	508	214	112	M12	12	120	16527	331	8687	219	115	6,12	●
110x155	112	100	92	35	M12	12	145	27956	508	195	105	M12	12	120	17658	321	9445	203	110	6,62	●
120x165	112	100	92	35	M12	14	145	35581	593	208	115	M12	14	120	22948	382	10304	214	119	7,12	●
130x180	130	116	108	41	M14	12	230	45333	697	193	106	M14	12	190	28502	438	15350	201	110	9,98	●
140x190	130	116	108	41	M14	14	230	56957	814	209	117	M14	14	190	36719	525	16531	215	120	10,62	●
150x200	130	116	108	41	M14	16	230	69743	930	223	127	M14	16	190	45796	611	17712	226	129	11,26	●
160x210	130	116	108	41	M14	16	230	74392	930	209	121	M14	16	190	47958	599	18893	215	124	11,91	●
170x225	162	146	136	52	M16	14	355	96123	1131	189	109	M16	14	295	59316	698	32060	196	113	17,60	●
180x235	162	146	136	52	M16	16	355	116317	1292	203	119	M16	16	295	73592	818	33946	209	122	18,49	●
190x250	162	146	136	52	M16	16	355	122779	1292	193	112	M16	16	295	76340	804	35831	200	116	21,39	●
200x260	162	146	136	52	M16	16	355	129241	1292	183	108	M16	16	295	78946	789	37717	192	113	22,36	●
220x285	162	146	136	52	M16	20	355	177706	1616	208	123	M16	2	295	113209	1029	41489	213	125	26,59	●
240x305	162	146	136	52	M16	22	355	213248	1777	210	126	M16	22	295	136190	1135	45261	214	129	28,70	●
260x325	164	148	134	55	M16	21	355	233398	1795	185	122	M16	21	295	143090	1101	51099	193	127	31,23	
280x355	197	177	165	66	M20	18	690	336303	2402	192	121	M20	18	580	210027	1500	81312	200	126	46,77	
300x375	197	177	165	66	M20	20	690	400360	2669	199	127	M20	20	580	253018	1687	87120	206	132	49,72	
320x405	197	177	165	66	M20	21	690	448404	2803	196	124	M20	21	580	218947	1762	92928	203	128	60,52	
340x425	197	177	165	66	M20	22	690	499116	2936	193	123	M20	22	580	312383	1838	98736	201	128	63,86	
360x455	224	202	190	76	M22	21	930	627940	3489	188	119	M22	21	780	389170	2162	138624	196	124	86,78	
380x475	224	202	190	76	M22	22	930	694389	3655	186	119	M22	22	780	429232	2259	146325	195	125	91,04	
400x495	224	202	190	76	M22	24	930	797384	3987	193	125	M22	24	780	498899	2494	154027	201	130	95,30	

● Clamping sets available from stock.

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

Other sizes on request .