



The **CLAMPEX®** clamping set is a frictionally engaged, detachable shaft - hub connection for cylindrical shafts and bores without feather key.

General Hints

Please read through these mounting instructions carefully before assembling the clamping set. Please pay special attention to the safety instructions!
The mounting instructions are part of your product. Please keep them carefully and close to the clamping set.
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Safety and Advice Hints



DANGER! Danger of injury to persons.



CAUTION! Damages on the machine possible.



ATTENTION! Pointing to important items.



PRECAUTION! Hints concerning explosion protection.

General Hints to Danger



DANGER!
With assembly and disassembly of the clamping set it has to be made sure that the entire drive train is protected against unintentional engagement. You can be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety instructions.

- All operations on and with the clamping set have to be performed taking into account "safety first".
- Please make sure to disengage the power pack before you perform your work at the clamping set.
- Protect the power pack against unintentional engagement, e. g. by providing hints at the place of engagement or removing the fuse for current supply.
- Do not touch the operation area of the machine as long as it is in operation.
- Please protect the rotating drive parts against unintentional touch. Please provide for the necessary protection devices and caps.

Proper Use

You may only assemble, operate and maintain the clamping set if you

- have carefully read through the mounting instructions and understood them
- had technical training
- are authorized to do so by your company

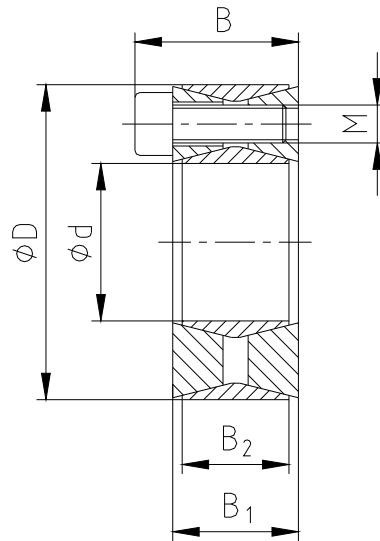
The clamping set may only be used in accordance with the technical data (see table 1). Unauthorized modifications on the clamping set are not admissible. We do not take any warranty for resulting damages. To further develop the product we reserve the right for technical modifications.

The **CLAMPEX®** clamping set described in here corresponds to the technical status at the time of printing of these mounting instructions.

Schutzvermerk ISO 16016 beachten.	Gezeichnet: 25.03.10 Pz/Hg	Ersatz für: KTR-N vom 27.08.04
	Geprüft: 25.03.10 Pz	Ersetzt durch:



Technical Data – KTR 100



picture 1: CLAMPEX® KTR 100

1) These are the maximum screw tightening torques. They can be reduced to max. 40% of the aforementioned figures with T, Fax, PW and PN being reduced proportionally.

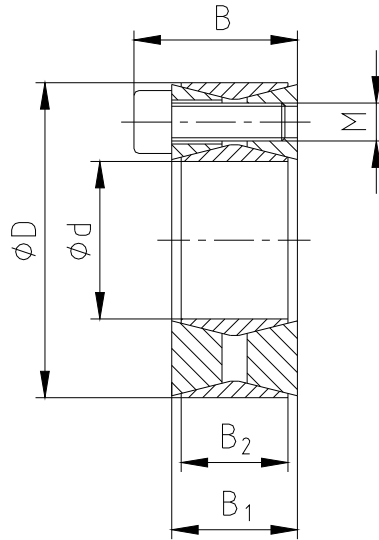
Table 1:

Dimensions [mm]				Clamping screws DIN EN ISO 4762 – 12.9 $\mu_{total} = 0,14$			Transmittable torqueor axial force		Surface pressure between clamping set [N/mm ²]		Weight ~ kg
d x D	B	B ₁	B ₂	M	z number	T _A ¹⁾ [Nm]	T [Nm]	F _{ax} [kN]	Shaft P _W	Hub P _N	
18 x 47	26	20	17	M6	8	15	240	27	289	111	0,24
19 x 47	26	20	17	M6	8	15	254	27	274	111	0,24
20 x 47	26	20	17	M6	8	15	267	27	260	111	0,23
22 x 47	26	20	17	M6	8	15	294	27	237	111	0,23
24 x 50	26	20	17	M6	8	15	320	27	217	104	0,26
25 x 50	26	20	17	M6	8	15	334	27	208	104	0,25
28 x 55	26	20	17	M6	12	15	560	40	279	142	0,30
30 x 55	26	20	17	M6	12	15	600	40	260	142	0,29
32 x 60	26	20	17	M6	12	15	641	40	244	130	0,34
35 x 60	26	20	17	M6	12	15	701	40	223	130	0,32
38 x 65	26	20	17	M6	15	15	951	50	257	150	0,36
40 x 65	26	20	17	M6	15	15	1001	50	244	150	0,34
42 x 75	32	24	20	M8	12	37	1506	72	283	159	0,60
45 x 75	32	24	20	M8	12	37	1614	72	264	159	0,57
48 x 80	32	24	20	M8	12	37	1721	72	248	149	0,60
50 x 80	32	24	20	M8	12	37	1793	72	238	149	0,60
55 x 85	32	24	20	M8	15	37	2465	90	270	175	0,63
60 x 90	32	24	20	M8	15	37	2690	90	248	165	0,69
65 x 95	32	24	20	M8	15	37	2914	90	229	156	0,73
70 x 110	38	28	24	M10	15	70	4992	143	282	179	1,26
75 x 115	38	28	24	M10	15	70	5349	143	263	171	1,33
80 x 120	38	28	24	M10	15	70	5705	143	246	164	1,40
85 x 125	38	28	24	M10	15	70	6092	143	232	158	1,49
90 x 130	38	28	24	M10	15	70	6418	143	219	152	1,53
95 x 135	38	28	24	M10	18	70	8130	171	249	175	1,62
100 x 145	44	32	26	M12	15	127	10881	218	278	191	2,01
110 x 155	44	32	26	M12	15	127	11969	218	252	179	2,15
120 x 165	44	32	26	M12	16	127	13927	232	247	179	2,35
130 x 180	50	38	34	M12	20	127	18860	290	218	157	3,51
140 x 190	50	38	34	M12	22	127	22341	319	222	164	3,85
150 x 200	50	38	34	M12	24	127	26113	348	226	170	4,07



Technical Data – KTR 100

Continuation:



picture 1: CLAMPEX® KTR 100

1) These are the maximum screw tightening torques. They can be reduced to max. 40% of the aforementioned figures with T, Fax, PW and PN being reduced proportionally.

Table 1: Continuation

Dimensions [mm]				Clamping screws DIN EN ISO 4762 – 12.9 $\mu_{total} = 0,14$			Transmittable torque axial force		Surface pressure between clamping set [N/mm ²]		Weight ~ kg
d x D	B	B ₁	B ₂	M	z number	T _A ¹⁾ [Nm]	T [Nm]	F _{ax} [kN]	Shaft P _w	Hub P _N	
160 x 210	50	38	34	M12	26	127	30175	377	230	175	4,30
170 x 225	58	44	38	M14	22	195	35710	420	216	163	5,78
180 x 235	58	44	38	M14	24	195	41248	458	222	170	6,05
190 x 250	66	52	46	M14	28	195	50796	535	203	154	8,25
200 x 260	66	52	46	M14	30	195	57289	573	206	159	8,65
220 x 285	72	56	50	M16	26	300	74838	680	205	158	11,22
240 x 305	72	56	50	M16	30	300	94202	785	217	171	12,20
260 x 325	72	56	50	M16	34	300	115659	890	227	182	13,20
280 x 355	87	66	60	M18	32	410	139261	995	196	155	19,20
300 x 375	87	66	60	M18	36	410	167860	1119	206	165	20,50
320 x 405	101	78	72	M20	36	590	240190	1501	216	171	29,60
340 x 425	101	78	72	M20	36	590	255201	1501	203	163	31,10
360 x 455	116	90	84	M22	36	790	328186	1823	200	158	42,20
380 x 475	116	90	84	M22	36	790	346419	1823	189	152	44,00
400 x 495	116	90	84	M22	36	790	364651	1823	180	145	46,00
420 x 515	116	90	84	M22	40	790	371953	1771	196	160	50,00
440 x 545	130	102	96	M24	40	1000	453797	2063	188	152	64,60
460 x 565	130	102	96	M24	40	1000	467548	2033	180	146	67,40
480 x 585	130	102	96	M24	42	1000	512270	2134	181	148	71,00
500 x 605	130	102	96	M24	44	1000	559025	2236	182	150	72,60
520 x 630	130	102	96	M24	45	1000	603344	2321	179	148	80,00
540 x 650	130	102	96	M24	45	1000	626549	2321	172	143	82,00
560 x 670	130	102	96	M24	48	1000	683027	2439	177	148	85,00
580 x 690	130	102	96	M24	50	1000	736897	2541	178	150	88,00
600 x 710	130	102	96	M24	50	1000	773517	2578	172	145	91,00



The clamping set is generally delivered in assembled condition.

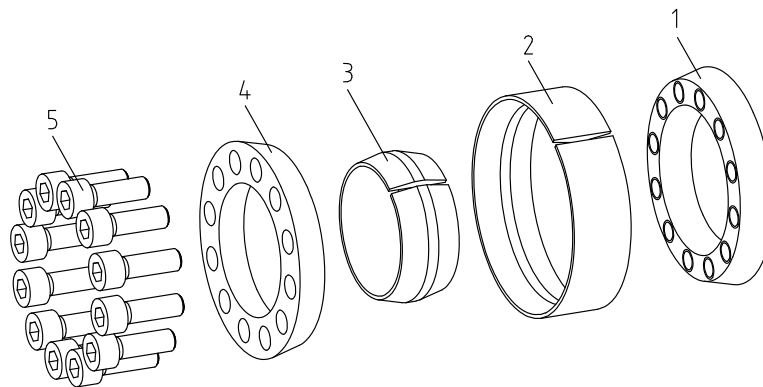
Tolerances, surfaces

A good rotating process is sufficient:
Rz ≤ 16µm

Highest permissible tolerance:
d = h11/H11 - shaft/hub

Components of CLAMPEX® KTR 100

Component	Quantity	Designation
1	1	pressure ring in the back
2	1	external ring (slotted)
3	1	internal ring (slotted)
4	1	pressure ring in the front
5	see catalogue	cap screw DIN EN ISO 4762



picture 2: CLAMPEX® KTR 100



ATTENTION!

Dirty or used clamping sets must be disassembled, cleaned and afterwards oiled with thin-bodied oil (e. g. Castrol 4 in 1 or Klüber Quietsch-Ex) before the assembly. The assembly is to be effected acc. to picture 2.

Assembly

- Check the position of shaft and hub regarding the stipulated tolerance (h11/H11).
- Clean the hub bore and the shaft and afterwards oil them with thin-bodied oil (e. g. Castrol 4 in 1 or Klüber Quietsch-Ex).



CAUTION!

Do not use oils and greases with molybdenum disulphide or high pressure additions as well as slide grease pastes.

- Unscrew the clamping screws slightly and insert the clamping set KTR 100 between shaft and hub.
- Slightly tighten the clamping screws manually and align the clamping set with hub part.
- Tighten the clamping screws evenly and crosswise. Increase the tightening torque step by step. This procedure must be repeated until the tightening torque indicated in table 2 is reached with all clamping screws.

Table 2:

Screw size M	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
Tightening torque T _A [Nm]	15	37	70	127	195	300	410	590	790	1000
Disassembly auxiliary thread M ₁	M8	M10	M12	M16	M18	M20	M22	M24	M27	M30

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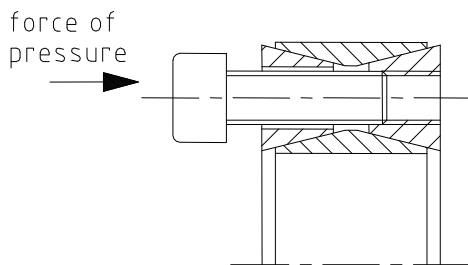
Disassembly



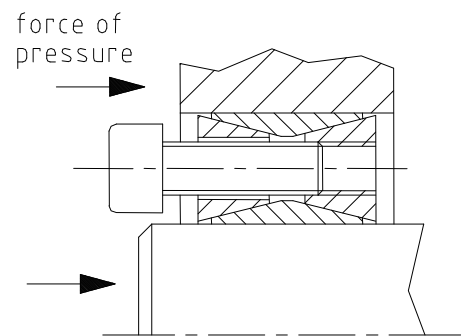
DANGER!

Loosened or falling drive parts can cause injuries to persons or damages to the machines. Safe the drive parts before the disassembly.

- Unscrew all clamping screws evenly one after the other. Unscrew all clamping screws by 3 - 4 threads.
- After having unscrewed the last clamping screws, the clamping connection is normally free.
- If the pressure ring in the back does not release automatically, the unscrewing can be effected by pressure or slight shocks onto the screw heads (see picture 3).
- If the pressure ring in the front cramps, a loosening is realized by pressure or slight shocks onto the shaft and the hub (see picture 4).
- Remove the unscrewed clamping set between shaft and hub.



picture 3: unscrew the pressure ring in the back

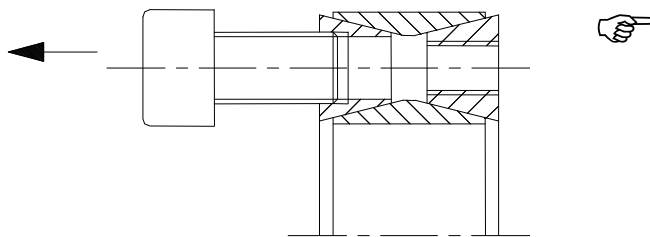


picture 4: unscrew the pressure ring in the front



CAUTION!

In case of non-observance of these hints or in case of non-considerance of the operating conditions regarding the selection of the clamping set, the function of the clamping set can be influenced.



picture 5: disassembly auxiliary thread

ATTENTION!

The coloured screw heads mark the disassembly auxiliary threads in the pressure ring in the front. After having removed the coloured screws, the disassembly auxiliary threads of the pressure ring in the front are accessible. With corresponding screws (see table 2), a clamping set deeply situated in the hub bore can be pulled out.



CAUTION!

The disassembly auxiliary threads only have 3 - 5 supporting threads and are not cut through. These are not threads for pulling-off screws.

Disposal of waste:

Defective clamping sets must be cleaned and scrapped.

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KTR Kupplungstechnik
GmbH
D-48407 Rheine

**CLAMPEX® KTR 100
mounting instructions**

KTR-N 40810 EN
sheet: 6 of 6
edition: 10

Remark for the use in  explosive applications according to ATEX 95

For the use in explosive applications the type and size of clamping set (applying for category 3 only) has to be selected in a way that starting from the peak torque of the machine including all operating parameters to the rated torque of the clamping set there is a service factor of at least $s = 2$.

CLAMPEX® clamping sets are not part of the standard 94/9/EG, since

- this product is a torsionally rigid, backlash-free, frictionally engaged connection with one or more taper clamping ring(s) by means of several screws.
(Clamping screws have to be secured, e. g. by means of a medium strength adhesive).
- due to the design of clamping sets a fracture/failure does not have to be expected (frictional heat is only caused by improper assembly/tightening torques, i. e. not in case of proper use).

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