





 <b>KTR Kupplungstechnik GmbH</b> D-48407 Rheine	<b>CLAMPEX® KTR 620</b> <b>mounting instructions</b>	<b>KTR-N 40822 EN</b> sheet: 1 of 6 edition: 3
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The **CLAMPEX®** clamping set is a frictionally engaged, detachable shaft - shaft connection for cylindrical shafts 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 and disassemble 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 2). 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 Geprüft: 25.03.10 Pz	Ersatz für: KTR-N vom 09.08.07 Ersetzt durch:
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The clamping set is generally delivered in assembled condition.

**Tolerances, surfaces**

A good rotating process is sufficient:

$$Rz \leq 16\mu\text{m}$$

Highest permissible tolerance:

**d = f7 for the hub** (hollow shaft outside)

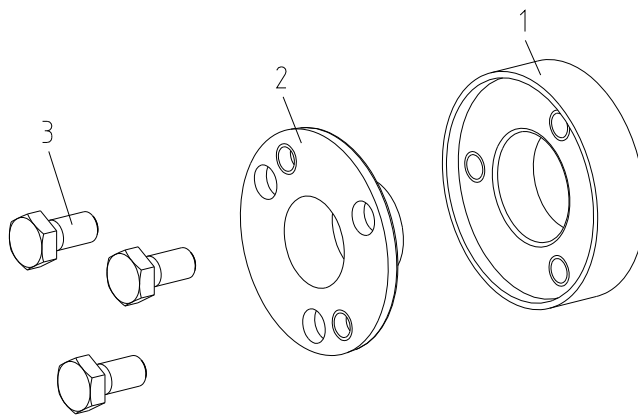
$$d_w = h6/ H7$$

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

**Components of CLAMPEX® KTR 620**

component	quantity	designation
1	1	external ring
2	1	internal ring
3	see table 2	hexalonal screws DIN EN ISO 4017 (phosphated) <sup>1)</sup>

1) external and internal rings with QPQ coating; hexagon screws DIN EN ISO 4017 with Geomet coating



picture 1: CLAMPEX® KTR 620



**ATTENTION!**

Dirty or used clamping sets must be disassembled before the installation in order to be cleaned. Afterwards the taper surfaces and threads must be greased with Molykote MoS<sub>2</sub> (see picture 2). In order to relubricate use multipurpose Molykote BR2.



**CAUTION!**

Hexagon screws with Geomet coating must not be lubricated with Molykote

**Assembly**



**CAUTION!**

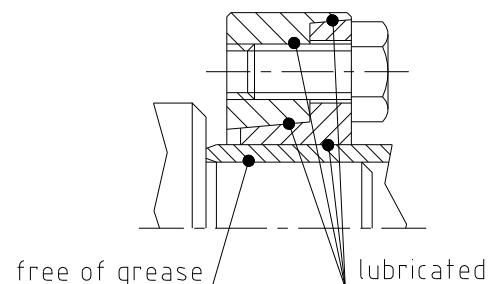
Check the taper surfaces of the clamping set for the indicated lubrication.

- Check the shaft and hub position regarding the permitted tolerance.
- The contact surfaces of shaft / hollow shaft inside and shaft must be cleaned and degreased.



**CAUTION!**

Contact surfaces of shaft and hub bore (hollow shaft inside) must neither be greased nor be oiled (see picture 2).



picture 2

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**Assembly**

**Continuation:**

- Loosen the clamping screws slightly and put the clamping set KTR 620 externally onto the hub/hollow shaft (see picture 3 and 4).



**ATTENTION!**

In the area of the position of the external clamping set the external surface of the hub (outside hollow shaft) can be greased.



**CAUTION!**

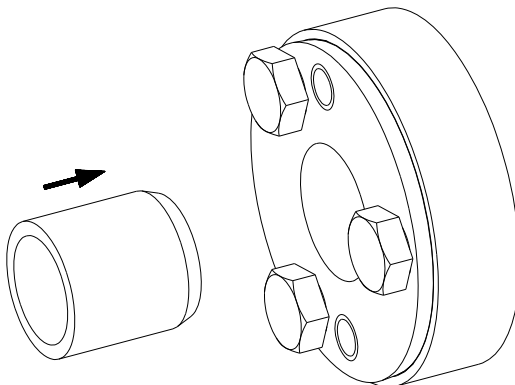
Before tightening the clamping screws install the shaft.

- Slightly tighten the clamping screws manually.
- Afterwards tighten the clamping screws evenly and successively in several revolutions (see picture 5) until the front, screw head-sided surfaces of the outer and the inner ring are flush. Thus the correct clamping of the outer and the inner ring can be visually checked (see picture 6). When tightening the clamping screws the max. screw tightening torque indicated (see table 1) must not be exceeded.

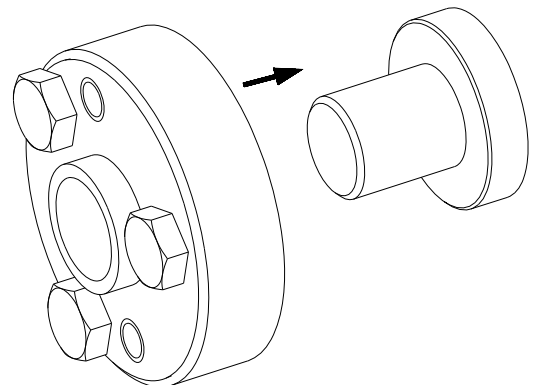


**ATTENTION!**

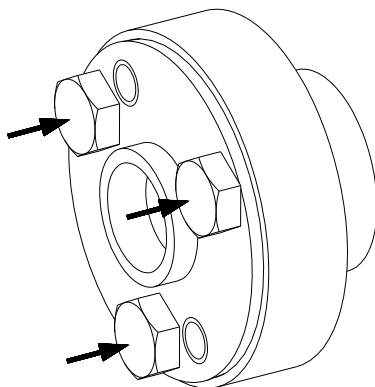
Subject to the QPQ coating the internal ring may protude by up to 0,5 mm.



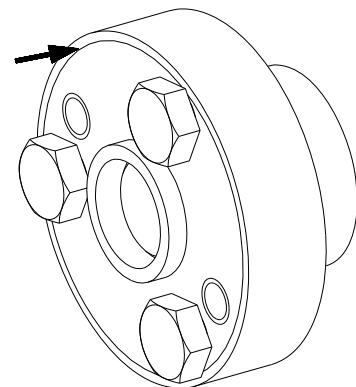
picture 3: push the clamping set onto the hollow shaft



picture 4: push onto the shaft



picture 5: tightening of the clamping screws



picture 6: visual check

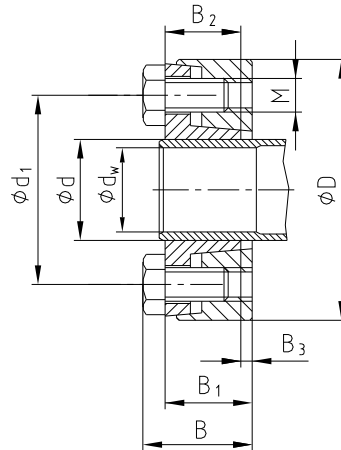
**Table 1:**

type of clamping set	KTR 620					
screw size M	M6	M8	M10	M12	M14	M16
tightening torque $T_A$ [Nm]	12	30	55	100	160	250

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**Technical Data**



picture 7: dimensions CLAMPEX® KTR 620

**Table 2:**

dxD [mm]	shaft dia- meter d <sub>w</sub> [mm]	transmittable torque or axial force		dimensions [mm]					clamping screws DIN EN ISO 4017 10.9 μ <sub>ges.</sub> = 0,10			forcing thread		surface pressure clamping set/ hollow shaft	weight [-kg]
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	d <sub>1</sub>	M	z	T <sub>A</sub> [Nm]	M <sub>1</sub>	z <sub>1</sub>	P <sub>H</sub> [n/mm <sup>2</sup> ]	
16x41	13	85	13	19,0	15	13	2	28	M6	3	12	M6	2	281	0,15
	14	105	15												
20x47	17	155	18	19,0	15	13	2	32	M6	4	12	M6	2	288	0,17
	18	175	19												
24x50	20	235	24	22,0	18	16	2	36	M6	5	12	M6	2	266	0,25
	22	305	28												
30x60	24	390	33	24,0	20	18	2	44	M6	6	12	M6	3	256	0,30
	25	430	34												
	26	480	37												
36x72	27	510	38	27,5	22	20	2	54	M8	5	30	M8	2	256	0,49
30	690	46	253												
33	820	50	254												
40x80	34	910	54	29,5	24	22	2	61	M8	6	30	M8	2	231	0,61
44x80	35	850	49											231	
37	980	53	231												
50x90	38	1180	62	31,5	26	23,5	2,5	68	M8	8	30	M8	2	249	0,84
	40	1320	66												
	42	1470	70												
55x100	42	1400	67	34,5	29	26	3	72	M8	8	30	M8	2	223	1,20
	45	1650	73												
	48	1900	79												
60x110	48	1700	71	34,5	29	26	3	80	M8	9	30	M8	3	223	1,50
62x110	50	2050	82											216	
52	2200	85	216												
68x115	50	1900	76	34,5	29	26	3	86	M8	9	30	M8	3	222	1,60
	55	2450	89												
	60	3000	100												
75x138	55	2650	96	38,0	31	27	4	100	M10	10	59	M10	2	227	2,60
	60	3250	108												
	65	3850	118												
80x141	60	3350	112	38,0	31	27	4	104	M10	10	59	M10	2	224	2,80
	65	3980	122												
	70	4620	132												
90x155	65	5200	160	45	38	34	4	114	M10	11	59	M10	2	219	3,40
	70	6000	171												
	75	6900	184												
100x170	70	6600	189	50	43	39	4	124	M10	14	59	M10	3	206	4,60
	75	76020	203												
	80	8600	215												
110x185	80	10600	265	57	49	44	5	136	M12	12	100	M12	4	212	6,20
	85	11900	280												
	90	13300	296												



**Technical Data**

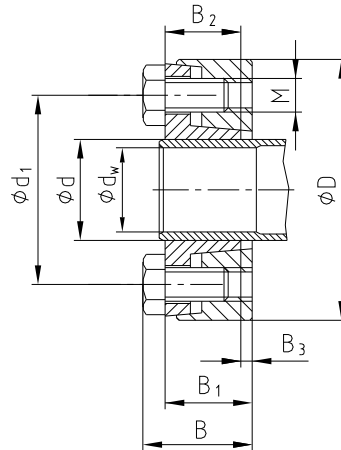


Bild 7: dimensions CLAMPEX® KTR 620

**Continuation: Table 2**

dxD [mm]	shaft dia- meter d <sub>w</sub> [mm]	transmittable torque or axial force		dimensions [mm]					clamping screws DIN EN ISO 4017 10.9 $\mu_{ges.} = 0,10$			forcing thread		surface pressure clamping set/ hollow shaft	weight [-kg]
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	d <sub>1</sub>	M	z	T <sub>A</sub> [Nm]	M <sub>1</sub>	z <sub>1</sub>	P <sub>H</sub> [n/mm <sup>2</sup> ]	
120x197	85	12700	299	61	53	48	5	147	M12	14	100	M12	4	205	7,40
	90	14200	316												
	95	15700	331												
125x215	90	14600	324	61	53	48	5	158	M12	14	100	M12	4	215	9,30
	95	16000	337												
	100	17500	350												
130x230	95	18600	392	67	58	52	6	165	M14	9	160	M14	4	225	11,90
	100	20300	406												
	110	23600	429												
140x230	100	20100	402	67	58	52	6	172	M14	9	160	M14	4	205	11,00
	105	21700	413												
	115	25150	437												
155x263	110	27400	498	71	62	56	6	195	M14	10	160	M14	4	212	16,00
	115	29600	515												
	125	32000	533												
165x290	120	41500	692	78	68	61	7	204	M16	12	250	M16	4	223	22,30
	125	44300	709												
	135	47200	726												
175x300	130	47600	732	78	68	61	7	214	M16	12	250	M16	4	216	23,30
	135	50500	748												
	140	53500	764												
185x320	140	66000	943	95	85	77	8	224	M16	14	250	M16	4	201	33,40
	145	69900	964												
	150	73500	980												



**Disassembly**



**DANGER!**

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

- Detach all clamping screws evenly and successively in several revolutions. Do not unscrew the clamping screws completely from the thread.



**CAUTION!**

**To reduce the tension forces the clamping screws must not be unscrewed completely.**

- Detach the outer taper ring by means of the pull-off threads and some clamping screws, quantity dependent on the pull-off threads in the inner ring. The outer taper ring must be pulled as long as this is completely detached.
- Remove shaft from the hub/hollow shaft.
- Draw the clamping set KTR 620 off the hub/hollow shaft.



**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.**

**Disposal of waste:**

***Defective clamping sets must be cleaned and scrapped.***

**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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