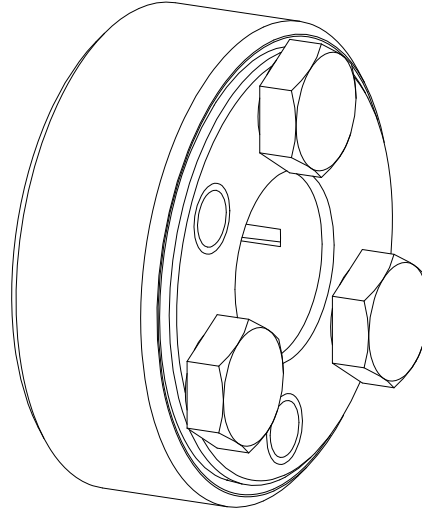




CLAMPEX® KTR 620



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

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1 Technical data

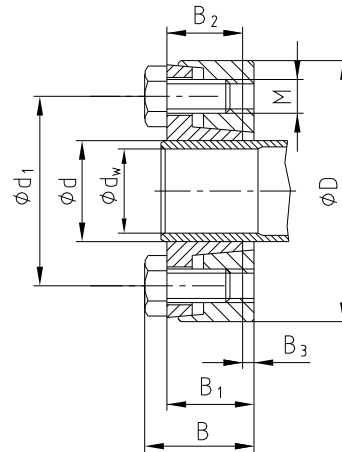


illustration 1: dimensions CLAMPEX® KTR 620

Table 1:

dxD [mm]	shaft dia- meter d _w [mm]	transmittable torque or axial force		dimensions [mm]					clamping screws DIN EN ISO 4017 10.9 μ _{ges.} = 0,10			forcing thread		surface pressure clamping set/ hollow shaft	weight [-kg]
		T [Nm]	F _{ax} [kN]	B	B ₁	B ₂	B ₃	d ₁	M	z	T _A [Nm]	M ₁	z ₁	P _H [n/mm ²]	
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	52	M8	5	30	M8	2	256	0,49
	30	690	46					54						253	
38x72	33	820	50	29,5	24	22	2	61	M8	6	30	M8	2	254	0,61
	34	910	54											231	
44x80	35	850	49	31,5	26	23,5	2,5	68	M8	8	30	M8	2	249	0,84
	37	980	53												
	40	1180	62												
50x90	40	1320	66	34,5	29	26	3	72	M8	8	30	M8	2	223	1,20
	42	1470	70												
	42	1400	67												
55x100	45	1650	73	34,5	29	26	3	80	M8	9	30	M8	3	223	1,50
	48	1900	79											216	
60x110	48	1700	71	34,5	29	26	3	86	M8	9	30	M8	3	222	1,60
	50	1900	76												
62x110	50	2050	82	38,0	31	27	4	100	M10	10	59	M10	2	227	2,60
	52	2200	85												
	55	2450	89												
68x115	55	2450	89	38,0	31	27	4	104	M10	10	59	M10	2	224	2,80
	60	3000	100												
	60	3350	112												
75x138	60	3250	108	45	38	34	4	114	M10	11	59	M10	2	219	3,40
	65	3850	118												
	65	3980	122												
80x141	65	3980	122	50	43	39	4	124	M10	14	59	M10	3	206	4,60
	70	4620	132												
	70	6000	189												
90x155	65	5200	160	57	49	44	5	136	M12	12	100	M12	4	212	6,20
	70	6000	171												
	75	6900	184												
100x170	70	6600	189	57	49	44	5	136	M12	12	100	M12	4	212	6,20
	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												



1 Technical data

Continuation: Table 1

d x D [mm]	shaft dia- meter d _w [mm]	transmittable torque or axial force		dimensions [mm]					clamping screws DIN EN ISO 4017 10.9 μ _{ges.} = 0,10			forcing thread		surface pressure clamping set/ hollow shaft	weight [~kg]
		T [Nm]	F _{ax} [kN]	B	B ₁	B ₂	B ₃	d ₁	M	z	T _A [Nm]	M ₁	z ₁	P _H [n/mm ²]	
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	12	160	M14	4	225	11,90
	100	20300	406												
	110	23600	429												
140x230	100	20100	402	67	58	52	6	172	M14	12	160	M14	4	205	11,00
	105	21700	413												
	115	25150	437												
155x263	110	27400	498	71	62	56	6	195	M14	14	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	14	250	M16	4	216	23,30
	135	50500	748												
	140	53500	764												
185x320	140	66000	943	95	85	77	8	224	M16	16	250	M16	4	201	33,40
	145	69900	964												
	150	73500	980												
200x340	150	82000	1093	98	88	77,5	8	238	M16	16	250	M16	4	280	37
	160	91000	1138												
	165	102000	1236												
220x370	160	105000	1313	120	107,5	96,5	8,5	268	M20	15	480	M20	3	250	53
	170	122000	1435												
	180	138000	1533												
240x405	170	125000	1471	123,5	111	98	11	288	M20	16	480	M20	4	276	66
	180	145000	1611												
	200	182000	1820												
260x430	190	165000	1737	138	125,5	110,5	9,5	312	M20	16	480	M20	4	278	80
	200	190000	1900												
	220	238000	2164												
280x460	210	220000	2095	152,5	140	121	14	334	M20	18	480	M20	6	265	103
	220	245000	2227												
	240	300000	2500												
300x485	220	297000	2700	155	140	124	16	360	M24	16	840	M24	4	276	116
	230	330000	2870												
	250	399000	3192												
320x520	240	331000	2758	157	142	124	18	380	M24	18	840	M24	6	290	134
	250	365000	2920												
	270	437000	3237												
340x570	250	429000	3432	174	159	139	20	402	M24	18	840	M24	6	288	185
	260	469000	3608												
	280	556000	3971												
360x590	270	545000	4037	178	163	143	20	424	M24	20	840	M24	5	292	207
	280	592000	4229												
	290	694000	4786												



2 Advice

2.1 General advice

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.
The copyright for these mounting instructions remains with **KTR Kupplungstechnik GmbH**.

2.2 Safety and advice symbols



DANGER!

Danger of injury to persons.



CAUTION!

Damages on the machine possible.



ATTENTION!

Pointing to important items.



WARNING!

Hints concerning explosion protection.

2.3 General hazard warnings



DANGER!

With assembly and disassembly of the clamping set it has to be made sure that the entire drive train is secured against accidental switch-on. You can be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety indications.

- All operations on and with the clamping set have to be performed taking into account "safety first".
- Please make sure to switch off the power pack before you perform your work on the clamping set.
- Secure the power pack against accidental switch-on, e. g. by providing warning signs at the place of switch-on or removing the fuse for current supply.
- Do not touch the operation area of the machine as long as it is in operation.
- Please secure the rotating drive parts against accidental contact. Please provide for the necessary protection devices and covers.

2.4 Intended 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 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 will not assume liability for any damage that may arise. In the interest of further development 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.

Please note protection mark ISO 16016.	Drawn:	25.09.13 Kb/Jh	Replaced for:	KTR-N dated 15.02.12
	Verified:	26.09.13 Kb	Replaced by:	



3 Storage

The clamping set is supplied in preserved condition and can be stored at a dry and covered place for 6 – 9 months.



CAUTION!
Humid storage rooms are not suitable.
Please make sure that condensation is not generated.

4 Assembly

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)
 $d_w = h6/ H7$
 $d_w > \varnothing 160 - g6/H7$

4.1 Components of CLAMPEX® clamping set KTR 620

Component	Quantity	Designation
1	1	external ring (phosphated)
2	1	internal ring
3	see table 2	hexagonal screws DIN EN ISO 4017 (phosphated) ¹⁾

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

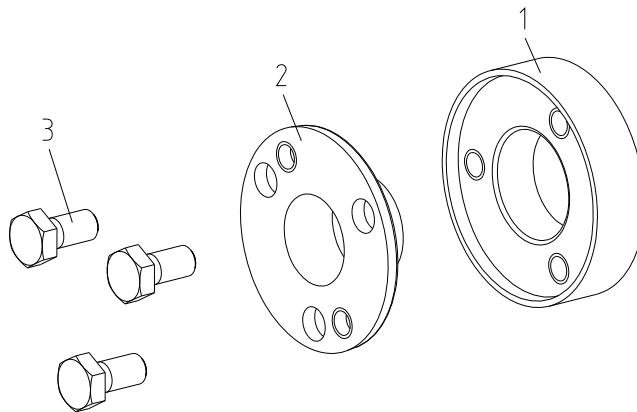


illustration 2: CLAMPEX® KTR 620



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 MoS₂ (see illustration 3). To re-lubricate use, for example, multipurpose grease Molykote G Rapid plus.



CAUTION!
With the use of hexagon screws with Geomet painting the tappings of the external ring and the hexagon screws must not be greased with Molykote.



4 Assembly

4.2 Assembly of the clamping set



CAUTION!

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

- Check the shaft and hub position regarding the permitted tolerance (h6/H7 or > Ø160 – g6/H7).
- 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 illustration 3).



CAUTION!

With the use of hexagon screws with Geomet painting the tappings of the external ring and the hexagon screws must not be greased with Molykote.

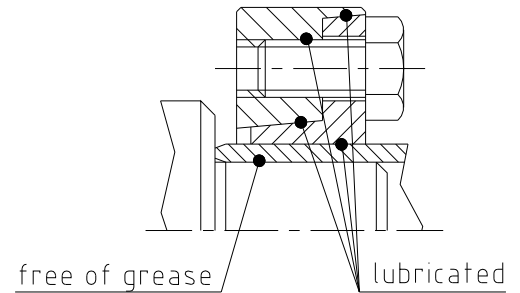


illustration 3: Clean/grease the surfaces



CAUTION!

The assembly of the clamping set tapers free from grease results in divergent tabular and calculated values.

- Loosen the clamping screws slightly and put the clamping set KTR 620 externally onto the hub/hollow shaft (see illustration 4 and 5).



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 and align the clamping set.
- Afterwards tighten the clamping screws stepwise evenly and successively in several revolutions (see illustration 6) 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 illustration 7). When tightening the clamping screws the max. screw tightening torque indicated (see table 2) must not be exceeded.



ATTENTION!

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

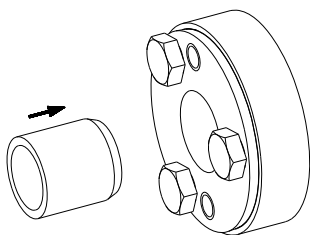


illustration 4: push the clamping set onto the hollow shaft

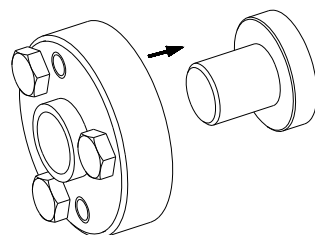


illustration 5: push onto the shaft

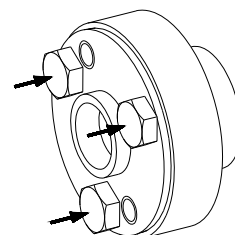


illustration 6: tightening of the clamping screws

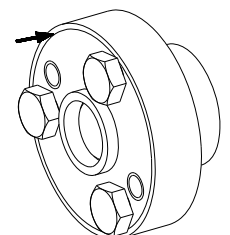


illustration 7: visual check



4 Assembly

4.2 Assembly of the clamping set

Table 2:

type of clamping set	KTR 620							
screw size M	M6	M8	M10	M12	M14	M16	M20	M24
Tightening torque T_A [Nm]	12	30	55	100	160	250	480	840



ATTENTION!

During the assembly there is no axial movement of the hub towards the shaft.

4.3 Disassembly of the clamping set



DANGER!

Loosened or falling drive parts can cause injuries to persons or damages to the machines. Secure 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.

- Screw separate screws in the pull-off threads of the internal ring (component 2) (see illustration 8). Select the number of the screws z_1 and the size of the thread M_1 according to table 1.
- Tighten the screws evenly by $\frac{1}{4}$ revolution one after another. Increase the pull-off torque stepwise until the external ring (component 1) is separated from the internal ring (component 2).
- Remove shaft from the hub/hollow shaft.
- Draw the untightened clamping set KTR 620 off the hub/hollow shaft.

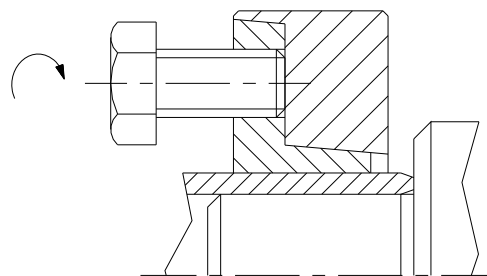


illustration 8: Releasing the clamping set KTR 620



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.

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4 Assembly

4.4 Spares inventory, customer service addresses

A stock of clamping sets at the site of application is a basic condition to ensure the operational readiness of the drive components.

Contact addresses of the KTR partners for spare parts and orders can be obtained from the KTR homepage at www.ktr.com.



ATTENTION!

KTR does not assume any liability or warranty for the use of spare parts and accessories which are not provided by KTR and for the damages which may incur as a result.

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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