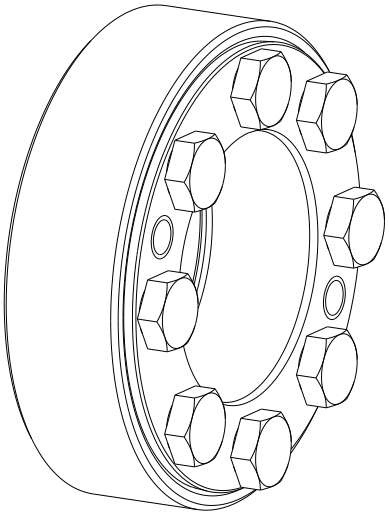
CLAMPEX® KTR 620



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

Table of contents

1 Technical data 2

2 Advice 6

2.1 General advice 6
2.2 Safety and advice symbols 6
2.3 General hazard warnings 7
2.4 Intended use 7

3 Storage, transport and packaging 7

3.1 Storage 7
3.2 Transport and packaging 7

4 Assembly 8

4.1 Components of clamping set CLAMPEX® KTR 620 8
4.2 Assembly of the clamping set 8
4.3 Disassembly of clamping set 10

5 Disposal 10

6 Spares inventory, customer service addresses 11

7 Advice regarding the use in Ex potentially explosive atmospheres according to EU directive 2014/34/EU 11

1 Technical data

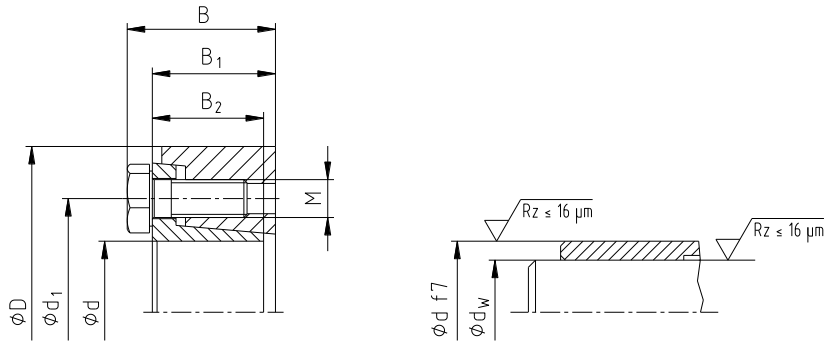


Illustration 1: CLAMPEX® KTR 620

Table 1:

d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 10.9 μ_{total} = 0.10				Surface pressure of clamping set/ hollow shaft P_H [N/mm²]	Weight ~ kg
		T [Nm]	F_{ax} [kN]	B	B_1	B_2	d_1	M	Length	z	T_A [Nm]		
16 x 41	13	70	11	19.5	15.3	13.5	28	M6	12	3	13	254	0.1
	14	90	13										
18 x 44	15	80	11	19.5	15.3	13.5	30	M6	12	4	13	222	0.1
	16	110	14										
20 x 47	17	150	18	19.5	15.3	13.5	32	M6	12	4	13	274	0.1
	18	175	19										
24 x 50	19	165	17	22.0	18.22	16	36	M6	16	5	13	243	0.2
	20	215	22										
	22	280	25										
26 x 51.5	20	200	20	22	18.05	16	38	M6	16	5	13	238	0.2
	22	260	24										
	24	330	28										
30 x 60	24	370	33	24.0	20.26	18	44	M6	16	6	13	255	0.30
	25	420	34										
	26	465	37										
36 x 72	27	480	36	27.5	22.1	20	52	M8	20	5	30	250	0.5
	30	650	43										
	33	835	51										
38 x 72	27	480	36	27.5	22.1	20	52	M8	20	5	30	240	0.5
	30	645	43										
	33	765	46										
40 x 80	34	830	49	29.5	24.22	22	61	M8	20	6	30	209	0.6
44 x 80	35	770	44									192	
	37	880	48										
50 x 90	38	1130	59	31.5	26.1	23.5	68	M8	20	8	30	212	0.80
	40	1260	63										
	42	1400	67										
55 x 100	42	1300	62	34.5	29	26	72	M8	20	8	30	195	1.1
	45	1600	71										
	48	1900	79										
60 x 110	48	1700	71	34.5	29.25	26	80	M8	20	9	30	191	1.3
	50	1950	78										
	52	2160	83										
62 x 110	48	1700	76	34.5	29.25	26	80	M8	20	9	30	189	1.3
	50	1950	91										
	52	2160	83										
68 x 115	50	1900	76	35	29.4	26	86	M8	20	9	30	206	1.3
	55	2500	91										
	60	3150	105										
75 x 138	55	2700	98	37.5	30.7	27	100	M10	25	10	60	211	2.3
	60	3400	113										
	65	4100	126										
80 x 141	60	3300	110	37.5	31.1	27	104	M10	25	10	60	215	2.3
	65	4100	126										
	70	4950	141										

1 Technical data

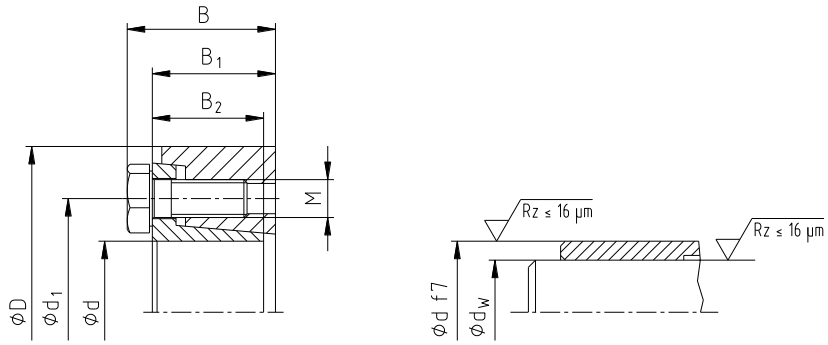


Illustration 1: CLAMPEX® KTR 620

Continuation: table 1

d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 10.9 μ_{total} = 0.10				Surface pressure of clamping set/ hollow shaft P_H [N/mm²]	Weight ~ kg
		T [Nm]	F_{ax} [kN]	B	B_1	B_2	d_1	M	Length	z	T_A [Nm]		
85 x 155	65	5500	169	44.5	38.2	34	114	M10	25	11	60	216	3.2
	70	6400	183										
	75	7300	195										
90 x 155	65	5500	169	44.5	38.2	34	114	M10	25	11	60	223	3.2
	70	6600	189										
	75	7900	211										
95 x 170	70	6200	177	50	43.45	39	124	M10	30	14	60	182	4.3
	75	7400	197										
	80	8600	215										
100 x 170	70	6200	177	50	43.45	39	124	M10	30	14	60	176	4.3
	75	7400	197										
	80	8600	215										
105 x 185	80	10500	263	56.5	49.1	43.5	136	M12	35	12	100	208	5.8
	85	11800	278										
	90	13700	304										
110 x 185	80	10500	263	56.5	49.1	43.5	136	M12	35	12	100	202	5.8
	85	11800	278										
	90	13700	304										
115 x 197	85	12500	294	60.5	53	48	147	M12	35	14	100	193	6.9
	90	14100	313										
	95	16000	337										
120 x 197	85	12500	294	60.5	53	48	147	M12	35	14	100	189	6.9
	90	14100	313										
	95	16000	337										
125 x 215	90	14500	322	61	53.4	48	158	M12	35	14	100	196	8.7
	95	16600	349										
	100	18800	376										
130 x 215	95	17000	358	61	53.4	48	158	M12	35	14	100	187	9.4
	100	18400	368										
	110	22000	400										
130 x 230	95	18400	387	66.5	75.5	51	165	M14	40	12	160	213	10.8
	100	20800	416										
	110	26200	476										
135 x 230	95	18400	387	66.5	57.5	51	165	M14	40	12	160	209	10.8
	100	20800	416										
	110	26200	476										
140 x 230	100	19900	398	67	57.8	51	172	M14	40	12	160	207	10.3
	105	22200	423										
	115	27800	483										
150 x 263	110	2700	491	71	62.2	55	186	M14	40	14	160	202	15.2
	120	32000	533										
	125	36200	579										
160 x 290	120	39000	650	78.5	68.5	61	198	M16	45	12	250	215	21.5
	130	48000	738										
	135	51000	756										

1 Technical data

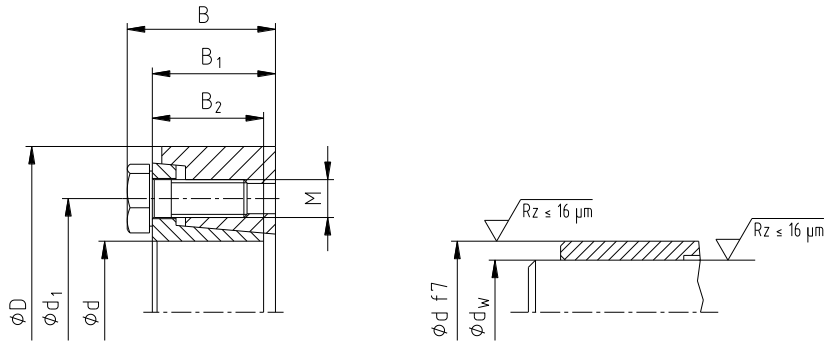


Illustration 1: CLAMPEX® KTR 620

Continuation: table 1

d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 10.9 μ_{total} = 0.10				Surface pressure of clamping set/ hollow shaft P_H [N/mm²]	Weight ~ kg
		T [Nm]	F_{ax} [kN]	B	B_1	B_2	d_1	M	Length	z	T_A [Nm]		
165 x 290	120	39000	650	78.5	68.5	61	198	M16	45	12	250	212	21.5
	130	48000	738										
	135	51000	756										
170 x 300	130	46500	715	79	68.9	61	208	M16	50	14	250	212	22.5
	140	53000	757										
	145	59000	814										
175 x 300	130	46500	715	79	68.9	61	208	M16	50	14	250	209	22.5
	140	53000	757										
	145	59000	814										
180 x 320	140	66000	943	95	85	77.5	222	M16	50	16	250	210	32.7
	15	76000	1013										
	155	83000	1071										
185 x 320	140	66000	943	95	85	77.5	222	M16	50	16	250	207	32.7
	150	76000	1013										
	155	83000	1071										
190 x 340	150	82000	1093	98	87.7	77.5	238	M16	50	16	250	225	36.3
	160	91000	1138										
	165	102000	1236										
195 x 340	150	82000	1093	98	87.7	77.5	238	M16	50	16	250	222	36.3
	160	91000	1138										
	165	102000	1236										
200 x 340	150	82000	1093	98	87.7	77.5	238	M16	50	16	250	219	36.3
	160	91000	1138										
	165	102000	1236										
220 x 370	160	105000	1313	120	107.55	96.5	268	M20	60	15	480	205	53
	170	120000	1435										
	180	138000	1533										
240 x 405	170	125000	1471	123.5	111.1	98	288	M20	60	16	480	214	66
	180	145000	1611										
	200	182000	1820										
260 x 430	190	165000	1737	138	125.3	110.5	312	M20	60	16	480	202	82
	200	190000	1900										
	220	238000	2164										
280 x 460	210	220000	2095	152.5	140	121	334	M20	60	18	480	193	103
	220	245000	2227										
	240	300000	2500										
300 x 485	220	297000	2700	159	139.8	124	360	M24	70	16	840	205	120
	230	330000	2870										
	250	399000	3192										
320 x 520	240	331000	2758	160.5	141.6	124	380	M24	70	18	840	190	138
	250	365000	2920										
	270	437000	3237										
340 x 570	250	429000	3432	177.5	158.4	139	402	M24	70	18	840	195	189
	260	469000	3608										
	280	556000	3971										

1 Technical data

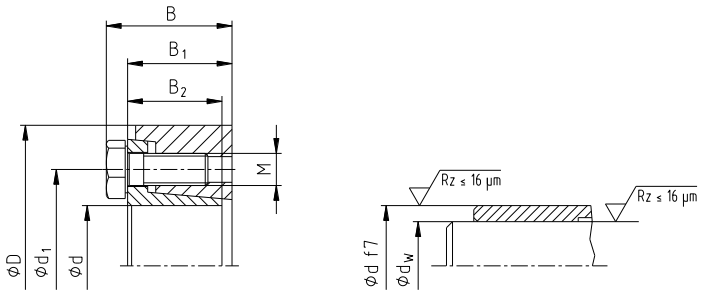


Illustration 1: CLAMPEX® KTR 620

Continuation: table 1

d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4017 - 10.9 μ_{total} = 0.10				Surface pressure of clamping set/ hollow shaft P_H [N/mm²]	Weight ~ kg
		T [Nm]	F_{ax} [kN]	B	B_1	B_2	d_1	M	Length	z	T_A [Nm]		
360 x 590	270	545000	4037	182	163	143	424	M24	70	20	840	216	207
	280	592000	4229										
	290	694000	4786										
390 x 650	290	704000	4855	191	169.2	148	454	M27	70	18	1250	216	249
	300	760000	5067										
	320	879000	5494										
420 x 670	320	827000	5169	208.4	186.4	166	486	M27	70	20	1250	184	285
	330	876000	5309										
	350	1000000	5714										
440 x 710	340	1117000	6571	220	198	179	506	M27	70	21	1250	222	343
	350	1190000	6800										
	370	1345000	7270										
460 x 750	360	1306000	7256	223	201	179	534	M27	70	21	1250	230	387
	370	1386000	7492										
	390	1554000	7969										
470 x 705	370	950000	5135	241.6	219.6	200	538	M27	70	21	1250	151	340
	380	1000000	5263										
	400	1150000	5750										
480 x 770	380	1557000	8195	247	223	201	551	M30	100	21	1650	223	449
	390	1648000	8451										
	410	1818000	8868										
500 x 820	400	1653000	8265	241	217	198	572	M30	100	24	1650	214	515
	410	1725000	8415										
	430	1915000	8907										
530 x 850	430	2048000	9526	262.3	238.3	216	606.5	M30	100	24	1650	208	585
	440	2154000	9791										
	460	2374000	10322										
560 x 885	450	2306000	10249	266	242	220	632	M30	100	24	1650	212	636
	460	2419000	10517										
	480	2654000	11058										
590 x 950	470	2735000	11638	281.5	257.5	236	664	M30	100	28	1650	211	805
	480	2863000	11929										
	500	3128000	12512										
620 x 960	500	3150000	12600	307	283	258	706	M30	100	28	1650	201	853
	520	3396000	13062										
	540	3689000	13663										
660 x 1020	530	3636000	13721	319	293	267	748	M33	130	28	2250	199	993
	550	3942000	14335										
	570	4261000	14951										
700 x 1085	560	4189000	14961	318.5	292.5	263	788	M33	130	28	2250	187	1112
	580	4520000	15586										
	600	4863000	16210										
750 x 1100	600	5281000	17603	346	320	280	850	M33	130	32	2250	202	1111
	620	5672000	18297										
	650	6287000	19345										
800 x 1230	640	6091000	19034	359	333	296	900	M33	130	32	2250	202	1589
	660	6511000	19730										
	700	7394000	21126										

1 Technical data

Tolerances, surfaces

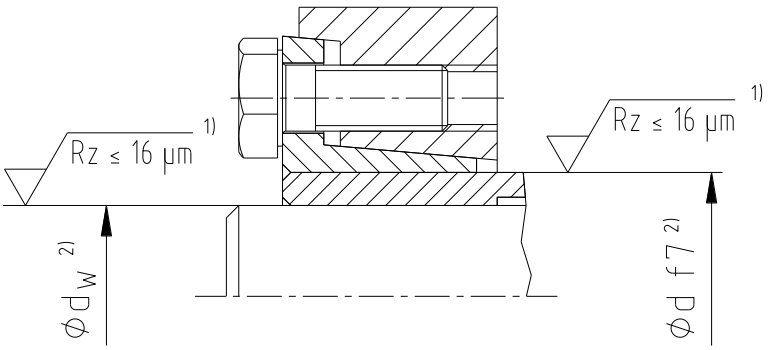


Illustration 2:Tolerances and surfaces (example: CLAMPEX® KTR 620)

Tolerances for d_W 2):
d_W ≤ Ø160 = h6/H7
d_W > Ø160 = g6H7

1) One proper turning process is sufficient (Rz ≤ 16 µm).
2) Maximum permissible tolerance of hub or shaft.

2 Advice

2.1 General advice

Please read through these operating/assembly instructions carefully before you mount the clamping set. Please pay special attention to the safety instructions!
The operating/assembly instructions are part of your product. Please store them carefully and close to the clamping set. The copyright for these operating/assembly instructions remains with KTR.

2.2 Safety and advice symbols

Ex	**Warning of potentially explosive atmospheres**	This symbol indicates notes which may contribute to preventing bodily injuries or serious bodily injuries that may result in death caused by explosion.
STOP	**Warning of personal injury**	This symbol indicates notes which may contribute to preventing bodily injuries or serious bodily injuries that may result in death.
!	**Warning of product damages**	This symbol indicates notes which may contribute to preventing material or machine damage.
☞	**General advice**	This symbol indicates notes which may contribute to preventing adverse results or conditions.

2 Advice

2.3 General hazard warnings

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 may 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 reach into the operation area of the machine as long as it is in operation.
- Please secure the rotating drive components 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 operating/assembly instructions and understood them
- are technically qualified and specifically trained (e. g. safety, environment, logistics)
- are authorized 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 will not assume liability for any damage that may arise. In the interest of further development we reserve the right for technical modifications.
The clamping set described in here corresponds to the technical status at the time of printing of these operating/assembly instructions.

3 Storage, transport and packaging

3.1 Storage

The clamping sets are supplied in preserved condition and can be stored at a dry and roofed place for 6 - 9 months.

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

3.2 Transport and packaging

The clamping sets are packed differently each depending on size, quantity and kind of transport. Unless otherwise contractually agreed, packaging will follow the in-house packaging specifications of KTR.

In order to avoid any injuries and any kind of damage please always make use of proper transport and lifting equipment.

4 Assembly

Generally the clamping set is supplied in mounted condition. Before assembly the clamping set has to be inspected for completeness.

4.1 Components of clamping set CLAMPEX® KTR 620

Component	Quantity	Description
1	1	External ring (phosphated)
2	1	Internal ring
3	see table 1	Hexagon screws DIN EN ISO 4017 (phosphated) 1)

1) External and internal rings with QPQ coating: hexagon screws DIN EN ISO 4017 with Geomet coating

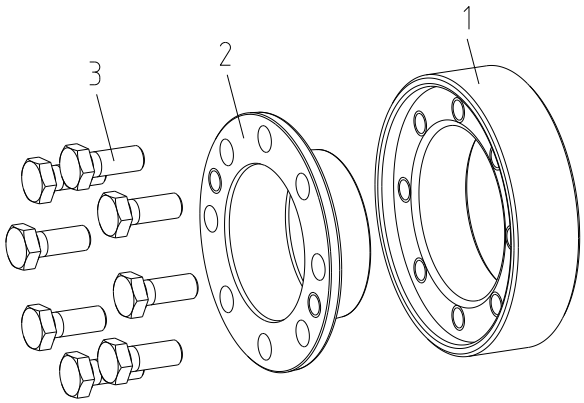


Illustration 3: CLAMPEX® KTR 620

☞ **Dirty or used clamping sets have to be disassembled and cleaned before assembly. Afterwards the taper surfaces and threads have to be lubricated with Molykote MoS_2 (see illustration 4). For re-lubrication please use the multi-purpose grease Molykote G Rapid plus, as an example.**

⚠ **If hexagon screws with Geomet coating are used, the tappings of the external ring and the hexagon screws must not be lubricated with Molykote.**

4.2 Assembly of the clamping set

⚠ **Inspect the taper surfaces and clamping screws of the clamping set for the lubrication specified.**

- Inspect the fit of shaft and hub for the tolerance specified (see illustration 4).
- Clean and degrease the contact surfaces of shaft and hub/hollow shaft inside.

⚠ **The contact surfaces of shaft and hub bore (hollow shaft inside) must neither be lubricated nor oiled (see illustration 4).**

⚠ **If hexagon screws with Geomet coating are used, the tappings of the external ring and the hexagon screws must not be lubricated with Molykote.**
When mounting the tapers of the clamping set free from grease the tabular and calculated parameters deviate.

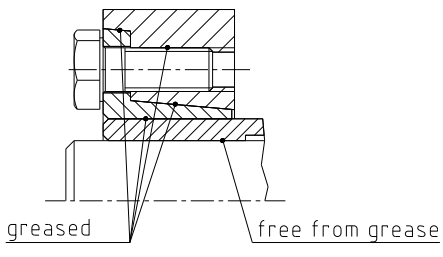


Illustration 4: Cleaning and lubricating the contact surfaces

4 Assembly

4.2 Assembly of the clamping set

- Unscrew the clamping screws by several revolutions so that the external ring detaches slightly from the internal ring.
- Afterwards position the clamping set KTR 620 outside on the hub/hollow shaft (see illustration 5 and illustration 6).

☞ **The external surface of the hub (hollow shaft outside) can be lubricated in the area of the fit of external clamping set.**

- Push the hollow shaft along with the clamping set onto the shaft.
- Hand-tighten the clamping screws first and align the external clamping set with the hub and hollow shaft.

⚠ **Mount the shaft before tightening the clamping screws.**

- Tighten the clamping screws gradually in several revolutions evenly one after another (see illustration 7) until the front surfaces on the screw head side of external and internal ring are flush. Consequently correct clamping of external and internal ring can be inspected visually (see illustration 8).
  When tightening the clamping screws the maximum screw tightening torque (see table 1) must not be exceeded.

☞ **Protruding of the internal ring up to 0.5 mm is permissible with QPQ coating.**

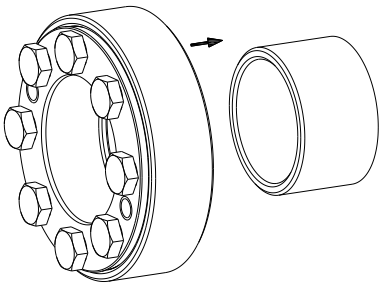


Illustration 5: Pushing the clamping set onto the hollow shaft

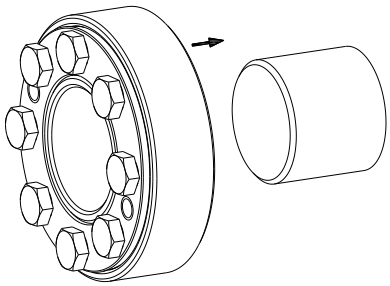


Illustration 6: Pushing onto the shaft

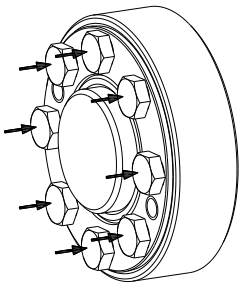


Illustration 7: Tightening the clamping screws

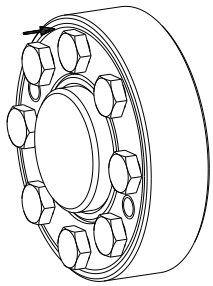


Illustration 8: Visual inspection

☞ **During assembly the hub is not displaced axially to the shaft with KTR 620.**

4 Assembly

4.3 Disassembly of clamping set

Driving components released or falling down may cause injury to persons or damage on the machine.
Secure the driving components before disassembly.

- Unscrew all clamping screws evenly one after another in several revolutions. Do not fully unscrew the clamping screws out of the thread.

To reduce the clamping forces do not fully unscrew the clamping screws in no case.

- Screw the separate screws into the extraction threads of the internal ring (component 2) (see illustration 9). Select the number of screws z_1 and size of thread M_1 according to table 1.
- Tighten the clamping screws evenly at ¼ revolution one after another. Increase the extraction torque gradually until the external ring (component 1) and internal ring (component 2) are separated.
- Remove the shaft from the hub/hollow shaft.
- Pull the released clamping set from the hub/hollow shaft.

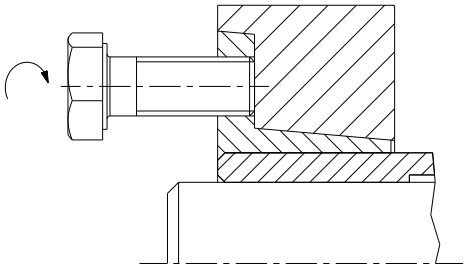


Illustration 9: Releasing the clamping set KTR 620

If these hints are not observed or operating conditions are not considered with the selection of the clamping set, the operation of the clamping set may be affected.

Used clamping sets have to be disassembled and cleaned before assembly. Afterwards the taper surfaces and threads have to be lubricated with Molykote MoS_2 (see illustration 4). For re-lubrication please use the multi-purpose grease Molykote G Rapid plus, as an example.

5 Disposal

In respect of environmental protection we would ask you to dispose of the packaging or products on termination of their service life in accordance with the legal regulations and standards that apply, respectively.
All clamping sets consist of metal. Any metal components have to be cleaned and disposed of by scrap metal.

6 Spares inventory, customer service addresses

A basic requirement to ensure the readiness for use of the drive components is a stock of some clamping sets on site.

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

☞ **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.**

7 Advice regarding the use in Ex potentially explosive atmospheres according to EU directive 2014/34/EU

If used in potentially explosive atmospheres the type and size of clamping set (for category 3 only) has to be selected in that the difference between the peak torque of the machine including all operating parameters and the rated torque of the clamping hub at least corresponds to a safety factor of s = 2.0.

CLAMPEX® clamping sets are not part of directive 2014/34/EU, since

- this product is a torsionally rigid, backlash-free, frictionally engaged connection with one or more taper clamping ring(s) ensured by 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 is not likely (frictional heat is only generated by improper assembly/tightening torques, i. e. with use other than for intended purpose).