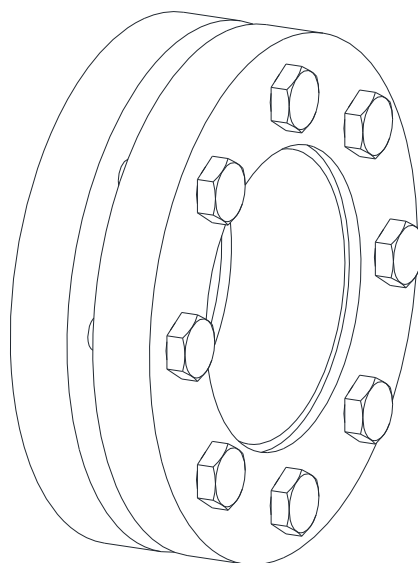



## CLAMPEX® KTR 603



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

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**1 Technical data**

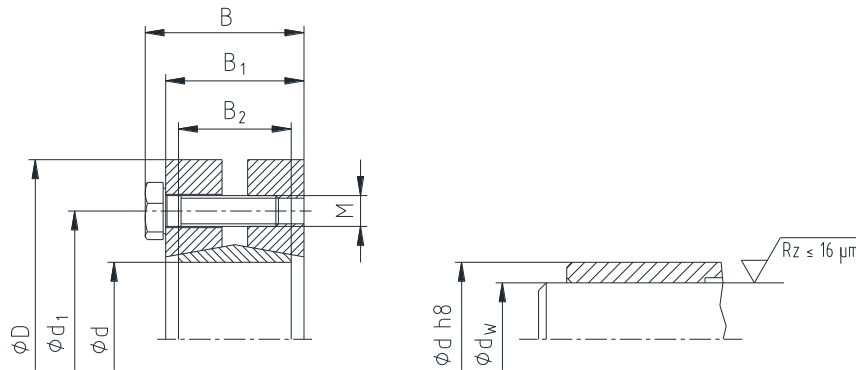


Illustration 1: Dimensions of CLAMPEX® KTR 603

**Table 1: Technical data**

dxD [mm]	Shaft diameter d <sub>w</sub> [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4014 - 10.9 μ <sub>total</sub> = 0.10				Surface pressure Clamping set/hollow shaft	Weight [-kg]
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	d <sub>1</sub>	M	Length	Z quantity	T <sub>A</sub> [Nm]	P <sub>H</sub> [N/mm <sup>2</sup> ]	
14x38	10	28	6	14.5	11	9	24	M5	10	4	3.5	388	0.1
	11	38	7										
	12	50	8										
16x41	12	50	8	18.5	15	11	26	M5	14	5	4	310	0.2
	13	70	11										
	14	90	13										
24x50	19	180	19	22.5	19	14	36	M5	18	6	5	286	0.2
	20	210	21										
	21	250	24										
30x60	24	310	26	24.5	21	16	44	M5	18	6	6	233	0.3
	25	340	27										
	26	380	29										
36x72	28	460	33	27	23	18	52	M6	20	5	12	307	0.4
	30	590	39										
	31	630	41										
44x80	32	630	39	29	25	20	61	M6	22	7	12	317	0.6
	35	780	45										
	36	860	48										
50x90	38	940	49	31	27	22	70	M6	22	8	12	289	0.8
	40	1100	55										
	42	1300	62										
55x100	42	1200	57	34	30	23	75	M6	25	8	12	252	1.1
	45	1500	67										
	48	1900	79										
62x110	48	1800	75	34	30	23	86	M6	25	10	12	279	1.3
	50	2200	88										
	52	2400	92										
68x115	50	2000	80	34	30	23	86	M6	25	10	12	255	1.4
	55	2500	91										
	60	3100	103										
75x138	55	2500	91	37.5	32	25	100	M8	30	7	30	273	1.8
	60	3200	107										
	65	3900	120										
80x145	60	3200	107	37.5	32	25	100	M8	30	7	30	256	2.6
	65	3900	120										
	70	4600	131										
85x155	65	4800	148	44.5	39	30	114	M8	35	10	30	285	3.9
	70	6100	174										
	75	7400	197										
90x155	65	4700	145	44.5	39	30	114	M8	35	10	30	217	3.8
	70	6000	171										
	75	7200	192										
100x170	70	6900	197	49.5	44	34	124	M8	35	12	30	227	4.7
	75	7500	200										
	80	9000	225										

**1 Technical data**

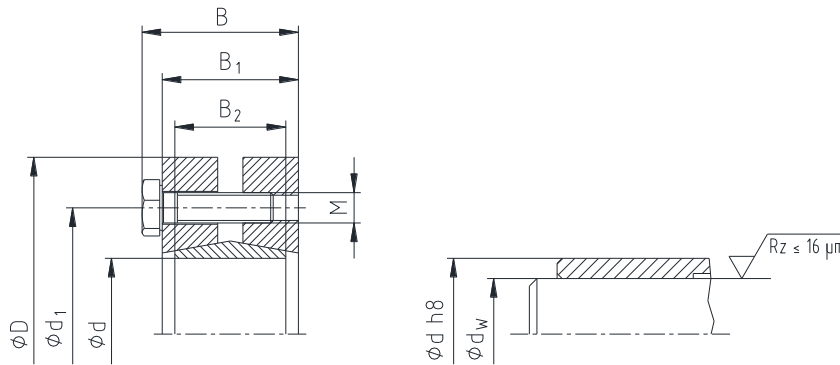


Illustration 1: Dimensions of CLAMPEX® KTR 603

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dxD [mm]	Shaft diameter d <sub>w</sub> [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4014 - 10.9 μ <sub>total</sub> = 0.10				Surface pressure Clamping set/hollow shaft	Weight [-kg]
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	d <sub>1</sub>	M	Lengt h	z quantity	T <sub>A</sub> [Nm]	P <sub>H</sub> [N/mm <sup>2</sup> ]	
110x185	75	7200	192	56.5	50	39	136	M10	40	9	59	215	6.0
	80	9000	225										
	85	11000	259										
115x188	80	8500	213	56.5	50	39	141	M10	40	9	59	209	5.0
	85	10000	235										
120x215	90	12000	267	58.5	52	42	160	M10	40	12	59	271	5.9
	80	10500	263										
	85	13200	311										
125x215	90	13000	289	58.5	52	42	160	M10	40	12	59	222	8.5
	95	15000	316										
	90	13700	304										
130x215	95	15800	333	58.5	52	42	160	M10	40	12	59	227	9.0
	100	18200	364										
	95	15000	316										
140x230	100	17000	340	67.5	60	46	175	M12	45	10	100	209	11
	105	20000	381										
	105	20000	381										
155x265	110	23000	418	71.5	64	50	192	M12	50	12	100	212	15
	115	26000	452										
	110	22500	409										
160x265	115	25500	443	71.5	64	50	192	M12	50	12	100	204	14
	120	28600	477										
	115	36000	626										
165x290	120	39000	650	81	71	56	210	M16	60	8	250	269	24
	125	44000	704										
	120	31700	528										
170x290	125	35800	573	81	71	56	210	M16	60	8	250	216	24
	130	40000	615										
	125	40000	640										
175x300	130	44000	677	81	71	56	220	M16	60	8	250	253	16
	135	49000	726										
	130	36800	566										
180x300	135	42000	622	81	71	56	220	M16	60	8	250	211	16
	140	46000	657										
	135	55000	815										
185x330	140	60000	857	96	86	71	236	M16	65	10	250	231	35
	145	65000	897										
	140	53300	761										
190x330	145	58500	807	96	86	71	236	M16	65	10	250	201	35
	150	63500	847										

**1 Technical data**

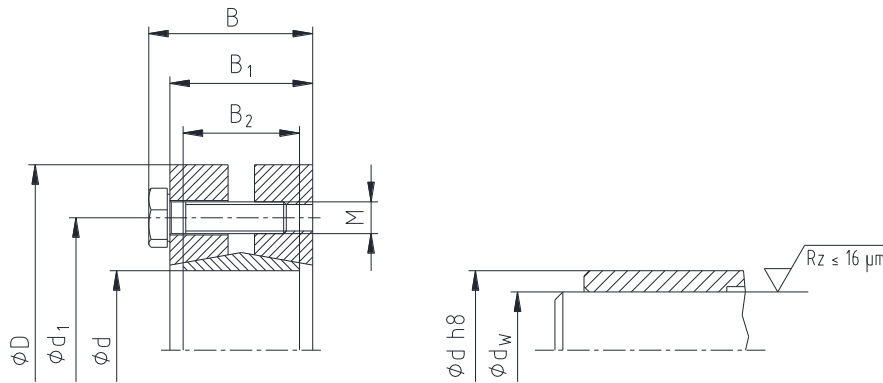


Illustration 1: Dimensions of CLAMPEX® KTR 603

**Table 1: Technical data**

dxD [mm]	Shaft diameter d <sub>w</sub> [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4014 - 10.9 μ <sub>total</sub> = 0.10				Surface pressure Clamping set/hollow shaft	Weight [-kg]
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	d <sub>1</sub>	M	Lengt h	z quantity	T <sub>A</sub> [Nm]	P <sub>H</sub> [N/mm <sup>2</sup> ]	
195x350	140	66000	943	96	86	71	246	M16	65	12	250	259	38
	150	76000	1013										
	155	82000	1058										
200x350	150	73700	983	96	86	71	246	M16	65	12	250	240	41
	155	79800	1030										
	160	85800	1073										
220x370	160	95000	1188	114	104	88	270	M16	80	15	250	216	54
	165	102000	1236										
	170	110000	1294										
240x405	170	120000	1412	121.5	109	92	295	M20	80	12	490	239	67
	180	140000	1556										
	190	160000	1684										
250x405	180	160000	1778	120.5	108	92	295	M20	85	14	490	263	64
	190	180000	1895										
	200	200000	2000										
260x430	190	165000	1737	132.5	120	103	321	M20	90	14	490	225	82
	200	185000	1850										
	210	204000	1943										
280x460	210	216000	2057	146.5	134	114	346	M20	100	16	490	217	102
	220	245000	2227										
	230	270000	2348										
300x485	230	274000	2383	154.5	142	122	364	M20	100	18	490	209	118
	240	296000	2467										
	245	316000	2580										
320x520	240	311000	2592	154.5	142	122	386	M20	100	20	490	219	131
	250	340000	2720										
	260	375000	2885										
330x520	250	352000	2816	154.5	142	122	386	M20	100	22	490	224	126.1
	260	385000	2962										
	270	420000	3111										
340x570	250	389000	3112	168.5	156	134	408	M20	110	24	490	227	186
	260	422000	3246										
	270	459000	3400										
350x580	270	443000	3281	174.5	162	140	432	M20	110	24	490	212	195
	280	480000	3429										
	285	500000	3509										
360x590	280	462000	3300	174.5	162	140	432	M20	110	24	490	204	204
	290	500000	3448										
	300	530000	3533										
380x645	290	570000	3931	183	168	144	458	M24	120	20	840	224	239
	300	610000	4067										
	310	660000	4258										
390x660	300	625000	4167	183	168	144	468	M24	120	21	840	229	260
	310	670000	4323										
	320	720000	4500										

**1 Technical data**

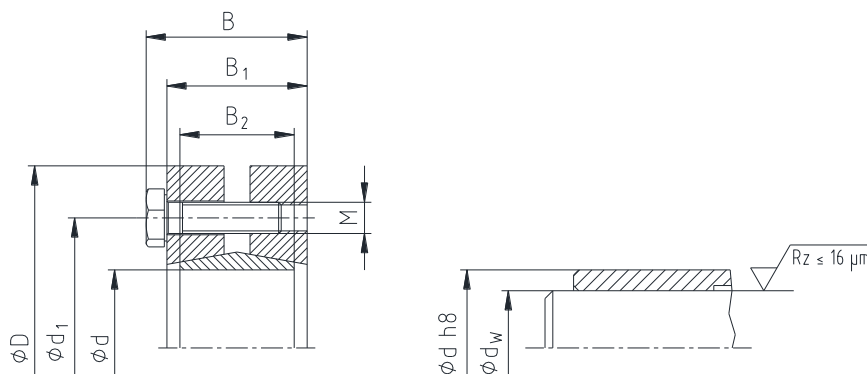


Illustration 1: Dimensions of CLAMPEX® KTR 603

**Table 1: Technical data**

dxD [mm]	shaft d <sub>w</sub> diameter [mm]	Transmittable torque or axial force		Dimensions [mm]				Clamping screws DIN EN ISO 4014 - 10.9 $\mu_{total} = 0.10$				Surface pressure Clamping set/hollow shaft	Weight [-kg]
		T [Nm]	F <sub>ax</sub> [kN]	B	B <sub>1</sub>	B <sub>2</sub>	d <sub>1</sub>	M	Length	z quantity	T <sub>A</sub> [Nm]	P <sub>H</sub> [N/mm <sup>2</sup> ]	
400x680	315	671000	4260	183	168	144	480	M24	120	21	840	222	280
	320	695000	4344										
	330	745000	4515										
420x690	330	782000	4739	203	188	164	504	M24	130	24	840	211	316
	340	841000	4947										
	350	902000	5154										
440x750	340	805000	4735	217	202	177	527	M24	140	24	840	190	408
	350	861000	4920										
	360	920000	5111										
460x770	360	1000000	5556	217	202	177	547	M24	140	28	840	210	420
	370	1073000	5800										
	380	1141000	6005										
480x800	380	1175000	6184	228	213	188	570	M24	140	30	840	206	505
	390	1250000	6410										
	400	1312000	6560										
500x850	400	1314000	6570	230	213	188	590	M27	150	24	1250	205	575
	410	1382000	6741										
	420	1460000	6952										

**Tolerances, surfaces**

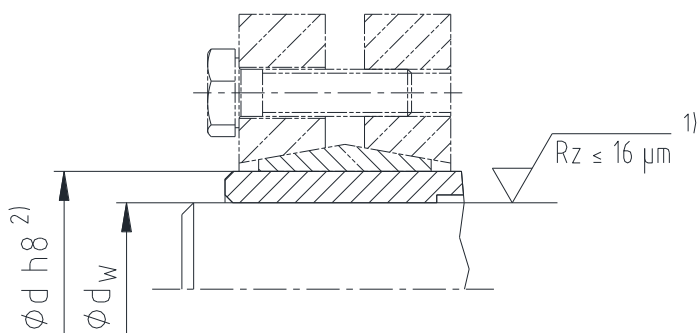


Illustration 2: Tolerances and surfaces

- 1) One proper turning process is sufficient ( $Rz \le 16 \mu m$ ).
- 2) Highest permissible tolerance of hub or external hollow shaft.

**Table 2: Permissible tolerances for d<sub>w</sub>**

shaft d <sub>w</sub> diameter [mm]	10 to 30	31 to 50	51 to 80	81 to 500
Tolerance <sup>3)</sup>	H6 / j6	H6 / h6	H6 / g6	H7 / g6

<sup>3)</sup> Bigger tolerances are generally possible! Please contact us!

**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****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.

**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.

**2.3 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
- had technical training
- are authorized by your company

The clamping set may only be used in accordance with the technical data (see chapter 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 covered place for 6 - 9 months.



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

**3.2 Transport and packaging**



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

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.

**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**

**Components of clamping set CLAMPEX® KTR 603**

Component	Quantity	Description
1	1	Front external ring (with through holes)
2	1	Rear external ring (with tapped holes)
3	1	Inner ring (slit)
4	see table 1	Hexagon screws DIN EN ISO 4014 – 10.9

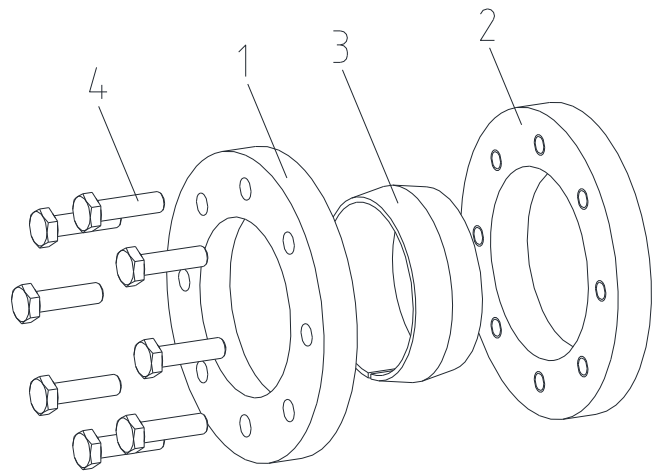


Illustration 3: Components of clamping set



**Dirty or used clamping sets have to be disassembled and cleaned before assembly. Afterwards the taper surfaces, threads and contact surfaces have to be lubricated with Molykote MoS<sub>2</sub> (see illustration 4). For re-lubrication please use the multi-purpose grease Molykote G Rapid plus, as an example.**

## 4 Assembly

### 4.2 Assembly of the clamping set

- Inspect the fit of shaft and hub/hollow shaft for the tolerances specified in chapter 1 (illustration 2 and table 2).
- The contact surfaces of hub/hollow shaft inside and shaft have to be cleaned and degreased (illustration 4).



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



**When mounting the tapers of the clamping set free from grease the tabular and calculated parameters deviate.**

- Unscrew the clamping screws by several revolutions so that the external rings lightly detach from the internal ring. Afterwards shift the clamping set KTR 603 externally onto the hub or hollow shaft, respectively.



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



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

- Hand-tighten the clamping screws for the time being and align the external clamping set with the shaft or hollow shaft.
- Afterwards tighten the clamping screws stepwise one after another and with several revolutions until all screws have achieved the full tightening torque as specified in table 1.



**During assembly the hub is not displaced axially towards the shaft with KTR 603.**

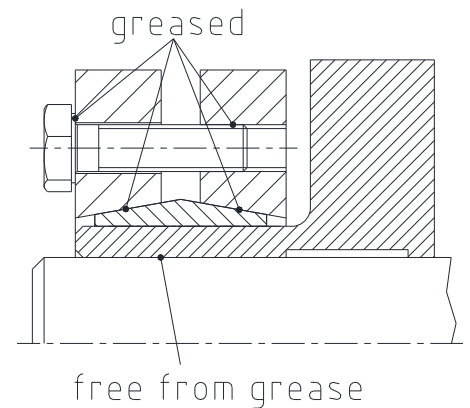


Illustration 4: Cleaning/lubricating the surfaces

### 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 the clamping screws evenly one after another. 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.**

- The clamping sets are not self-locking. If the front and rear external ring does not get detached, loosening should be initiated by light pressure on the front and rear external ring in several positions on the periphery.
- Remove the shaft from the hub/hollow shaft.
- Pull the clamping set untightened from the hub/hollow shaft.



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



**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](http://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  hazardous locations according to EU directive 2014/34/EU**

If used in hazardous locations the type and size of clamping set (for category 3 only) has to be selected such 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 EU directive 2014/34/EU, 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 is not likely (frictional heat is only caused by improper assembly/tightening torques, i. e. not with intended use).