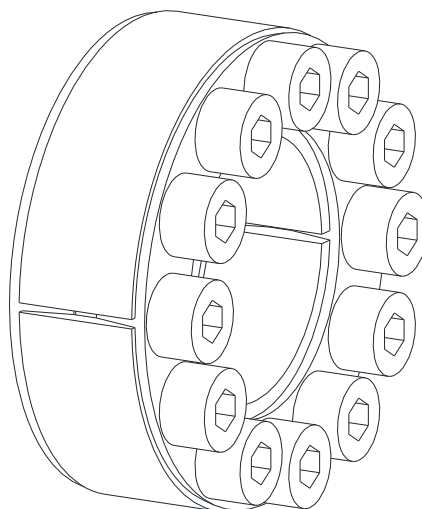



CLAMPEX® KTR 100



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

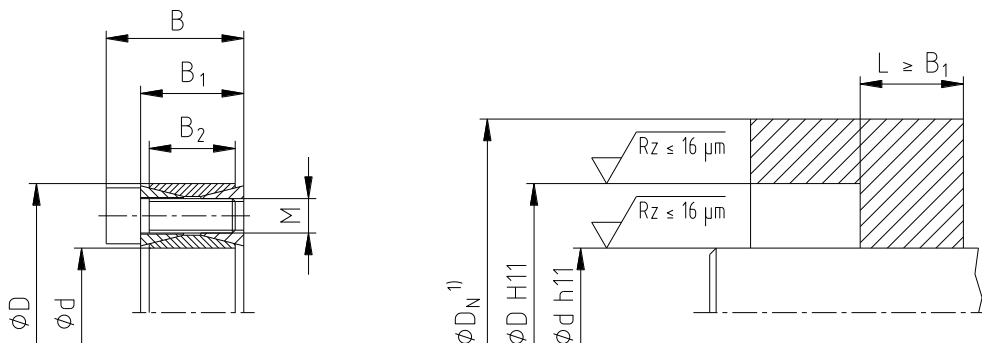


Illustration 1: CLAMPEX® KTR 100

Table 1: Technical data

Dimensions [mm]				Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{total} = 0.14$			Transmittable torque or axial force		Surface pressure between clamping set [N/mm ²]		Weight ~ kg
d x D	B	B ₁	B ₂	MxL	z No.	T _A ²⁾ [Nm]	T [Nm]	F _{ax} [kN]	Shaft P _w	Hub P _N	
17 x 47	26	20	17	M6x18	8	16	260	31	281	102	0.2
18 x 47	26	20	17	M6x18	8	16	280	31	270	103	0.2
19 x 47	26	20	17	M6x18	8	16	290	31	251	101	0.2
20 x 47	26	20	17	M6x18	8	16	310	31	242	103	0.2
22 x 47	26	20	17	M6x18	8	16	340	31	219	103	0.2
24 x 50	26	20	17	M6x18	8	16	370	31	200	96	0.3
25 x 50	26	20	17	M6x18	8	16	390	31	195	97	0.3
28 x 55	26	20	17	M6x18	12	16	650	46	259	132	0.3
30 x 55	26	20	17	M6x18	12	16	700	47	243	132	0.3
32 x 60	26	20	17	M6x18	12	16	750	47	229	122	0.3
35 x 60	26	20	17	M6x18	12	16	820	47	209	122	0.3
38 x 65	26	20	17	M6x18	15	16	1100	58	238	139	0.4
40 x 65	26	20	17	M6x18	15	16	1170	59	228	140	0.3
42 x 75	32	24	20	M8x22	12	40	1670	80	251	141	0.6
45 x 75	32	24	20	M8x22	12	40	1790	80	234	141	0.5
48 x 80	32	24	20	M8x22	12	40	1900	79	219	131	0.6
50 x 80	32	24	20	M8x22	12	40	1990	80	211	132	0.6
55 x 85	32	24	20	M8x22	15	40	2740	100	240	155	0.6
60 x 90	32	24	20	M8x22	15	40	2990	100	220	147	0.7
65 x 95	32	24	20	M8x22	15	40	3240	100	203	139	0.8
70 x 110	38	28	24	M10x25	15	78	5550	159	250	159	1.3
75 x 115	38	28	24	M10x25	15	78	5950	159	234	152	1.2
80 x 120	38	28	24	M10x25	15	78	6350	159	219	146	1.4
85 x 125	38	28	24	M10x25	15	78	6740	159	206	140	1.4
90 x 130	38	28	24	M10x25	15	78	7140	159	195	135	1.5
95 x 135	38	28	24	M10x25	18	78	9000	189	220	155	1.6
100 x 145	44	32	26	M12x30	15	135	11600	232	237	163	2.2
110 x 155	44	32	26	M12x30	15	135	12750	232	215	153	2.3
120 x 165	44	32	26	M12x30	16	135	14800	247	210	153	2.4
130 x 180	50	38	34	M12x30	20	135	20150	310	186	134	3.5
140 x 190	50	38	34	M12x30	22	135	23850	341	190	140	3.8
150 x 200	50	38	34	M12x30	24	135	27850	371	193	145	4.0
160 x 210	50	38	34	M12x30	26	135	32200	403	196	150	4.4
170 x 225	58	44	38	M14x45	22	215	40300	474	195	147	5.7
180 x 235	58	44	38	M14x45	24	215	46600	518	201	154	6.0
190 x 250	66	52	46	M14x45	28	215	57300	603	183	139	8.0

1) Dimension D_N: For calculation of hub see catalogue "Drive Technology"

2) These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the figures specified, with T, F_{ax}, P_w and P_N declining proportionally.

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1 Technical data

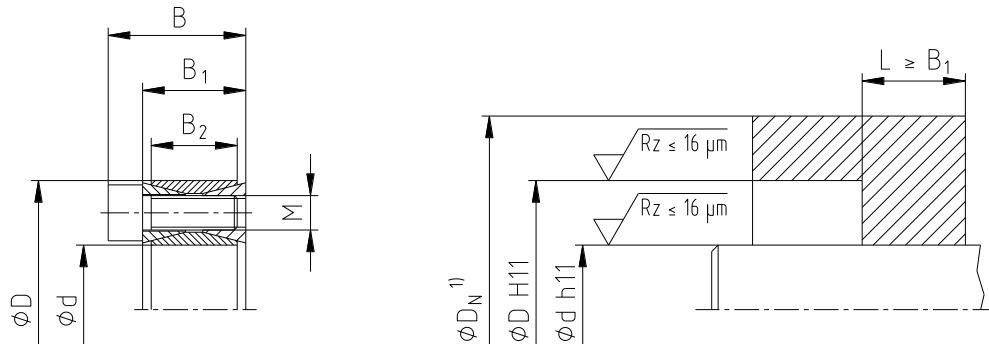


Illustration 1: CLAMPEX® KTR 100

Table 1: Technical data

Dimensions [mm]				Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{total} = 0.14$			Transmittable torque or axial force		Surface pressure between clamping set [N/mm ²]		Weight ~ kg
d x D	B	B ₁	B ₂	MxL	z No.	T _A ²⁾ [Nm]	T [Nm]	F _{ax} [kN]	Shaft P _W	Hub P _N	
200 x 260	66	52	46	M14x45	30	215	71000	710	205	157	8.2
220 x 285	72	56	50	M16x50	26	335	93200	847	204	158	11.0
240 x 305	72	56	50	M16x50	30	335	117300	978	216	170	12.2
260 x 325	72	56	50	M16x50	34	335	144000	1108	226	181	13.2
280 x 355	84	66	60	M18x60	32	465	177700	1269	200	158	19.2
300 x 375	84	66	60	M18x60	36	465	214100	1427	210	168	20.5
320 x 405	98	78	72	M20x70	36	660	295800	1849	213	168	29.6
340 x 425	98	78	72	M20x70	36	660	314300	1849	200	160	31.1
360 x 455	112	90	84	M22x80	36	900	413300	2296	201	159	42.2
380 x 475	112	90	84	M22x80	36	900	436300	2296	191	153	44.0
400 x 495	112	90	84	M22x80	36	900	459300	2297	181	147	46.0
420 x 515	112	90	84	M22x80	40	900	535800	2551	192	156	50.0
440 x 545	130	102	96	M24x90	40	1130	647600	2944	185	149	64.6
460 x 565	130	102	96	M24x90	40	1130	677000	2943	177	144	67.4
480 x 585	130	102	96	M24x90	42	1130	741800	3091	178	146	71.0
500 x 605	130	102	96	M24x90	44	1130	809500	3238	179	148	72.6
520 x 630	130	102	96	M24x90	45	1130	861000	3312	176	145	80.0
540 x 650	130	102	96	M24x90	45	1130	894000	3311	169	141	82.0
560 x 670	130	102	96	M24x90	48	1130	989000	3532	174	146	85.0
580 x 690	130	102	96	M24x90	50	1130	1067000	3679	175	147	88.0
600 x 710	130	102	96	M24x90	50	1130	1103800	3679	169	143	91.0
620 x 730	130	102	96	M24x90	52	1130	1186200	3826	171	145	93.0
640 x 750	130	102	96	M24x90	54	1130	1271600	3974	172	146	96.0
660 x 770	130	102	96	M24x90	56	1130	1359900	4121	173	148	99.0
680 x 790	130	102	96	M24x90	56	1130	1401100	4121	167	144	102
700 x 810	130	102	96	M24x90	60	1130	1545400	4415	174	151	104
720 x 830	130	102	96	M24x90	60	1130	1589500	4415	169	147	107
740 x 850	130	102	96	M24x90	62	1130	1688100	4562	170	148	110
760 x 870	130	102	96	M24x90	64	1130	1789700	4710	171	150	113
780 x 890	130	102	96	M24x90	65	1130	1865500	4783	169	149	116
800 x 910	130	102	96	M24x90	66	1130	1942700	4857	168	147	118
820 x 930	130	102	96	M24x90	68	1130	2051600	5004	169	149	121
840 x 950	130	102	96	M24x90	70	1130	2163500	5151	169	150	124
860 x 970	130	102	96	M24x90	72	1130	2278300	5298	170	151	127
880 x 990	130	102	96	M24x90	74	1130	2396000	5445	171	152	129
900 x 1010	130	102	96	M24x90	75	1130	2483600	5519	169	151	132

1) Dimension D_N: For calculation of hub see catalogue "Drive Technology"

2) These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the figures specified, with T, F_{ax}, P_W and P_N declining proportionally.

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1 Technical data

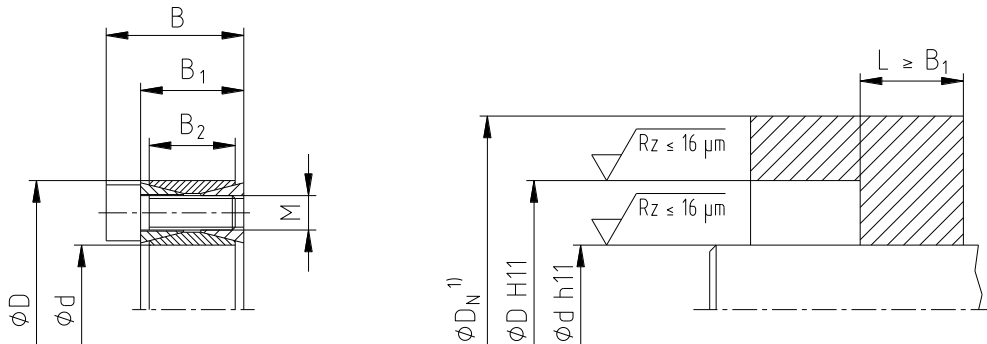


Illustration 1: CLAMPEX® KTR 100

Table 1: Technical data

Dimensions [mm]				Clamping screws DIN EN ISO 4762 - 12.9 $\mu_{total} = 0.14$			Transmittable torque or axial force		Surface pressure between clamping set [N/mm ²]		Weight ~ kg
d x D	B	B ₁	B ₂	MxL	z No.	T _A ²⁾ [Nm]	T [Nm]	F _{ax} [kN]	Shaft P _W	Hub P _N	
920 x 1030	130	102	96	M24x90	76	1130	2572600	5593	168	150	135
940 x 1050	130	102	96	M24x90	78	1130	2697700	5740	169	151	138
960 x 1070	130	102	96	M24x90	80	1130	2825800	5887	169	152	140
980 x 1090	130	102	96	M24x90	81	1130	2920700	5961	168	151	143
1000 x 1110	130	102	96	M24x90	82	1130	3017100	6034	167	150	146

1) Dimension D_N: For calculation of hub see catalogue "Drive Technology"

2) These are the maximum screw tightening torques. They can be reduced by a maximum of 40 % of the figures specified, with T, F_{ax}, P_W and P_N declining proportionally.

Tolerances, surfaces

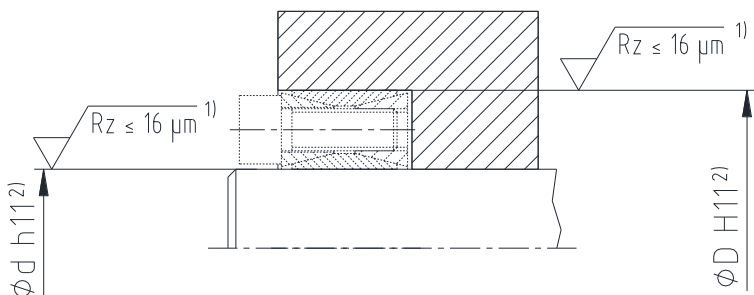


Illustration 2: Tolerances and surfaces

- 1) One proper turning process is sufficient (Rz ≤ 16 µm).
- 2) Highest 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.

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**2 Advice****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
- 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 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 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



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 100

Component	Quantity	Description
1	1	Rear external ring (with tapped holes)
2	1	Outer ring (slit)
3	1	Inner ring (slit)
4	1	Front external ring (with through holes)
5	see table 1	Cap screws DIN EN ISO 4762

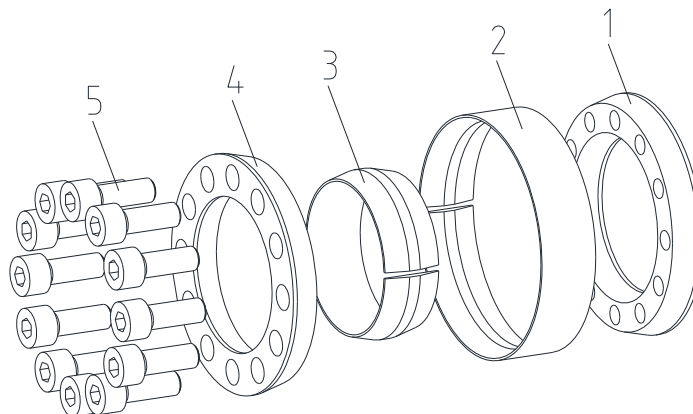


Illustration 3: Components of clamping set



**Dirty or used clamping sets have to be disassembled and cleaned before assembly.
Afterwards apply thin oil lightly (e. g. Ballistol Universal oil or Klüber Quietsch-Ex).**

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4 Assembly

4.2 Assembly of the clamping set

- Inspect the fit of shaft and hub for the tolerance specified (see illustration 2).
- Clean the surfaces of the clamping set marked in illustration 4 as well as of shaft and hub and afterwards apply thin oil lightly (e. g. Ballistol Universal oil or Klüber Quietsch-Ex).

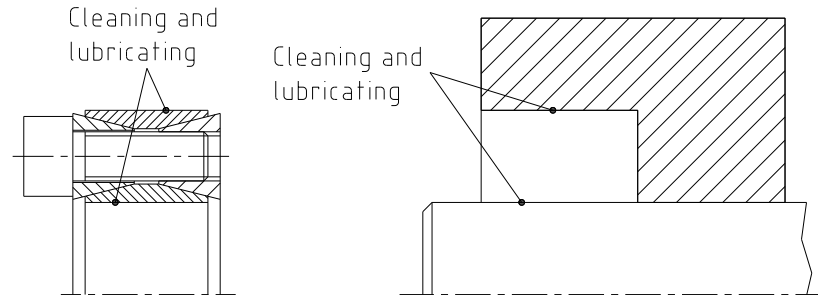


Illustration 4: Cleaning and lubricating the contact surfaces



Oils and greases with molybdenum disulphide or other high-pressure additives, additives of Teflon and silicone as well as internal lubricants reducing the coefficient of friction significantly must not be used. When mounting the tapers of the clamping set free from oil the tabular and calculated parameters deviate.

- Unscrew the clamping screws by several revolutions so that the pressure rings lightly detach from the external and internal ring.
- Insert the clamping set KTR 100 between shaft and hub.
- Hand-tighten the clamping screws first and align the internal clamping ring with the hub.
- Tighten the clamping screws evenly crosswise gradually to the tightening torque specified in table 1. Repeat this process until all clamping screws have reached the tightening torque.

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. Unscrew all clamping screws by 3 - 4 pitches.
- Having unscrewed the final clamping screws usually the clamping connection is released.
- If the rear pressure ring does not release automatically, it may be released by pressure or light impacts onto the screw heads (see illustration 5).
- If the front pressure ring clamps, it may be loosened by pressure or light impacts onto shaft and hub (see illustration 6).
- Take out the clamping set released between shaft and hub.



4 Assembly

4.3 Disassembly of clamping set

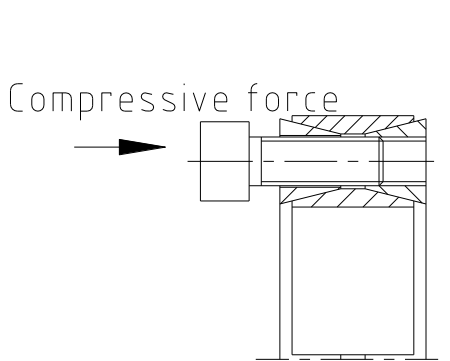


Illustration 5: Unscrewing the rear pressure ring

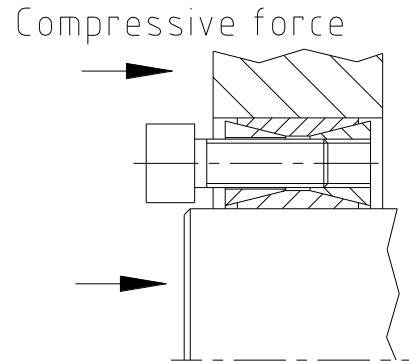


Illustration 6: Unscrewing the front pressure ring



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.

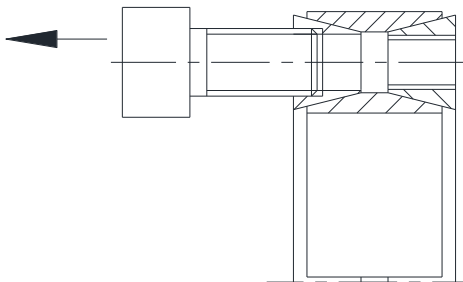


Illustration 7: Disassembly of auxiliary thread



The silver cap screws identify the auxiliary threads for disassembly in the front pressure ring. Having removed the silver screws the auxiliary threads for disassembly of the front pressure ring are accessible. A clamping set positioned deep in a hub bore can be pulled out via respective screws (see table 2).

Table 2:

Screw size M	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
Auxiliary thread for disassembly M ₁	M8	M10	M12	M14	M16	M18	M20	M24	M27	M30



The auxiliary threads for disassembly have about 3 - 5 supporting threads only and are not cut. These are no threads for extraction screws.



Used clamping sets have to be disassembled and cleaned before assembly. Afterwards apply thin oil lightly (e. g. Ballistol Universal oil or Klüber Quietsch-Ex).

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.

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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  potentially explosive atmospheres 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 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).

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	Verified:	2021-12-06 Pz	Replaced by:	