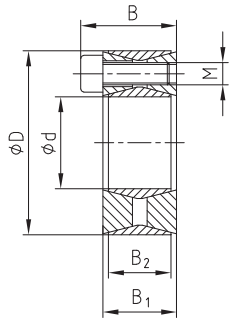
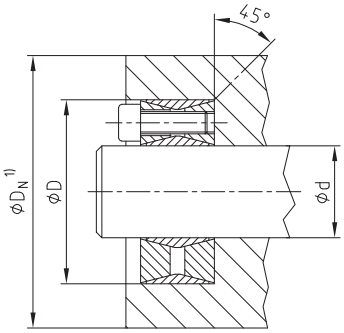
KTR 100 (not self-centering)

- „Typical clamping set“
- Axial fastening of the hub
- Torque factor

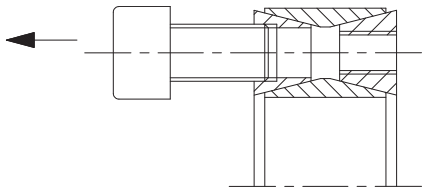
1 off	1 x T
2 off	1,9 x T
3 off	2,7 x T
4 off	3,6 x T

- Mounting instructions under www.ktr.com





Assembly with centering of hub



Accessory thread for disassembly

1) Dimension D_N: For calculation see page 282/283.

Assembly

Clean and lightly oil the contact surfaces of shaft and hub. Insert the clamping element into the hub fit and push it onto the shaft. Tighten the chromated screws until the internal ring is in contact with the shaft and the external ring is in contact with the hub. Afterwards tighten the clamping screws crosswise by degrees and evenly until the tightening torque T_A mentioned in the table is achieved. The figures T and F_{ax} mentioned in the table were calculated for an assembly with oil.

Note: Do not use any oil with molybdenum sulphide or high-pressure additions or grease reducing the coefficient of friction considerably. The clamping sets are delivered with oil. For assembly without oil the figures mentioned in the table deviate.

Disassembly

Unscrew all clamping screws. In normal cases the clamping element releases automatically. Otherwise lightly strike with a hammer onto the detached screws in order to push back the rear taper ring. By using the accessory threads the detached clamping set can be pulled-off.

Note: The accessory threads for the disassembly have approx. 3-5 supporting turns and are not cut. These are no threads for forcing screws.

Tolerances, surfaces

One accurate turning process is sufficient:
$R_Z \leq 16\mu m$

Maximum permissible tolerances:
h11 for the shaft - H11 for the hub

Axial movement

KTR 100: During the tightening of the screws there is no axial movement of the hub towards the shaft.

Centering

The clamping element KTR 100 is **not self-centering**. The concentricity of the hub towards the shaft merely depends on the fit and length of the pilot.

Order form:

KTR 100	50	x	80
Type	Size of inside diameter		Size of outside diameter

KTR 100 (not self-centering) – Technical Data

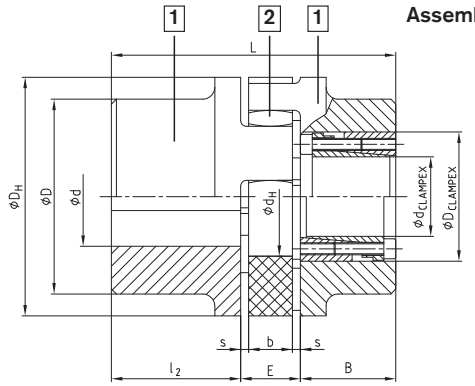
CLAMPEX® – KTR 100												
d x D [mm]	Dimensions [mm]			Clamping screws DIN EN ISO 4762 - 12.9 μ_{total}=0,14			Transmittable torque or axial force		Surface pressure between clamping set		Weight [~kg]	Stock-programme
	B	B_1	B_2	M	z Number	T_A [1] [Nm]	T [Nm]	F_{ax} [kN]	Shaft P_W [N/mm²]	Hub P_N [N/mm²]		
18 x 47	26	20	17	M6	8	15	240	27	289	111	0,24	
19 x 47	26	20	17	M6	8	15	254	27	274	111	0,24	●
20 x 47	26	20	17	M6	8	15	267	27	260	111	0,23	●
22 x 47	26	20	17	M6	8	15	294	27	237	111	0,23	●
24 x 50	26	20	17	M6	8	15	320	27	217	104	0,26	●
25 x 50	26	20	17	M6	8	15	334	27	208	104	0,25	●
28 x 55	26	20	17	M6	12	15	560	40	279	142	0,30	●
30 x55	26	20	17	M6	12	15	600	40	260	142	0,29	●
32 x 60	26	20	17	M6	12	15	641	40	244	130	0,34	●
35 x 60	26	20	17	M6	12	15	701	40	223	130	0,32	●
38 x 65	26	20	17	M6	15	15	951	50	257	150	0,36	●
40 x 65	26	20	17	M6	15	15	1001	50	244	150	0,34	●
42 x 75	32	24	20	M8	12	37	1506	72	283	159	0,60	●
45 x 75	32	24	20	M8	12	37	1614	72	264	159	0,57	●
48 x 80	32	24	20	M8	12	37	1721	72	248	149	0,60	●
50 x 80	32	24	20	M8	12	37	1793	72	238	149	0,60	●
55 x 85	32	24	20	M8	15	37	2465	90	270	175	0,63	●
60 x 90	32	24	20	M8	15	37	2690	90	248	165	0,69	●
65 x 95	32	24	20	M8	15	37	2914	90	229	156	0,73	●
70 x 110	38	28	24	M10	15	70	4992	143	282	179	1,26	●
75 x 115	38	28	24	M10	15	70	5349	143	263	171	1,33	●
80 x 120	38	28	24	M10	15	70	5705	143	246	164	1,40	●
85 x 125	38	28	24	M10	15	70	6092	143	232	158	1,49	●
90 x 130	38	28	24	M10	15	70	6418	143	219	152	1,53	●
95 x 135	38	28	24	M10	18	70	8130	171	249	175	1,62	●
100 x 145	44	32	26	M12	15	127	10881	218	278	191	2,01	●
110 x 155	44	32	26	M12	15	127	11969	218	252	179	2,15	●
120 x 165	44	32	26	M12	16	127	13927	232	247	179	2,35	●
130 x 180	50	38	34	M12	20	127	18860	290	218	157	3,51	●
140 x 190	50	38	34	M12	22	127	22341	319	222	164	3,85	●
150 x 200	50	38	34	M12	24	127	26113	348	226	170	4,07	●
160 x 210	50	38	34	M12	26	127	30175	377	230	175	4,30	●
170 x 225	58	44	38	M14	22	195	35710	420	216	163	5,78	●
180 x 235	58	44	38	M14	24	195	41248	458	222	170	6,05	●
190 x 250	66	52	46	M14	28	195	50796	535	203	154	8,25	●
200 x 260	66	52	46	M14	30	195	57289	573	206	159	8,65	●
220 x 285	72	56	50	M16	26	300	74838	680	205	158	11,22	●
240 x 305	72	56	50	M16	30	300	94202	785	217	171	12,20	●
260 x 325	72	56	50	M16	34	300	115659	890	227	182	13,20	
280 x 355	87	66	60	M18	32	410	139261	995	196	155	19,20	
300 x 375	87	66	60	M18	36	410	167860	1119	206	165	20,50	
320 x 405	101	78	72	M20	36	590	240190	1501	216	171	29,60	
340 x 425	101	78	72	M20	36	590	255201	1501	203	163	31,10	
360 x 455	116	90	84	M22	36	790	328186	1823	200	158	42,20	
380 x 475	116	90	84	M22	36	790	346419	1823	189	152	44,00	
400 x 495	116	90	84	M22	36	790	364651	1823	180	145	46,00	
420 x 515	116	90	84	M22	40	790	371953	1771	196	160	50,00	
440 x 545	130	102	96	M24	40	1000	453797	2063	188	152	64,60	
460 x 565	130	102	96	M24	40	1000	467548	2033	180	146	67,40	
480 x 585	130	102	96	M24	42	1000	512270	2134	181	148	71,00	
500 x 605	130	102	96	M24	44	1000	559025	2236	182	150	72,60	
520 x 630	130	102	96	M24	45	1000	603344	2321	179	148	80,00	
540 x 650	130	102	96	M24	45	1000	626549	2321	172	143	82,00	
560 x 670	130	102	96	M24	48	1000	683027	2439	177	148	85,00	
580 x 690	130	102	96	M24	50	1000	736897	2541	178	150	88,00	
600 x 710	130	102	96	M24	50	1000	773517	2578	172	145	91,00	

● Clamping sets available from stock.

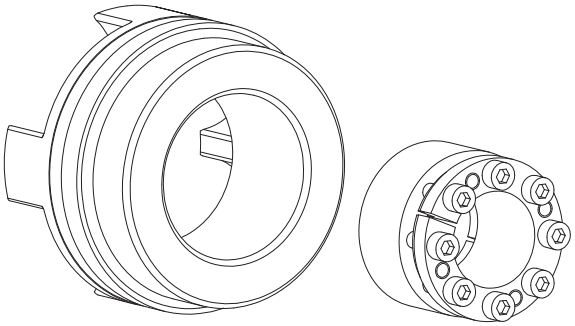
1) The screw tightening torques can be increased by max. 1,1 times or reduced to 0,6 times of the aforementioned figures with T, F_{ax} and P_w, P_N being reduced proportionally.

Other sizes on request.

KTR 200 with torsionally flexible ROTEX® coupling



Assembly 1



Assembly 2

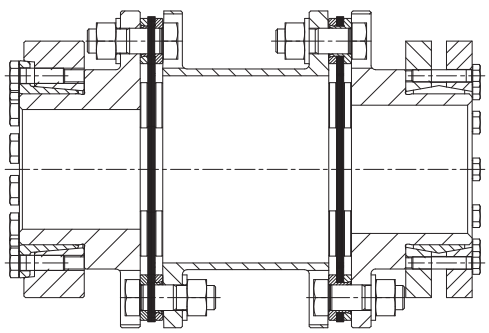
KTR 200 with torsionally flexible ROTEX® coupling															
ROTEX® size	Pilot bore Ød [mm]	Hub material	Dimensions of CLAMPEX® KTR 200 [mm]				Dimensions of ROTEX® coupling [mm]								
			Maximum KTR clamping d x D	Transmittable torques and axial force		B	l_1	E	s	b	D_H	D	D_1	d_H	L
				T [Nm]	F_{ax} [kN]										
42	x		30 x 55	769	51	48	50	26	3,0	20	95	-	95	46	
48	x		35 x 60	1197	68	48	56	28	3,5	21	105	-	105	51	
55	x	Steel	45 x 75	2132	95	59	65	30	4,0	22	120	-	120	60	
65	x	part 1	45 x 75	2132	95	59	75	35	4,5	26	135	115	-	68	Length L > l_1 + E + B (clamping set)
75	x		50 x 80	3159	126	59	85	40	5,0	30	160	135	-	80	
90	x		65 x 95	4107	126	59	100	45	5,5	34	200	160	-	100	
100	45		65 x 95	4107	126	59	110	50	6,0	38	225	180	-	113	
110	58		70 x 110	7023	201	70	120	55	6,5	42	255	200	-	127	
125	58	GGG40	80 x 120	8026	201	70	140	60	7,0	46	290	230	-	147	
140	56	part 1	95 x 135	11373	239	66	155	65	7,5	50	320	255	-	165	
160	78		110 x 155	16068	292	80	175	75	9,0	57	370	290	-	190	
180	80		120 x 135	21910	365	80	195	85	10,5	64	420	325	-	220	

CLAMPEX® – KTR 200															
d x D [mm]	B [mm]	Transmittable torques and axial force		Clamping screws DIN EN ISO 4762 12.9 [mm]		d x D [mm]	B [mm]	Transmittable torques and axial force		Clamping screws DIN EN ISO 4762 12.9 [mm]		d x D [mm]	B [mm]	Transmittable torques and axial force		Clamping screws DIN EN ISO 4762 12.9 [mm]	
		T [Nm]	F_{ax} [kN]	z x M	T_A [Nm]			T [Nm]	F_{ax} [kN]	z x M	T_A [Nm]			T [Nm]	F_{ax} [kN]	z x M	T_A [Nm]
20 x 47	48	513	51	6 x M6	17	38 x 65	48	1299	68	8 x M6	17	65 x 95	59	4107	126	8 x M8	41
22 x 47	48	564	51	6 x M6	17	40 x 65	48	1368	68	8 x M6	17	70 x 110	70	7023	201	8 x M10	83
24 x 50	48	616	51	6 x M6	17	42 x 75	59	1990	95	6 x M8	41	75 x 115	70	7524	201	8 x M10	83
25 x 50	48	641	51	6 x M6	17	45 x 75	59	2132	95	6 x M8	41	80 x 120	70	8026	201	8 x M10	83
28 x 55	48	718	51	6 x M6	17	48 x 80	59	3033	126	8 x M8	41	85 x 125	70	10659	251	10 x M10	83
30 x 55	48	769	51	6 x M6	17	50 x 80	59	3159	126	8 x M8	41	90 x 130	70	11286	251	10 x M10	83
32 x 60	48	1094	68	8 x M6	17	55 x 85	59	3475	126	8 x M8	41	95 x 135	66	11373	239	10 x M10	83
35 x 60	48	1197	68	8 x M6	17	60 x 90	59	3791	126	8 x M8	41	Further details see page 263.					

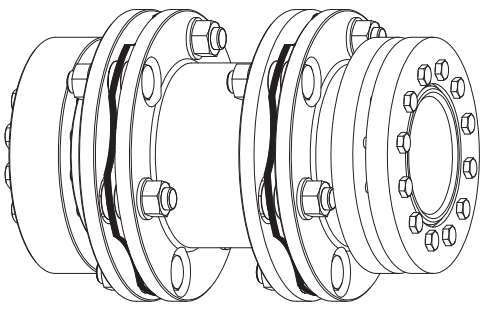
Other coupling combination

RADEX®-N NANA 1 with external clamping set KTR 620 and KTR 603

KTR 620



KTR 603



Further details about the external clamping set KTR 620 and KTR 603 are shown on page 254-259.

Calculation

For a properly working CLAMPEX® shaft-hub-connection the following technical details should be taken into account.
Please contact us in case you have tolerances different from the table below.

CLAMPEX® – Toleranzen, Rautiefe und Rundlaufgenauigkeit

Type	d [mm]	d_w [mm]	Shaft diameter tolerance	Diameter of hub bore tolerance	Surface roughness [µm]	Concentricity (applies for the clamping set only)
KTR 250	-	-	h8	H8	Rz ≤ 16	0,02 - 0,04
KTR 200	-	-	h8	H8	Rz ≤ 16	0,02 - 0,04
KTR 201	-	-	h8	H8	Rz ≤ 16	0,02 - 0,04
KTR 203	-	-	h8	H8	Rz ≤ 16	0,02 - 0,04
KTR 206	-	-	h8	H8	Rz ≤ 16	0,02 - 0,04
KTR 225	-	-	h8	H8	Rz ≤ 16	0,02 - 0,04
KTR 100	-	-	h11	H11	Rz ≤ 16	1)
KTR 105	-	-	h9	H9	Rz ≤ 16	0,02 - 0,04
KTR 150	up to 38	-	h6	H7	Rz ≤ 6	1)
KTR 150	bigger than 38	-	h8	H8	Rz ≤ 6	1)
KTR 400	-	-	h8	H8	Rz ≤ 16	0,02 - 0,04
KTR 620	-	13-150 > 160	H7/h6 > H7/g6	H7/f7	Rz ≤ 16	0,02 - 0,04
KTR 603	-	18 - 30	j6	H6	Rz ≤ 16	0,02 - 0,04
KTR 603	-	31 - 50	h6	H6	Rz ≤ 16	0,02 - 0,04
KTR 603	-	51 - 80	g6	H6	Rz ≤ 16	0,02 - 0,04
KTR 603	-	81 - 500	g6	H7	Rz ≤ 16	0,02 - 0,04

1) Depending on the centering of the hub or shafts or the drive component and accuracy of assembly, respectively.

Fatigue strenght and shape stability of components loaded under torsion and bending

The stress calculation figures β_k, for the clamping elements, are worked out similar to those of hydraulic fittings. Please contact us for calculations. The stress concentration is dependet upon the load, the material and the clamping set type. Stress concentration factor on request.

Resulting torque T_R

The transmittable torque $T \approx T_R$ always has to exceed the highest torque peak T_B which may arise in the connection positions. The torque peaks arising during the acceleration of electric motors have to be considered.

$$T \approx TR \geq \sqrt{T_B^2 + \left[\frac{Fa \cdot d}{2}\right]^2} \quad [Nm]$$

Transmittable axial force F_{ax}

The maximum transmittable axial force F_{ax} which is mentioned in the tables has to be reduced accordingly in case of additional torque transmission.

$$F_{ax} = \frac{2 \cdot T}{d} \quad [kN]$$

Calculation of the outside diameter of the hub D_N

The required outside diameter of the hub D_N depends on the cross section of the hub, the shape of the hub and the apparent yield point of the hub material. In order to facilitate the calculation the table on page 283 shows some figures by the help of which D_N can be determined.

Example:
Shaft diameter d = 50 mm
Hub material: GGG 40
Apparent yield point of material
$\sigma_{0,2}$ = 250 N/mm

Selected: CLAMPEX® clamping set KTR 100
with d x D = 50 mm x 80 mm and P_N = 149 N/mm² page 277
➔ approximate value from table on page 283: P_N = 150 N/mm²
selected design see page 283. C = 0,8 (value C of hub shape)
➔ figure as per table 1,69
➔ D_N = D x 1,69 = 80 mm x 1,69 = 135,20 mm

Outside diameters of hubs which cannot be calculated based on the table are calculated with the following formula:

$$D_N \geq D \cdot \sqrt{\frac{\sigma_{N0,2} + P_N \cdot C}{\sigma_{N0,2} - P_N \cdot C}} \quad [mm]$$

Tangential tension on the inside diameter of hub

$$\sigma_{tiN} \approx P_N \frac{(1 + C_N^2)}{(1 - C_N^2)} \cdot C \quad [N/mm^2]$$

For clamping connections with hollow shafts the required inside diameter of the hollow shaft d_{iW} is calculated with the following formula:

$$d_{iw} \leq d \cdot \sqrt{\frac{\sigma_{W0,2} - 2 \cdot P_W \cdot 0,8}{\sigma_{W0,2}}} \quad [mm]$$

Tangential tension on the inside diameter of shaft

$$\sigma_{tiW} \approx \frac{2 \cdot P_W}{(C_W^2 - 1)} \quad [N/mm^2]$$

$\sigma_{N0,2}$ = Apparent yield point of the hub material [N/mm²]
C = Value C of hub shape (see picture on page 283)
P_N = Perm. surface pressure of clamping set/hub [N/mm²]
D = Outside diameter of the clamping set [mm]
T = Transmittable torque [Nm]
T_R = Resulting transmittable torque [Nm]
T_B = Operating torque to be transmitted [Nm]
L/L_1 = Hub length [mm]

$\sigma_{W0,2}$ = Apparent yield point of the shaft material [N/mm²]
P_W = Perm. surface pressure of clamping set/shaft [N/mm²]
d = Inside diameter of the clamping set [mm]
C_W = d_{iW} / d
C_N = D / D_N
F_a = Axial force arising during operation [N]
F_{ax} = Maximum transmittable axial force [kN]
F_V = Prestressed force [N]

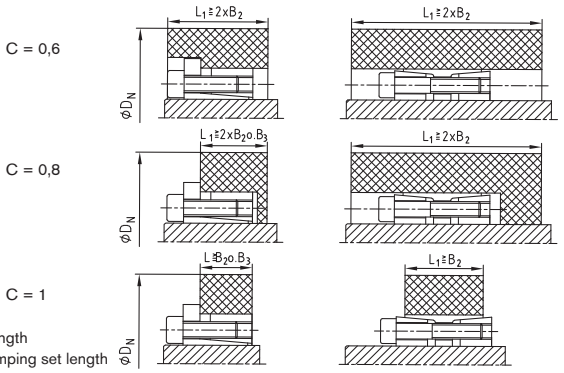
Calculation of hubs

Table of screws

Dimension M	Prestressed force F_V and tightening torque T_A with μ_{total} = 0,14					
	Prestressed force F_V [N]			Tightening torque T_A [Nm]		
	8.8	10.9	12.9	8.8	10.9	12.9
M3	2210	3110	3730	1,34	1,89	2,25
M4	3900	5450	6550	2,9	4,1	4,9
M5	6350	8950	10700	6	8,5	10
M6	9000	12600	15100	10	14	17
M8	16500	23200	27900	25	35	41
M10	26200	36900	44300	49	69	83
M12	38300	54000	64500	86	120	145
M14	52500	74000	88500	135	190	230
M16	73000	102000	123000	210	295	355
M18	88000	124000	148000	290	405	485
M20	114000	160000	192000	410	580	690
M22	141000	199000	239000	550	780	930
M24	164000	230000	276000	710	1000	1200
M27	215000	302000	363000	1050	1500	1800
M30	262000	368000	442000	1450	2000	2400

Mounting conditions of clamping set

Value C of hub shape



Selection table for the calculation of the required outside diameter of hub D_N

Surface pressure between clamping set and hub		Average apparent yield point of material σ 0,2 in N/mm² (more accurate stiffness data, depending on the diameter, as per details mentioned by the manufacturer)										
		150	180	200	220	250	270	300	350	400	450	600
		Hub materials										
p_N [N/mm²]	Hub form C-value	GG 20	GG 25 GS 38	GG 30 GTS 35	GS 45 ST 37-2	GGG 40 GS 52 AlCuMgPb	ST 50-2 C 35	GGG 50 GS 60 ST 52-3	GGG 60 GS 62 C 45	GGG 70 GS 70 C 60	Tempering steel	Tempering steel
	C = 0,6	1,28	1,25	1,20	1,18	1,15	1,14	1,12	1,10	1,09	1,08	1,06
60	C = 0,8	1,39	1,30	1,24	1,23	1,22	1,20	1,18	1,15	1,12	1,11	1,08
	C = 1	1,52	1,42	1,36	1,32	1,28	1,25	1,22	1,18	1,16	1,14	1,10
	C = 0,6	1,30	1,25	1,22	1,20	1,18	1,15	1,13	1,11	1,10	1,09	1,07
65	C = 0,8	1,44	1,35	1,30	1,28	1,24	1,22	1,20	1,16	1,14	1,12	1,09
	C = 1	1,60	1,45	1,40	1,35	1,30	1,28	1,24	1,20	1,18	1,16	1,12
	C = 0,6	1,34	1,26	1,24	1,22	1,18	1,16	1,15	1,12	1,11	1,10	1,07
70	C = 0,8	1,48	1,38	1,34	1,30	1,25	1,23	1,20	1,18	1,15	1,13	1,10
	C = 1	1,65	1,50	1,45	1,40	1,34	1,30	1,26	1,22	1,20	1,17	1,13
	C = 0,6	1,30	1,28	1,25	1,23	1,20	1,18	1,16	1,14	1,12	1,11	1,08
75	C = 0,8	1,52	1,42	1,36	1,32	1,28	1,25	1,22	1,18	1,16	1,14	1,11
	C = 1	1,74	1,55	1,48	1,42	1,36	1,33	1,30	1,25	1,20	1,18	1,13
	C = 0,6	1,39	1,31	1,28	1,25	1,21	1,20	1,18	1,15	1,13	1,11	1,08
80	C = 0,8	1,58	1,45	1,39	1,35	1,30	1,27	1,24	1,20	1,18	1,15	1,11
	C = 1	1,81	1,61	1,53	1,46	1,39	1,36	1,31	1,26	1,22	1,20	1,14
	C = 0,6	1,42	1,34	1,30	1,27	1,23	1,21	1,19	1,16	1,14	1,12	1,09
85	C = 0,8	1,63	1,49	1,42	1,38	1,32	1,29	1,26	1,22	1,19	1,16	1,12
	C = 1	1,90	1,67	1,57	1,50	1,42	1,39	1,34	1,28	1,24	1,21	1,15
	C = 0,6	1,46	1,36	1,32	1,28	1,25	1,22	1,20	1,17	1,15	1,13	1,09
90	C = 0,8	1,69	1,53	1,46	1,40	1,34	1,31	1,28	1,23	1,20	1,18	1,13
	C = 1	2,00	1,73	1,62	1,54	1,46	1,41	1,36	1,30	1,26	1,22	1,16
	C = 0,6	1,49	1,39	1,34	1,30	1,26	1,24	1,21	1,18	1,15	1,14	1,10
95	C = 0,8	1,75	1,57	1,49	1,43	1,37	1,34	1,30	1,25	1,21	1,19	1,14
	C = 1	2,11	1,80	1,68	1,59	1,49	1,44	1,39	1,32	1,27	1,24	1,17
	C = 0,6	1,53	1,41	1,36	1,32	1,28	1,25	1,22	1,19	1,16	1,14	1,11
100	C = 0,8	1,81	1,61	1,53	1,46	1,39	1,36	1,31	1,26	1,22	1,20	1,14
	C = 1	2,24	1,87	1,73	1,63	1,53	1,48	1,41	1,34	1,29	1,25	1,18
	C = 0,6	1,56	1,44	1,39	1,34	1,29	1,27	1,24	1,20	1,17	1,15	1,11
105	C = 0,8	1,88	1,66	1,56	1,50	1,42	1,38	1,33	1,28	1,24	1,21	1,15
	C = 1	2,38	1,95	1,79	1,68	1,56	1,51	1,44	1,36	1,31	1,27	1,19
	C = 0,6	1,60	1,47	1,41	1,36	1,31	1,28	1,25	1,21	1,18	1,16	1,12
110	C = 0,8	1,96	1,71	1,60	1,53	1,44	1,40	1,35	1,29	1,25	1,22	1,16
	C = 1	2,55	2,04	1,86	1,73	1,60	1,54	1,47	1,38	1,33	1,28	1,20
	C = 0,6	1,64	1,50	1,43	1,36	1,33	1,30	1,26	1,22	1,19	1,17	1,12
115	C = 0,8	2,04	1,76	1,64	1,56	1,47	1,43	1,37	1,31	1,26	1,23	1,17
	C = 1	2,75	2,13	1,93	1,79	1,64	1,58	1,50	1,41	1,34	1,30	1,21
	C = 0,6	1,69	1,53	1,46	1,40	1,34	1,31	1,28	1,23	1,20	1,18	1,13
120	C = 0,8	2,13	1,81	1,69	1,60	1,50	1,45	1,39	1,33	1,28	1,24	1,18
	C = 1	3,00	2,24	2,00	1,84	1,69	1,61	1,53	1,43	1,36	1,31	1,22
	C = 0,6	1,73	1,56	1,48	1,43	1,36	1,33	1,29	1,24	1,21	1,18	1,13
125	C = 0,8	2,24	1,87	1,73	1,63	1,53	1,48	1,41	1,34	1,29	1,25	1,18
	C = 1	3,32	2,35	2,08	1,91	1,73	1,65	1,56	1,45	1,38	1,33	1,24
	C = 0,6	1,78	1,59	1,51	1,45	1,38	1,35	1,30	1,25	1,22	1,19	1,14
130	C = 0,8	2,35	1,93	1,78	1,67	1,56	1,50	1,44	1,36	1,30	1,27	1,19
	C = 1	3,74	2,49	2,17	1,97	1,78	1,69	1,59	1,48	1,40	1,35	1,25
	C = 0,6	1,83	1,62	1,54	1,47	1,40	1,36	1,32	1,27	1,23	1,20	1,15
135	C = 0,8	2,48	2,00	1,83	1,71	1,59	1,53	1,46	1,38	1,32	1,28	1,20
	C = 1	4,36	2,65	2,27	2,04	1,83	1,73	1,62	1,50	1,42	1,36	1,26
	C = 0,6	1,88	1,66	1,56	1,50	1,42	1,38	1,33	1,28	1,24	1,21	1,15
140	C = 0,8	2,63	2,07	1,88	1,75	1,62	1,55	1,48	1,39	1,33	1,29	1,21
	C = 1	5,39	2,83	2,38	2,12	1,88	1,78	1,66	1,53	1,44	1,38	1,27
	C = 0,6	1,94	1,69	1,59	1,52	1,44	1,40	1,35	1,29	1,25	1,22	1,16
145	C = 0,8	2,80	2,15	1,94	1,80	1,65	1,58	1,50	1,41	1,35	1,30	1,22
	C = 1	7,68	3,05	2,50	2,21	1,94	1,82	1,69	1,55	1,46	1,40	1,28
	C = 0,6	2,00	1,73	1,62	1,54	1,46	1,41	1,36	1,30	1,26	1,23	1,16
150	C = 0,8	3,00	2,24	2,00	1,84	1,69	1,61	1,53	1,43	1,36	1,31	1,23
	C = 1	–	3,32	2,65	2,30	2,00	1,87	1,73	1,58	1,48	1,41	1,29
	C = 0,6	2,06	1,77	1,65	1,57	1,48	1,43	1,38	1,31	1,27	1,24	1,17
155	C = 0,8	3,25	2,33	2,06	1,89	1,72	1,65	1,55	1,45	1,38	1,33	1,23
	C = 1	–	3,66	2,80	2,40	2,06	1,92	1,77	1,61	1,51	1,43	1,30
	C = 0,6	2,13	1,81	1,69	1,60	1,50	1,45	1,39	1,33	1,28	1,24	1,18
160	C = 0,8	3,55	2,43	2,13	1,94	1,76	1,67	1,58	1,47	1,39	1,34	1,24
	C = 1	–	4,12	3,00	2,52	2,13	1,98	1,81	1,64	1,53	1,45	1,31
	C = 0,6	2,21	1,86	1,72	1,62	1,52	1,47	1,41	1,34	1,29	1,25	1,18
165	C = 0,8	3,96	2,55	2,21	2,00	1,80	1,71	1,60	1,49	1,41	1,35	1,25
	C = 1	–	4,80	3,23	2,65	2,21	2,04	1,86	1,67	1,55	1,47	1,33