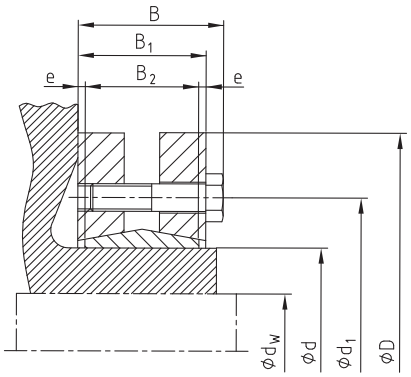
KTR 603

- „Typical external clamping set“
- For middle and high loads
- Typical applications: hollow shafts, slip-on gears
- KTR 603 GT external clamping set separated
  (Please order dimension sheet M483039.)
- Mounting instructions under www.ktr.com



Assembly

Clean and degrease the contact surfaces of shaft and hub (hollow shaft inside). Assemble the external clamping set onto the hub (hollow shaft outside). In the area of the external clamping set the external surface of the hub (hollow shaft outside) may be lubricated. Before tightening the clamping screws, assemble the shaft or push on the hub (hollow shaft). Tighten the clamping screws by degrees and evenly one after the other until the screw tightening torque T_A mentioned in the table is achieved. Several tightening processes are necessary to achieve the requested T_A figure. The figures T and F_{ax} mentioned in the table were calculated for an assembly with oiled/greased external clamping set. The external clamping sets are delivered with oil/grease. For the assembly of external clamping sets without oil/grease the figures mentioned in the table will deviate. Please contact us for any questions you may have.

Note: Do not use any oil with molybdenum sulphide between the contact surfaces of shaft and hub bore (hollow shaft inside).

Disassembly

All clamping screws must be unscrewed evenly and successively. Do not completely unscrew the clamping screws off the thread. Usually the clamping elements release automatically.

Tolerances, surfaces

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

Maximum permissible tolerances:
d = h8 for the shaft

Tolerances for dw

For **dw** from 18 to 30 mm **H6 / j6**
For **dw** from 31 to 50 mm **H6 / h6**
For **dw** from 51 to 80 mm **H6 / g6**
For **dw** from 81 to 500 mm **H7 / g6**

* In general bigger tolerances are possible. Please contact us!

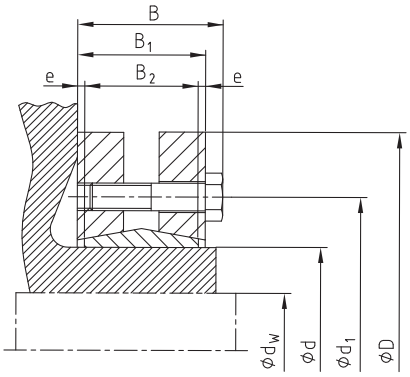
Axial movement

KTR 603: During the tightening of the screws there is no axial movement of the hub towards the shaft.

Order form:

KTR 603	44	x	80
Type	Size of inside diameter		Size of outside diameter

KTR 603 – Technical Data



CLAMPEX® – KTR 603														
d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]					Clamping screws DIN EN ISO 4014 - 10.9 $\mu_{ges.}$=0,10			Surface pressure clamping set/ hollow shaft	Weight [~kg]	Stock-programme
		T [Nm]	F_{ax} [kN]	B	B_1	B_2	e	d_1	M	z Number	T_A [Nm]	P_H [N/mm²]		
	10	28	5											
14 x 38	11	38	7	14,5	11	9	1,0	23	M5 [1]	4	3,5	388	0,15	
	12	50	9											
	12	50	9											
16 x 41	13	70	10	18,5	15	11	2,0	26	M5 [1]	5	4	310	0,20	
	14	90	13											
	19	210	22											
24 x 50	20	260	26	22,5	19	14	2,5	36	M5 [1]	6	5	286	0,20	●
	21	310	29											
	24	310	25											
30 x 60	25	340	27	24,5	21	16	2,5	44	M5 [1]	6	6	233	0,30	●
	26	380	29											
	28	460	33											
36 x 72	30	590	39	27	23	18	2,5	52	M6	5	12	307	0,45	●
	31	630	40											
	32	630	40											
44 x 80	35	780	44	29	25	20	2,5	61	M6	7	12	317	0,60	●
	36	860	48											
	38	940	49											
50 x 90	40	1100	55	31	27	22	2,5	70	M6	8	12	289	0,80	●
	42	1300	62											
	42	1200	57											
55 x 100	45	1500	66	34	30	23	3,5	75	M6	8	12	252	1,10	●
	48	1900	79											
	48	1800	75											
62 x 110	50	2200	88	34	30	23	3,5	86	M6	10	12	279	1,30	●
	52	2400	92											
	50	2000	80											
68 x 115	55	2500	91	34	30	23	3,5	86	M6	10	12	255	1,40	●
	60	3100	103											
	55	2500	92											
75 x 138	60	3200	107	37,5	32	25	3,5	100	M8	7	30	273	1,70	●
	65	3900	121											
	60	3200	107											
80 x 145	65	3900	120	37,5	32	25	3,5	100	M8	7	30	256	2,20	●
	70	4600	131											
	65	4800	148											
85 x 155	70	6100	175	43,5	38	30	4,0	114	M8	10	30	285	3,40	
	75	7400	201											
	65	4700	145											
90 x 155	70	6000	172	44,5	39	30	4,5	114	M8	10	30	271	3,30	●
	75	7200	194											

● Clamping sets available from stock.

1) The clamping screws are designed as per DIN EN ISO 4014 – 8.8 with $\mu_{ges.}$=0,12.

Other sizes on request.

KTR 603 – Technical Data

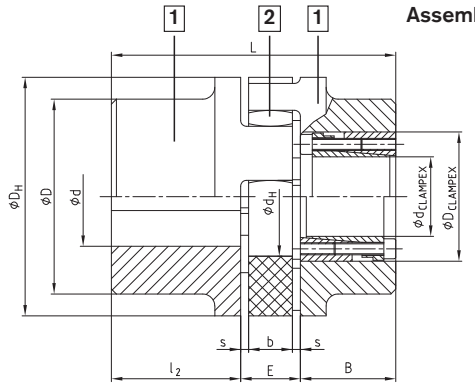
CLAMPEX® – KTR 603														
d x D [mm]	Shaft diameter d_w [mm]	Transmittable torque or axial force		Dimensions [mm]					Clamping screws DIN EN ISO 4014 - 10.9 $\mu_{ges.}$=0,10			Surface pressure clamping set/ hollow shaft	Weight [~kg]	Stock-programme
		T [Nm]	F_{ax} [kN]	B	B_1	B_2	e	d_1	M	z Number	T_A [Nm]	P_H [N/mm²]		
	70	6900	199											
100 x 170	75	7500	199	49,5	44	34	5,0	124	M8	12	30	258	4,60	●
	80	9000	225											
	75	7200	194											
110 x 185	80	9000	227	56,5	50	39	5,5	136	M10	9	59	244	5,90	●
	85	11000	259											
	80	8500	213											
115 x 188	85	10000	237	56,5	50	39	5,5	141	M10	9	59	234	6,30	
	90	12000	267											
	80	10600	267											
120 x 215	85	13300	312	58,5	52	42	5,0	160	M10	12	59	277	8,00	
	90	14500	324											
	85	11000	261											
125 x 215	90	13000	290	58,5	52	42	5,0	160	M10	12	59	266	8,60	●
	95	15000	318											
	90	13700	306											
130 x 215	95	15800	334	58,5	52	42	5,0	160	M10	12	59	285	8,20	
	100	18200	365											
	95	15000	350											
140 x 230	100	17000	342	67,5	60	46	7,0	175	M12	10	100	264	10,00	●
	105	20000	382											
	105	20000	381											
155 x 263	110	23000	415	71,5	64	50	7,0	192	M12	12	100	263	15,00	●
	115	26000	453											
	115	36000	626											
165 x 290	120	39000	648	78,5	71	56	7,5	210	M16	8	250	277	22,00	●
	125	44000	702											
	125	40000	642											
175 x 300	130	44000	677	81	71	56	7,5	220	M16	8	250	261	23,00	●
	135	49000	726											
	135	55000	816											
185 x 330	140	60000	855	96	86	71	7,5	236	M16	10	250	244	36,00	
	145	65000	902											
	140	66000	943											
195 x 350	150	76000	1013	96	86	71	7,5	246	M16	12	250	277	40,00	
	155	82000	1057											
	150	74000	982											
200 x 350	155	80000	1035	96	86	71	7,5	246	M16	12	250	270	48,00	
	160	86000	1081											
	160	95000	1194											
220 x 370	165	102000	1244	114	104	88	8,0	270	M16	15	250	248	54,00	
	170	110000	1293											
	170	120000	1408											
240 x 405	180	140000	1558	121,5	109	92	8,5	295	M20	12	490	272	67,00	
	190	160000	1690											
	190	165000	1476											
260 x 430	200	185000	1851	131,5	119	103	8,0	321	M20	14	490	262	82,00	
	210	205000	1950											
	210	217000	2067											
280 x 460	220	244000	2222	146,5	134	114	10,0	346	M20	16	490	251	102,0	
	230	270000	2352											
	230	275000	2395											
300 x 485	240	295000	2464	154,5	142	122	10,0	364	M20	18	490	246	118,0	
	245	315000	2574											

● Clamping sets available from stock.

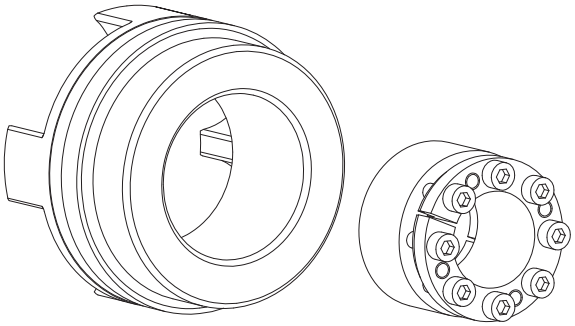
1) The clamping screws are designed as per DIN EN ISO 4014 – 8.8 with $\mu_{ges.}$=0,12.

Other sizes on request.

KTR 200 with torsionally flexible ROTEX® coupling



Assembly 1



Assembly 2

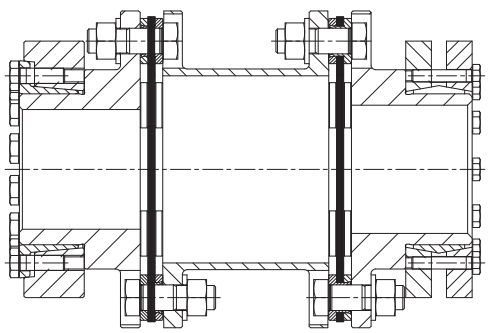
KTR 200 with torsionally flexible ROTEX® coupling															
ROTEX® size	Pilot bore Ød [mm]	Hub material	Dimensions of CLAMPEX® KTR 200 [mm]				Dimensions of ROTEX® coupling [mm]								
			Maximum KTR clamping d x D	Transmittable torques and axial force		B	l_1	E	s	b	D_H	D	D_1	d_H	L
				T [Nm]	F_{ax} [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.					

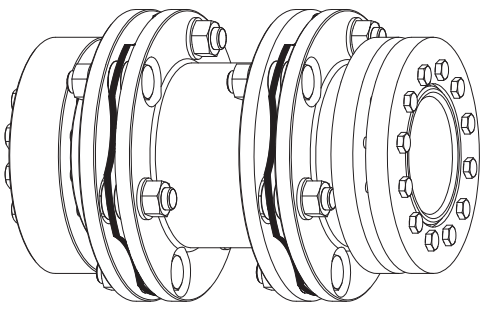
Other coupling combination

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]

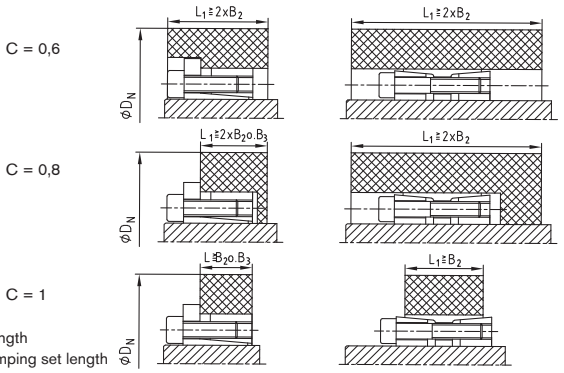
Calculation of hubs

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