

RCK 11 Clamping Elements



800.909.4988
info@rankinusa.com



MINIMUM HUB DIAMETER CHECK D_m

After choosing the clamping element type with the required characteristics it is necessary to make a check on the minimum extern diameter of the hub (D_m), which has to resist to the solicitations caused by the high pressures developed by the clamping element. The check is purely static and concerns just solicitations caused by the clamping element:

$$D_m \geq D \times \sqrt{\frac{R_{s 0.2} + (P_m \times C)}{R_{s 0.2} - (P_m \times C)}}$$

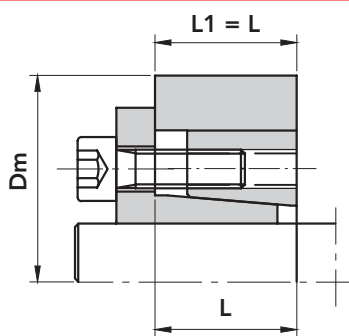
Where: D_m = Extern diameter of the hub (mm)

D = Extern diameter of the clamping element (mm)

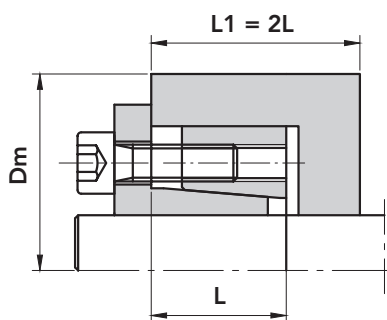
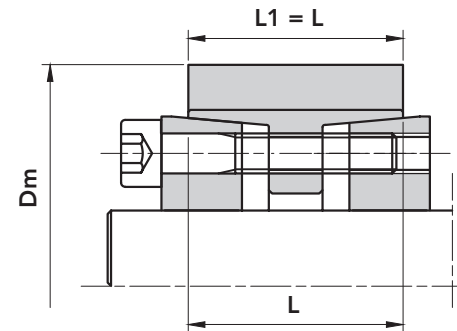
$R_{s 0.2}$ = Yield point for permanent elongation of 0.2% (N/mm²)

P_m = Specific pressure exercised by the clamping element on the hub (N/mm²)

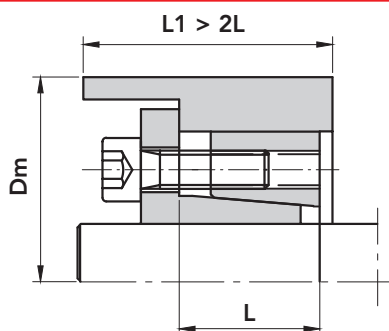
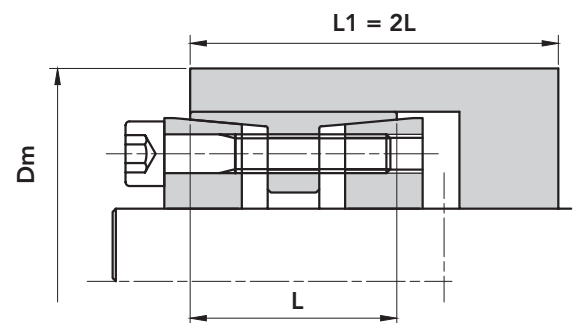
C = coefficient of the utilization in function of the hub profile (Look at the pictures below)



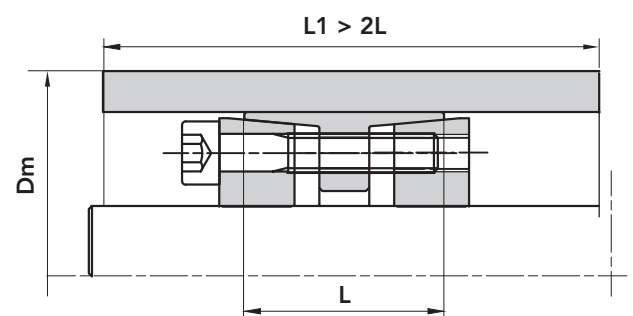
$C = 1$



$C = 0.8$



$C = 0.6$



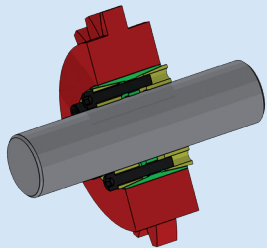


The clamping system connects one or two components parts solidly to the drive shaft, which allows motion to be transmitted or to withstand an axial thrust. Friction connection enables gaps to be eliminated, thereby ensuring greater precision of the keyed components without requiring strict processing tolerances. The thrust cones develop a pressure between the shaft and the hub, which enables pulleys, gears, chain sprockets, drums, flywheels, etc. to be anchored safely. The easy assembly and disassembly features give users many advantages, leading to a further cost saving.

Chiaravalli Group S.p.A. provides its customers with different types of clamping elements, which are designed to cover a broad range of applications.



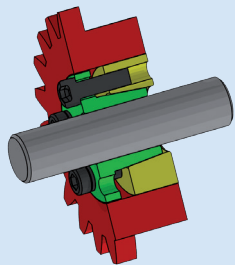
SHAFT CLAMPING ELEMENTS



RCK 11

SELF CENTRING RCK 11 TYPE

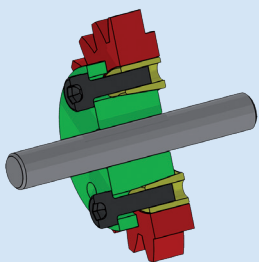
Suitable for assemblies where special, even heavy-duty conditions are required, achieving maximum friction clamping results. It incorporates the best features of all the models which have been presented. It operates with very high torque values.



RCK 13

SELF CENTRING RCK 13 TYPE

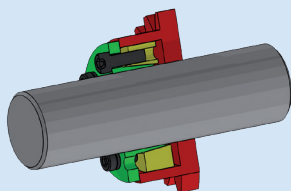
Suitable for assemblies where good concentricity is required in small spaces with medium- high torque values. It can substitute RCK 40 in some cases.



RCK 15

SELF CENTRING RCK 15 TYPE

Suitable for assemblies where axial and radial positioning accuracy is required with medium- high torque values. The main feature is the possibility of varying the internal bores while maintaining the external dimensions constant at only three diameters.



RCK 16

SELF CENTRING RCK 16 TYPE

Suitable for assemblies where concentricity and positioning accuracy is required. It operates with medium- high torque values.

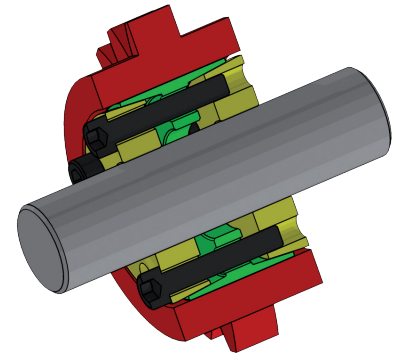
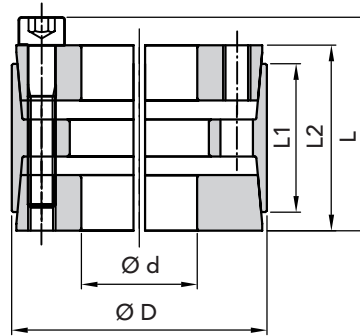


SELF CENTRING

THE RECOMMENDED MACHINING TOLERANCES FOR THE PRESSURE SURFACES ARE AS FOLLOWS:

Ø h 8 FOR SHAFT

Ø H 8 FOR HUB



| PART NUMBER | DIMENSIONS | | | | | maximum torque Mt N/mm ² | CLAMPING PRESSURE | | | CLAMPING SCREWS DIN 912 MAT. 12.9 | | EXTRACTION THREAD | | WEIGHT Kg |
|-------------|------------|-----|-----|-----|---------|---|----------------------------|--------------------------|----|--------------------------------------|--------|----------------------|----|--------------|
| | Ød | ØD | L1 | L2 | L Nm | | Shaft N/mm ² | Hub N/mm ² | N° | Type Nm | Torque | Type | N° | |
| 06110025 | 25 | 55 | 32 | 40 | 46 | 840 | 295 | 134 | 6 | M6x35 | 17 | M6 | 3 | 0,50 |
| 06110028 | 28 | 55 | 32 | 40 | 46 | 940 | 264 | 134 | 6 | M6x35 | 17 | M6 | 3 | 0,60 |
| 06110030 | 30 | 55 | 32 | 40 | 46 | 1000 | 246 | 134 | 6 | M6x35 | 17 | M6 | 3 | 0,60 |
| 06110035 | 35 | 60 | 44 | 54 | 60 | 1360 | 174 | 101 | 7 | M6x45 | 17 | M6 | 3 | 0,70 |
| 06110038 | 38 | 75 | 44 | 54 | 62 | 2740 | 296 | 150 | 7 | M8x50 | 41 | M8 | 3 | 0,70 |
| 06110040 | 40 | 75 | 44 | 54 | 62 | 2880 | 281 | 150 | 7 | M8x50 | 41 | M8 | 3 | 0,70 |
| 06110042 | 42 | 75 | 44 | 54 | 62 | 3030 | 268 | 150 | 7 | M8x50 | 41 | M8 | 3 | 1,00 |
| 06110045 | 45 | 75 | 44 | 54 | 62 | 3240 | 250 | 150 | 7 | M8x50 | 41 | M8 | 3 | 0,90 |
| 06110048 | 48 | 80 | 56 | 64 | 72 | 3950 | 207 | 124 | 8 | M8x50 | 41 | M8 | 3 | 1,40 |
| 06110050 | 50 | 80 | 56 | 64 | 72 | 4150 | 200 | 98 | 8 | M8x50 | 41 | M8 | 3 | 1,30 |
| 06110055 | 55 | 85 | 56 | 64 | 72 | 5150 | 205 | 104 | 9 | M8x50 | 41 | M8 | 3 | 1,50 |
| 06110060 | 60 | 90 | 56 | 64 | 72 | 6200 | 202 | 106 | 10 | M8x50 | 41 | M8 | 4 | 1,60 |
| 06110065 | 65 | 95 | 56 | 64 | 72 | 6750 | 187 | 100 | 10 | M8x50 | 41 | M8 | 4 | 1,80 |
| 06110070 | 70 | 110 | 70 | 78 | 88 | 11500 | 223 | 114 | 10 | M10x60 | 83 | M10 | 4 | 3,00 |
| 06110075 | 75 | 115 | 70 | 78 | 88 | 12300 | 223 | 114 | 10 | M10x60 | 83 | M10 | 4 | 3,30 |
| 06110080 | 80 | 120 | 70 | 78 | 88 | 14500 | 215 | 115 | 11 | M10x60 | 83 | M10 | 4 | 3,50 |
| 06110085 | 85 | 125 | 70 | 78 | 88 | 15400 | 215 | 115 | 12 | M10x60 | 83 | M10 | 5 | 3,70 |
| 06110090 | 90 | 130 | 70 | 78 | 88 | 17800 | 208 | 115 | 12 | M10x60 | 83 | M10 | 5 | 3,55 |
| 06110095 | 95 | 135 | 70 | 78 | 88 | 18700 | 208 | 115 | 12 | M10x60 | 83 | M10 | 5 | 3,75 |
| 06110100 | 100 | 145 | 90 | 100 | 112 | 26300 | 200 | 107 | 11 | M12x80 | 145 | M12 | 4 | 5,80 |
| 06110110 | 110 | 155 | 90 | 100 | 112 | 31800 | 198 | 110 | 12 | M12x80 | 145 | M12 | 5 | 6,25 |
| 06110120 | 120 | 165 | 90 | 100 | 112 | 40400 | 212 | 120 | 14 | M12x80 | 145 | M12 | 5 | 6,65 |
| 06110130 | 130 | 180 | 104 | 116 | 130 | 51500 | 192 | 112 | 12 | M14x90 | 230 | M14 | 5 | 9,30 |
| 06110140 | 140 | 190 | 104 | 116 | 130 | 64700 | 208 | 124 | 14 | M14x90 | 230 | M14 | 7 | 9,75 |
| 06110150 | 150 | 200 | 104 | 116 | 130 | 74200 | 208 | 127 | 15 | M14x90 | 230 | M14 | 6 | 10,35 |
| 06110160 | 160 | 210 | 104 | 116 | 130 | 84500 | 208 | 128 | 16 | M14x90 | 230 | M14 | 7 | 10,95 |
| 06110170 | 170 | 225 | 134 | 148 | 164 | 108200 | 182 | 113 | 14 | M16x110 | 355 | M16 | 6 | 16,20 |
| 06110180 | 180 | 235 | 134 | 148 | 164 | 123250 | 184 | 115 | 15 | M16x110 | 355 | M16 | 7 | 16,90 |
| 06110190 | 190 | 250 | 134 | 148 | 164 | 133800 | 186 | 116 | 16 | M16x110 | 355 | M16 | 7 | 19,85 |
| 06110200 | 200 | 260 | 134 | 148 | 164 | 146000 | 177 | 112 | 16 | M16x110 | 355 | M16 | 7 | 22,00 |
| 06110220 | 220 | 285 | 134 | 148 | 164 | 181000 | 188 | 115 | 18 | M16x110 | 355 | M16 | 8 | 25,00 |
| 06110240 | 240 | 305 | 134 | 148 | 164 | 218000 | 184 | 119 | 20 | M16x110 | 355 | M16 | 9 | 27,00 |
| 06110260 | 260 | 325 | 134 | 148 | 164 | 250000 | 178 | 117 | 21 | M16x110 | 355 | M16 | 10 | 30,00 |
| 06110280 | 280 | 355 | 165 | 177 | 197 | 360000 | 185 | 117 | 18 | M20x130 | 690 | M20 | 8 | 46,00 |
| 06110300 | 300 | 375 | 165 | 177 | 197 | 428000 | 192 | 123 | 20 | M20x130 | 690 | M20 | 9 | 50,00 |

ORDERING EXAMPLE:

The following will be ordered with a shaft having ød 45 with torque value less or equal to 3.200 Nm:

RCK 11 - 45 x 75

Part Number 06110045

CAD drawings available on our site

www.chiaravalli.com

3D simulation available on the website.

Quantity, availability and prices on B2B Chiaravalli

