

RCK 16 Clamping Elements



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RANKIN 
COMPONENTS THAT AUTOMATE



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:

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

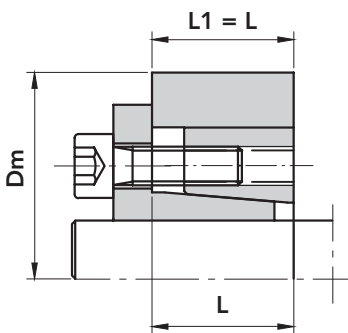
Where: D_m = Extern diameter of the hub (mm)

D = Extern diameter of the clamping element (mm)

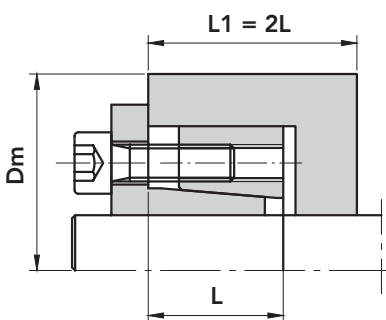
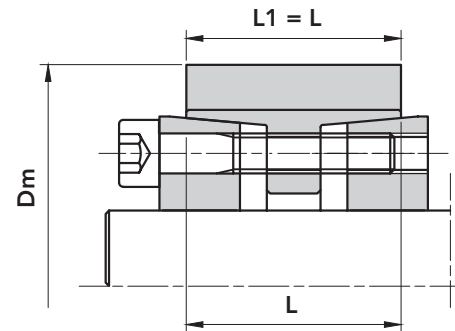
$R_{s 0.2}$ = Yield point for permanent elongation of 0.2% (N/mm²)

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

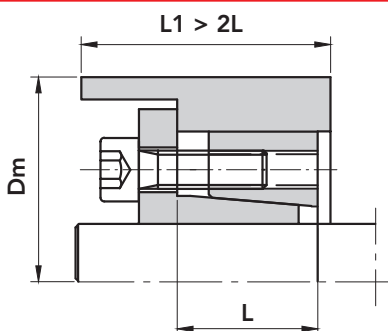
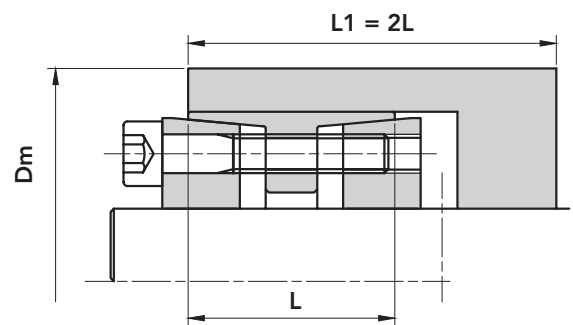
C = coefficient of the utilization in function of the hub profile (Look at the pictures below)



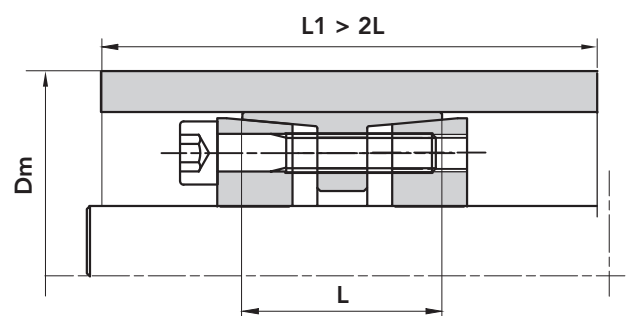
$C = 1$



$C = 0.8$



$C = 0.6$



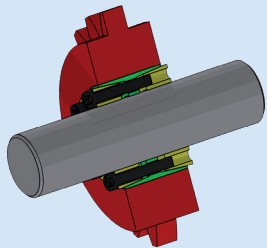


The clamping system connects one or two components parts solidly to the drive shaft, which allows motion to be transmitted or to withstand an axial thrust. Friction connection enables gaps to be eliminated, thereby ensuring greater precision of the keyed components without requiring strict processing 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.



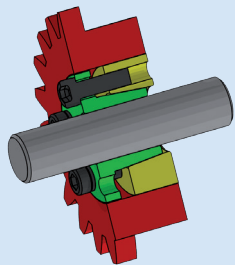
SHAFT CLAMPING ELEMENTS



RCK 11

SELF CENTRING RCK 11 TYPE

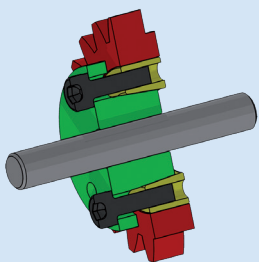
Suitable for assemblies where special, even heavy-duty conditions are required, achieving maximum friction clamping results. It incorporates the best features of all the models which have been presented. It operates with very high torque values.



RCK 13

SELF CENTRING RCK 13 TYPE

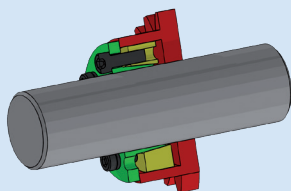
Suitable for assemblies where good concentricity is required in small spaces with medium- high torque values. It can substitute RCK 40 in some cases.



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.



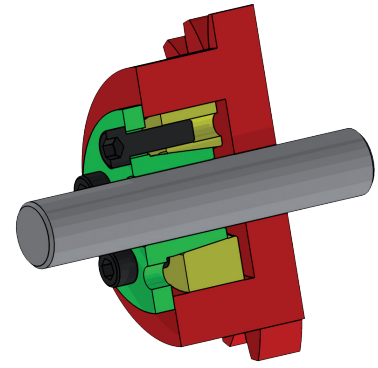
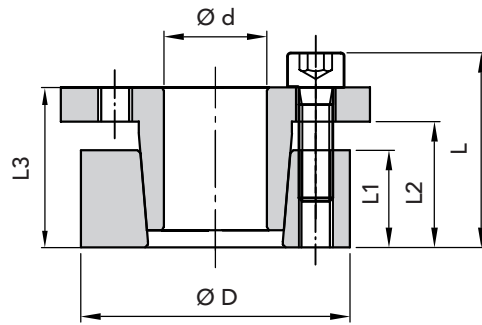
RCK 16 TYPE CLAMPING ELEMENTS

SELF CENTRING

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

Ø h 8 FOR SHAFT

Ø H 8 FOR HUB



RCK 16 TYPE CLAMPING ELEMENTS

DIMENSIONS

PART NUMBER	Ød	ØD	L1	L2	L3	L	maximum torque Mt Nm	CLAMPING PRESSURE		CLAMPING SCREWS DIN 912 MAT. 12.9			EXTRACTION THREAD		WEIGHT Kg
								Shaft N/mm ²	Hub N/mm ²	N.	Type	Torque Nm	Type	N.	
06160018	18	47	17	22	28	34	260	240	93	5	M6x20	17	M6	3	0,30
06160019	19	47	17	22	28	34	270	230	93	5	M6x20	17	M6	3	0,30
06160020	20	47	17	22	28	34	280	220	95	5	M6x20	17	M6	3	0,30
06160022	22	47	17	22	28	34	300	200	95	5	M6x20	17	M6	3	0,30
06160024	24	50	17	22	28	34	400	215	107	6	M6x20	17	M6	3	0,30
06160025	25	50	17	22	28	34	420	210	105	6	M6x20	17	M6	3	0,30
06160028	28	55	17	22	28	34	470	190	96	6	M6x20	17	M6	3	0,40
06160030	30	55	17	22	28	34	500	180	95	6	M6x20	17	M6	3	0,40
06160032	32	60	17	22	28	34	720	220	115	8	M6x20	17	M6	4	0,40
06160035	35	60	17	22	28	34	790	200	115	8	M6x20	17	M6	4	0,40
06160038	38	65	17	22	28	34	850	185	105	8	M6x20	17	M6	4	0,50
06160040	40	65	17	22	28	34	900	175	105	8	M6x20	17	M6	4	0,50
06160045	45	75	20	25	33	41	1620	215	125	7	M8x25	41	M8	3	0,70
06160050	50	80	20	25	33	41	1820	195	120	7	M8x25	41	M8	3	0,80
06160055	55	85	20	25	33	41	2300	200	130	8	M8x25	41	M8	4	0,90
06160060	60	90	20	25	33	41	2500	185	125	8	M8x25	41	M8	4	0,90
06160065	65	95	20	25	33	41	3050	190	130	9	M8x25	41	M8	3	1,00
06160070	70	110	24	30	40	50	4660	210	135	8	M10x30	83	M10	4	1,90
06160075	75	115	24	30	40	50	5000	195	125	8	M10x30	83	M10	4	2,00
06160080	80	120	24	30	40	50	5300	185	125	8	M10x30	83	M10	4	2,00
06160085	85	125	24	30	40	50	6350	195	135	9	M10x30	83	M10	3	2,00
06160090	90	130	24	30	40	50	6760	185	130	9	M10x30	83	M10	3	2,20
06160095	95	135	24	30	40	50	7900	195	135	10	M10x30	83	M10	4	2,30
06160100	100	145	26	32	44	56	9700	200	140	8	M12x35	145	M12	4	3,00
06160110	110	155	26	32	44	56	10600	180	130	8	M12x35	145	M12	4	3,20
06160120	120	165	26	32	44	56	13000	185	135	9	M12x35	145	M12	4	3,40
06160130	130	180	34	40	52	64	18900	175	125	12	M12x35	145	M12	6	5,20
06160140	140	190	34	40	54	68	20600	165	120	9	M14x40	230	M14	4	5,40
06160150	150	200	34	40	54	68	25100	175	130	10	M14x40	230	M14	5	5,70
06160160	160	210	34	40	54	68	29100	180	135	11	M14x40	230	M14	4	6,00
06160170	170	225	44	50	64	78	34100	140	105	12	M14x40	230	M14	6	8,30
06160180	180	235	44	50	64	78	36100	135	105	12	M14x40	230	M14	6	8,80

ORDERING EXAMPLE:

The following will be ordered with a shaft having ød 75 with a torque value less than or equal 5000 Nm:

RCK 16 - 75 x 115

Part Number 06160075

CAD drawings available on our site

www.chiaravalli.com

3D simulation available on the website.

Quantity, availability and prices on B2B Chiaravalli

