

# RCK 19 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:

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

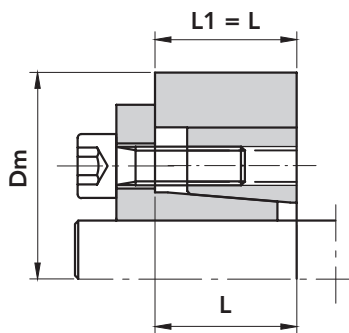
Where:  $D_m$  = Extern diameter of the hub (mm)

$D$  = Extern diameter of the clamping element (mm)

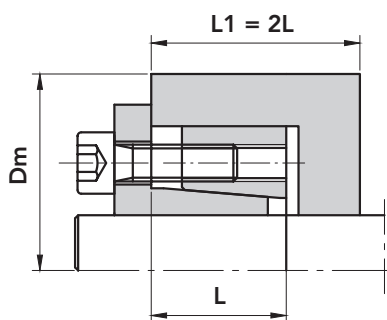
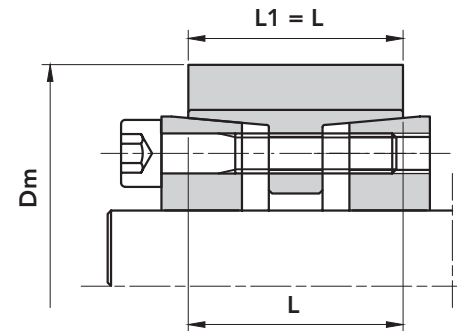
$R_{s 0.2}$  = Yield point for permanent elongation of 0.2% (N/mm<sup>2</sup>)

$P_m$  = Specific pressure exercised by the clamping element on the hub (N/mm<sup>2</sup>)

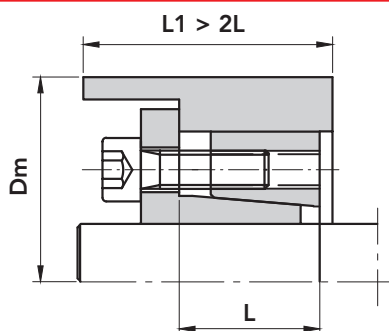
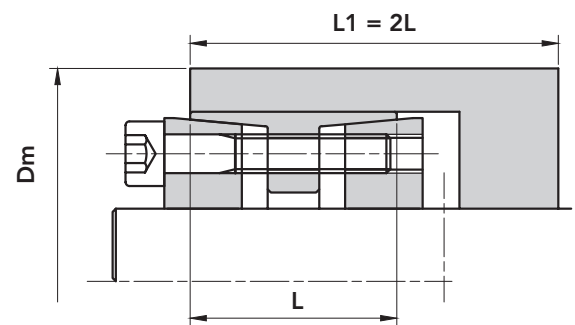
$C$  = coefficient of the utilization in function of the hub profile (Look at the pictures below)



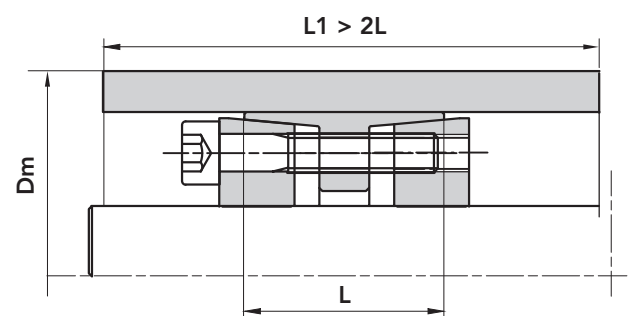
**C = 1**

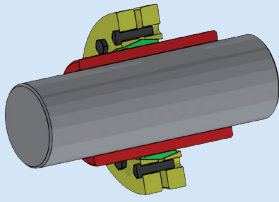


**C = 0.8**

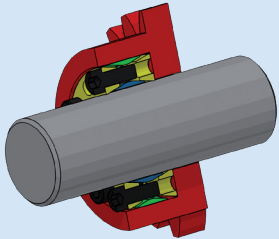


**C = 0.6**

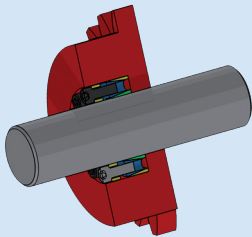


**RCK 19****SELF CENTRING RCK 19 TYPE**

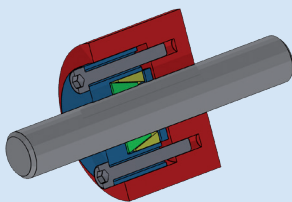
Suitable for hollow shafts, it operates by compressing the hollow shafts on the solid shafts enabling transmission of medium high twisting moments to be achieved.

**RCK 40****NOT SELF CENTRING RCK 40 TYPE**

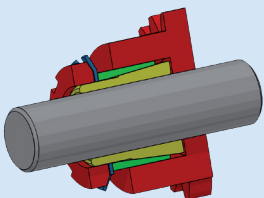
Suitable for general applications, it is not self centring and therefore requires a centring band to ensure perfect concentricity. It operates with medium- high torque values.

**RCK 45****NOT SELF CENTRING RCK 45 TYPE**

Suitable for applications where medium-low twisting moments are required with, easy rapid assembly and disassembly operation. Not self centring.

**RCK 50****NOT SELF CENTRING RCK 50 TYPE**

Comprising two tapered rings, must always be mounted with a tightening flange. It operates with low torque values; it isn't self centring.

**RCK 55****SELF CENTRING RCK 55 TYPE**

Suitable for assemblies where limited overall dimensions and times are required. It operates with medium-low torque values.



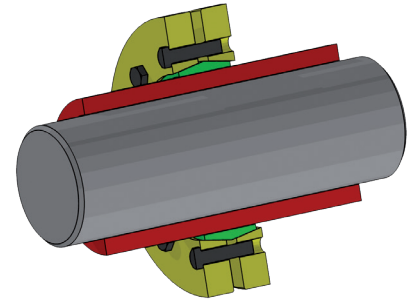
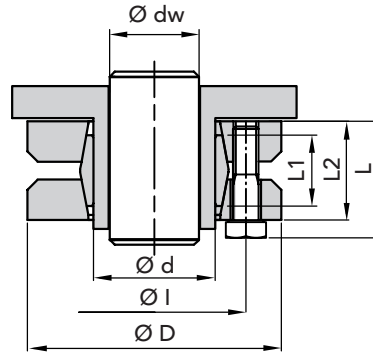
### SELF CENTRING

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

**Ød h 8 DIAMETER**

#### IMPORTANT:

INTERN TAPERS ARE LUBRICATED WITH PRODUCTS BASED ON MOLYBDENUM BISULPHIDE.



PART NUMBER	DIMENSIONS							Øl	Ødw (dw-d1)	maximum torque Mt Nm	CLAMPING PRESSURE Shaft N/mm <sup>2</sup>	CLAMPING SCREWS DIN 931 MAT. 10.9			WEIGHT Kg
	Ød	ØD	Ødw	L1	L2	L	N.					Type	Torque Nm		
06190024	24	50	19 20 21	14	19,5	23	36	0,017	170 210 250	286	6	M5x18	4	0,20	
06190030	30	60	24 25 26	16	21,5	25	44	0,017	300 340 380	233	7	M5x18	4	0,30	
06190036	36	72	28 30 31	18	23,5	27,5	52	0,032	440 570 630	307	5	M6x20	12	0,40	
06190044	44	80	32 35 36	20	25,5	29,5	61	0,032	620 780 860	317	7	M6x20	12	0,60	
06190050	50	90	38 40 42	22	27,5	31,5	70	0,032	940 1160 1380	289	8	M6x25	12	0,80	
06190055	55	100	42 45 48	23	30,5	34,5	75	0,032	1160 1520 1880	252	8	M6x25	12	1,10	
06190062	62	110	48 50 52	23	30,5	34,5	86	0,048	1850 2200 2400	279	10	M6x25	12	1,30	
06190068	68	115	50 55 60	23	30,5	34,5	86	0,048	2000 2500 3150	255	10	M6x25	12	1,40	
06190075	75	138	55 60 65	25	32,5	37,8	100	0,048	2500 3200 3950	273	7	M8x30	30	1,70	
06190080	80	145	60 65 70	25	32,5	37,8	100	0,048	3200 3900 4600	256	7	M8x30	30	1,90	
06190090	90	155	65 70 75	30	39	44,3	114	0,048	4750 6000 7250	271	10	M8x35	30	3,30	
06190100	100	170	70 75 80	34	44	49,3	124	0,048	6900 7500 9000	258	12	M8x35	30	4,70	
06190110	110	185	75 80 85	39	50	56,4	136	0,048	7200 9000 10800	244	9	M10x40	59	5,90	
06190125	125	215	85 90 95	42	54	60,4	160	0,069	11000 13000 15000	266	12	M10x40	59	8,30	
06190140	140	230	95 100 105	46	60,5	68	175	0,069	15100 17600 20100	264	10	M12x45	100	10,0	
06190155	155	265	105 110 115	50	64,5	72	192	0,069	22000 25000 28000	263	12	M12x50	100	15,0	
06190165	165	290	115 120 125	56	71	81	210	0,069	31000 35000 39000	277	8	M16x55	250	22,0	
06190175	175	300	125 130 135	56	71	81	220	0,079	36000 41000 45000	261	8	M16x55	250	22,0	
06190185	185	330	135 140 145	71	86	96	236	0,09	52000 57000 62000	237	10	M16x70	250	24,0	

#### ORDERING EXAMPLE:

The following will be ordered with a shaft having Ød 36 with a torque value less than or equal 440 Nm:

**RCK 19 - 36 x 72**

Part Number 06190036

CAD drawings available on our site  
[www.chiaravalli.com](http://www.chiaravalli.com)

3D simulation available on the website.

Quantity, availability and prices  
on B2B Chiaravalli

