

CLAMPING ELEMENTS

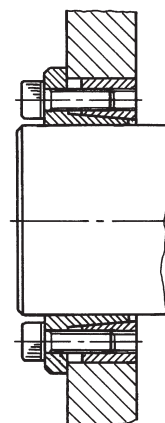
The clamping system connects one or two component parts solidly to the drive shaft, which allow motion to be transmitted or to withstand an axial thrust. Friction connection enables gaps to be eliminated, thereby ensuring greater precision of the keyed components without requiring strict processing tolerances.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

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

SELF-CENTRING RCK 15 TYPE



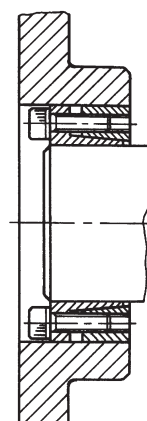
Suitable for assemblies where axial and radial positioning accuracy is required with medium-high torque values. The main feature is the possibility of varying the internal bores while maintaining the external dimensions constant at only three diameters.



SELF-CENTRING RCK 13 TYPE



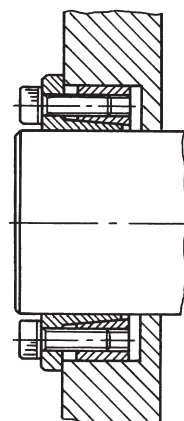
Suitable for assemblies where good concentricity is required in small spaces with medium-high torque values. Can substitute RCK 40 in some cases.



SELF-CENTRING RCK 16 TYPE



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



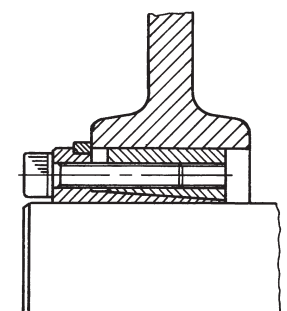
SELF-CENTRING RCK 70/71 TYPE (RCK 70 WITH SPACER)



The RCK 70 version is suitable for assemblies where concentricity and orthogonal positioning of the parts is required.

The RCK 71 version has the same features as RCK 70 with the addition of a spacer ring to completely avoid possible axial displacements.

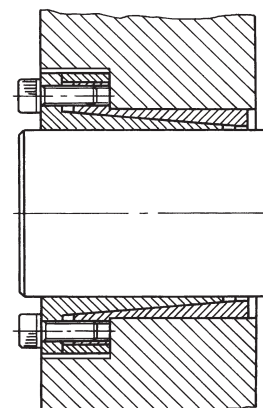
These components operate with medium-high torque values.



SELF-CENTRING RCK 80 TYPE



Suitable for assemblies on hubs with thin walls guarantees both axial and radial positioning precision with medium transmission torque values.



SELF-CENTRING TYPE CLAMPING

RCK 71 ELEMENTS

(RCK 70 with spacer)

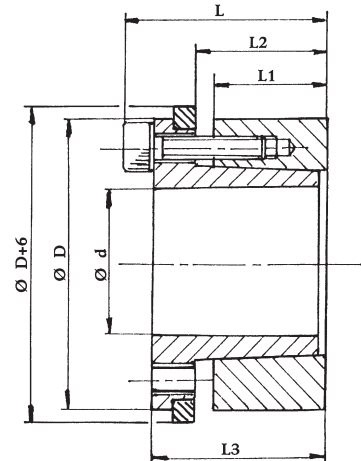
N.B. The recommended machining tolerances for the pressure surfaces are as follows:

h8 for Shaft

H8 for Hub

ORDERING EXAMPLE:

The following will be ordered with a shaft having $\varnothing d$ 30 with a torque value less than or equal to 650 Nm: **RCK 71 - 30x55**.



RCK 71

DIMENSIONS						Torque Mt Nm	PRESSURES		Clamping Screws DIN 912 MAT. 12.9			Extraction Thread	
Ød	ØD	L1	L2	L3	L		Shaft N/mm ²	Hub N/mm ²	No.	Type	Torque Nm	Type	No.
19	47	26	31	39	45	300	228	98	4	M6x25	17	M6	2
20	47	26	31	39	45	320	231	98	4	M6x25	17	M6	2
22	47	26	31	39	45	370	211	99	4	M6x25	17	M6	2
24	50	26	31	39	45	430	220	110	6	M6x25	17	M6	3
25	50	26	31	39	45	480	226	113	6	M6x25	17	M6	3
28	55	26	31	39	45	590	207	108	6	M6x25	17	M6	3
30	55	26	31	39	45	650	226	121	6	M6x25	17	M6	3
32	60	26	31	39	45	800	201	117	8	M6x25	17	M6	4
35	60	26	31	39	45	860	206	121	8	M6x25	17	M6	4
38	65	26	31	39	45	1030	201	124	8	M6x25	17	M6	4
40	65	26	31	39	45	1130	239	146	8	M6x25	17	M6	4
42	75	30	36	47	55	1930	221	138	6	M8x30	41	M8	3
45	75	30	36	47	55	1950	221	138	6	M8x30	41	M8	3
48	80	30	36	47	55	2180	226	145	6	M8x30	41	M8	3
50	80	30	36	47	55	2210	226	146	6	M8x30	41	M8	3
55	85	30	36	47	55	2730	226	146	8	M8x30	41	M8	4
60	90	30	36	47	55	2910	201	134	8	M8x30	41	M8	4
65	95	30	36	47	55	3570	211	145	8	M8x30	41	M8	4
70	110	40	46	57	67	5830	226	145	8	M10x35	83	M10	4
75	115	40	46	62	72	6330	221	151	8	M10x35	83	M10	4
80	120	40	46	62	72	6840	202	142	8	M10x35	83	M10	4
85	125	40	46	62	72	8160	221	161	10	M10x35	83	M10	4
90	130	40	46	62	72	8670	201	146	10	M10x35	83	M10	4
95	135	40	46	62	72	10200	191	141	10	M10x35	83	M10	4
100	145	46	52	77	89	13600	201	151	8	M12x45	145	M12	4
110	155	46	52	77	89	14870	201	182	8	M12x45	145	M12	4
120	165	46	52	77	89	19460	221	162	10	M12x45	145	M12	4
130	180	46	52	77	89	20820	202	146	12	M12x45	145	M12	4
140	190	51	59	84	90	25410	192	141	8	M14x45	230	M14	4
150	200	51	59	84	90	30720	202	152	10	M14x45	230	M14	5
160	210	51	59	84	90	33150	202	152	10	M14x45	230	M14	5
170	225	51	59	84	90	34000	161	121	12	M14x45	230	M14	6
180	235	51	59	84	90	34250	157	122	12	M14x45	230	M14	6

CLAMPING ELEMENTS

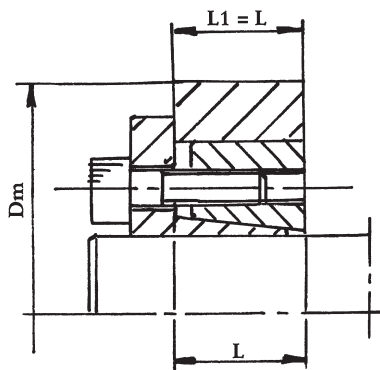
Checking minimum hub diameter D_m

The minimum external hub diameter (D_m) must be checked after the type of clamping element with the required features has been selected, since the hub must withstand the stresses produced by the high pressures developed by the clamping element.

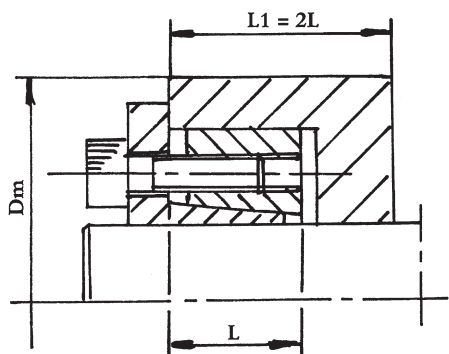
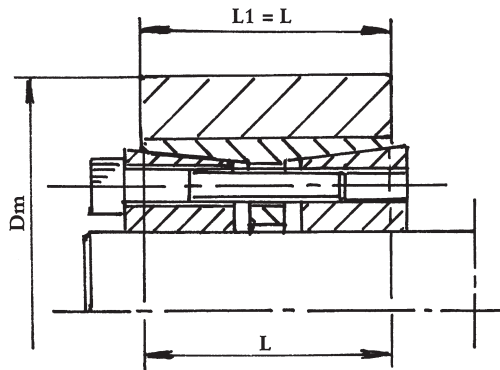
The check is merely static and only refers to the stresses generated by the clamping element:

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

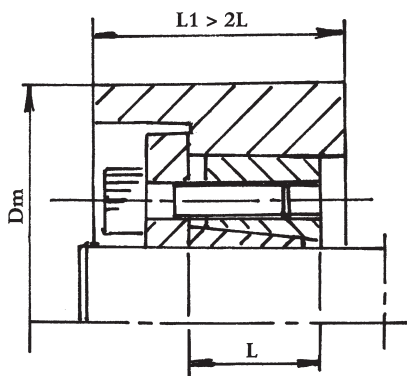
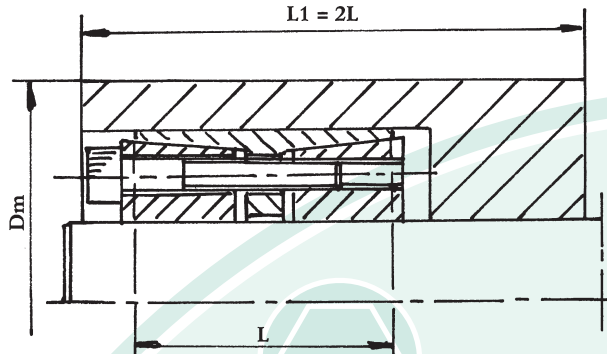
- Dove:
- D_m = external hub diameter (mm)
 - D = external diameter of clamping element (mm)
 - $R_{s\ 0.2}$ = yield strength for a permanent elongation of 0.2% (N/mm²)
 - P_m = specific pressure exerted on the hub by the clamping element (N/mm²)
 - C = Utilisation coefficient depending on the hub profile (refer to the figures below).



$C = 1$



$C = 0.8$



$C = 0.6$

