

Clamping Bushes MSD

Material: Steel.

The MSD clamping bush consists of a double-walled, hardened steel sleeve filled with a special pressure medium, a seal, a piston, a compression flange and fastening screws. When tightening the screws, the sleeves expand evenly against shaft and hub, creating a rigid connection. When the screws are loosened, the bush returns to its initial position and can be easily demounted.

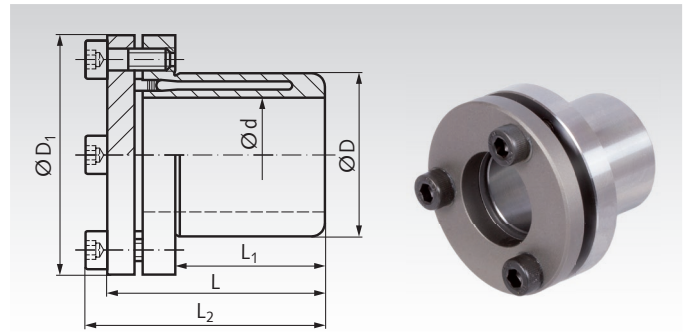
Temperature range: -30 °C to 85 °C.

Concentricity: $\approx 0.03 - 0.06$ mm.

Tolerance: Shaft h8 - k6 (for Prod. No. 615 215 00 only h7), Hub H7.

$P_W \approx 90\text{N/mm}^2$ $P_N \approx 70\text{N/mm}^2$

Ordering Details: e.g.: Product No. 615 215 00, Clamping Bush MSD, 15 mm



Product No.	Dimensions						at T_A transmittable		Screws DIN 912, 12.9			Moment of Inertia J kgm ² ·10 ⁻³	Weight kg
	d mm	D mm	D ₁ mm	L mm	L ₁ mm	L ₂ mm	T Nm	Force F _{ax} kN	Number	Size	T _A Nm		
615 215 00	15	23	38	30	17	35	55	7,3	3	M5	6	0,018	0,10
615 219 00	19	28	45	37	21	42	100	10,6	3	M5	8	0,046	0,17
615 220 00	20	28	45	37	22	42	125	12,5	3	M5	8	0,046	0,16
615 222 00	22	32	49	37	22	42	135	12,3	4	M5	8	0,065	0,19
615 224 00	24	34	49	40	25	45	200	16,7	4	M5	8	0,067	0,20
615 225 00	25	34	49	43	27	48	250	20,0	4	M5	8	0,071	0,19
615 228 00	28	39	55	45	29	50	300	21,4	4	M5	8	0,120	0,26
615 230 00	30	41	57	47	32	52	420	28,0	4	M5	8	0,142	0,29
615 232 00	32	43	60	52	34	57	420	26,3	4	M5	8	0,195	0,35
615 235 00	35	47	63	55	37	60	650	37,1	6	M5	8	0,250	0,40
615 238 00	38	50	65	59	41	64	750	39,5	6	M5	8	0,310	0,43
615 240 00	40	53	70	63	43	68	940	47,0	6	M5	8	0,441	0,55
615 242 00	42	55	70	65	45	70	940	44,8	6	M5	8	0,467	0,55
615 245 00	45	59	77	69	49	75	1290	57,3	6	M6	13	0,686	0,71
615 248 00	48	62	80	73	52	79	1570	65,4	6	M6	13	0,833	0,78
615 250 00	50	65	83	76	53	82	1900	76,0	6	M6	13	1,045	0,86

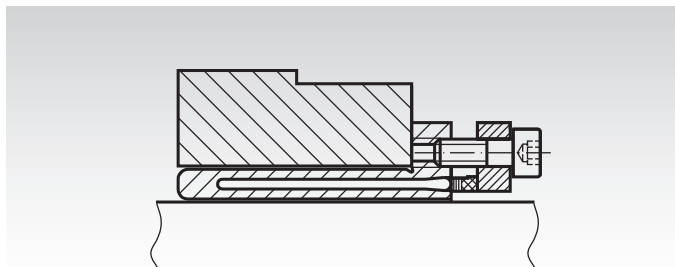
T = transmittable torque at axial force of 0, if the screws are fastened with T_A .

F_{ax} = transmittable axial force at torque of 0, if the screws are fastened with T_A .

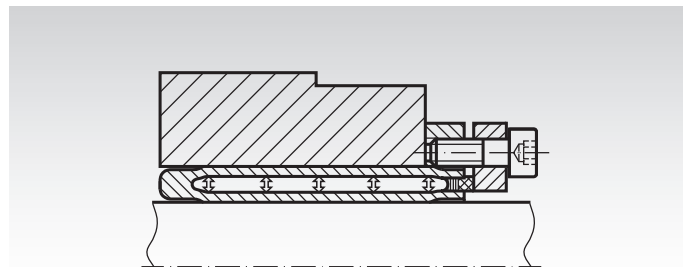
T_A = required fastening torque for the screws.

The dimensions refer to bushes before assembly.

Mounting



For mounting, the clamping bush MSD is placed between shaft and hub.



After the screws have been tightened, there is a contact between the surface of hub and shaft.

Advantages

The hydraulic principle leads to many advantages:

- fast mounting/demounting.
- sensitive adjustment of the hub can be carried out during assembly.
- low fastening torque and few screws allow very simple assembly.
- good concentricity.
- small dimensions allow little outside diameter of the hub.
- The clamping bushes are as standard equipped with Allen screws, but hexagon-head screws can also be supplied.

Dimensioning

For the maximum torque, the shaft must be strong enough (min. strength 350 N/mm², for example C45).

The hub diameter must be big enough.

Recommend minimum hub diameter:

Hub from Steel: $ND = 1,4 \times D$.

Hub from grey cast iron: $ND = 2,0 \times D$.

Hub from Aluminium: $ND = 2,5 \times D$.