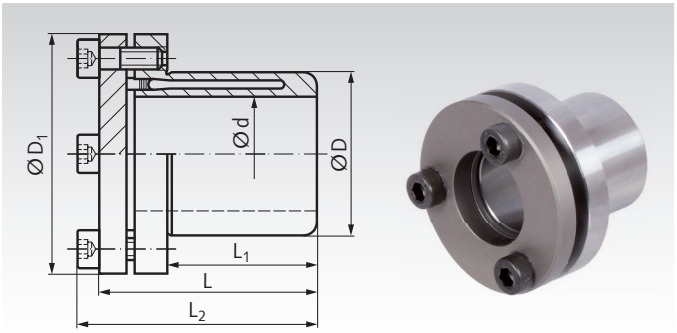
Clamping Bushes MSD

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.

Concentricity: ≈ 0.03 - 0.06 mm.
Tolerance: Shaft h8 - k6 (for Prod. No. 615 215 00 only h7), Hub H7.
Temperature range: -30 °C to 85 °C.



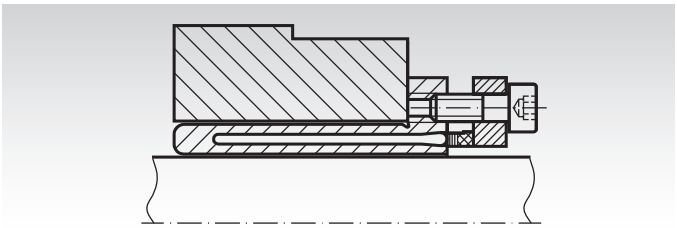
$P_W \approx 90 N/mm^2$ $P_N \approx 70 N/mm^2$

Ordering Details: e.g.: Product No. 61521500, Clamping Bush MSD, 15 mm

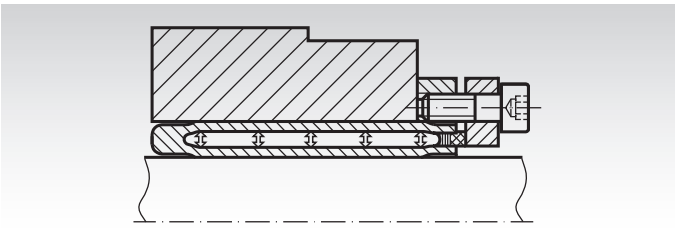
Product No.	Dimensions d mm	D mm	D_1 mm	L mm	L_1 mm	L_2 mm	at T_A transmittable T Nm	F_{ax} kN	F_r kN	Screws 12.9 Amount Piece	Size DIN 912	T_A Nm	Moment of Inertia J $kgm^2 \cdot 10^{-3}$	Weight kg
615 215 00	15	23	38	30	17	35	55	7,3	2,5	3	M5	6	0,019	0,10
615 219 00	19	28	45	37	21	42	100	10,6	5,8	3	M5	8	0,045	0,17
615 220 00	20	28	45	37	22	42	125	12,5	6,6	3	M5	8	0,043	0,16
615 222 00	22	32	49	37	22	42	135	12,3	8,2	4	M5	8	0,063	0,20
615 224 00	24	34	49	40	25	45	200	16,7	9,8	4	M5	8	0,066	0,20
615 225 00	25	34	49	43	27	48	250	20,0	10,6	4	M5	8	0,067	0,20
615 228 00	28	39	55	45	29	50	300	21,4	13,1	4	M5	8	0,112	0,27
615 230 00	30	41	57	47	32	52	420	28,0	14,7	4	M5	8	0,133	0,30
615 232 00	32	43	60	52	34	57	420	26,3	16,3	4	M5	8	0,180	0,35
615 235 00	35	47	63	55	37	60	650	37,1	18,8	6	M5	8	0,230	0,41
615 238 00	38	50	65	59	41	64	750	39,5	21,2	6	M5	8	0,277	0,44
615 240 00	40	53	70	63	43	68	940	47,0	22,8	6	M5	8	0,408	0,57
615 242 00	42	55	70	65	45	70	940	44,8	24,4	6	M5	8	0,414	0,56
615 245 00	45	59	77	69	49	75	1290	57,3	26,9	6	M6	13	0,636	0,73
615 248 00	48	62	80	73	52	79	1570	65,4	29,3	6	M6	13	0,761	0,80
615 250 00	50	65	83	76	53	82	1900	76,0	30,9	6	M6	13	0,943	0,91
615 255 00	55	71	88	82	58	88	2500	90,9	35,0	8	M6	13	1,301	1,09
615 260 00	60	77	95	90	64	96	3400	113	39,1	8	M6	13	1,959	1,40
615 265 00	65	84	102	96	68	102	3500	108	43,1	8	M6	13	2,780	1,72
615 270 00	70	90	113	99	72	107	5200	149	47,2	6	M8	32	4,035	2,09
615 275 00	75	95	118	114	85	122	6300	168	51,3	6	M8	32	5,500	2,51
615 280 00	80	100	123	120	90	128	8800	220	55,0	6	M8	32	8,100	2,68
615 285 00	85	106	129	125	95	133	8800	207	58,0	6	M8	32	9,500	3,09
615 290 00	90	112	135	133	100	141	11000	244	60,0	8	M8	32	12,200	3,52
615 295 00	95	120	143	139	105	147	12800	269	61,5	8	M8	32	17,100	4,46
615 299 00	100	125	148	145	110	153	15500	310	62,0	8	M8	32	19,950	4,87

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.
F_r = maximum transmittable radial force.
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 of the hydraulic principle

- fast mounting/demounting.
- sensitive adjustment adjustment of the hub possible.
- low fastening torque and few screws.
- good concentricity.
- small dimensions.

Dimensioning

For the maximum torque, the shaft must be strong enough (min. strength 350 N/mm^2, for example C45).
The hub diameter must be big enough.
Recommend minimum hub diameter:
Hub from Steel: ND = 1,4 x D.
Hub from grey cast iron: ND = 2,0 x D.
Hub from Aluminium: ND = 2,5 x D.