

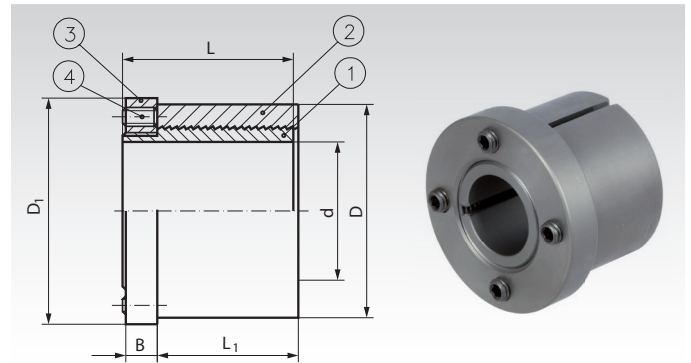
Clamping Bushes MSA

Material: Steel.

- For fixing a hub (e.g. drive wheel, rotor or similar) on a shaft.
- For medium high torques and axial forces.
- Minimal space requirement.
- Self-centering.
- Not self-locking.
- Little axial movement during mounting.

Concentricity: approx. 0.02 mm.

Tolerance: Shaft h11 up to k6, Hub H7 up to H11.



Ordering Details: e.g.: Product No. 615 019 00, Locking Assembly MSA, Slotted, 19 mm

Product No.	d mm	D mm	D ₁ mm	L mm	L ₁ mm	B mm	T Nm	F _{ax} kN	P _N N/mm ²	Screws Number x Size	T _A Nm	Weight kg
615 019 00	19	42	49	36	27	9,5	170	18	42	4 M6 x 12	8	0,33
615 020 00	20	42	49	36	27	9,5	180	18	42	4 M6 x 12	8	0,32
615 022 00	22	42	49	36	27	9,5	200	18	42	4 M6 x 12	8	0,31
615 024 00	24	46	53	37	27	10,5	325	27	58	6 M6 x 12	8	0,37
615 025 00	25	46	53	37	27	10,5	340	27	58	6 M6 x 12	8	0,36
615 028 00	28	55	63	44	32	12,5	490	35	66	4 M8 x 16	18	0,64
615 030 00	30	55	63	44	32	12,5	525	35	66	4 M8 x 16	18	0,61
615 032 00	32	60	67	49	37	12,5	650	41	60	5 M8 x 16	18	0,81
615 035 00	35	60	67	49	37	12,5	720	41	61	5 M8 x 16	18	0,75
615 038 00	38	67	75	57	45	12,5	950	50	54	6 M8 x 16	18	1,13
615 040 00	40	67	75	57	45	12,5	1000	50	54	6 M8 x 16	18	1,06
615 042 00	42	67	75	57	45	12,5	1050	50	54	6 M8 x 16	18	1,01
615 045 00	45	70	77	63	50	13,5	1280	57	53	7 M8 x 16	18	1,17
615 048 00	48	77	83	68,8	55	14	1560	65	50	8 M8 x 16	18	1,62
615 050 00	50	77	83	68,5	55	14	1625	65	50	8 M8 x 16	18	1,53

T = transmittable torque at $F_{ax} = 0$.

F_{ax} = transmittable axial force at $T = 0$.

P_N = surface pressure onto the hub.

T_A = fastening torque of the screws.

Operating factor f_b for various operating conditions

The values for the maximum transmittable torque and the maximum permissible axial force for the clamping bush at static load are stated in the table below. With dynamic load these values have to be reduced, i.e. divided by the operating factors listed in the adjoining table.

Drive Unit	Type of Load		
	Uniform Load	Moderate Shock	Strong Shock
Electric motors, turbines	1 - 1.25	1.25 - 1.5	1.5 - 1.75
Multi-cylinder piston engines	1.25 - 1.5	1.5 - 1.75	1.75 - 2
One-cylinder piston engines	1.75 - 2	2 - 2.25	2.25 - 3

Description

Mechanical, all-steel clamping elements, containing no hydraulic pressure medium. Both inner part (1) and outer part (2) have a cylindrical buttress thread with a lengthwise slot. The inner ring (3) connected to the inner part has threaded studs (4), that create a tensioning effect when tightened. The bushes are designed for very high loads in radial as well as in axial direction. If a clamping bush without slot on the outside part is to be welded onto a workpiece, we would ask you to contact us first. Feather key grooves in the shaft do not cause any problems; simply remove the frictional corrosion.

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: $ND = 2,5 \times D$.