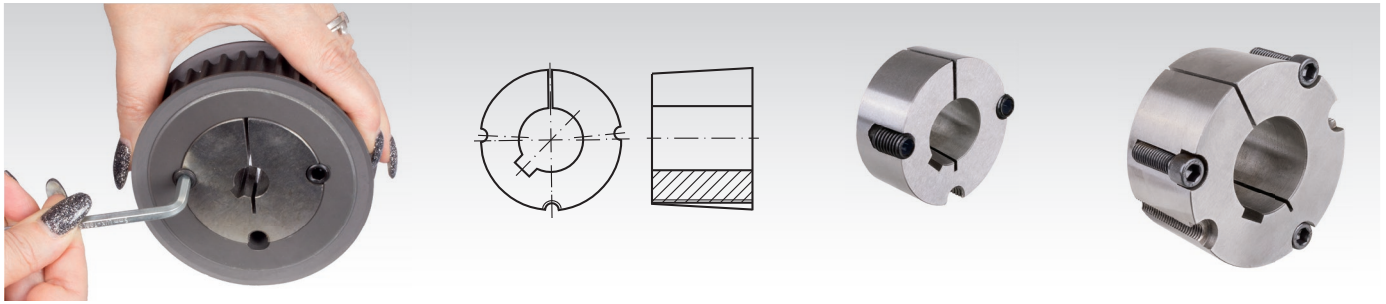


Taper Clamping Bushes – Description



General Description

Customary, conical slotted clamping bush with feather keyway for an easy and fast mounting of driving elements on shafts.

Available Driving Elements

There are various sprockets, pulleys and couplings in Taper version available from stock.

Versions of Taper Bushes

The bushes are available with various outer dimensions. For every outer dimension, there are a large number of bore sizes matching several shaft diameters. Bushes with metric bores are with feather keyways DIN 6885/1. MÄDLER Bushes with inch bores are with feather keyways like British Standard (BS). ANSI-Versions on demand.

Additional Products

Bolt-on Hubs or welding hubs for Taper bushes enable the easy use of the Taper bush system for chain plate wheels or other elements. Alternatively, adaptors for Taper bushes can be used to mount a Taper bush in a cylindrical hole.

Identification

4-digit number to identify the outer dimensions and 2 to 3-digit number (or inch identification) to state the bore size.

Requirements Regarding the Shaft

Cylindrical shaft with a diameter tolerance of $+0.05\text{mm} / -0.125\text{mm}$. The best results are achieved with ISO-tolerance h6. Up to a shaft diameter of 100mm cost-effective drawn shafts with tolerance h9 may also be used.

Amount and Version of Screws

To size 3030 two stud screws with internal hexagon. From size 3525 up to 5050, three hexagon socket head cap screws.

Kind of thread: BSW (British Standard Whitworth) with flank angle 55° . Note: In the USA, there are taper bushes and taper elements in ANSI version with UNC threads, with flank angle 60° . At screw size $1/2"$, the UNC pitch is also different with 13 tpi. The bushes, elements and screws in ANSI version are not interchangeable with parts with BSW threads. At the BSW version used in Europe, the width across flats (spanner size) is metric. At the ANSI version, it is inch size.

Application with and without Parallel Key

Due to the high clamping force a parallel key is not necessarily required for medium torques (e.g. with pulleys). If the shaft has a keyway, and no parallel key is used, the keyways of shaft and bush should be mounted with an offset of 180 degrees.

For highest torques a shaft with keyway and parallel key must be used.

For bushes with metric bores: key DIN 6885/1 (the following sizes require a flat parallel key: 1008-24, 1008-25, 1108-28, 1310-35, 1610-42, 1615-42, 2517-65).

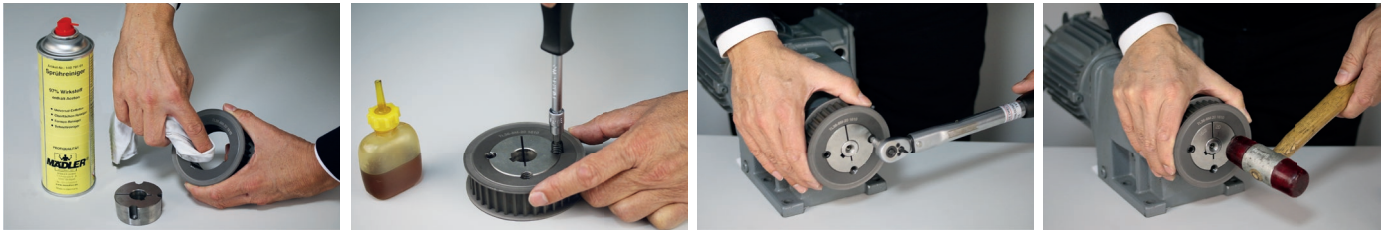
For bushes with inch bores: key like British standard BS.

Requirements Regarding the Driving Elements

The component that is to be mounted must be in Taper version (must have the matching conical bush bore with mounting threads and dismounting bore). Using the Taper bush system makes most sense in serial production. For one-off production the use of cylindrical clamping bushes is more economical. These are available in many different versions. But if needed, in our own factory, we can rework driving elements into taper-version, from one-off production.

Taper Clamping Bushes – Mounting and Demounting

Mounting



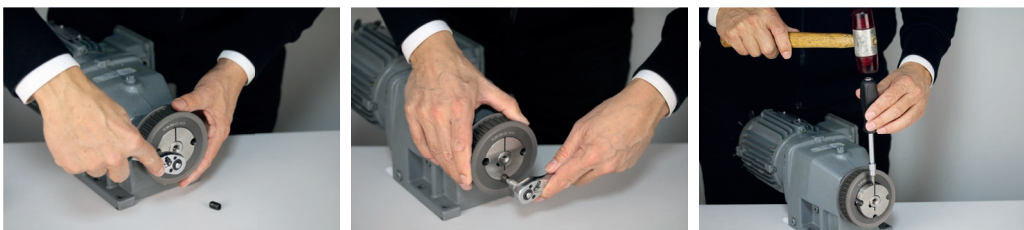
- Clean and degrease all contact surfaces.
- Set the clamping bush into the hub making sure that all bores align. One threaded bore must always align with one of the smooth half-bores of the counterpart
- Lubricate the mounting screws and loosely screw in the threads of the component to be mounted.
- Put the parallel key into the shaft (if a parallel key is used).
- Push the component to be mounted onto the shaft, together with the entered bush With feather key: Align the keyway with the parallel key. Without Feather key: Make sure the keyway of the bush is offset by 180 degrees to the shaft keyway, if there is one.
- If necessary use light blows to drive the bush into position.
- Fasten the mounting screws evenly, until the max. torque is reached (see table).
- Improving the fit of the bush: drive the bush further into the component to be mounted with light blows (using a wooden block or a soft metal bush).
- Retighten the mounting screws with the maximum torque (see table). Alternatively the bush can also be retightened after an operating time of 30 to 60 minutes.
- Fill the empty holes (used for forcing off) with grease, to protect them against contamination (depending on the size there are one or two forcing threads).

Screws

Bush Nr.	Screws Amount	Screw Size Inch	Spanner Size mm	Fastening Torque		
				Nm	lb-ft	lb-in
1008	2	BSW 1/4" x 1/2"	3	5,6	4.1	50
1108	2	BSW 1/4" x 1/2"	3	5,6	4.1	50
1210	2	BSW 3/8" x 5/8"	5	20	14.8	177
1215	2	BSW 3/8" x 5/8"	5	20	14.8	177
1610	2	BSW 3/8" x 5/8"	5	20	14.8	177
1615	2	BSW 3/8" x 5/8"	5	20	14.8	177
2012	2	BSW 7/16" x 7/8"	6	30	22.1	266
2017	2	BSW 7/16" x 7/8"	6	30	22.1	266
2517	2	BSW 1/2" x 1"	6	50	36.9	443
2525	2	BSW 1/2" x 1"	6	50	36.9	443
3020	2	BSW 5/8" x 1 1/4"	8	90	66.4	800
3030	2	BSW 5/8" x 1 1/4"	8	90	66.4	800
3525	3	BSW 1/2" x 1 1/2"	10	90	66.4	800
3535	3	BSW 1/2" x 1 1/2"	10	90	66.4	800
4030	3	BSW 5/8" x 1 3/4"	12	170	125.4	1505
4040	3	BSW 5/8" x 1 3/4"	12	170	125.4	1505
4535	3	BSW 3/4" x 2"	14	190	140	1680
4545	3	BSW 3/4" x 2"	14	190	140	1680
5040	3	BSW 7/8" x 2 1/4"	14	270	200	2390
5050	3	BSW 7/8" x 2 1/4"	14	270	200	2390



Demounting



- Loosen screws and screw them out completely.
- Turn screws into the threaded bores of the bush (forcing thread). Depending on the size there are one or two forcing threads.
- Fasten the screws until the driving element disengages from the bush.
- Take driving element and bush off the shaft. If necessary, the bush can be forced apart using a screwdriver. (drive screwdriver carefully into the slot provided).