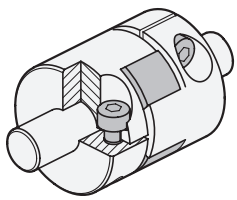
Shaft-Hub Fastening

The right type of fastening must be selected to ensure simple and reliable mounting of the coupling hub on the shaft. The following shaft-hub fastening types are available:

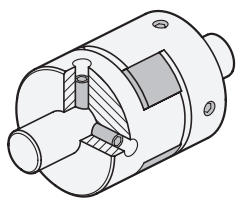
Clamping hub



The fastening with clamping hubs is entirely non-positive by reducing the slit height using socket cap screws.

In this type, the coupling hub is fastened simply and securely with a high clamping force, without damaging the surface of the shafts.

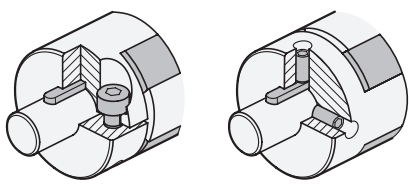
Grub screw



When used for fastening, grub screws are inserted radially to create a positive and non-positive connection to the shaft surface.

Alignment holes bored into the mounting diameter allow the coupling hub to be positioned precisely. At the same time, this prevents damage to the clamping point.

Combination with keyway

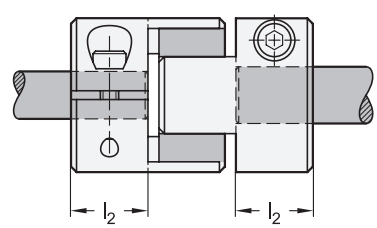


The combination of grub screw or clamping hub fastening with feather keys prevents slipping due to torque while ensuring precise angular positioning of the shafts.

This type of fastening also provides for maximum torque transmission.

Shaft Insertion Depth

For correct fastening of the coupling hubs, the shaft must be installed according to the recommended shaft insertion depth l2. The shaft insertion depth l2 is specified in the standard sheet of the respective coupling.
If the insertion depth is too low, the shaft could slip out of the coupling, or the clamping hub could break. If the shaft is inserted too far, this can cause interference within the coupling, leading to damage.

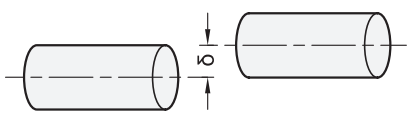
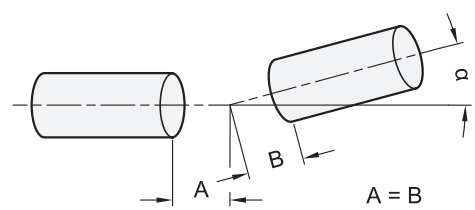
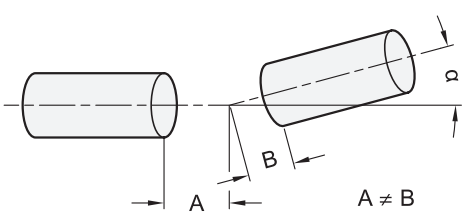
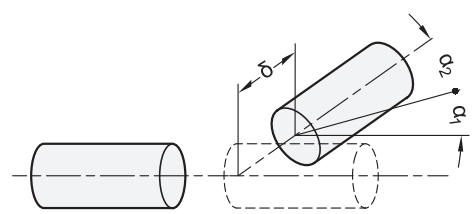
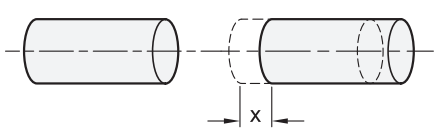
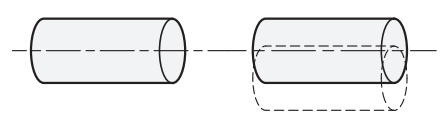


Alignment Adjustment

Like all mechanical parts, shafts are subjected to manufacturing and assembly tolerances that generally cannot be entirely eliminated even with extensive technical measures. Couplings can compensate for the resulting misalignments while still ensuring transmission of the necessary torque.

However, if the misalignments exceed the permissible values, this results in vibrations that can quickly shorten the service life of the coupling. The actual shaft misalignment may, therefore, never be larger than the specified permissible values.
The permissible shaft misalignment values given in the standard sheet take into account only the lateral, angular or axial misalignment. In the event of combined misalignments consisting of two or more errors, each permissible value is reduced to half the value specified in the standard sheet.

In general, it is recommended to limit misalignments to no more than one third of the permissible value in the standard sheet. This is because shaft misalignment occurs not only during assembly. It often develops during operation as the result of vibrations, thermal expansion or bearing wear.

Lateral	Angular - symmetrical
	
Angular - asymmetrical	**Lateral and angular**
	
Axial (axial motion)	**Runout**