

Optimum Power Transmission and Control

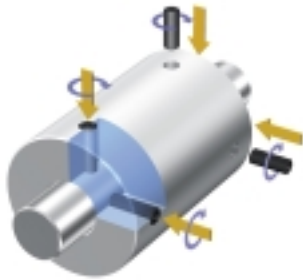
Attachment

The following five types of couplings are available for attachment on a shaft. Select a coupling matching your application.

Setscrews or socket head cap screws should be properly tightened using a torque driver or a torque wrench. Refer to wrench torque as shown in the specification table on each product.

① Setscrew Type

This low-cost type features the most conventional attachment. However, the point of setscrew may cause damage to the shaft and may be difficult to remove.



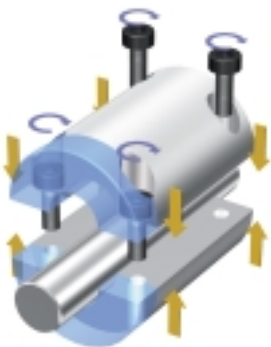
② Clamp Type

This type is clamped on the shaft by tightening the socket head cap screws. Attachment and removal is easy, and no shaft damage results.



③ Split Type

The split type features separate hubs completely. It can provide easy attachment and removal without sliding your equipment.



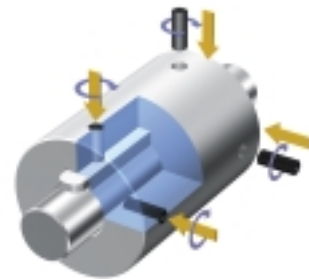
④ Semi-Split Type

This type features the combination of one clamp type hub and one split type hub. Equipment can be installed by placing one shaft in the split type hub, with the other shaft being fixed in the clamp type hub.



⑤ Keyway Type

This type, like the setscrew type, features the most conventional attachment and is used for transmitting relatively high torque. Setscrew / Clamp type hubs are applied for preventing shift towards the axial direction.



Alignment Adjustment

- ❶ Flexible couplings transmit torque and rotational angle while absorbing misalignment. When the misalignment exceeds allowable values, vibration may result or the life of the coupling may become shortened. Make sure to adjust the alignment accordingly.
- ❷ There are three types of shaft misalignment, namely in terms of parallel misalignment, angular misalignment and shaft end-play. Adjust the alignment to be below allowable values listed in the specification table of each product provided in this catalog.
- ❸ The maximum misalignment listed in this catalog is the allowable value when only one of the misalignments exists. In case two or more misalignments exist at the same time, the allowable values will be less than 1/2 of the maximum misalignment listed in the specification tables.
- ❹ Misalignments are sometimes caused not only by equipment assembly, but also by vibration, heat expansion, wear of bearings, etc. during operation. Therefore, it is recommended to adjust the shaft misalignment to be below 1/3 of maximum values.

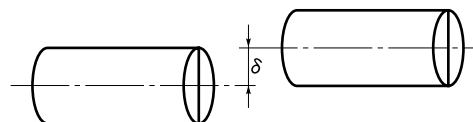
Adjustment of Torque Capacity in High Temperature Applications

MJT, MOL, MOS, and MSF include elastomer or plastic parts. These models must be used in the operational temperature range of each model as indicated in this catalog.

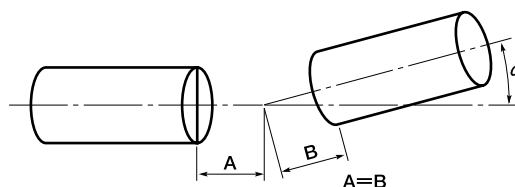
If the ambient temperature exceeds 30°C (86°F), the values of max. torque and rated torque should be multiplied by the values of the service factors listed in the table below.

Ambient Temperature	Service Factor
-20°C~ 30°C	1.00
30°C~ 40°C	0.80
40°C~ 60°C	0.70
60°C~100°C	0.55

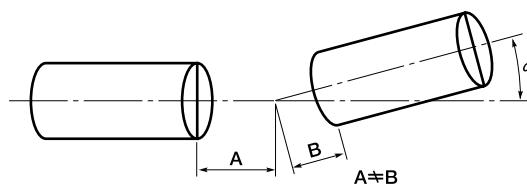
● Parallel Offset Misalignment



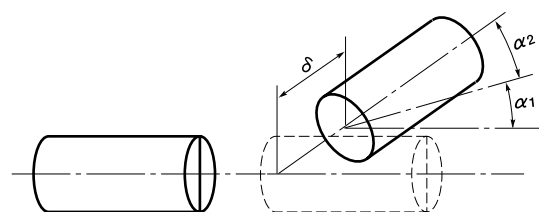
● Symmetrical Angular Misalignment



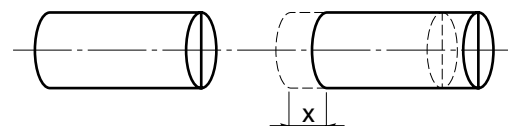
● Non-Symmetrical Angular Misalignment



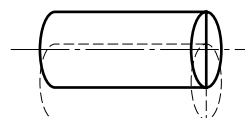
● Combined Angular-Offset Misalignment



● End-Play



● Run Out



Beauty Created by Functional Extremes

Radial Slits on Cylinder Bar

Complete One-piece Construction

Metallic Spring Couplings ————— Couplicon 1 & 2

Flexibility-torque capacity-torsional stiffness-light weight-compactness —

Pursuing the ultimate in performance and function required for precision miniature shaft couplings.

Cylindrical in shape, these flexible couplings have slits forming a metallic spring and

feature two kinds of slit patterns based on our clear design concept — Couplicon® 1 & 2.

These uniquely designed flexible couplings have been realized.

Couplicon 1

MST (P.11~16)



MWS (P.17~19)



Torsional stiffness and flexibility —
Good balance between these inconsistent functions has been achieved.
These are the flexible couplings suitable for stepping motor applications.

Couplicon 2

MSX (P.7~9)



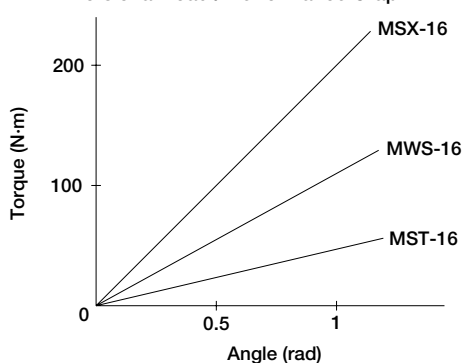
High torsional stiffness, light weight and compactness —

This is the flexible coupling suitable for servomotor applications.

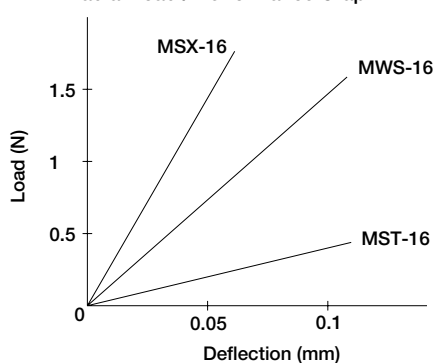


Characteristics Comparison

• Torsional Load / Performance Graph



• Radial Load / Performance Graph



The simple configuration of slit type couplings allows free modification in the number of slits, clearance between slits, and width and depth of the slits to best match specific performance parameters.

NBK designs and manufactures the most suitable couplings for each customer's application requirement from our accumulated technical expertise on custom-made products.

