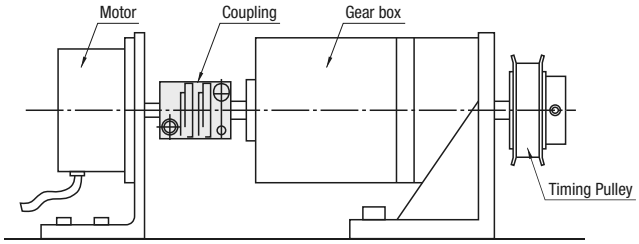
Couplings - Overview

■Couplings

Couplings are machine components designed to connect two separate rotating bodies (motor shaft, ball screw, etc.) and transmit a torque between them. They allow various misalignments (Lateral/ Angular/Axial) of the rotating bodies to be absorbed, and alleviate installation and adjustment work loads. Furthermore, they protect expensive inter-connected machine components from sudden and unexpected excess loads by breaking and disconnecting.



■Coupling Type

Type	Disc	Oldham	Slit
External Appearance Photo			
Features	・High Torque ・Zero Backlash ・High Torsional Rigidity	・High Torque ・Allowable misalignment is large ・Eccentric reaction force is small ・Easy to install	・Light ・Integrated Structure with No Backlash ・Low Moment of Inertia, Highly responsive
Applicable Motor	Servo Motor Stepping Motor	General-purpose Motor	Servo Motor Stepping Motor
Zero Backlash	○	△	○
Representative Type	GCPW	GCOC	GSACL
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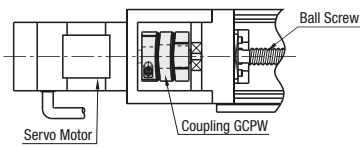
Type	N Coupling	Jaw	Rigid	Bellows	Universal Joints
External Appearance Photo					
Features	・Low Moment of Inertia ・Can take load in axial direction ・Easy to install	・High Torque ・Electrical Insulation ・Absorbs the vibrations	・Zero Backlash ・High Torsional Rigidity	・Zero Backlash ・Isokinetic	・Allowable misalignment is large
Applicable Motor	General-purpose Motor	Stepping Motor General-purpose Motor	Servo Motor Stepping Motor	Stepping Motor	Stepping Motor General-purpose Motor
Zero Backlash	○	×	○	○	-
Representative Type	CPN	CPJC	CPRC	CPBC	UNCA
Page	P.1098	P.1094~P.1097	P.1099~P.1100	P.1103	P.1101~P.1102

Example

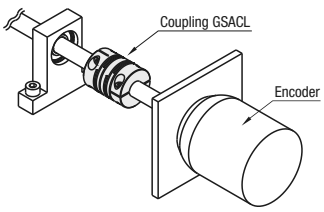
Disc



Highly suitable for applications requiring high speeds and high positioning accuracies, such as ball screw drives.

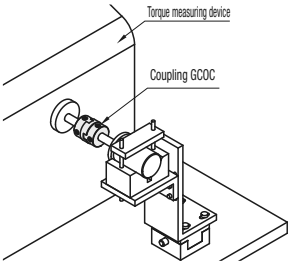
*Although Double Disc Type can absorb angular and lateral misalignments, Single Disc Type does not tolerate lateral misalignment due to the structure. Single Disc Type is space-saving as compared to Double Disc Type, and has high torsional rigidity.

Slit



Most suitable for positioning in Stepping Motors as it is integrated structure with no backlash.

Oldham



Most suitable in cases where reactive force occurs as the misalignment allowance ranges are large and eccentricity is not allowed.