

Disc Couplings

High Rigidity (O.D. 87), Keywayed Bore / Clamping

⚠ The stainless discs of this product have sharp edges that may cause injuries. Use of thick protective gloves is recommended.

For Servo Motors

Disc Couplings

High Rigidity (O.D. 87), Keyless Clamping For Servo Motors

⚠ The stainless discs of this product have sharp edges that may cause injuries. Use of thick protective gloves is recommended.

■ Features: The keywayed bore type covers high torque of up to 180N · m.

Type	Disc Type	Main Body	Disc	Accessory		
Both Sides Keywayed Bore	Both Sides Clamping	Material	Surface Treatment	Material		
CPSWVK	CPSWC	Double	S45C	-	SUS301CSP	Clamp Screw
CPSHWK	-	Single	-	-	-	Set Screw

⚠ Tolerances for d1 and d2 are values before slit machining.
⚠ Shipped after center-aligned and assembled.

■ Both Sides Keywayed Bore
CPSWVK (Double Disc)
CPSHWK (Single Disc)

* The keyways on the right and left sides are 90° offset.
* The keyways on the right and left sides face the same direction.

■ Both Sides Clamping
CPSWC (Double Disc)

Part Number	Type	D	d1, d2 Selection	Clamp Screw		Allowable Torque (N · m)	Angular Misalignment (°)	Lateral Misalignment (mm)	Static Torsional Spring Constant (N · m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (kg · m ²)	Allowable Axial Misalignment (mm)	Compensation Factor	Mass (kg)	Unit Price
				Size	Tightening Torque (N · m)										
Double Disc Type Both Sides Keywayed Bore CPSWVK	87	20 22 24 25 30 35	M8x25	28	180	0.6	0.2	140000	6000	1.94x10 ⁻³	±1.0	1.5	1.9	3.0	
					100										
Double Disc Type Both Sides Clamping CPSWC															

⚠ The coupling with Ø35mm bore diameter conforms to servo ^{+0.01} motor shaft tolerance of 35mm.

Part Number	Type	D	d1, d2 Selection	Clamp Screw		Allowable Torque (N · m)	Angular Misalignment (°)	Static Torsional Spring Constant (N · m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (kg · m ²)	Allowable Axial Misalignment (mm)	Compensation Factor	Mass (kg)	Unit Price
				Size	Tightening Torque (N · m)									
Single Disc Type Both Sides Keywayed Bore CPSHWK	87	20 22 24 25 30 35	M8x25	28	180	0.6	330000	6000	1.11x10 ⁻³	±0.5	1.5	1.3		

⚠ The coupling with Ø35mm bore diameter conforms to servo ^{+0.01} motor shaft tolerance of 35mm.

⚠ The lateral, angular, and axial misalignment values shown are for each occurring individually. When multiple misalignments are occurring simultaneously, the allowable maximum value of each will be reduced to 1/2.

⚠ For the selection criteria and alignment procedures, see **P.1061**

Ordering Example

Part Number - Shaft Bore Dia. d1 - Shaft Bore Dia. d2

CPSWC65 - 20 - 30

Keyway Dimension

Shaft Bore Dia. d1, d2	b		t		Key Nominal Dim. b x h	Set Screw Size	Tightening Torque (N · m)
	Reference Dia.	Tolerance	Reference Dia.	Tolerance			
20, 22	6	±0.015	2.8	+0.1 0	6x6	M5	4
24, 25, 30	8	±0.018	3.3	+0.2	8x7	M6	7
35	10	±0.018	3.3	0	10x8	M8	15

• Cautions on Installations

- Do not tighten the locking screws before inserting shafts into coupling. (Tightening the lock screws with empty bores will cause bushing distortion.)
- Use a torque wrench to tighten the locking screws.
- Never use screws other than included for the locking screws.

• Removal

- Ensure that the machine has completely stopped before starting work.
- Loosen the locking screws sequentially in a circumferential order.
- Insert screws into removal screws holes and tighten evenly.
- Repeat the installation procedure for re-installation.



• Installation

- Wipe the shaft surface clean and apply a thin layer of oil or grease. (Do not use oils or greases containing Molybdenum Sulfide.)
- Wipe clean the contacting inner bores of the coupling, as well as the screw and seating surfaces of the locking screws.
- Insert the shaft into the coupling. (Please do not tighten keyless clamping flange to the bolt before inserting the shaft.)
- After locating, tighten the locking screws using a torque wrench in the diagonal order, beginning lightly (approx. 1/4 of the predetermined tightening torque).
- Tighten the screws to higher torque (Approx. 1/2 of specified max.)
- Tighten the screws to the specified max. torque.
- Finally, tighten the screws in a circumferential order.

■ Features: The Keyless Clamping Type covers high torque of up to 250N · m.

Type	Disc Type	Main Body	Disc	Accessory		
Both Sides Keyless Clamping	One Side Keyless Clamping, One Side Keywayed Bore	Material	Surface Treatment	Material		
CPSWN	CPSWVK	Double	S45C	-	SUS301CSP	Locking Screw, Set Screw
CPSHN	CPSHWK	Single	-	-	-	-

⚠ Tolerances for d1 and d2 are values before slit machining.
⚠ Shipped after center-aligned and assembled.
⚠ The locking screw holes have integrated removal screw holes on the keyless clamping flange. Use M8 screws into the screw holes for removal. For installation and removal of Keyless Clamping Type couplings, see **P.1079**

■ Both Sides Keyless Clamping
CPSWN (Double Disc)
CPSHN (Single Disc)

■ One Side Keyless Clamping, One Side Keywayed Bore
CPSWVK (Double Disc)
CPSHWK (Single Disc)

Part Number	Type	D	d1, d2 Selection (Keyless Clamping)	d2 Selection (Keywayed Bore)	d1, d2	D1	P.C.D.	Locking Screw		Unit Price		
								Size	Tightening Torque (N · m)	CPSWN	CPSWVK	
Double Disc Type, Both Sides Keyless Clamping CPSWN	87	25 30 35 38 40 45	20 22 24 25 30 35	25	62	50	M6x30	13.7				
					30	66						54
					35	68						
Double Disc Type, One Side Keyless Clamping, One Side Keywayed Bore CPSWVK					38-45	78	64					

⚠ The coupling with Ø35mm bore diameter conforms to servo ^{+0.01} motor shaft tolerance of 35mm.

Part Number	Type	D	d1, d2 Selection (Keyless Clamping)	d2 Selection (Keywayed Bore)	d1, d2	D1	P.C.D.	Locking Screw		Unit Price		
								Size	Tightening Torque (N · m)	CPSHN	CPSHWK	
Single Disc Type Both Sides Keyless Clamping CPSHN	87	25 30 35 38 40 45	20 22 24 25 30 35	25	62	50	M6x30	13.7				
					30	66						54
					35	68						
Single Disc Type, One Side Keyless Clamping, One Side Keywayed Bore CPSHWK					38-45	78	64					

⚠ The coupling with Ø35mm bore diameter conforms to servo ^{+0.01} motor shaft tolerance of 35mm.

• Characteristic Values

• Double Disc Type

Part Number	Type	D	d1, d2	Allowable Torque (N · m)	Angular Misalignment (°)	Lateral Misalignment (mm)	Static Torsional Spring Constant (N · m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (kg · m ²)	Allowable Axial Misalignment (mm)	Compensation Factor	Mass (kg)
CPSWN	87	25	200	250	0.6	0.2	140000	6000	2.49x10 ⁻³	±1.0	1.5	2.3

⚠ Static torsional spring constant, inertia moment, and mass values are for cases of maximum shaft diameter.

⚠ The lateral, angular, and axial misalignment values shown are for each occurring individually. When multiple misalignments are occurring simultaneously, the allowable maximum value of each will be reduced to 1/2.

⚠ For the selection criteria and alignment procedures, see **P.1061**

Ordering Example

Part Number - Shaft Bore Dia. d1 - Shaft Bore Dia. d2

CPSWN65 - 35 - 20

• Single Disc Type

Part Number	Type	D	d1, d2	Allowable Torque (N · m)	Angular Misalignment (°)	Static Torsional Spring Constant (N · m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (kg · m ²)	Allowable Axial Misalignment (mm)	Compensation Factor	Mass (kg)
CPSHN	87	25	200	250	0.6	330000	6000	1.68x10 ⁻³	±0.5	1.5	1.6
CPSHWK											

⚠ Single Disc Type cannot tolerate lateral misalignment.

Keyway Dimension

Shaft Bore Dia. d1, d2	b		t		Key Nominal Dim. b x h	Set Screw Size	Tightening Torque (N · m)
	Reference Dia.	Tolerance	Reference Dia.	Tolerance			
20, 22	6	±0.015	2.8	+0.1 0	6x6	M5	4
24, 25, 30	8	±0.018	3.3	+0.2	8x7	M6	7
35	10	±0.018	3.3	0	10x8	M8	15