

# 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 Keyless Clamping Type covers high torque of up to 250N · m.

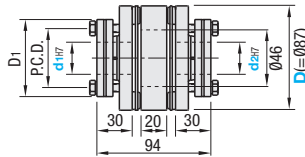


Type		Disc Type	Main Body	Disc	Accessory	
Both Sides Keyless Clamping	One Side Keyless Clamping, One Side Keywayed Bore		(M)Material	(S)Surface Treatment	(M)Material	
CPSWN	CPSWMK	Double	S45C	-	SUS301CSP	Locking Screw, Set Screw
CPSHN	CPSHMK	Single				

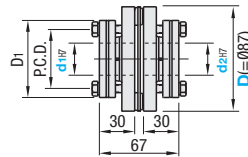
- ⚠ Tolerances for d1 and d2 are values before slit machining.
- ⚠ Shipped after center-aligned and assembled.
- ⚠ The locking screw holes have integrated removal screw holes on the keyless clamping flange. Use M8 screws into the screw holes for removal.
- For installation and removal of Keyless Clamping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

### ■ Both Sides Keyless Clamping

CPSWN (Double Disc)

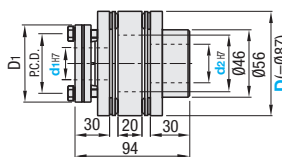


CPSHN (Single Disc)

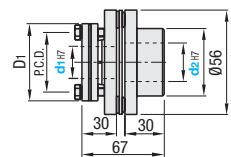


### ■ One Side Keyless Clamping, One Side Keywayed Bore

CPSWMK (Double Disc)



CPSHMK (Single Disc)



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

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

Part Number		d1, d2 Selection (Keyless Clamping)	d2 Selection (Keywayed Bore)	d1, d2	D1	P.C.D.	Locking Screw		Unit Price	
Type	D						Size	Tightening Torque (N · m)	CPSHN	CPSHMK
Single Disc Type, Both Sides Keyless Clamping <b>CPSHN</b>	87	25 30 35 38 40 45	20 22 24 25 30 35	25	62	50	M6x30	13.7		
Single Disc Type, One Side Keyless Clamping, One Side Keywayed Bore <b>CPSHMK</b>				30	66	54				
				35	68	54				
				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	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 <sup>2</sup> )	Allowable Axial Misalignment (mm)	Compression Factor	Mass (kg)
<b>CPSWN</b>	25	200	0.6	0.2	140000	6000	2.49x10 <sup>-3</sup>	±1.0	1.5	2.3
	30, 35, 38, 40, 45	250								
<b>CPSWMK</b>	20-45	180					2.22x10 <sup>-3</sup>			2.1

⚠ 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.

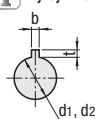
⚠ For the selection criteria and alignment procedures, see **P.1061**

#### • Single Disc Type

Part Number	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 <sup>2</sup> )	Allowable Axial Misalignment (mm)	Compression Factor	Mass (kg)
<b>CPSHN</b>	25	200	0.6	330000	6000	1.68x10 <sup>-3</sup>	±0.5	1.5	1.6
	30, 35, 38, 40, 45	250							
<b>CPSHMK</b>	20-45	180				1.40x10 <sup>-3</sup>			1.5

⚠ Single Disc Type cannot tolerate lateral misalignment.

#### Keyway Dimension



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



Ordering Example: Part Number - Shaft Bore Dia. d1 - Shaft Bore Dia. d2  
CPSWN65 - 35 - 20