

Couplings

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

For Servo Motors

Feature: The keywayed bore type are available up to high torque of 180N-m max.

Couplings – High Rigidity Disc Keywayed Bore / Clamping

RoHS10

Both Sides Keywayed Bores

CPSWWK (Double Discs)

* The keyways on right and left sides are 90° apart.

CPSHWK (Single Disc)

* The keyways on right and left sides are aligned.

Both Sides Clamping

CPSWC (Double Discs)

RoHS10

① The coupling with Ø35 mm bore diameter conforms to servo motor shaft tolerance of Ø35 +0.01 / 0.

② Tolerance values for d1, d2, are applied before slit is machined.

③ The lateral, angular, and axial misalignment values shown are for each occurring individually. When more than one misalignments are occurring simultaneously, the allowable maximum value of each will be reduced by 1/2.

④ Shipped after center-aligned and assembled.

⑤ For the selection criteria and alignment procedures, see P.1091, 1093.

Type		Disc Type	Body		Disc Material	Accessories	
Both Sides Keywayed Bore	Both Sides Clamping		Material	Surface Treatment		Material	Surface Treatment
CPSWWK	CPSWC	Double	1045 Carbon Steel or Equivalent	—	301 Stainless Steel	4137 Alloy Steel	Black Oxide
CPSHWK	—	Single	—	—	—	—	—

Part Number		d ₁ , d ₂	Clamp Screw		Allow. Torque (N-m)	Angular Misalign. (°)	Lateral Misalign. (mm)	Static Torsional Spring Constant (N-m/rad)	Max. Rotational Speed (r/min)	Inertia Moment (Kg-m ²)	Allow. Axial Misalign. (mm)	Comp. Factor	Mass (Kg)
Type	D		Size	Tightening Torque (N-m)									
Double Disc Coupling Both Sides Keywayed Bore	87	20 22 24 25 30 35	M8 x 25	28	180	0.6	0.2	140000	6000	1.94 x 10 ⁻³	±1.0	1.5	1.9
CPSWWK													
Both Sides Clamping	87	20 22 24 25 30 35	M8 x 25	28	100	0.6	0.2	140000	6000	3.40 x 10 ⁻³	±1.0	1.5	3.0
CPSWC	87	20 22 24 25 30 35	M8 x 25	28	100	0.6	0.2	140000	6000	3.40 x 10 ⁻³	±1.0	1.5	3.0

① For products with shaft diameter Ø35mm, the servo motor shaft tolerance is $^{+0.01}_0$

Part Number		d ₁ , d ₂	Clamp Screw		Allowable Torque (N-m)	Angular Misalign. (°)	Static Torsional Spring Constant (N-m/rad)	Max. Rotational Speed (r/min)	Inertia Moment (Kg-m ²)	Allow. Axial Misalign. (mm)	Comp. Factor	Mass (Kg)
Type	D		Size	Tightening Torque (N-m)								
Single Disc Coupling Both Sides Keywayed Bore	87	20 22 24 25 30 35	M8 x 25	28	180	0.6	330000	6000	1.11 x 10 ⁻³	±0.5	1.5	1.3
CPSHWK												

① Static torsional spring constant, inertia moment, and mass values are for cases of maximum shaft diameter. ② Single Disc Couplers cannot tolerate lateral misalignment.

③ For selection criteria and alignment adjustment, please refer to P.1091, 1093.

Part Number Example: CPSWWK87 - 20 - 35

Keyway Dimension

Shaft Bore Dia. d ₁ , d ₂	b		t		Key Nominal Dim. b x h	Set Screw	
	Dim.	Tol.	Dim.	Tol.		Size	Tightening Torque (N-m)
20, 22	6	±0.015	2.8	+0.1 0	6 x 6	M5	4
24, 25, 30	8	±0.018	3.3	+0.2 0	8 x 7	M6	7
35	10	±0.018	3.3	+0.2 0	10 x 8	M8	15

Couplings

High Rigidity Disc (Outer Dia. 87) Keyless Clamping

For Servo Motors

Feature: The Keyless Clamping Type are available up to high torque of 250N-m max.

Couplings – High Rigidity Disc Keyless Clamping

RoHS10

Both Sides Keyless Clamping

CPSWN (Double Discs)

CPSHN (Single Disc)

One Side Keyless Clamping / One Side Keywayed Bore

CPSWMK (Double Discs)

CPSHMK (Single Disc)

RoHS10

① The coupling with Ø35 mm bore diameter conforms to servo motor shaft tolerance of Ø35 +0.01 / 0.

② Tolerance values for d1, d2, are applied before slit is machined.

③ The lateral, angular, and axial misalignment values shown are for each occurring individually. When more than one misalignments are occurring simultaneously, the allowable maximum value of each will be reduced by 1/2.

④ Shipped after center-aligned and assembled.

⑤ For the selection criteria and alignment procedures, see P.1091, 1093.

⑥ 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 P.1089.

Type		Disc Type	Body		Disc Material	Accessories	
Both Sides Keyless Clamping	One Side Keyless Clamping / One Side Keywayed Bore		Material	Surface Treatment		Material	Material
CPSWN	CPSWMK	Double	1045 Carbon Steel or Equivalent	—	301 Stainless Steel	4137 Alloy Steel	Black Oxide
CPSHN	CPSHMK	Single	—	—	—	—	—

Part Number		d ₁ , d ₂ Selection (Keyless Clamping)	d ₂ Selection (With Keywayed Bore)	d ₁ , d ₂	D ₁	P.C.D.	Locking Screws	
Type	D						Size	Tightening torque (N-m)
Double Disc Coupling Both Sides Keyless Clamping	87	25 30 35 38 40 45	20 22 24 25 30 35	25	62	50	M6 x 30	13.7
CPSWN				30	66	54		
One Side Keyless Clamping – One Side Keywayed Bore				35	68	54		
CPSWMK				38–45	78	64		

① For products with shaft diameter Ø35mm, the servo motor shaft tolerance is $^{+0.01}_0$

Part Number		d ₁ , d ₂ Selection (Keyless Clamping)	d ₂ Selection (With Keywayed Bore)	d ₁ , d ₂	D ₁	P.C.D.	Locking Screws	
Type	D						Size	Tightening torque (N-m)
Single Disc Coupling Both Sides Keyless Clamping	87	25 30 35 38 40 45	20 22 24 25 30 35	25	62	50	M6 x 30	13.7
CPSHN				30	66	54		
One Side Keyless Clamping, One Side Keywayed Bore				35	68	54		
CPSHMK				38–45	78	64		

① For products with shaft diameter Ø35mm, the servo motor shaft tolerance is $^{+0.01}_0$

Part Number		d ₁ , d ₂	Allow. Torque (N-m)	Angular Misalign. (°)	Lateral Misalign. (mm)	Static Torsional Spring Constant (N-m/rad)	Max. Rot. Speed (r/min)	Inertia Moment (Kg-m ²)	Allow. Axial Misalign. (mm)	Comp. Factor	Mass (Kg)
Type	D										
CPSWN	87	25	200	0.6	0.2	140000	6000	2.49 x 10 ⁻³	±1.0	1.5	2.3
		30 35 38 40 45	250								
CPSWMK	87	20–45	180	0.6	0.2	140000	6000	2.22 x 10 ⁻³	±1.0	1.5	2.1

① Static torsional spring constant, inertia moment, and mass values are for cases of maximum shaft diameter. ② For selection criteria and alignment adjustment, please refer to P.1091, 1093.

Part Number		d ₁ , d ₂	Allow. Torque (N-m)	Angular Misalign. (°)	Static Torsional Spring Constant (N-m/rad)	Max. Rot. Speed (r/min)	Inertia Moment (Kg-m ²)	Allow. Axial Misalign. (mm)	Comp. Factor	Mass (Kg)
Type	D									
CPSHN	87	25	200	0.6	330000	6000	1.68 x 10 ⁻³	±0.5	1.5	1.6
		30 35 38 40 45	250							
CPSHMK	87	20–45	180	0.6	330000	6000	1.40 x 10 ⁻³	±0.5	1.5	1.5

① Single Disc Coupling cannot tolerate lateral misalignment.

Part Number Example: CPSWMK87 - 35 - 20

Keyway Dimension

Shaft Bore Dia. d ₁ , d ₂	b		t		Key Nominal Dim. b x h	Set Screw	
	Dim.	Tol.	Dim.	Tol.		Size	Tightening Torque (N-m)
20, 22	6	±0.015	2.8	+0.1 0	6 x 6	M5	4
24, 25, 30	8	±0.018	3.3	+0.2 0	8 x 7	M6	7
35	10	±0.018	3.3	+0.2 0	10 x 8	M8	15