Disc Couplings

High Rigidity (O.D. 40) / Keyless Clamping, Keywayed Bore

For Servo Motors

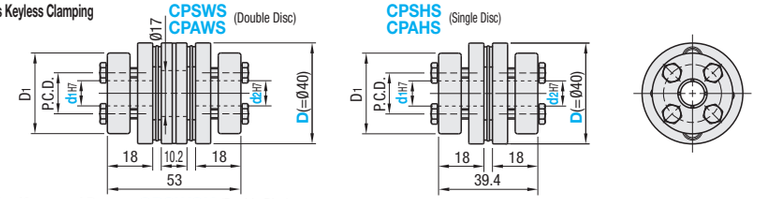
⚠ The stainless discs of this product have sharp edges that may cause injuries.
Use of thick protective gloves is recommended.

■Features: Compact and highly rigid couplings for servo motors selectable in keyless clamping and keywayed bore.

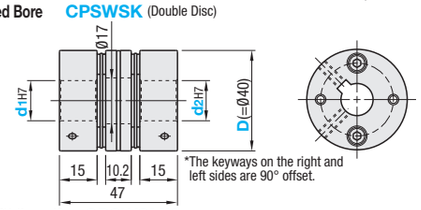
■For Servo Motors

RoHS10

■Both Sides Keyless Clamping CPSWS (Double Disc) CPAWS (Double Disc) CPSHS (Single Disc) CPAHS (Single Disc)

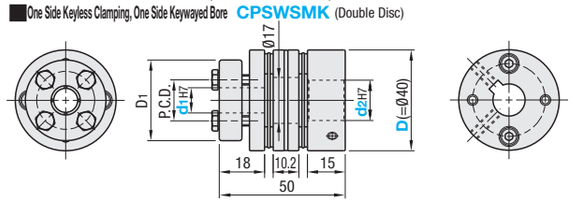


■Both Sides Keywayed Bore CPSWSK (Double Disc)



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

■One Side Keyless Clamping, One Side Keywayed Bore CPSWSMK (Double Disc)



- 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.
- Shipped after center-aligned and assembled.
- For the selection criteria and alignment procedures, see P.1061

- Keyless clamping flange has two screw holes for removal. For installation and removal of Keyless Clamping Type couplings, see P.1079

Type: Both Sides Keyless Clamping	Type: Both Sides Keywayed Bore	Type: One Side Keyless Clamping, One Side Keywayed Bore	Disc Type	Main Body: M Material	Main Body: S Surface Treatment	Disc: M Material	A Accessory
CPSWS	CPSWSK	CPSWSMK	Double	S45C	-	SUS301CSP	Locking Screw Set Screw
CPSHS	-	-	Single				
CPAWS	-	-	Double	Aluminum	Clear Anodize		
CPAHS	-	-	Single				

Part Number Type	D	d1, d2 Selection	d1,d2	D1	P.C.D.	Locking Screw (Keyless Clamping) Size	Locking Screw (Keyless Clamping) Tightening Torque (N·m)	Unit Price: Both Sides Keyless Clamping CPSWS	CPAWS	Both Sides Keywayed Bore CPSWSK	One Side Keyless Clamping, One Side Keywayed Bore CPSWSMK
Double Disc Type											
Both Sides Keyless Clamping CPSWS (S45C) CPAWS (Aluminum)	40	10 12 14 15 16	10,12	32	23	M4x18	3.5				
			14,15	38	27						
Both Sides Keywayed Bore CPSWSK (S45C)			16	39	28						
One Side Keyless Clamping, One Side Keywayed Bore CPSWSMK (S45C)											

Part Number Type	D	d1, d2 Selection	d1,d2	D1	P.C.D.	Locking Screw (Keyless Clamping) Size	Locking Screw (Keyless Clamping) Tightening Torque (N·m)	Unit Price: Both Sides Keyless Clamping CPSHS	CPAHS
Single Disc Type									
Both Sides Keyless Clamping CPSHS (S45C) CPAHS (Aluminum)	40	10 12 14 15 16	10,12	32	23	M4x18	3.5		
			14,15	38	27				
			16	39	28				

■Double Disc Type

Part Number Type	D	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·m²)	Allowable Axial Misalignment (mm)	Compensation Factor	Mass (g)
CPSWS	40	8	1	0.2	6300	10000	7.43×10^{-5}	±0.5	1.5	329
CPAWS		6					2.65×10^{-5}			117
CPSWSK		8					7.73×10^{-5}			332
CPSWSMK							7.58×10^{-5}			331

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

■Single Disc Type

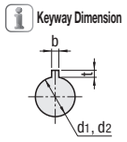
Part Number Type	D	Allowable Torque (N·m)	Angular Misalignment (°)	Static Torsional Spring Constant (N·m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (kg·m²)	Allowable Axial Misalignment (mm)	Compensation Factor coefficient	Mass (g)
CPSHS	40	8	1	15000	10000	5.48×10^{-5}	±0.25	1.5	246
CPAHS		6				1.96×10^{-5}			88

Single Disc Type cannot tolerate lateral misalignment.

Ordering Example

Part Number	-	Shaft Bore Dia. d1	-	Shaft Bore Dia. d2
CPSWSK40	-	10	-	16

Keyway Dimension

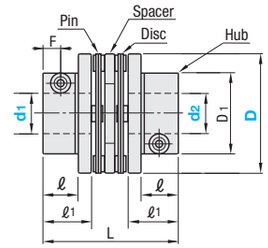


Shaft Bore Dia. d1, d2	b: Reference Dia.	b: Tolerance	t: Reference Dia.	t: Tolerance	Key Nominal Dim. bxh	Set Screw: Size	Set Screw: Tightening Torque (N·m)
10	3	±0.0125	1.4	+0.1 0	3x3	M2	0.3
12	4	±0.0150	1.8		4x4	M3	0.7
14, 15, 16	5		2.3		5x5	M4	1.7

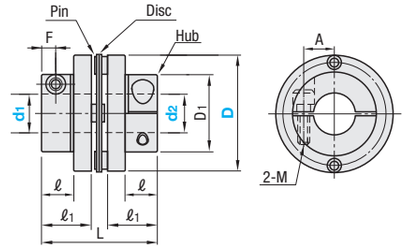
Disc Couplings

Clamping

■Double Disc Type CPDD



■Single Disc Type CPDS



- CPDS cannot tolerate lateral misalignment.
- 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

Parts	M Material	S Surface Treatment	A Accessory
Main Body	Aluminum Alloy	Clear Anodize	Hex Socket Head Cap Screw
Disc, Pin	Stainless Steel	-	

Part Number Type	D	d1, d2 Selection (d1≤d2)	L: CPDD	L: CPDS	ℓ	ℓ1	D1	Clamp Screw M	Clamp Screw Tightening Torque (N·m)	A	F	Unit Price CPDD	Unit Price CPDS
CPDD CPDS	32	6 8 10	40	32	9	13.7	22	M3	1.5	8	4		
	40	8 10 11 12 14	46	38	12	16.5	28	M4	2.5	10.5	6		
	50	12 14 15 16 18 19 20	52	44	15	19.4	39	M5	7	14.8	7		
	63	15 16 18 19 20 25	58	50	18	22.3	45	M6	12	17	8		

■Characteristic Values

Part Number Type	D	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·m²)	Allowable Axial Misalignment (mm)	Mass (g)
Double Disc Type CPDD	32	2	2	0.15	1000	19000	6.2×10^{-6}	±0.4	48
	40	4		0.2	1500	15000	1.6×10^{-5}	±0.5	81
	50	7.5			2000	12000	4.6×10^{-5}	±0.6	150
	63	10		0.3	2500	10000	1.1×10^{-4}	±0.8	230

Part Number Type	D	Allowable Torque (N·m)	Angular Misalignment (°)	Static Torsional Spring Constant (N·m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (kg·m²)	Allowable Axial Misalignment (mm)	Mass (g)
Single Disc Type CPDS	32	2	1	1300	19000	4.5×10^{-6}	±0.2	38
	40	4		2800	15000	1.2×10^{-5}		66
	50	7.5		3700	12000	3.7×10^{-5}		120
	63	10		5000	10000	8.4×10^{-5}		190

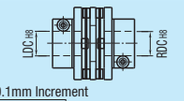
Single Disc Type cannot tolerate lateral misalignment.
The lateral, angular, and axial misalignment values shown are for each occurring individually. When multiple misalignments are occurring simultaneously, the allowable maximum value of each will be reduced to 1/2.
For the selection criteria and alignment procedures, see P.1061

Ordering Example

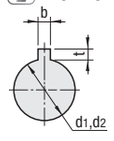
Part Number	-	Shaft Bore Dia. d1	-	Shaft Bore Dia. d2
CPDD40	-	10	-	14
CPDS50	-	12	-	14

Alterations

Part Number	-	Shaft Bore Dia. d1 (LDC)	-	Shaft Bore Dia. d2 (RDC)	-	(LK, RK)
CPDD40	-	LDC8.5	-	14	-	RK5

Alterations	Shaft Bore Dia.	Keyway
Spec.	 0.1mm Increment Ordering Code LDC 15.2 RDC 21.7 CPDD, CPDS: D 32: LDC, RDC 6~10; 40: 8~14; 50: 12~20; 63: 15~25	 Ordering Code LK4 RK4: Shaft Dia. d1, d2 / LK, RK: 8, 10 / 3; 11, 12 / 4; 14~17 / 5; 18~22 / 6; 24, 25 / 8 Keyway machining is available for Ø8~. Cannot be combined with shaft bore change (LDC, RDC) alterations. For keyway dimensions, refer to the left table.
Code	LDC(Left Shaft)	RDC(Right Shaft)	LK(Left Shaft)	RK(Right Shaft)

Keyway Dimension



Shaft Bore Dia. d1, d2	LK, RK	b: Reference Dia.	b: Tolerance	t: Reference Dia.	t: Tolerance	Key Nominal Dim. bxh
8, 10	3	3	±0.0125	1.4	+0.1 0	3x3
11, 12	4	4		1.8		4x4
14~17	5	5	±0.0150	2.3		5x5
18~22	6	6		2.8		6x6
24, 25	8	8	±0.0180	3.3	+0.2 0	8x7