

Disc Couplings

Clamping

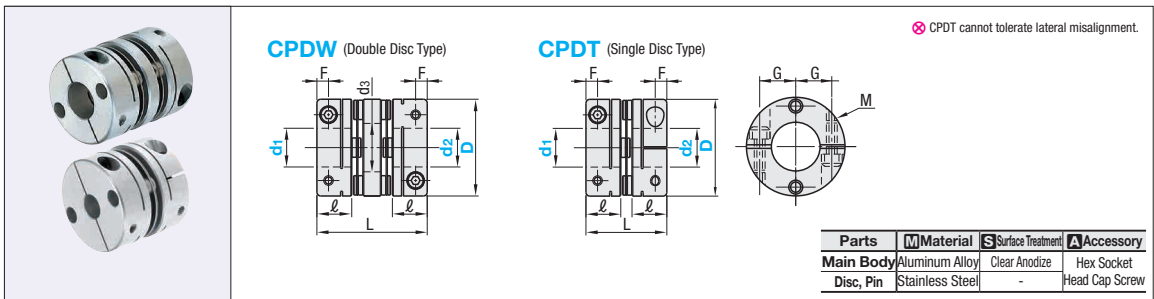
For Servo Motors

Disc Couplings "Servo-Fine"

High Rigidity Clamping / High Positioning Accuracy 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.



Part Number		d1, d2 Selection (d1≤d2)								L		ℓ		ds		F		G		Clamp Screw		Unit Price	
Type	D	4	5	6	7	8				CPDW	CPDT									M	Tightening Torque (N·m)	CPDW	CPDT
Double Disc CPDW	19									27	20	8	8.5	2.5	6.5					M2	0.5		
	25			6	6.35					31	24	10	12.5	3.5	9	M2.5	1						
Single Disc CPDT	32					8	10	11	12	40	29	12	16	4	11	M3	1.5						
	40					8	10	11	12	14	15	16	17	18	19	20							
	50									57	42	18	26	6	18	M5	7						

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·m ²)	Allowable Axial Misalignment (mm)	Compensation Factor coefficient	Mass (g)
CPDW	19	0.7		1.5	0.12	200	33000	8.7x10 ⁻⁷	±0.5	1	18
	25	1				450	25000	2.7x10 ⁻⁶			25
	32	2.5				1100	19000	9.6x10 ⁻⁶			60
	40	3.5		0.15		1400	15000	1.9x10 ⁻⁵			100
	50	9				2200	12000	8.1x10 ⁻⁵			210

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·m ²)	Allowable Axial Misalignment (mm)	Compensation Factor coefficient	Mass (g)
CPDT	19	0.7		0.7	280	33000	6.3x10 ⁻⁷	±0.2	1	9
	25	1			630	25000	2.1x10 ⁻⁶			19
	32	2.5			1600	19000	7.2x10 ⁻⁶			41
	40	3.5			2600	15000	1.3x10 ⁻⁵			68
	50	9			3100	12000	6.1x10 ⁻⁵			140

⚠ Single Disc Type cannot tolerate lateral misalignment.

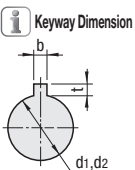
⚠ The lateral, angular, and axial misalignment values shown are for each occurring individually. When multiple misalignments are occurring simultaneously, the allowable maximum value of each will be reduced to 1/2.

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

Ordering Example	Part Number	-	Shaft Bore Dia. d1	-	Shaft Bore Dia. d2
	CPDW40	-	12	-	14
	CPDT50	-	16	-	18

Alterations	Part Number	-	Shaft Bore Dia. d1	-	Shaft Bore Dia. d2	-	(LK, RK)
	CPDW40	-	LDC8	-	14	-	RK5

Alterations	Shaft Bore Dia.	Keyway
Spec.		
	0.1mm Increment	
	Ordering Code	Ordering Code
	LDC 15.2 RDC 21.7	LK4 RK4
	CPDW, CPDT	
Code	D LDC, RDC	
	19 4-6	
	25 6-12	
	32 8-15	
	40 8-20	
	50 14-25	



Shaft Bore Dia. d1, d2	LK, RK	b	t	Key Nominal Dim. b x h
8, 10	3	±0.0125	1.4	3x3
11, 12	4		1.8	4x4
14-17	5	±0.0150	2.3	5x5
18-22	6		2.8	6x6
24, 25	8	±0.0180	3.3	8x7

For Servo Motors (High Rigidity)



Part Number		d1, d2 Selection (d1≤d2)								L		ℓ		ds		F		A		Clamp Screw		Unit Price	
Type	No.	4	5	6	7	8				SCPW	SCPS									M	Tightening Torque (N·m)	SCPW	SCPS
Double Disc SCPW	16									16.6	6.5	23	16.6	7.2	3	5.3	M2.6	1.0					
	21									21	9.5	24.5	16.7	7	3.5	7	M2.6	1.2					
Single Disc SCPS	28									28	12	32.2	21.5	9	4	9.5	M3	1.5					
	34									34	15	35	23.3	9.8	5	12	M3	1.5					
	46									46	22	44	29.8	12.6	6	16.5	M4	3.5					
	55									54.5	26	55	37.2	16	7	20.5	M5	6.0					

⚠ When d1, d2 is *3, use with the load torque 60% or less than shown in the table to prevent slipping.

Double Disc Type (High Rigidity)

Part Number	Type	No.	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 coefficient	Mass (g)
SCPW	16	1.0	1.0	0.10	500	4.22x10 ⁻⁷		1.11x10 ⁻⁶	±0.20	1.5	11
	21	1.2	1.2	0.15	800	4.68x10 ⁻⁶	10000	1.10x10 ⁻⁵	±0.30		17
	28	1.6	1.2	0.20	3000	4.70x10 ⁻⁵		1.19x10 ⁻⁴			42
	34	4.0	1.5	0.25	4800						65
	46	10.0			11500						151
	55	25.0			19000						260

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

⚠ Features: Torsional rigidity is improved over the conventional type (SCPW) (by approx. up to 26%). Suitable for applications requiring high accuracy positioning at high speeds. All the screws are Trivalent Chromate treated and reliable to use in clean environments.

For Servo Motors (High Positioning Accuracy)



Part Number		d1, d2 Selection (d1≤d2)								L		ℓ		ds		F		A		Clamp Screw		Unit Price	
Type	No.	4	5	6	7	8				SCXW	SCXWK									M	Tightening Torque (N·m)	SCXW	SCXWK
Double Disc Type SCXW	21									21	9.5	24.5	7	3.5	3	7	M2.6	1.2					
	28									28	12	32	9	4	4	9.5	M3	1.5					
Double Disc Type - Keywayed Bore SCXWK	34									34	17	35	9.8	5	4.5	12	M3	1.5					
	46									46	22	44	12.6	6	6	16.5	M4	3.5					
	55									54.5	26	55	16	7	-	20.5	M5	7					

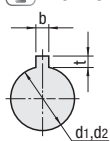
Double Disc Type (High Positioning Accuracy)

Part Number	Type	No.	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 coefficient	Mass (g)
SCXW SCXWK	21	1.2	1.0	0.10	900	1.20x10 ⁻⁵		4.68x10 ⁻⁶	±0.20	1.5	18
	28	1.6	1.2	0.15	3600	1.10x10 ⁻⁵	10000	4.70x10 ⁻⁵	±0.30		42
	34	4.0	1.5	0.20	5700			1.19x10 ⁻⁴			65
	46	10.0		0.25	14500						151
	55	25.0			23000						260

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

Ordering Example	Part Number	-	Shaft Bore Dia. d1	-	Shaft Bore Dia. d2
	SCXW46	-	10	-	14
	SCXWK46	-	12	-	14

Keyway Dimension



Shaft Bore Dia. d1, d2	b	t	Key Nominal Dim. b x h	Set Screw
8, 10	3	±0.0125	1.4	3x3 M2 0.3
12	4		1.8	4x4 M3 0.7
14	5	±0.0150	2.3	5x5 M4 1.7



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

