

Disc Couplings

Clamping

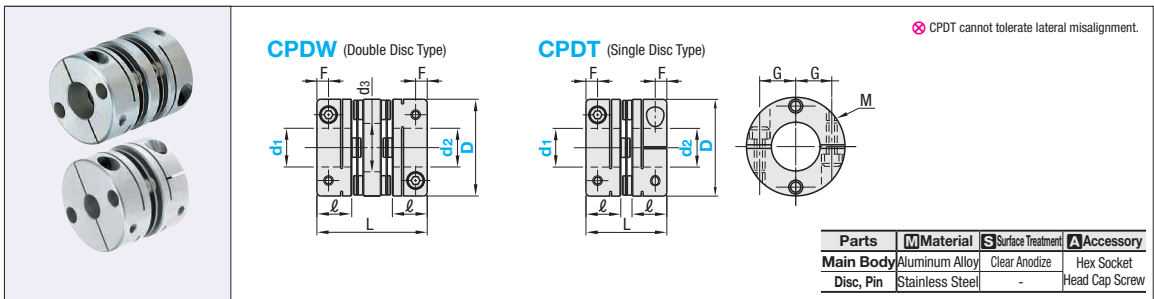
For Servo Motors

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	8	8.5	2.5	6.5	M	Tightening Torque (N·m)	CPDW	CPDT									
Double Disc CPDW	19						27	20					M2	0.5											
	25		6	6.35			31	24	10	12.5	3.5	9	M2.5	1											
Single Disc CPDT	32					8	40	29	12	16	4	11	M3	1.5											
	40					8	44	33	14	21	5	15	M4	2.5											
	50					8	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.

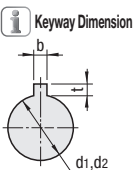
The lateral, angular, and axial misalignment values shown are for each occurring individually. When multiple misalignments are occurring simultaneously, the allowable maximum value of each will be reduced to 1/2.

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

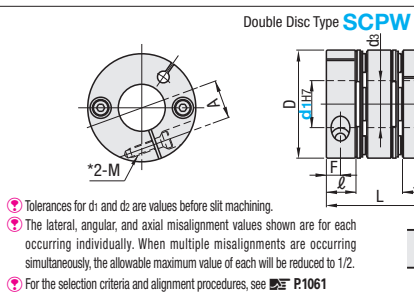
Alterations	Part Number	-	Shaft Bore Dia. d1	-	Shaft Bore Dia. d2	-	(LK, RK)
	CPDW40	-	LDC8.5	-	14	-	RK5

Alterations	Shaft Bore Dia.	Keyway
Spec.		
Code	LDC (Left Shaft) RDC (Right Shaft)	LK (Left Shaft) RK (Right Shaft)



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)



Type	Material			Surface Treatment			Accessory	
	Main Body	Disc	Screw	Main Body	Disc	Screw	Hex Socket Head Cap Screw	Hex Socket Head Cap Screw
SCPW	Aluminum Alloy	Stainless Steel	SCM435	Clear Anodize	-	Black Oxide		
SCPS								

Part Number		d1, d2 Selection (d1≤d2)										L		ℓ		ds		F		G		Clamp Screw		Unit Price	
Type	No.	4	5	6	7	8	CPDW	CPDT	8	8.5	2.5	6.5	M	Tightening Torque (N·m)	CPDW	CPDT									
Double Disc SCPW	16						27	20					M2	0.5											
	21						31	24	10	12.5	3.5	9	M2.5	1											
	28						40	29	12	16	4	11	M3	1.5											
	34						44	33	14	21	5	15	M4	2.5											
	46						57	42	18	26	6	18	M5	7											

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

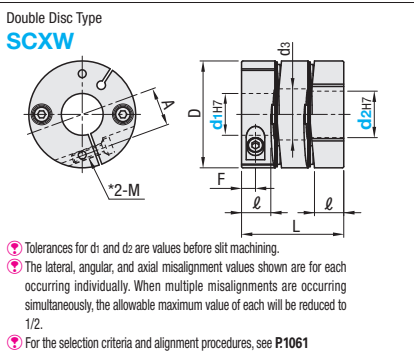
Double Disc Type (High Rigidity)

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	1.11x10 ⁻⁶		4.68x10 ⁻⁶	±0.30		17
	28	1.6	1.2	0.20	3000	1.10x10 ⁻⁶	10000	1.10x10 ⁻⁶			42
	34	4.0	1.5	0.25	4800	4.70x10 ⁻⁶		1.19x10 ⁻⁴			65
	46	10.0			11500	1.19x10 ⁻⁴					151

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)



Type	Material			Surface Treatment			Accessory	
	Main Body	Disc	Screw	Main Body	Disc	Screw	Hex Socket Head Cap Screw	Hex Socket Head Cap Screw
SCXW	Aluminum Alloy	Stainless Steel	SCM435	Clear Anodize	-	Trivalent Chromate		
SCXWK								

Part Number		d1, d2 Selection (d1≤d2)										L		ℓ		ds		F		G		Clamp Screw		Unit Price	
Type	No.	4	5	6	7	8	CPDW	CPDT	8	8.5	2.5	6.5	M	Tightening Torque (N·m)	CPDW	CPDT									
Double Disc Type SCXW	21						27	20					M2.6	1.2											
	28						31	24	10	12.5	3.5	9	M3	1.5											
Double Disc Type - Keywayed Bore SCXWK	34						40	29	12	16	4	11	M3	1.5											
	46						44	33	14	21	5	15	M4	2.5											
	55						57	42	18	26	6	18	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 ⁻⁶		1.11x10 ⁻⁶	±0.20	1.5	18
	28	1.6	1.2	0.15	3600	4.68x10 ⁻⁶		1.10x10 ⁻⁶			42
	34	4.0	1.5	0.20	5700	1.10x10 ⁻⁶	10000	1.10x10 ⁻⁶			65
	46	10.0		0.25	14500	4.70x10 ⁻⁶		1.19x10 ⁻⁴			151
	55	25.0			23000	1.19x10 ⁻⁴					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	
	Reference Dia.	Tolerance	Reference Dia.	Tolerance		Size	Tightening Torque (N·m)
8, 10	3	±0.0125	1.4	±0.1	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.

