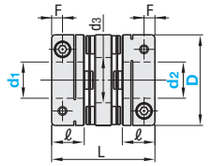
Disc Couplings

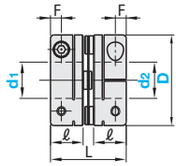
Clamping

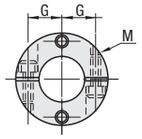
For Servo Motors

CPDW (Double Disc Type)



CPDT (Single Disc Type)





⊗CPDT cannot tolerate lateral misalignment.

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

Part Number Type	D	d1, d2 Selection (d1≤d2)	L CPDW	L CPDT	ℓ	d3	F	G	Clamp Screw M	Clamp Screw Tightening Torque (N·m)	Unit Price CPDW	Unit Price CPDT
Double Disc CPDW / Single Disc CPDT	19	4 5 6 7 8	27	20	8	8.5	2.5	6.5	M2	0.5		
	25	6 6.35 8 10 11 12	31	24	10	12.5	3.5	9	M2.5	1		
	32	8 10 11 12 14 15	40	29	12	16	4	11	M3	1.5		
	40	8 10 11 12 14 15 16 17 18 19 20	44	33	14	21	5	15	M4	2.5		
	50	14 15 16 17 18 19 20 22 24 25	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·m²)	Allowable Axial Misalignment (mm)	Compensation Factor coefficient	Mass (g)
CPDW	19	0.7	1.5	0.12	200	33000	8.7×10^{-7}	±0.5	1	18
	25	1			450	25000	2.7×10^{-6}			25
	32	2.5		0.15	1100	19000	9.6×10^{-6}			60
	40	3.5			1400	15000	1.9×10^{-5}			100
	50	9			2200	12000	8.1×10^{-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·m²)	Allowable Axial Misalignment (mm)	Compensation Factor coefficient	Mass (g)
CPDT	19	0.7	0.7	280	33000	6.3×10^{-7}	±0.2	1	9
	25	1		630	25000	2.1×10^{-6}			19
	32	2.5		1600	19000	7.2×10^{-6}			41
	40	3.5		2600	15000	1.3×10^{-5}			68
	50	9		3100	12000	6.1×10^{-5}			140

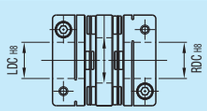
⊗Single Disc Type cannot tolerate lateral misalignment.
The lateral, angular, and axial misalignment values shown are for each occurring individually. When multiple misalignments are occurring simultaneously, the allowable maximum value of each will be reduced to 1/2.
For the selection criteria and alignment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

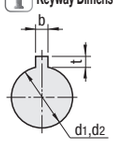
Alterations	Shaft Bore Dia.	Keyway
Spec.	 0.1mm Increment. Ordering Code: LDC 15.2 RDC 21.7 CPDW, CPDT	 Ordering Code: LK4, RK4
Code	LDC (Left Shaft) / RDC (Right Shaft)	LK (Left Shaft) / RK (Right Shaft)

D	LDC, RDC
19	4~8
25	6~12
32	8~15
40	8~20
50	14~25

Ordering Code	Shaft Dia. d1, d2	LK, RK
LK4 RK4	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 right table.

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	±0.0150	1.8		4x4
14~17	5	5		2.3		5x5
18~22	6	6		2.8		6x6
24, 25	8	8	±0.0180	3.3	+0.2 0	8x7

Disc Couplings "Servo-Fine"

High Rigidity Clamping / High Positioning Accuracy Clamping / Keywayed Bore

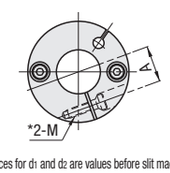
⚠ The stainless discs of this product have sharp edges that may cause injuries. Use of thick protective gloves is recommended.

For Servo Motors

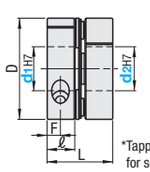
For Servo Motors (High Rigidity)

RoHS10

Double Disc Type **SCPW**



Single Disc Type **SCPS**



*Tapped hole for clamp screw might go through for some sizes.

Tolerances for d1 and d2 are values before slit machining.
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

Type	Material: Main Body	Material: Disc	Material: Screw	Surface Treatment: Main Body	Surface Treatment: Disc	Surface Treatment: Screw	Accessory
SCPW SCPS	Aluminum Alloy	Stainless Steel	EN 1.7220 Equiv.	Clear Anodize	-	Black Oxide	Hex Socket Head Cap Screw

Part Number Type	No.	d1, d2 Selection (d1≤d2)	D	d3	L SCPW	L SCPS	ℓ	F	A	Clamp Screw M	Clamp Screw Tightening Torque (N·m)	Unit Price SCPW	Unit Price SCPS
Double Disc SCPW / Single Disc SCPS	16	*3 4 5 6	16.6	6.5	23	16.6	7.2	3	5.3	M2.6	1.0		
	21	4 5 6 8 9	21	9.5	24.5	16.7	7	3.5	7	M2.6	1.2		
	28	5 6 8 9 10	28	12	32.2	21.5	9	4	9.5	M3	1.5		
	34	6 8 9 10 11 12 14	34	15	35	23.3	9.8	5	12	M3	1.5		
	46	8 9 10 11 12 14 15 17 19	46	22	44	29.8	12.6	6	16.5	M4	3.5		
	55	12 14 15 17 19 20 22 24 25	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·m²)	Allowable Axial Misalignment (mm)	Compensation Factor coefficient	Mass (g)
SCPW	16	1.0	1.0	0.10	500	10000	4.22×10^{-7}	±0.20	1.5	11
	21	1.2			800		1.11×10^{-6}			17
	28	1.6	1.2	0.15	3000		4.68×10^{-6}			42
	34	4.0		0.20	4800		1.10×10^{-5}			65
	46	10.0	1.5	0.25	11500		4.70×10^{-5}	±0.30		151
	55	25.0			19000		1.19×10^{-4}			260

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

Single Disc Type (High Rigidity)

Part Number Type	No.	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)
SCPS	16	1.0	1.0	1000	10000	3.16×10^{-7}	±0.10	1.5	8
	21	1.2		1700		7.90×10^{-7}			12
	28	1.6	1.2	6000		3.24×10^{-6}			30
	34	4.0		8000		7.60×10^{-6}			45
	46	10.0	1.5	20000		3.23×10^{-5}	±0.15		105
	55	25.0		33000		8.19×10^{-5}			180

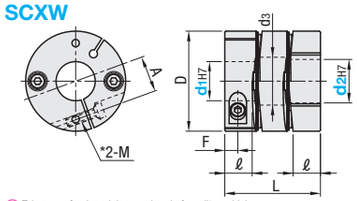
⊗Single Disc Type cannot tolerate lateral misalignment.

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.

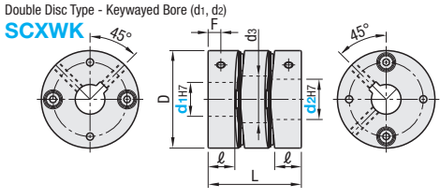
For Servo Motors (High Positioning Accuracy)

RoHS10

Double Disc Type **SCXW**



Double Disc Type - Keywayed Bore (d1, d2) **SCXWK**



Tolerances for d1 and d2 are values before slit machining.
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

* Tapped hole for clamp screw might go through for some sizes.

Type	Material: Main Body	Material: Disc	Material: Screw	Surface Treatment: Main Body	Surface Treatment: Disc	Surface Treatment: Screw	Accessory
SCXW SCXWK	Aluminum Alloy	Stainless Steel	EN 1.7220 Equiv.	Clear Anodize	-	Trivalent Chromate	Hex Socket Head Cap Screw, Set Screw

Part Number Type	No.	d1, d2 Selection (d1≤d2) Only the dimensions in ( ) are selectable for Keywayed Bore Type.	D	d3	L	ℓ	F SCXW	F SCXWK	A	Clamp Screw M	Clamp Screw Tightening Torque (N·m)	Unit Price SCXW	Unit Price SCXWK
Double Disc Type SCXW / Double Disc Type - Keywayed Bore SCXWK	21	4 5 6 (8)	21	9.5	24.5	7	3.5	3	7	M2.6	1.2		
	28	5 6 (8) (10)	28	12	32	9	4	4	9.5	M3	1.5		
	34	6 (8) (10) (12) (14)	34	17	35	9.8	5	4.5	12	M3	1.5		
	46	8 (10) (12) (14) 15 17 19	46	22	44	12.6	6	6	16.5	M4	3.5		
	55	12 14 15 17 19 20 22 24 25	54.5	26	55	16	7	-	20.5	M5	7		-

Double Disc Type (High Positioning Accuracy)

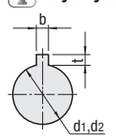
Part Number Type	No.	Allowable Torque (N·m)	Angular Misalignment (°)	Lateral Misalignment (mm)	Static Torsional Spring Constant (N·m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (kg·m²)	Allowable Axial Misalignment (mm)	Compensation Factor coefficient	Mass (g)
SCXW SCXWK	21	1.2	1.0	0.10	900	10000	1.20×10^{-6}	±0.20	1.5	18
	28	1.6	1.2	0.15	3600		4.68×10^{-6}			42
	34	4.0		0.20	5700		1.10×10^{-5}			65
	46	10.0	1.5	0.25	14500		4.70×10^{-5}	±0.30		151
	55	25.0			23000		1.19×10^{-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
SCPW34	-	8	-	12

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)
8, 10	3	±0.0125	1.4	+0.1 0	3x3	M2	0.3
12	4	±0.0150	1.8		4x4	M3	0.7
14	5		2.3		5x5	M4	1.7

Example

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