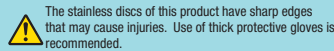


Couplings

-High Positioning Accuracy Disc Clamping / Keywayed Bore / High Rigidity Disc Clamping -

For Servo Motors

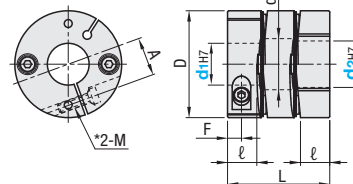


■ Features: Torsional rigidity is improved over the conventional type (SCPW) (maximum up to 26%). Excellent for applications requiring high accuracy positioning at high speeds. All the screws are Trivalent Chromate treated and reliable to use in clean environments.

For Servo Motors (High Positioning Accuracy Type)

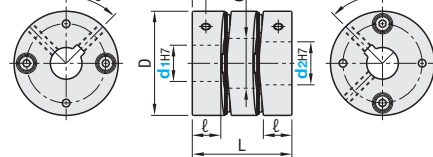


Double Disc Type SCXW



- ① d1, d2 tolerances are values before slits are machined.
- ② The allowable lateral/angular/axial misalignment values shown are for each to be individually occurring at a time. If all three are to be occurring simultaneously, allowable max. value of each will be 1/2.
- ③ For the selection criteria and alignment procedures, see P957

Double Disc - Keywayed Bore (keywayed bore d1, d2) SCXWK



* Tapped holes for clamping screws may go through for some sizes.

Type	Material	Surface Treatment	Accessory
SCXW	Aluminum Alloy	Clear Anodize	Trivalent Chromate Set Screw
SCXWK	Stainless Steel	4137 Alloy Steel	-

Part Number			d1, d2 select (must be d1≤d2)										Clamp Screw		Unit Price							
Type	No.	Only the dimensions in () are selectable for keywayed bore type.										D	d3	L	ℓ	F		A	Clamp Screw Tightening Torque (Nm)	SCXW	SCXWK	
Double Disc Type SCXW	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		
Double Disc - Keywayed Bore SCXWK	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 Discs Type (High Positioning Accuracy Type)

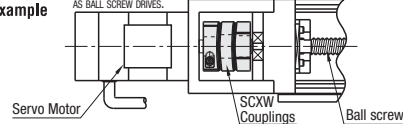
Part Number	Type	No.	Allowable Torque (Nm)	Initial Inertia (mm)	Static Torsional Spring Constant (Nm/rad)	Max Rotational Speed (r/min)	Moment of Inertia (Kg-m²)	Allowable Axial Misalignment (mm)	Mass (g)
SCXW		21	1.2	1.0	0.10	900	1.20x10 ⁻⁶	±0.20	18
SCXWK		28	1.6	1.2	0.15	3600	4.68x10 ⁻⁶	±0.20	42
		34	4.0	1.5	0.20	5700	1.10x10 ⁻⁵	±0.30	65
		46	10.0	1.5	0.25	14500	4.70x10 ⁻⁵	±0.30	151
		55	25.0			23000	1.19x10 ⁻⁴	±0.30	260

① Static torsional spring constant, inertia moment, and mass values are for cases of maximum shaft diameter.



Example

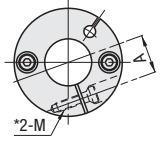
HIGHLY SUITABLE FOR APPLICATIONS REQUIRING HIGH SPEEDS AND HIGH POSITIONING ACCURACIES, SUCH AS BALL SCREW DRIVES.



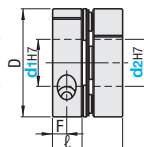
For Servo Motors (High Rigidity Type)



Double Disc Type SCPW



Single Disc Type SCPS



- ① d1, d2 tolerances are values before slits are machined.
- ② The allowable lateral/angular/axial misalignment values shown are for each to be individually occurring at a time. If all three are to be occurring simultaneously, allowable max. value of each will be 1/2.
- ③ For the selection criteria and alignment procedures, see P957
- * Tapped hole for clamp screw might go through.

Type	Material	Surface Treatment	Accessory
SCPW	Aluminum Alloy	Anodizing Treatment	Hexagon Socket Head Cap Screw
SCPS	Stainless Steel	4137 Alloy Steel	-

Part Number		d1, d2 select (must be d1≤d2)												D	d3	L		ℓ	F	A	Clamp Screw	Unit Price						
Type	No.															SCPW	SCPS				M	Tightening Torque (Nm)	SCPW	SCPS				
Double Disc Type SCPW	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							
Single Disc Type SCPS	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														54.5	26	55	37.2	16	7	20.5	M5	6.0					
		12 14 15 17 19 20 22 24 25																										

① When d1, d2 is *, use with the load torque 60% or less than shown in the table to prevent slipping.

Double Discs Type (High Rigidity Type)

Part Number	Type	No.	Allowable Torque (Nm)	Initial Inertia (mm)	Static Torsional Spring Constant (Nm/rad)	Max Rotational Speed (r/min)	Moment of Inertia (Kg-m²)	Allowable Axial Misalignment (mm)	Mass (g)
SCPW		16	1.0	1.0	0.10	500	4.22x10 ⁻⁷	±0.20	11
		21	1.2	1.0	0.15	800	1.11x10 ⁻⁶	±0.20	17
		28	1.6	1.2	0.20	3000	4.68x10 ⁻⁶	±0.20	42
		34	4.0	1.5	0.25	4800	1.10x10 ⁻⁵	±0.30	65
		46	10.0	1.5	0.25	11500	4.70x10 ⁻⁵	±0.30	151
		55	25.0			19000	1.19x10 ⁻⁴	±0.30	260

① Static torsional spring constant, inertia moment, and mass values are for cases of maximum shaft diameter.

Order Example	Part Number	Shaft Bore Dia. d1	Shaft Bore Dia. d2
SCXW46	-	10	14
SCXWK46	-	12	14
SCPW34	-	8	12

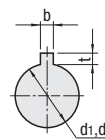
Days to Ship	6 Days	Express A	\$2.00/piece	P88
Price	① Non-Returnable P88 ② A flat charge of \$5.40 for 3 or more identical pieces.			

Single Disc Type (High Rigidity Type)

Part Number	Type	No.	Allowable Torque (Nm)	Initial Inertia (mm)	Static Torsional Spring Constant (Nm/rad)	Max Rotational Speed (r/min)	Moment of Inertia (Kg-m²)	Allowable Axial Misalignment (mm)	Mass (g)
SCPS		16	1.0	1.0	0.10	1000	3.16x10 ⁻⁷	±0.10	8
		21	1.2	1.0	0.15	1700	7.90x10 ⁻⁷	±0.10	12
		28	1.6	1.2	0.20	6000	3.24x10 ⁻⁶	±0.10	30
		34	4.0	1.5	0.25	8000	7.60x10 ⁻⁶	±0.15	45
		46	10.0	1.5	0.25	20000	3.23x10 ⁻⁵	±0.15	105
		55	25.0			33000	8.19x10 ⁻⁵	±0.15	180

① Single disc type cannot tolerate lateral misalignment.

Keyway Dimension



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

Couplings

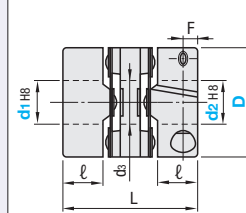
-Ultra High Torque Disc Clamping-

For Servo Motors

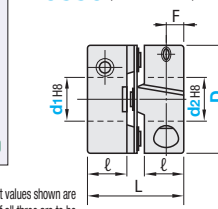
For Servo Motors (High Torque)



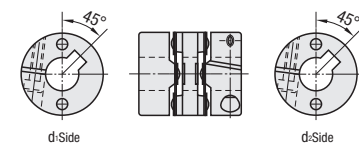
Double Disc Type MCSLC (Standard Bore)



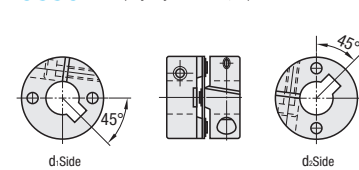
Single Disc Type MCSSC (Standard Bore)



MCSLCLK (Keywayed Bore d1) MCSLCLRK (Keywayed Bore d2) MCSLCLWK (Keywayed Bore d1, d2)



MCSSCWK (Keywayed Bore d1, d2)



- ① d1, d2 tolerances are values before slits are machined.
- ② The allowable lateral/angular/axial misalignment values shown are for each to be individually occurring at a time. If all three are to be occurring simultaneously, allowable max. value of each will be 1/2.
- ③ For the selection criteria and alignment procedures, see P957

④ For Keyway dimension, refer to the following.

Standard Bore	Keywayed Bore	Material	Surface Treatment	Accessory
MCSLC	MCSLCLK	Aluminum Alloy	Electroless Nickel Plating	Hexagon Socket Head Cap Screw
MCSSC	MCSLCLRK	Stainless Steel	-	-
	MCSLCLWK	4137 Alloy Steel	-	-
	MCSSCWK	4137 Alloy Steel	-	-

Part Number		d1, d2 select (must be d1≤d2)										d3	L	ℓ	A	F	Clamp Screw		Unit Price			
Type	D	🔑Keywayed bore type is selectable in diameter 6 or larger.																M	Tightening Torque (Nm)	MCSLC	MCSLCLK	MCSLCLRK
Double Disc Type MCSLC MCSLCLK MCSLCLRK MCSLCLWK	16	*4	5	6																		
	20	*4	5	6	6.35	7	8															
	25	*5	6	6.35	7	8	9.53	10														
	32		8	9.53	10	11	12	14														
	40			8	9.53	10	11	12	14	15	16	18										
	50									14	15	16	18	20	22	24						

Part Number		d1, d2 select (must be d1≤d2)							L	ℓ	A	F	Clamp Screw	Unit Price		
Type	D	🌀Keywayed bore type is selectable in diameter 6 or larger.											M	Tightening Torque (Nm)	MCSSC	MCSSCWK
Single Disc Type MCSSC MCSSCWK	16	*4	5	6					16.5	7	5	3	M2.5	1		
	20	*4	5	6	6.35	7	8		18.4	7.5	6.5	3.7				
	25	*5	6	6.35	7	8	9.53	10	21.6	9	8.5	4	M3	1.7		
	32						8	9.53	10	11	12	14	M4	2.5		
	40						8	9.53	10	11	12	14	15	16	18	
	50															

① When d1, d2 is *, use with the load torque 50% or less than shown in the table to prevent slipping.

Double Discs Type (High Torque Type)

Part Number	Type	No.	Allowable Torque (Nm)	Initial Inertia (mm)	Static Torsional Spring Constant (Nm/rad)	Max Rotational Speed (r/min)	Moment of Inertia (Kg-m²)	Allowable Axial Misalignment (mm)	Mass (g)
MCSLC		16	0.9	1.0	0.10	450	2.7x10 ⁻⁷	±0.2	10
		20	1.3	1.0	0.15	700	8.0x10 ⁻⁷	±0.2	16
		25	2.8	1.5	0.20	950	2.5x10 ⁻⁶	±0.3	30
		32	5	1.5	0.25	1100	6.6x10 ⁻⁶	±0.4	62
		40	9	1.5	0.25	2800	1.9x10 ⁻⁵	±0.5	110
		50	16	1.5	0.25	3400	5.0x10 ⁻⁵	±0.6	220

Single Disc Type (High Torque Type)

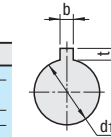
Part Number	Type	No.	Allowable Torque (Nm)	Initial Inertia (mm)	Static Torsional Spring Constant (Nm/rad)	Max Rotational Speed (r/min)	Moment of Inertia (Kg-m²)	Allowable Axial Misalignment (mm)	Mass (g)
MCSSC		16	0.9	1.0	0.10	650	2.2x10 ⁻⁷	±0.1	8
		20	1.3	1.0	0.15	950	7.0x10 ⁻⁷	±0.1	13
		25	2.8	1.5	0.20	1300	5.00x10 ⁻⁶	±0.2	24
		32	5	1.5	0.25	1400	4.00x10 ⁻⁵	±0.2	53
		40	9	1.5	0.25	3300	1.5x10 ⁻⁵	±0.3	90
		50	16	1.5	0.25	4000	3.9x10 ⁻⁵	±0.3	180

① Single disc type cannot tolerate lateral misalignment.

Part Number	Shaft Bore Dia. d1	Shaft Bore Dia. d2	Standard Bore	Keywayed Bore	Price
MCSLC40	- 10	- 15	6 Days	Non-Returnable P88	6 Days
MCSLCLWK40	- 10	- 12	Express A \$2.00/piece	Express service is not available.	Non-Returnable P88
			① A flat charge of \$5.40 for 3 or more identical pieces.		

Part Number	Shaft Bore Dia. d1	Shaft Bore Dia. d2	Standard Bore	Keywayed Bore	Price
MCSLC40	- LDC9.5	- RDC10.5	6 Days	Non-Returnable P88	6 Days
MCSLCLWK40	- 8	- 10	Express A \$2.00/piece	Express service is not available.	Non-Returnable P88
			① A flat charge of \$5.40 for 3 or more identical pieces.		

Alterations	Shaft Bore Dia.	Keyway Width	Keyway
		Keyway Width (b) is changed as table below.	
		Ordering Code	
		KLH, KRH (b)	
		Reference Dia. Tolerance	
		8 2 ±0.0125 1.0	
		10 4 ±0.0150 1.8	
		12 5 ±0.0180 3.3	
		22 8 ±0.0180 3.3	
		① Cannot be combined with shaft bore changes (LDC, RDC) alterations.	
		② Applicable to Keywayed Bore only	
		Ordering Code	
		LK3 RK4	
		① Keyway machining available for Ø6-	
		② See right for keyway dimensions	
		Ordering Code	
		LK (Left Shaft) RK (Right Shaft)	
		Ordering Code	
		LK (Left Shaft) RK (Right Shaft)	



Shaft Bore Dia. d1, d2	Standard Dimension	b	t	Keyway Dims. b, xh
6-7.9	2	±0.0125	1.0	2x2
8-10	3	±0.0125	1.4	3x3
10.1-12	4	±0.0125	1.8	4x4
12.1-17	5	±0.0150	2.3	5x5
17.1-22	6	±0.0180	3.3	6x6