

# SD Series

## Zero Backlash Disk Coupling

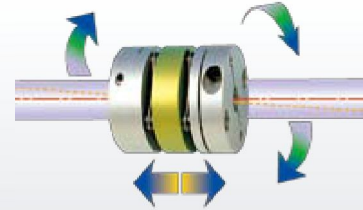


DISK COUPLING of SI is built-in coupling which provides big torsion rigidity and superior mobility, and it is high precision coupling that has nearly permanent lifespan.

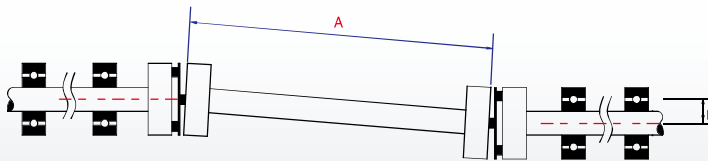
DISK COUPLING of SI can rotate with high speed in one or two directions and is often used mainly in high-precision measuring equipments, high speed movement control system, critical weight, dynamometer, precision encoder and so forth.

### Features

- Designed with high torsion rigidity
- Not affected by backlash and has semi permanent lifespan
- Accept amplitude, eccentricity and misalignment between shafts
- Single-stage and double-stage types
- Built-in metal structure
- Low inertia
- High-precision position controlling system
- Identical regular and reverse rotational characteristics
- Maintenance free and excellent resistance against oil



### Allowance Parallel applying floaton shaft

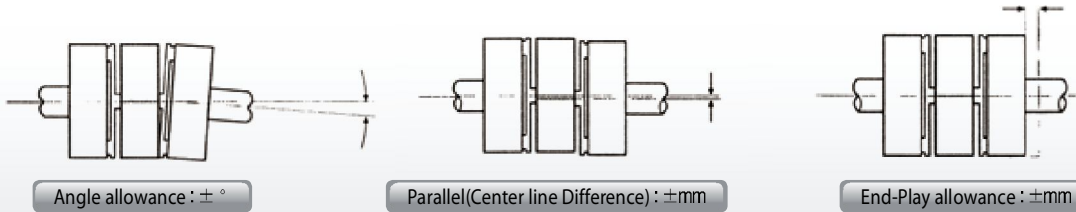


$$\text{Allowance Parallel } B = A \times \sin \theta$$

Here, A : Floaton shaft length

$\theta$  : Allowance Angle of Coupling

### Misalignment



Angle allowance :  $\pm^\circ$

Parallel(Center line Difference) :  $\pm\text{mm}$

End-Play allowance :  $\pm\text{mm}$

### Application

- Servo motor, stepping motor, precision motor and so forth
- High precision encoder and dynamometer drive
- High speed and high precision position controlling system, centrifugal separator
- Copy machine, information, communication and audio equipment

### Structure & Material

- Disk : Stainless
- Plate : Aluminum Alloy and Alumite
- Hub : Aluminum Alloy and Alumite
- Fastening Bolt : High Tensile Bolt



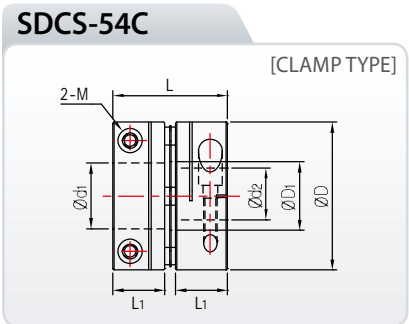
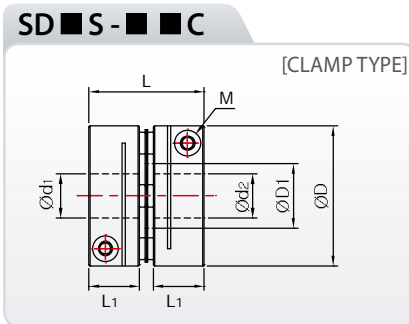
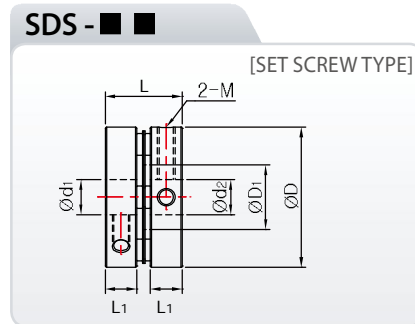
### How to order product



- ※ Please mark each inner diameter size.
- ※ It is impossible for you to ask additional keyway process and change inner dia size after order SI disk coupling.
- ※ When you assemble your machinery by our coupling, please disassemble our disk coupling arbitrarily because of SI dick coupling is assembled by optimal situation.

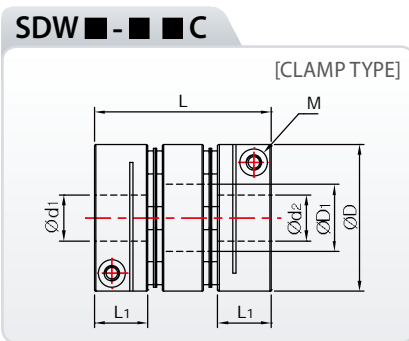
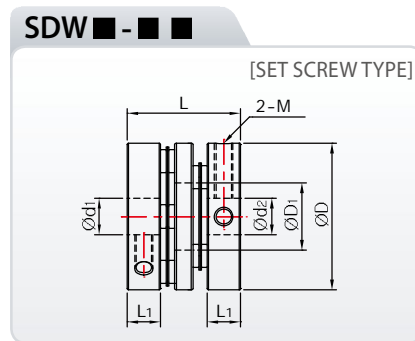
# SD Series

## Zero Backlash Disk Coupling



### Standards & Performance

Product Number	Dimension ( $\pm 0.3$ )				Fastening Bolt M	Fastening Torque (N·m)	Max·RPM ( $\text{min}^{-1}$ )	Max Torque (N·m)	Rated Torque (N·m)	Torsional Stiffness (N·m/rad)	Moment of Inertia ( $\text{kg} \cdot \text{m}^2$ )	Mass (g)	Errors of Misalignment		
	D	D <sub>1</sub>	L	L <sub>1</sub>									Angle (°)	Parallel (mm)	End-Play (mm)
SDS-16	16	6.2	11.9	5.1	M2.5	0.5	12,000	1	0.5	270	$1.8 \times 10^{-7}$	5	1	0	0.1
SDS-16C	16	6.2	17.4	7.8	M2	0.5	10,000	1	0.5	270	$2.6 \times 10^{-7}$	7	1	0	0.1
SDS-19	19	8.2	14	6.1	M3	0.7	12,000	1.8	0.9	500	$3.0 \times 10^{-7}$	6	1	0	0.1
SDS-19C	19	8.2	19.2	8.7	M2.5	1	10,000	1.8	0.9	500	$4.0 \times 10^{-7}$	8	1	0	0.1
SDS-22	22.2	9	14.7	6.2	M3	0.7	12,000	2.2	1.1	600	$6.9 \times 10^{-7}$	10	1	0	0.1
SDS-22C	22.2	9	19.6	8.7	M2.5	1	10,000	2.2	1.1	600	$1.0 \times 10^{-6}$	15	1	0	0.1
SDS-26	26.2	12.2	17.5	7.35	M4	1.7	10,000	3	1.5	900	$2.0 \times 10^{-6}$	20	1	0	0.15
SDS-26C	26.2	12.2	24.1	10.7	M3	1.7	9,000	3	1.5	900	$2.4 \times 10^{-6}$	15	1	0	0.15
SDS-31	31.8	14.5	17.5	7.2	M4	1.7	9,000	6	3	1,700	$4.4 \times 10^{-6}$	30	1	0	0.2
SDS-31C	31.8	14.5	26.5	11.6	M3	1.7	8,500	6	3	1,700	$5.8 \times 10^{-6}$	40	1	0	0.2
SDS-39C	39	13.6	31.2	13.6	M4	3.5	8,000	10	5	2,300	$1.6 \times 10^{-5}$	70	1	0	0.2
SDCS-42C	42.5	18	31.4	13.6	M4	3.5	8,000	12	6	2,800	$3.4 \times 10^{-5}$	95	1	0	0.2
SDCS-47C	47	20.4	35.6	16	M4	3.5	7,000	20	10	6,000	$5.4 \times 10^{-5}$	140	1	0	0.2
SDCS-54C	54	25	42	19	M5	8	6,000	44	22	11,000	$9.8 \times 10^{-5}$	200	1	0	0.2

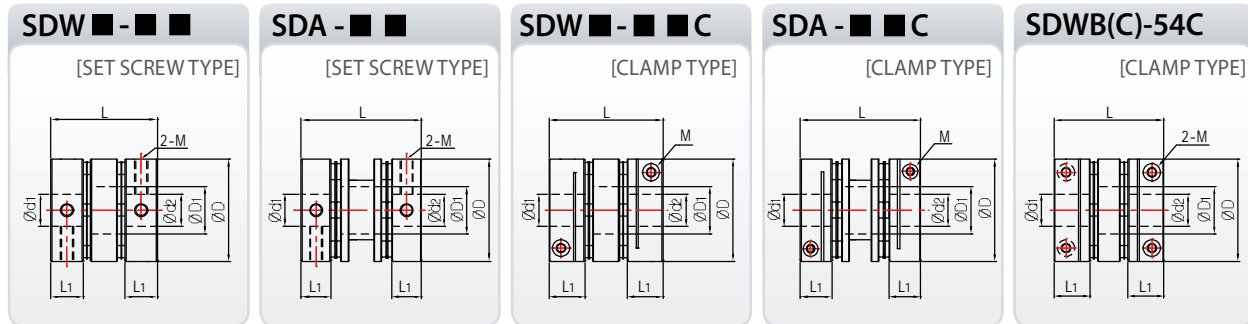


### Standards & Performance

Product Number	Dimension ( $\pm 0.3$ )				Fastening Bolt M	Fastening Torque (N·m)	Max·RPM ( $\text{min}^{-1}$ )	Max Torque (N·m)	Rated Torque (N·m)	Torsional Stiffness (N·m/rad)	Moment of Inertia ( $\text{kg} \cdot \text{m}^2$ )	Mass (g)	Errors of Misalignment		
	D	D <sub>1</sub>	L	L <sub>1</sub>									Angle (°)	Parallel (mm)	End-Play (mm)
SDWA-16	16	6.2	15.6	5.1	M2.5	0.5	12,000	1	0.5	200	$2.2 \times 10^{-7}$	6	3	0.2	0.2
SDWB-16	16	6.2	17.6	5.1	M2.5	0.5	12,000	1	0.5	200	$2.6 \times 10^{-7}$	7	3	0.2	0.2
SDWA-16C	16	6.2	21	7.8	M2	1	10,000	1	0.5	200	$3.3 \times 10^{-7}$	9	3	0.2	0.2
SDWB-16C	16	6.2	23	7.8	M2	1	10,000	1	0.5	200	$3.7 \times 10^{-7}$	10	3	0.2	0.2
SDWA-19	19	8.2	18	6.1	M3	0.7	12,000	1.8	0.9	300	$5.3 \times 10^{-7}$	10	3	0.2	0.2
SDWB-19	19	8.2	21	6.1	M3	0.7	12,000	1.8	0.9	300	$5.8 \times 10^{-7}$	11	3	0.2	0.2
SDWA-19C	19	8.2	23	8.7	M2.6	1	10,000	1.8	0.9	300	$7.4 \times 10^{-7}$	14	3	0.2	0.2
SDWB-19C	19	8.2	26.2	8.7	M2.6	1	10,000	1.8	0.9	300	$7.9 \times 10^{-7}$	15	3	0.2	0.2

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Please, download CAD DATA on [www.sungilfa.com](http://www.sungilfa.com)



## Standards & Performance

Product Number	Dimension ( $\pm 0.3$ )				Fastening Bolt M	Fastening Torque (N · m)	Max. RPM ( $\text{min}^{-1}$ )	Max Torque (N · m)	Rated Torque (N · m)	Torsional Stiffness (N · m/rad)	Moment of Inertia ( $\text{kg} \cdot \text{m}^2$ )	Mass (g)	Errors of Misalignment		
	D	D <sub>1</sub>	L	L <sub>1</sub>									Angle (°)	Parallel (mm)	End-Play (mm)
SDWA-22	22.2	9	20	6.2	M3	0.7	12,000	2.2	1.1	400	$1.0 \times 10^{-6}$	16	2	0.2	0.2
SDWB-22	22.2	9	22.2	6.2	M3	0.7	12,000	2.2	1.1	400	$1.1 \times 10^{-6}$	17	2	0.3	0.2
SDA-22	22.2	8.3	28.2	6.2	M3	0.7	12,000	2.2	1.1	400	$1.3 \times 10^{-6}$	18	2	0.4	0.2
SDWA-22C	22.2	9	25	8.7	M2.6	1	10,000	2.2	1.1	400	$1.3 \times 10^{-6}$	18	2	0.2	0.2
SDWB-22C	22.2	9	27	8.7	M2.6	1	10,000	2.2	1.1	400	$1.4 \times 10^{-6}$	19	2	0.3	0.2
SDA-22C	22.2	8.3	33	8.7	M2.6	1	10,000	2.2	1.1	400	$1.5 \times 10^{-6}$	20	2	0.4	0.2
SDWA-26	26.6	12.2	26	7.35	M4	1.7	10,000	3	1.5	600	$2.3 \times 10^{-6}$	28	2	0.3	0.3
SDA-26	26.6	10.5	31.5	7.35	M4	1.7	10,000	3	1.5	600	$3.2 \times 10^{-6}$	32	2	0.4	0.3
SDWA-26C	26.6	12.2	32.6	10.7	M3	1.7	9,000	3	1.5	600	$3.4 \times 10^{-6}$	34	2	0.3	0.3
SDA-26C	26.6	10.5	38.5	10.7	M3	1.7	9,000	3	1.5	600	$3.9 \times 10^{-6}$	39	2	0.4	0.3
SDWA-31	31.8	14.5	24.5	7.2	M4	1.7	9,000	6	3	1,300	$4.3 \times 10^{-6}$	30	2	0.2	0.4
SDWB-31	31.8	14.5	29.5	7.2	M4	1.7	9,000	6	3	1,300	$5.5 \times 10^{-6}$	38	2	0.3	0.4
SDA-31	31.8	12.5	36	7.2	M4	1.7	9,000	6	3	1,300	$5.5 \times 10^{-6}$	38	2	0.4	0.4
SDWA-31C	31.8	14.5	33.5	11.6	M3	1.7	8,500	6	3	1,300	$7.5 \times 10^{-6}$	52	2	0.2	0.4
SDWB-31C	31.8	14.5	38.5	11.6	M3	1.7	8,500	6	3	1,300	$8.8 \times 10^{-6}$	60	2	0.3	0.4
SDA-31C	31.8	12.5	44.7	11.6	M3	1.7	8,500	6	3	1,300	$8.8 \times 10^{-6}$	60	2	0.4	0.4
SDWA-39C	39	17	39	13.6	M4	3.5	8,000	10	5	1,800	$2.1 \times 10^{-5}$	95	2	0.2	0.4
SDWC-39C	39	17	44.8	13.6	M4	3.5	8,000	10	5	1,800	$2.4 \times 10^{-5}$	110	2	0.3	0.4
SDA-39C	39	17	56.2	13.6	M4	3.5	8,000	10	5	1,800	$3.0 \times 10^{-5}$	120	2	0.4	0.4
SDWC-42C	42.5	18	46	13.6	M4	3.5	8,000	12	6	2,000	$3.3 \times 10^{-5}$	120	2	0.3	0.5
SDWC-47C	47	20.4	50	16	M4	3.5	7,000	20	10	4,000	$5.5 \times 10^{-5}$	160	2	0.4	0.5
SDWB-54C	54	25	52	19	M5	8	6,000	44	22	7,000	$1.1 \times 10^{-4}$	250	2	0.3	0.5
SDWC-54C	54	25	58	19	M5	8	6,000	44	22	7,000	$1.2 \times 10^{-4}$	280	2	0.4	0.5

## Standard Inner diameter

Product Number	Standard Inner diameter (d <sub>1</sub> , d <sub>2</sub> ) Standard INNER Diameter (mm)																							
	3	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.875	16	17	18	19	20	24	25
SD □ -16 □	●	●	●	●																				
SD □ -19 □	●	●	●	●	●																			
SD □ -22 □	●	●	●	●	●	●	●	●	★	★														
SD □ -26 □		●	●	●	●	●	●	●	●	●	●													
SD □ -31 □				●	●	●	●	●	●	●	●	●	●	●	●	★								
SD □ -39 □				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
SD □ -42C					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	★	★		
SD □ -47C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SD □ -54 □											●	●	●	●	●	●	●	●	●	●	●	●	●	●

■ INNER diameter INCH type is also available      ■ Non standard inner diameter product is also available      ■ We recommend that tolerance of shaft is H7.  
 ■ KEY TYPE is also available      ■ Inner diameter size of SDWA-□□ is same with SDWB-□□      The inner diameter that is marked ★ is not available by shaft through type