

# SHD Series

## High Torque Flexible Disk Coupling

'SI.CO' mark (Trademark: 40-2012-0061376) indicates that the authenticity is certified.  
 'SHD' (Trademark: 40-2012-0044879) is the original trademark for SUNGIL's High Performance Disk Coupling.



2007  
Venture Design Award

## Optimal Design with New concept!! We realize ideal Servo System

The newly developed flexible disk coupling is realized by optimized design using computational simulations and it maximizes the stainless plate spring's mobility space.

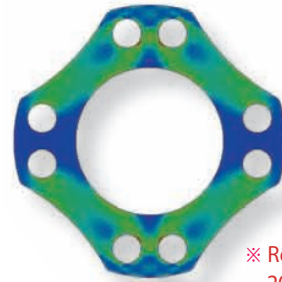
We increased the number of mounting holes to distribute the stress around the bolts and made stainless plate springs flexible to realize a perfect servo system

We consider all components to maximize the life time. For example, stainless plates are assembled with bushing in one-piece package.

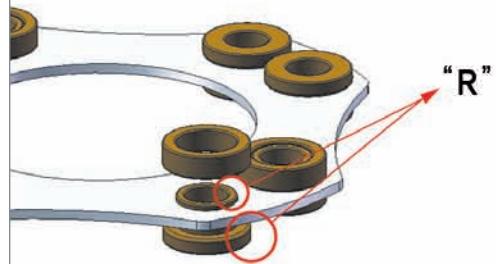
The outer diameter size of bushing is larger than the diameter size of the mounting hole. It is manufactured in rounding shape, so this product has durability against bending during parallel, angular misalignment and end-play. Also, we combined several stainless plates with the bushing as a package. Therefore, it is possible to make extremely precise concentric combinations and prevent and protect the disks deformation while there is any load and misalignment.

SUNGIL machinery assembles products perfectly.  
 We measure and adjust concentricity in every process for perfect concentricity of the both-side holes.

Taper Clamp type can solve the balancing problem that happens in the conventional fastening methods. The small hole on the outer diameter of coupling prevents the product from rotating with the bolt when user fastens with a fastening bolt. It is manufactured to assemble easily.



※ Registration of utility model :  
20-0386586



### Features

- Stainless disk absorb misalignments
- High torsional stiffness
- Zero backlash
- Identical CW/CCW rotational performance
- Suitable for high rotation speed
- Accurate and fast response performance
- Retaining 1/10 Taper Busing

### Material

- Hub : High strength Aluminum alloy (Surface treatment : Alumite)
- Middle plate : High strength Aluminum alloy (Surface treatment : Alumite)
- Disk : Stainless steel
- Bolt : SCM435 (Assembly with stainless steel components (collar, bolt) is available)

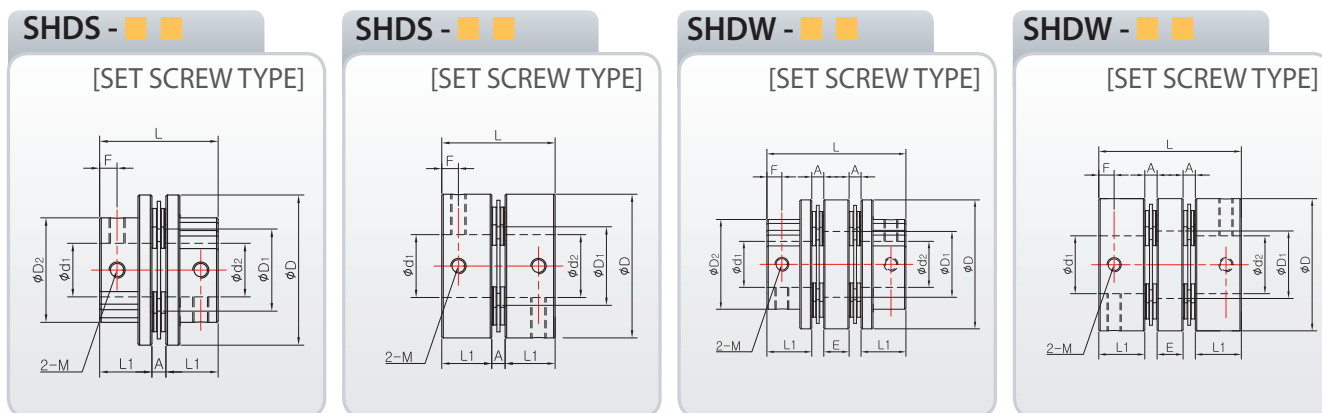
### How to order product



※ Please mark each inner diameter size.  
 ※ Clamp split hub is available for the SHD □-□ □C, but the lead time must be checked.

# SHD Series High Torque Flexible Disk Coupling

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



## Dimensions & Performance

※ SHD□-110 will be released on June 13'

Product Number	SHDS - 56	SHDW - 56	SHDS - 66	SHDW - 66	SHDS - 88	SHDW - 88	SHDS -110	SHDW -110
∅ D	56	56	66	66	88	88	108	108
∅ D <sub>2</sub>	39	39	46	46	63	63	77	77
F	6,5	6,5	7,5	7,5	9,5	9,5	13	13
L <sub>1</sub>	19,5	19,5	24,5	24,5	30	30	34,5	34,5
A	5,2	5,2	7,5	7,5	9,9	9,9	8,7	8,7
L	44,2	60,4	56,5	80	69,9	99,8	77,7	111
∅ D <sub>1</sub>	30,6	28,6	35,6	35,6	46	46	61,5	61,5
E	-	11	-	16	-	20	-	24,6
M	M6	M6	M8	M8	M8	M8	M10	M10
Wrench Torque(N · m)	7	7	15	15	15	15	30	30
Allowable Torque(N · m)	60	60	120	120	200	200	350	350
Max. RPM	7,700	7,700	7,000	7,000	65,500	5,500	4,000	4,000
Moment of Inertia(Kg · m <sup>2</sup> )	2,9 × 10 <sup>-5</sup>	4,6 × 10 <sup>-5</sup>	8,0 × 10 <sup>-5</sup>	1,2 × 10 <sup>-4</sup>	2,9 × 10 <sup>-4</sup>	4,3 × 10 <sup>-4</sup>	2,0 × 10 <sup>-3</sup>	3,2 × 10 <sup>-3</sup>
Torsional Stiffness(N · m/rad)	2,0 × 10 <sup>4</sup>	1,0 × 10 <sup>4</sup>	3,0 × 10 <sup>4</sup>	1,5 × 10 <sup>4</sup>	7,0 × 10 <sup>4</sup>	3,5 × 10 <sup>4</sup>	1,4 × 10 <sup>5</sup>	7,0 × 10 <sup>4</sup>
Mass(g)	150	240	300	440	600	900	1,190	1,750
Allowable Angular Misalignment(°)	0,7	1	0,7	1	0,7	1	0,7	1
Allowable Parallel Misalignment(±mm)	0	0,2	0	0,2	0	0,2	0	0,25
Allowable End-Play(±mm)	0,3	0,6	0,3	0,6	0,3	0,6	0,5	1

\* Mass and mass moment of inertia are measured with max. bore size.

※ SHD□-56 : Cylindrical shape hub from ∅22 ※ SHD□-66 : Cylindrical shape hub from ∅26  
 ※ SHD□-88 : Cylindrical shape hub from ∅32 ※ SHD□-110 : Cylindrical shape hub from ∅48

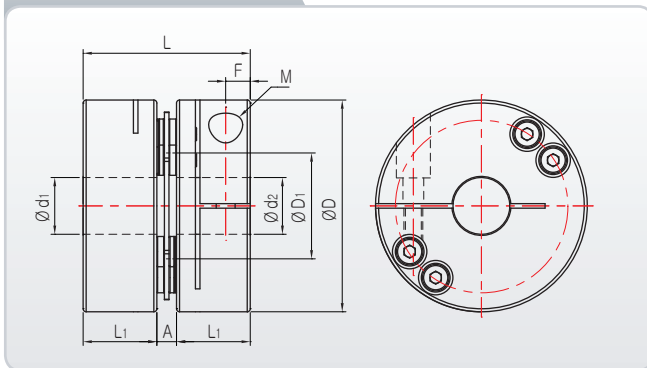


# SHD Series

## High Torque Flexible Disk Coupling

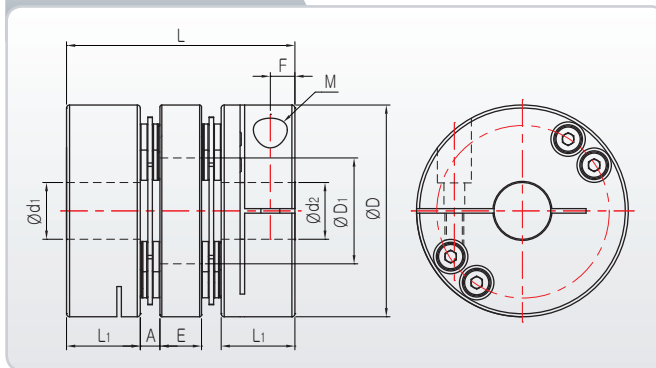
SHDS - ■ ■ C

[CLAMP TYPE]



SHDW - ■ ■ C

[CLAMP TYPE]

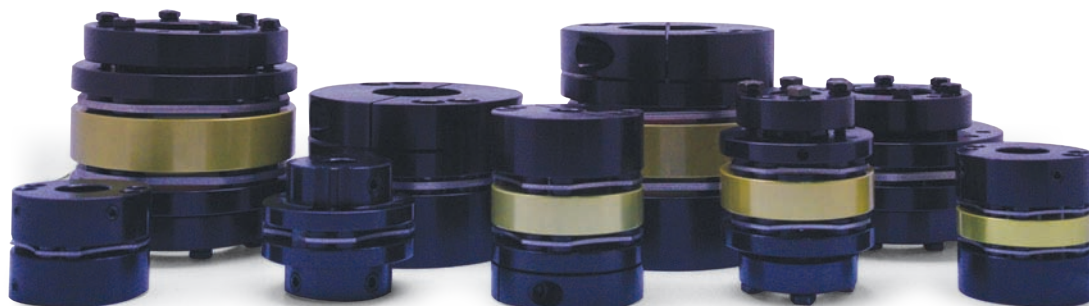


### Dimensions & Performance

※ SHD□-110 will be released on June 13'

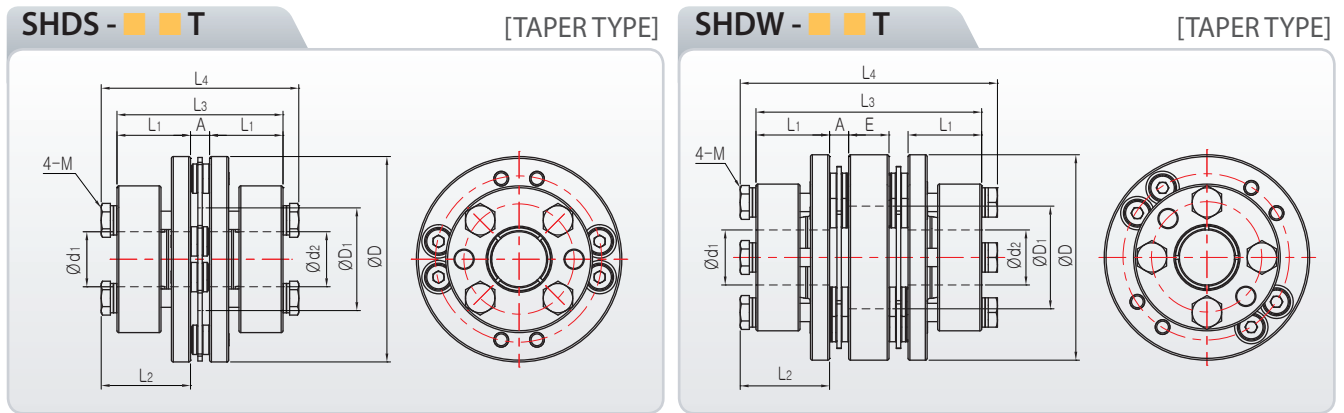
Product Number	SHDS - 56C	SHDW - 56C	SHDS - 66C	SHDW - 66C	SHDS - 88C	SHDW - 88C	SHDS - 110C	SHDW - 110C
∅ D	56	56	66	66	88	88	108	108
L <sub>1</sub>	19,5	19,5	24,5	24,5	30	30	34,5	34,5
A	5,2	5,2	7,5	7,5	9,9	9,9	8,7	8,7
L	44,2	60,4	56,5	80	69,9	99,8	77,7	111
F	6,5	6,5	7,5	7,5	10	10	10,5	10,5
∅ D <sub>1</sub>	30,6	28,6	35,6	35,6	46	46	61,5	61,5
E	-	11	-	16	-	20	-	24,6
M	M6	M6	M6	M6	M8	M8	M10	M10
Wrench Torque(N · m)	13	13	13	13	30	30	25	25
Allowable Torque(N · m)	60	60	120	120	200	200	350	350
Max. RPM	7,000	7,000	6,500	6,500	5,500	5,500	4,000	4,000
Moment of Inertia(Kg · m <sup>2</sup> )	4,0 × 10 <sup>-5</sup>	5,8 × 10 <sup>-5</sup>	1,0 × 10 <sup>-4</sup>	1,4 × 10 <sup>-4</sup>	4,3 × 10 <sup>-4</sup>	5,7 × 10 <sup>-4</sup>	2,3 × 10 <sup>-3</sup>	3,7 × 10 <sup>-3</sup>
Torsional Stiffness(N · m/rad)	2,0 × 10 <sup>4</sup>	1,0 × 10 <sup>4</sup>	3,0 × 10 <sup>4</sup>	1,5 × 10 <sup>4</sup>	7,0 × 10 <sup>4</sup>	3,5 × 10 <sup>4</sup>	1,4 × 10 <sup>5</sup>	7,0 × 10 <sup>4</sup>
Mass(g)	210	300	380	520	900	1,200	1,350	1,920
Allowable Angular Misalignment(°)	0,7	1	0,7	1	0,7	1	0,7	1
Allowable Parallel Misalignment(±mm)	0	0,2	0	0,2	0	0,2	0	0,25
Allowable End-Play(±mm)	0,3	0,6	0,3	0,6	0,3	0,6	0,5	1

\* Mass and mass moment of inertia are measured with max. bore size



# SHD Series High Torque Flexible Disk Coupling

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



## Dimensions & Performance ※ SHD□-110 will be released on June 13'

Product Number	SHDS - 56T	SHDW - 56T	SHDS - 66T	SHDW - 66T	SHDS - 88T	SHDW - 88T	SHDS - 110T	SHDW - 110T
ø D	56	56	66	66	88	88	108	108
L <sub>1</sub>	20,2	20,2	25	25	30	30	30,7	30,7
L <sub>2</sub>	24,7	24,7	30	30	35,2	35,2	35,9	35,9
A	5,2	5,2	7,5	7,5	9,9	9,9	8,7	8,7
L <sub>3</sub>	45,6	61,8	57,5	81	69,9	99,8	70,1	103,4
L <sub>4</sub>	54,6	70,8	67,5	91	80,3	110,2	80,5	113,8
ø D <sub>1</sub>	30,6	28,6	35,6	35,6	46	46	61,5	61,5
E	-	11	-	16	-	20	-	24,6
M	M5	M5	M6	M6	M6	M6	M6	M6
Wrench Torque(N · m)	8	8	13	13	13	13	13	13
Allowable Torque(N · m)	60	60	120	120	200	200	350	350
Max . RPM	7,700	7,700	7,000	7,000	6,000	6,000	4,500	4,500
Moment of Inertia(Kg · m <sup>2</sup> )	3,6 × 10 <sup>-5</sup>	5,4 × 10 <sup>-5</sup>	8,6 × 10 <sup>-5</sup>	1,2 × 10 <sup>-4</sup>	3,2 × 10 <sup>-4</sup>	4,6 × 10 <sup>-4</sup>	1,6 × 10 <sup>-3</sup>	3,7 × 10 <sup>-3</sup>
Torsional Stiffness(N · m/rad)	2,0 × 10 <sup>4</sup>	1,0 × 10 <sup>4</sup>	3,0 × 10 <sup>4</sup>	1,5 × 10 <sup>4</sup>	7,0 × 10 <sup>4</sup>	3,5 × 10 <sup>4</sup>	1,4 × 10 <sup>5</sup>	7,0 × 10 <sup>4</sup>
Mass(g)	190	280	320	460	670	970	980	1,530
Allowable Angular Misalignment(°)	0,7	1	0,7	1	0,7	1	0,7	1
Allowable Parallel Misalignment(±mm)	0	0,2	0	0,2	0	0,2	0	0,25
Allowable End-Play(±mm)	0,3	0,6	0,3	0,6	0,3	0,6	0,5	1

\* Mass and mass moment of inertia are measured with max. bore size

## Standard Inner diameter

Product Number	Standard Inner Diameter(d <sub>1</sub> , d <sub>2</sub> unit:mm)																								
	10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38	40	42	45	48	50	55	60
SHD □ - 56 □	●	●	●	●	●	●	●	●	●	●	●	●													
SHD □ - 66 □					●	●	●	●	●	●	●	●	●	●	●	●									
SHD □ - 88 □									●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SHD □ - 110 □																●	●	●	●	●	●	●	●	●	●

■ We recommend that tolerance of shaft is h7.