SAD SERIES



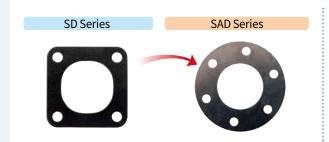


Advanced Disk Coupling

SAD vs SD

SAD Series is an advanced version of general Disk type Coupling (SD series), with its plate-spring structure modified to make the coupling more durable and stiff. SAD series uses 3-point fixation method for its plate spring rather than 2-point as in general SD Series, which allows users to use smaller sized product but keep the similar performance level.

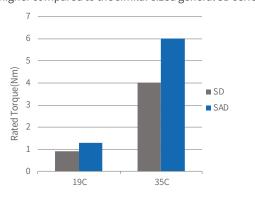
1. Advanced version of Plate Spring shape



The advanced plate spring with 6 assembly holes and these holes have narrower distance than 4-hole structure (SD series). Thus, SAD series is less flexible than SD series. On the other hand, increasing the number of assembly holes helps to disperse stress and it makes its module more durable and stiff. This advanced disk coupling is suitable for the purpose of enhanced performance, being able to replace similar small sized disk couplings.

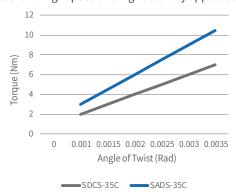
2. Maximized Torque Transmission

The rated torque values (transmittable torque) of SAD series are higher compared to the similar sized general SD series.



3. High Torsional Stiffness

SAD Series helps to obtain faster response time (excellent for high speed and high accuracy applications)



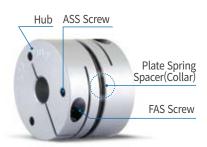
Classification: SAD Series

Model	Туре	Plate-spring Modules	Clamping Methods	Feature	Transmission level of Torque	Shape
SADS-C	Single Disk	1	Cida alaura	More stiff More durable	SADS-C = SADW-C Both types have higher	
SADW-C	Double Disk	2	Side-clamp	More flexible (compared to SADS-C)	level than similar sized SD series	

SAD SERIES (SADS)

Advanced Single Disk Type Coupling





Structure and Material

Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Plate Spring	Stainless Steel	-
Spacer(Collar)	Steel	Black Oxide
Assembly Screw	SCM435	Black Oxide
Fastening Screw	SCM435	Black Oxide

Product Features & Application

Backlash free (Pr	recision)	☆
High Torque (Du	rability)	☆
Torsional Stiffnes	SS	☆
Vibration Absorp	tion	-
Misalignment Ab	sorption	Δ
	Servo	☆
Applicable	Stepping	☆
Motors	Encoder	0
	General	0

Application: Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage, Machine tools, Index Table

Parts with Alternative Material Options

 Sung-il Machinery provides alternative material options for Coupling parts for customers who are worried about corrosion on Black oxide finish. Please see the below table for more details.

Mark	Material	Surface Treatment
No mark	Steel	Black Oxide
SUS/ASS	Stainless Steel	-





SUS/ASS

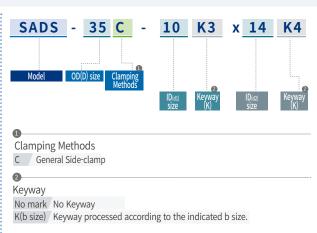
mark

 Caution: Slip torque would become lower if the body material or surface treatment of screws are changed from the standard version.

Clamping Methods

Set-screw	General	X
(No mark)	With Keyway	X
	General	0
Side-clamp (C)	Hub Split	Х
	With Keyway	0
Taper-ring (T)		Х

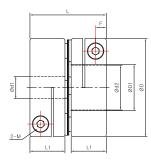
How to Order



SAD SERIES (SADS)

Advanced Single Disk Type Coupling

Side-clamp





Dimensions/Performance

		Size (±0.3mm)			Screw Rated			Max.		Moment of	Static		Permiss	ible Misal	ignment	Side-	
Model	D	D ₁		L ₁		Size	Fastening Torque (N·m)	Torque (N·m)		Max. rpm (min ⁻¹)	Inertia (kg·m²)	Torsional Stiffness (N·m/rad)	Mass (g)	Angular (°)	Parallel (mm)	End-play (mm)	
SADS-19C	19	8.5	18.9	8.5	2.6	M2	0.5	1.3	2.6	14,000	6.2X10 ⁻⁷	800	12	1	0.02	±0.1	Х
SADS-27C	27	14.5	24.2	11	3.3	M2.6	1	3	6	10,000	3.3X10 ⁻⁶	1,800	28	1	0.02	±0.15	Х
SADS-35C	35	16.5	27.2	12.5	3.8	МЗ	1.7	6	12	8,500	1.1X10 ⁻⁵	3,000	58	1	0.02	±0.2	Х

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Max. torque/rated torque is the value regarding to a coupling's self-durability and is not related to slip-torque between the coupling bore and the shaft.

Standard Inner Diameter (ID)

		Standard Inner Diameter (d_1,d_2) (mm)																				
Model			4.5			6.35				9.525	10	11	12	12.7	14	15	15.875	16	17	18	19	20
SADS-19C	•	•	•	•	•	•	•	•														
SADS-27C		•	•	•	•	•	•	•	•	•	•	•	•	•	•							
SADS-35C				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				

- The recommended shaft tolerance is h7.
- · Custom process (e.g. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)
- $\bullet \quad \text{Due to interference of the middle parts, make sure the shaft is only inserted into L1 depth for IDs with \bigstar mark.}\\$

Slip Torque

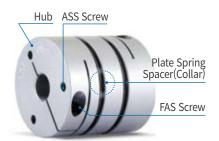
- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operating torque value of the connected motor. It is safer to size up the coupling or use a key/keyway when the slip torque value is lower than the motor's operating torque.
- The below slip torque values may be subject to change according to different testing conditions. (e.g. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts). On the other hand, the values could be affected when a different kind of fastening screw is used (body material or surface treatment). Therefore, we recommend you test under the same conditions before mounting.

Model	Max. Torque (N.m) by Inner Diameter (d ₁ , d ₂)														
Model	(N.m) [']			4.5			6.35				9.525	10	11	12	12.7
SADS-19C	2.6	0.7	1.3	1.5	1.9	2.3	2.4								
SADS-27C	6		2.1	2.5	2.6	3	3.5	3.7	4.8						
SADS-35C	12				3.3	4.5	6.9	6.9	8.6	9.3	10.4	11.1			

SAD SERIES (SADW)

Advanced Double Disk Type Coupling





Structure and Material

Structure	Material	Surface Treatment		
Hub	High Strength Aluminum Alloy	Anodizing		
Middle Hub	High Strength Aluminum Alloy	Anodizing		
Plate Spring	Stainless Steel	-		
Spacer(Collar)	Steel	Black Oxide		
Assembly Screw	SCM435	Black Oxide		
Fastening Screw	SCM435	Black Oxide		

Product Features & Application

Backlash free (Pi	recision)	☆
High Torque (Du	rability)	☆
Torsional Stiffne	SS	☆
Vibration Absorp	tion	-
Misalignment Ab	sorption	0
	Servo	☆
Applicable	Stepping	☆
Motors	Encoder	0
	General	0

Application: Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage, Machine tools, Index Table

Parts with Alternative Material Options

 Sung-il Machinery provides alternative material options for Coupling parts for customers who are worried about corrosion on Black oxide finish. Please see the below table for more details.

Mark	Material	Surface Treatment
No mark	Steel	Black Oxide
SUS/ASS	Stainless Steel	-





No mark

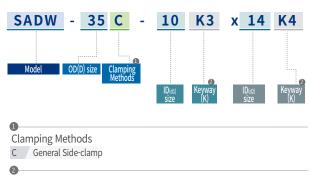
SUS/ASS

 Caution: Slip torque would become lower if the body material or surface treatment of screws are changed from the standard version.

Clamping Methods

Set-screw	General	X
(No mark)	With Keyway	X
	General	0
Side-clamp (C)	Hub Split	Х
	With Keyway	0
Taper-ring (T)		Х

How to Order



Keywa

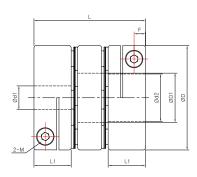
No mark No Keyway

K(b size) Keyway processed according to the indicated b size.

SAD SERIES (SADW)

Advanced Double Disk Type Coupling

Side-clamp





Dimensions/Performance

		Size	e (±0.3m	ım)		Screw		Rated	Max.	Max.	Moment of	Static		Permiss	Side-clamp		
Model	D	D ₁		L ₁		Size	Fastening Torque (N·m)	Torque (N·m)	Torque (N·m)	rpm (min ⁻¹)	Inertia (kg·m²)	Torsional Stiffness (N·m/rad)	Mass (g)	Angular (°)	Parallel (mm)	End-play (mm)	Hub Split (W)
SADW-19C	19	8.5	26.8	8.5	2.6	M2	0.5	1.3	2.6	14,000	9.1X10 ⁻⁷	600	18	2	0.1	±0.2	X
SADW-27C	27	14.5	34.4	11	3.3	M2.6	1	3	6	10,000	4.8X10 ⁻⁶	1,300	42	2	0.15	±0.3	X
SADW-35C	35	16.5	37.4	12.5	3.8	МЗ	1.7	6	12	8,500	1.5X10 ⁻⁵	2,200	83	2	0.2	±0.4	Х

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Max. torque/rated torque is the value regarding to a coupling's self-durability and is not related to slip-torque between the coupling bore and the shaft.

Standard Inner Diameter (ID)

		Standard Inner Diameter ($\mathbf{d_1},\mathbf{d_2}$) (mm)																				
Model			4.5			6.35				9.525	10	11	12	12.7	14	15	15.875	16	17	18	19	20
SADW-19C	•	•	•	•	•	•	•	•														
SADW-27C		•	•	•	•	•	•	•	•	•	•	•	•	•	•							
SADW-35C				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				

- The recommended shaft tolerance is h7.
- $\bullet \quad \text{Custom process (e.g. non-standard Inner diameter, special tolerance etc.)} is also available upon a special request in prior to order placement. \\$
- Keyway is available. (Optional)
- Due to interference of the middle parts, make sure the shaft is only inserted into L1 depth for IDs with ★ mark.

Slip Torque

- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operating torque value of the connected motor. It is safer to size up the coupling or use a key/keyway when the slip torque value is lower than the motor's operating torque.
- The below slip torque values may be subject to change according to different testing conditions. (e.g. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts). On the other hand, the values could be affected when a different kind of fastening screw is used (body material or surface treatment). Therefore, we recommend you test under the same conditions before mounting.

Model	Max. Torque (N.m)		Slip Torque (N.m) by Inner Diameter (d_1, d_2)														
				4.5			6.35				9.525		11	12	12.7		
SADW-19C	2.6	0.7	1.3	1.5	1.9	2.3	2.4										
SADW-27C	6		2.1	2.5	2.6	3	3.5	3.7	4.8								
SADW-35C	12				3.3	4.5	6.9	6.9	8.6	9.3	10.4	11.1					