

Steadiness & Innovation in Motion control

SUNG-IL MACHINERY

PRODUCT CATALOGUE



COUPLING

CONNECTING SHAFT

SAFETY COUPLING

A.P. LOCK

SUPPORT UNIT FOR BALL-SCREW

SPM



Your Satisfaction is Our Top Priority



Mission & Vision

Mission

To bring happiness to our customer and employees through high-value-added machine components for power transmission in FA industry.

Vision

To become a specialized No.1 machine component brand with sustainable basis for growth

Core Value



Customer Satisfaction



Speed



Ownership



Innovation

Greetings

We, Sung-il Machinery Co., Ltd (S.I.M) are an experienced manufacturer that started production of precision couplings in 1991 for the first time in Korea. With consistent effort of research and development, now we have the most various Coupling product line in the world. Apart from Coupling, we have also been doing our best to make the FA(Factory Automation) industry in Korea more competitive than before, along with our other machine components i.e. Support unit for ball screw, Connecting shaft, A.P Lock etc.

As we are right about to step upon Industry 4.0, Equipment technology for FA Industry has been accelerating rapidly and so are FA markets over the world. In regards to this, we now aim to be the world's best, with lots of know-hows we have accumulated as a local major player in Korea over a long period. We currently run two overseas branches, one in China and the other in Japan. Besides, we have the broad global network exporting our specialized machine components into more than 30 countries. Moreover, we keep trying to expand our sales territory as large as possible.


We will keep "Customer Satisfaction" as the 1st priority core value.

We will endeavor to be a reliable supplier in the long run, ensuring that our customers get satisfied with our service(supreme quality, reasonable pricing and short lead-time)

We, SUNG-IL MACHINERY team sincerely thank you for your cooperation.

COMPANY INTRODUCTION

Company Overview

Company name		Sung-il Machinery Co., Ltd.		
Year founded		March 1991	Year Incorporated	February 2008
CEO		Kim, Sung-Muk (Korea Master Hand)		Capital 500 million KRW
Location	Sales office	Rm.1101-1104 STX-W Tower, 90 Gyenginro 53-gil, Guro-gu, Seoul, 08215 Korea		
	HQ office & Factory	9, Gyeongin-ro 77gil, Yeoungdeungpo-gu, Seoul, 07289 Korea		
	Sub-factory	42, Mokdong-ro 1gil, Yangcheon-gu, Seoul, 08103 Korea		
	Chinese branch	No.229 Chengnan Road, new Wu District, Wuxi, Jiangsu, China. 214028		
	Japanese branch	8F, OnarimonPREX, 14-3 Shimbashi-6 Minato-ku, Tokyo JAPAN 105-0004		
Business Summary		Development, Manufacturing and Sales of Machine components for FA industry.		
Product line		FA(factory automation) components - Coupling, A.P Lock, Support unit for ball screw, Connecting shaft and other FA units.		

Company Identity (CI)

Old Logo



New Logo
(since Mar 2018)



The symbol in the old logo shows dynamical movement of Sung-il Machinery through a shape of a gear. Using asymmetry 'SI' initials on the right side, it expresses promising spirit of Sung-il Machinery to become a global leading company. However, the company name in the signature system is too long to get perceived by global customers as it is originally based on Korean language.

The new CI emphasizes SUNG-IL MACHINERY's English initials. It is expected that this simplified logo will bring better branding effect while the name "SUNG-IL MACHINERY" under Korean language is kept in used.

Apart from this, S.I.M is the abbreviation for "Steadiness & Innovation in Motion Control" which well-describes the primary motto of SUNG-IL MACHINERY.





Milestones

1991 ~ 2010

1991	03	Business founded (Sung-il Machinery Co.,)
1993	07	Started mass production of Micro couplings
2005	12	ISO 9001 achieved
	06	Launched Support unit for ball screw product line
2006	12	"INNO-BIZ" authorized (SME)
	12	Awarded a prize for : Coupling SFC / SCJ series venture design (KIDP)
	03	Signed on the academic-industrial cooperation agreement (Univ. of SeoulTech – dept. Mechanical design automation)
	04	"Parts specialized company" authorized (MoTIE)
2007	10	Awarded a prize for : Development of excellent capital goods (MoTIE)
	12	Awarded a prize for : Coupling SHD series venture design (KIDP)
	02	Converted to a corporation (Sung-il Machinery Co., Ltd.)
2008	03	"Export-oriented Company" authorized (SME)
	08	Opened the R&D center

2011 ~ 2014

	02	Launched A.P Lock line
2011	06	Awarded a prize for : local economy growth (Seoul City Council)
	09	Awarded a prize for : excellent capital goods (President)
	10	Awarded a prize : gold-badge (Korea Redcross)
	03	Separate relocation of the Sales office
	03	Awarded a prize : honor-badge (Korea Redcross)
2012	08	Chinese branch established (Sung-il Machinery (WUXI) Co., Ltd.)
	09	Awarded a prize for : Technology innovation (Prime minister)
	11	Signed on the academic-industrial cooperation agreement (Univ. of SeoulTech – dept. Automobile engineering)
	02	Awarded a prize for : exemplary taxpayer (MoSF)
	06	Standardized Connecting shaft product line
2013	09	Japanese branch established (SI-Central Co., Ltd.)
	09	"Promising Export Firm " authorized (SME)
	10	"Great workplace" authorized (SME)
2014	04	Awarded a grand prize for : Commerce & Industry in Yangchen-gu area (Kocham)
	10	Awarded a prize for : Government R&D assignment (Seoul City Council)

2015 ~ Present

	05	CEO appointed as one of Korea New Brain leaders (called Sinzisikin)
2015	08	CEO appointed as the Korea Master Technicians of the month (MoEL)
	09	ISO 14001 achieved
	09	CEO appointed as one of Korea Master Hand for Machining assembly (MoEL)
2016	11	CEO appointed as one of Machinery Technician of the year (KOAMI)
	03	"Small Giant Company" authorized (SME)
2017	09	"Hi-Seoul Brand" authorized (Seoul City Council)
2019	06	Relocation scheduled to combine sites in one property at Incheon SeoUn Industrial Complex

GLOBAL NETWORK



Certificates



ONE STEP CLOSER TO THE CUSTOMER SIDE



Global Sales Territory

CHN	JPN	SGP	IDN	TWN	MYS	THA	IND
VNM	HKG	TUR	IRN	ISR	JOR	OMN	EGY
DEU	ITA	ESP	RUS	SWE	FIN	GBR	POL
BEL	SWZ	CZE	EST	HUN	MDA	SRB	SVK
	UKR	ROU	USA	MEX	ARG	NZL	AUS

Awards



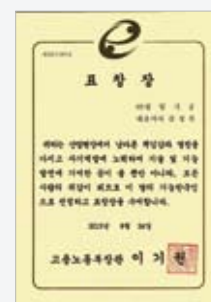
Korea Master Hand



Excellent Capital Goods
(President)



Technology Innovation
(Prime minister)



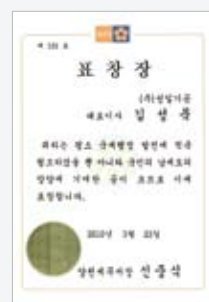
Korea Master Technicians of
the month (MoEL)



Gold-Badge
(Korea Red-cross)



Honor-Badge
(Korea Red-cross)



Exemplary Taxpayer
(MoSF)



Government R&D Assignment
(Seoul City Council)

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05 Support Unit for Ball Screw

156 ~ 187p



02 Connecting Shaft

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04 A.P. Lock

122 ~ 155p



06 SPM

188 ~ 193p



COUPLING

Overview

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Dimensions / Performance

SHR Series [High performance Rubber]	23~26p
SD Series [Disk]	27~46p
SHD Series [High Torque Disk]	47~57p
SJC Series [Jaw]	58~70p
SOH Series [Oldham]	71~82p
SRB Series [Radial Beam]	83~91p
SRG Series [Rigid]	92~95p
SCJ Series [Cross Joint]	96~98p
SFC Series [Urethane Flexible]	99~100p
SK Series [Schmidt]	101~104p





INDEX (COUPLING)

SHR Series
SD Series

Series	SHR		SDS	
Model	SHR		SDS	
Material(Hub)	High Strength Aluminum Alloy		High Strength Aluminum Alloy	High Strength Aluminum Alloy
Clamping Methods	Side-clamp		Set-screw	Side-clamp
Shape				
Page	25p		29p	30, 32p

SHD Series

Series	SHDS		
Model	SHDS		
Material(Hub)	Ultra High Strength Aluminum Alloy / Steel (Big size)	Ultra High Strength Aluminum Alloy / Steel (Big size)	Ultra High Strength Aluminum Alloy
Clamping Methods	Set-screw	Side-clamp	Taper-ring
Shape			
Page	49p	50p	52p

SJC Series
SOH Series

Series	SJC			
Model	SJC		SJCM(Space-saving)	SJC-T
Material(Hub)	High Strength Aluminum Alloy	High Strength Aluminum Alloy / Steel (Big size)	High Strength Aluminum Alloy	High Strength Aluminum Alloy
Clamping Methods	Set-screw	Side-clamp		Taper-ring
Shape				
Page	61, 62p	63, 64p	66p	68p

SRB Series

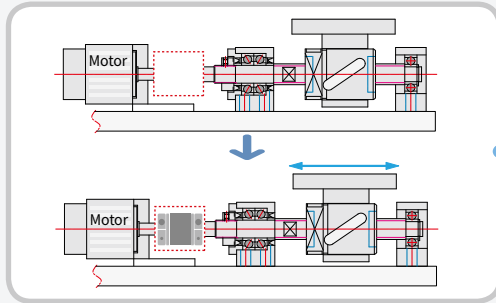
Series	SRB		SRBM(Space-saving)
Model	SRB		SRBM(Space-saving)
Material(Hub)	Ultra High Strength Aluminum Alloy	Ultra High Strength Aluminum Alloy	Ultra High Strength Aluminum Alloy
Clamping Methods	Set-screw	Side-clamp	Set-screw
Shape			
Page	84p	84p	86p

SRG Series
SCJ Series
SFC Series
SK Series

Series	SRG		
Model	SRG		SRGL
Material(Hub)	High Strength Aluminum Alloy	High Strength Aluminum Alloy	High Strength Aluminum Alloy
Clamping Methods	Set-screw	Side-clamp	Side-clamp
Shape			
Page	93p	94p	94p

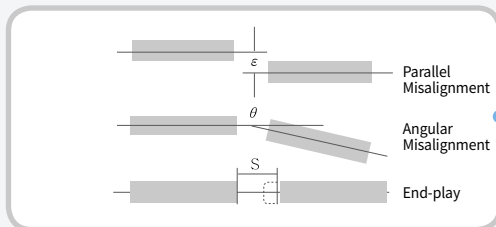
SD					
SDW		SDSS		SDWS	
High Strength Aluminum Alloy Set-screw	High Strength Aluminum Alloy Side-clamp	Steel Side-clamp		Steel Side-clamp	
					
34p	36, 38p	42p		45p	
SHD					
SHDW					
Ultra High Strength Aluminum Alloy / Steel (Big size) Set-screw	Ultra High Strength Aluminum Alloy / Steel (Big size) Side-clamp		Ultra High Strength Aluminum Alloy Taper-ring		
					
54p	55p		57p		
SOH					
SJC-I	SOH		SOHM(Space-saving)	SOHMP	SOHV
High Strength Aluminum Alloy Shaft-insertion	High Strength Aluminum Alloy Set-screw	High Strength Aluminum Alloy Side-clamp	High Strength Aluminum Alloy Side-clamp	High Strength Aluminum Alloy Side-clamp	Steel Side-clamp
					
70p	73p	75p	77p	80p	82p
SRB					
		SRBS		SRBMS(Space-saving)	
Ultra High Strength Aluminum Alloy Side-clamp		Steel Set-screw	Steel Side-clamp	Steel Side-clamp	
					
86p		89p	89p	91p	
SCJ		SFC		SK	
SCJ		SFC		SK	
High Strength Aluminum Alloy Set-screw	High Strength Aluminum Alloy Side-clamp	Steel Set-screw		Steel -	
					
97p	98p	100p		104p	

Why Couplings?



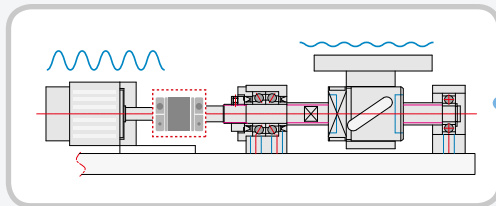
1. Power Transmission

The core role of a coupling is to transmit motion (Torque) from “Driving shaft” to “Driven shaft”



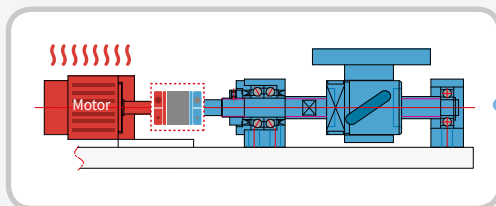
2. Absorption of Misalignment

Due to such mechanical tolerance, precision grade and proficiency, misalignment occurs between driving and driven parts most of the cases. This misalignment is classified as angular, parallel and end-play way and it brings excessive load onto mechanical parts which is quite sensitive to vibration and noise. Sung-il couplings (except Rigid type- SRG series) can absorb this type of misalignment. Please refer to “Dimensions / Performance” pages for more details by each coupling types.



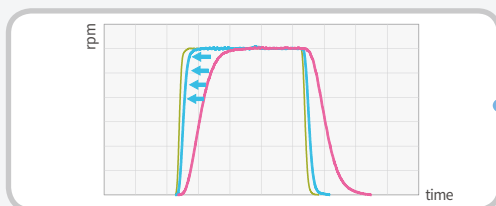
3. Absorption of Impact/Vibration/Noise

Sometimes, there is either vibration or impact on the application i.e. motor, reducer or ball screw. If they are passed onto the application directly, the entire application including expensive devices will need repairing. Sung-il Couplings (except Rigid type –SRG series) absorb these kinds of external factors in an effective way. Particularly the models with plastic material spacer between hubs (SHR, SJC, SOH series etc.) perform better in terms of this function.



4. Insulation of Heat and Electric current

If a motor is used for a long time, heat and electric current may get occurred. If the heat is also transmitted to the driven part, there is possibility of expansion of connected parts which will reduce the precision of application. Sung-il Couplings can protect the application and keep its performance stable in an effective way through insulating heat and electric current.












5. Performance Improvement

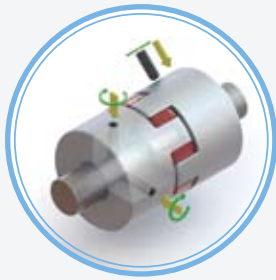
With SHR series (High performance Rubber type), the gain value on the motor could be set higher thanks to superior damping decrease. This feature allows the stabilization time to be reduced and make whole efficiency higher.

Characteristics by Type

Sung-il Machinery manufactures various model types of coupling and can provide optimal selection options according to customer's needs. You can select a coupling referring to the below table, which briefly explains about each model's characteristics by some criteria. However, it is important to check specific "Dimensions / Performance" details in each Coupling pages as the below table is only a simplified guideline.

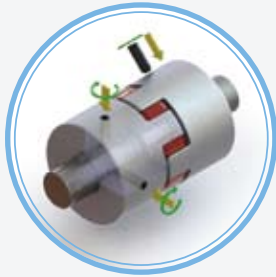
Model	Backlash free	High Torque	Torsional Stiffness	Vibration Absorption	Misalignment Absorption	Oil resistant	Electric Insulation	Applicable Motors			
								Servo	Stepping	Encoder	General
 SHR	☆	☆	○	☆	○	△	○	☆	☆	○	
SHR series is excellent for vibration absorption and helps to enhance efficiency of application allowing higher gain value on the servo motors.											
 SD	☆	○	☆		○	○		○	○	○	
SD series is excellent for absorbing misalignment by plate springs and is widely used on servo/step motors.											
 SHD	☆	☆	☆		○	○		○	○		○
SHD series is excellent for transmitting higher torque with the improved version of plate springs.											
 SJC	○	☆	○	○	△	△	○	○	○	△	☆
SJC series is the most excellent coupling for transmitting high torque and is durable for vibration/impact.											
 SOH	△	○	△	○	☆	△	○	△	△	○	☆
SOH series is excellent for absorption of parallel misalignment and enables reaction force on the shaft to be reduced. It is simple for self-maintenance.											
 SRB	☆	△	○		○	○		○	○	○	
SRB series is good for both angular/parallel misalignment absorption however it is relatively less-durable.											
 SRG	☆	○	☆			○		○			
SRG series is excellent to be used at highly-precise applications, however there is no ability to absorb misalignment on this product.											
 SCJ	△		○	△	☆			△	△	△	
SCJ series is excellent for absorbing both angular/parallel misalignment, and it minimizes reaction force on the shaft.											
 SFC				○	☆		○			△	○
SFC series is flexible with Urethane material and is excellent for absorbing misalignment, however it is relatively less-durable.											

Clamping Methods



Set-screw Type

How to work	Clamp a coupling onto a shaft only by screw's thrust, contacting screws directly to the shaft
Pros	Economical and Simple
Cons	Less clamping force The surface of shaft can be damaged due to direct contact



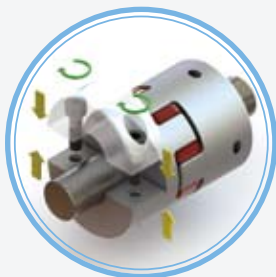
Key & Keyway Type

How to work	Clamp a coupling onto a shaft by interlocking a key and keyway each other
Pros	Better clamping force unless the key or the coupling hub is broken. Can be used as a complementary option for Set-screw or Side-clamp methods
Cons	Keyway can be worn out easily under repeated rotation. Relatively complicated to install



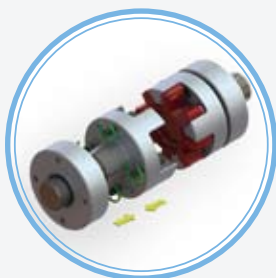
Side-clamp Type

How to work	Clamp a coupling with fastening screws in a vertical way to the shaft and make the coupling's inner diameter contracted by the side-slits
Pros	Better clamping force than the Set-screw type Easy and simple to install
Cons	Unless the tolerances are well-managed, the clamping force is not always guaranteed



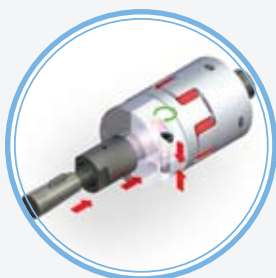
Side-clamp Hub Split Type

How to work	A part of coupling's hub can be completely split off. (The working process is as same as the general Side-clamp Type)
Pros	No need of shifting the connected devices during maintenance. Better clamping force than the general Side-clamp Type
Cons	Higher cost due to the additional processing



Taper-ring Type

How to work	Clamp a coupling onto a shaft by interlocking screws on the wedge-shaped inner and outer rings
Pros	High clamping force with self-centering function The excellent structure for self-balancing feature
Cons	Relatively higher cost Relatively complicated to install



1/10 Taper Bushing Type

How to work	Ideal when a motor's shaft is taper-shaped
Pros	A simple application using bushings. (without having to additionally shape the coupling's inner diameter as taper ring)
Cons	-

Selection Guide

STEP 1

Select a coupling type

A coupling type is selected mainly according to characteristic chart and types of connected motors. In case it is going to be used in a special environment i.e. vacuum, high-temperature, cleanroom facilities etc., please contact Sung-il Customer Service team in advance. As Sung-il Machinery manufactures products with various types of material, we may suggest an appropriate coupling considering the circumstance it is to be used.

STEP 2

Select the coupling's outer diameter (OD) size

The coupling's outer diameter (OD) size is determined mainly by torque. The rated torque of a coupling has to be higher than the operation torque of a motor. The safety factor could be differently calculated by case/customer. The operation torque information can be easily found on the motor's specification.

In case the operation torque should be calculated with operational P(Power Output) and N(rpm) values, please refer to the below formula.

$$T = 9550 \times \frac{P(\text{kW})}{N(\text{rpm})}$$

In case a coupling includes plastic sort material (SHR, SJC, SOH, SFC series), the rated torque of a coupling has to be modified according to temperature ranges. Please refer to the below table.

Temperature range	-20 °C ~ 30 °C	30 °C ~ 40 °C	40 °C ~ 60 °C	60 °C ~ 120 °C
Correction factor	1.0	0.8	0.7	0.55

STEP 3

Check the max. inner diameter (ID)

Both inner diameters (ID) of driving and driven shafts have to be within the range of maximum ID of a coupling.

If either ID of driving shaft or driven shaft is out of range from the selected coupling, the coupling has to be sized up. For instance, SDS-19C is selected at the Step 2, however the ID of shaft is 8mm, it is out of range as the max. ID on SDS-19C is 6mm. In this case, the coupling should be one sized up to SDS-22C.

Model	Standard Inner Diameter (d1, d2) (mm)															
	3	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15
SDS-16C	●	●	●	●												
SDS-19C	●	●	●	●	●											
SDS-22C	●	●	●	●	●	●	●	●	★	●★						
SDS-26C		●	●	●	●	●	●	●	●	●	●					

However, the coupling size cannot be adjusted due to space matter, please check with us for the alternative option of non-standard ID supply by re-boring ID sizes over the range. In this inevitable case, re-boring inner diameters itself may not be so difficult, however there is high possibility that the durability of product drops down to a greater extent thus, this process is only implemented under customer's full responsibility. Besides, the lead-time could be somewhat longer than usual.

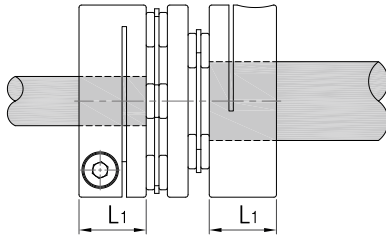
STEP 4

Check other miscellaneous points

Clamping Methods
Permissible misalignment
Torsional stiffness
Max. rpm
etc.

Installation Guide

Suggested Shaft-insertion Depth



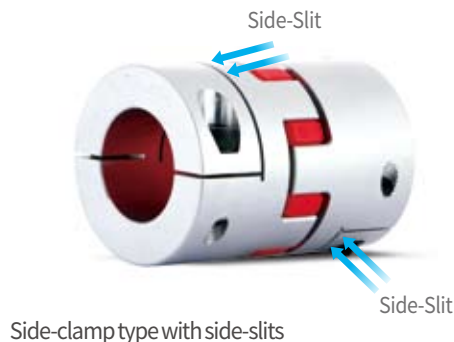
- The most ideal length of shaft-insertion is up to 'L₁' on each dimension pages.
- If a shaft is not inserted deep enough into the coupling, it could make the shaft slipped out or make the coupling hub broken.
- If a shaft is inserted into the coupling too deeply, the coupling could be broken easily due to the interference between the shaft and coupling's inner part or interference between both shafts.

Fastening D-cut shaped shaft into a Coupling (Only Side-clamp Type)

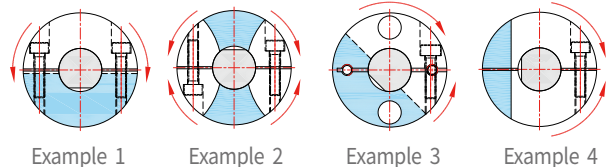
- Technically, the adequate clamping force can be guaranteed only with round-shaped shaft. However, in case D-cut shaped shaft has to be used, please follow the below instructions.

Case 1: With side-slits

- As shown in the below example, in a side-slit coupling structure there are normally 2 parts, side-slit (white area) and the rest (blue area). The mechanism of contraction differs by the location of side-slit and shape of each couplings. If a D-cut shaped shaft is inserted into a coupling, it should be located in the blue area, which is not affected by contraction when fastening screws. Please be aware that the clamping force may become lower under an inappropriate shaft fastening.



Examples of D-cut shaped shaft-insertion

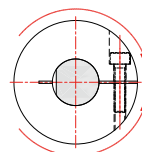


Case 2: Without side-slits

- There is no side-slits on space-saving side-clamp couplings i.e. SJCM, SOHM etc. In this case, the D-cut shaft should be located right opposite to contraction (screw-fastening) side.



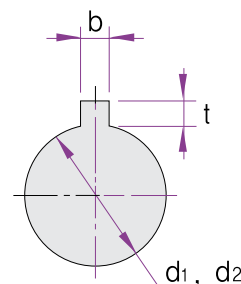
Examples of D-cut shaped shaft-insertion



Customer-friendly Services

Keyway on Coupling Hubs

Shaft(Bore) Diameter (d ₁ , d ₂)	Keyway Dimension				Nominal Size
	b(mm)		t(mm)		(b x h)
	Size	Tolerance	Size	Tolerance	
ø8 ~ ø10	3	±0.0125	1.4	+0.1 0	3 x 3
ø10 ~ ø12	4		1.8		4 x 4
ø12 ~ ø17	5		2.3		5 x 5
ø17 ~ ø22	6		2.8		6 x 6
ø22 ~ ø30	8	±0.018	3.3	+0.2 0	8 x 7
ø30 ~ ø38	10				10 x 8
ø38 ~ ø44	12	±0.0215	3.8		12 x 8
ø44 ~ ø50	14				14 x 9
ø50 ~ ø58	16				16 x 10
ø58 ~ ø65	18				4.4



- The location of keyway on a coupling hub is determined by the standard product design of Sung-il Machinery. If you need a keyway in a different location, please discuss with our Customer Support team in advance.
- If you need to specify the length of keyway (axial direction) or tolerance for height and depth of keyway, please discuss with our Customer Support team in advance.
- Keyways can be applied on the following clamping methods of couplings (Side-clamp, Side-clamp Hub Split and Set-screw (except SFC series))

※ HOW TO ORDER

SHR	-	33	CW	-	10	W	K3	x	14	W	K4
Model		Size (OD)	Clamping Methods		ID(d_1)	Side-clamp Hub Split	keyway		ID(d_2)	Side-clamp Hub Split	keyway

- Please indicate K(b=width) next to ID(d_1)
- In general, t(depth) of a keyway is automatically determined by b(width). However if a keyway with special dimension is required, please discuss with our Customer Support team in advance. (For example, K3 will be provided with b(3mm) & t(1.4mm) unless there is a special remark.)

Non-standard Inner Diameter (ID) Available

Case 1 : Non-standard Inner Diameter(ID) Re-boring : Between standard min. ID and standard max. ID

Model	Standard Inner Diameter (d_1, d_2) (mm)																			
	10	11	12	12.7	14	15	15.875	16	17	18	19	20	22	24	25	26	28	30	32	35
SDCS-54C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
SDCS-64C			●	●	●	●	●	●	●	●	●	●	●	●	●	★	★	★	★	
SDS-80C						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- Any Integer Inner Diameter(ID) between standard min. ID and standard max. ID could be provided even they are not indicated on the standard ID table.
- For example, ID:Ø27 on SDCS-64C is available as Ø27 is within the range between Ø12(min.) and Ø32(max.)

Case 2 : Non-standard Inner Diameter(ID) Re-boring : Smaller than standard min.ID and bigger than standard max.ID

We Sung-il team will always try our best to supply goods at the customer's best convenience.

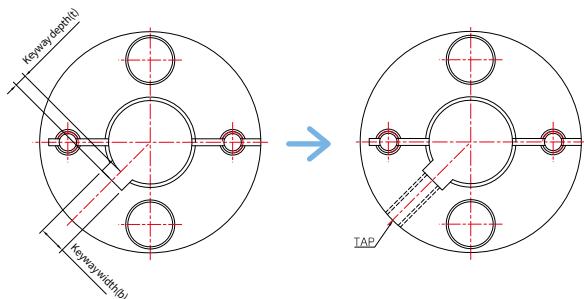
- Please firstly ask our Customer Support team to check whether it is structurally possible.
- In the case of non-standard ID bigger than max.ID, please be aware that durability would get decreased from the ordinary performance of coupling.

Case 3 : Special tolerance for Inner Diameter

- The standard bore tolerance of coupling is H7. However, please ask our Customer Support team to check if you require a special bore tolerance other than H7.

Customer-friendly Services

Additional Tapped-holes



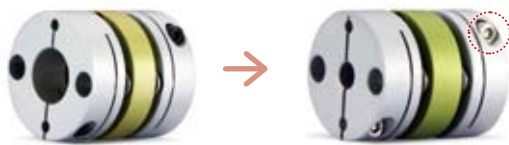
- Sung-il Machinery provides additional tapped holes on coupling hubs upon the request.
- This additional tapped holes are usually requested when there are keyway used on a coupling.
- For this service, please contact Sung-il Customer Service team prior to firm order placement, in order to discuss accurate location of the tapped hole and the screw thread.

Parts with Alternative Material Options

- Sung-il Machinery provides alternative material options for Coupling parts.
(FAS screws: to fasten a shaft into a coupling & ASS screws: to assemble a coupling itself)

- 1) Stainless Steel (SUSXM7)
- 2) SCM435 with surface treatment -Electroless Nickel Plating

CASE 1



Case 1 : Stainless Steel

SDWA - 26C - 6 x 8 - **SUS/ASS**

Standard: SCM435 (Black Oxide)

Option(1): SUSXM7 (Stainless Steel)

Please add the additional coding
"SUS/ASS" next to the model no.

CASE 2



Case 2 : Surface treatment - Electroless Nickel Plating

SRG - 25C - 6 x 8 - **NI/ASS**

Standard: SCM435 (Black Oxide)

Option(2): SCM435 (with surface
treatment-Electroless Nickel Plating)

Please add the additional coding
"NI/ASS" next to the model no.

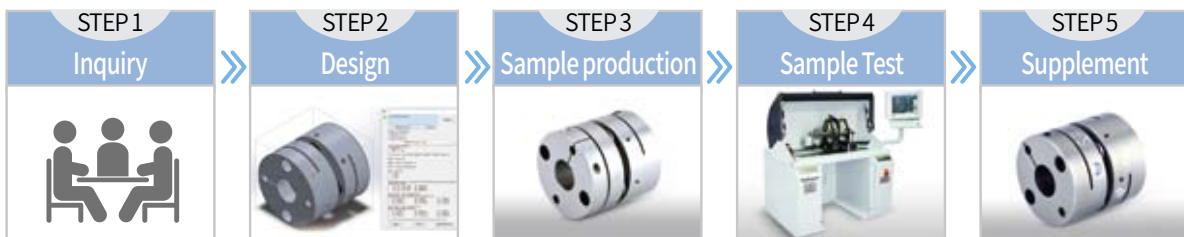
※ Standard Product Models with the Parts made of Stainless Steel or Electroless Nickel Plating

Model	Size (OD)	Body Material	Surface Treatment	Screws
SRBS	All Sizes	Stainless Steel	-	SUSXM7
SRBMS	All Sizes	Stainless Steel	-	SUSXM7
SDSS	All Sizes	Stainless Steel	Electrolytic Polishing	SUSXM7
SDWS	All Sizes	Stainless Steel	Electrolytic Polishing	SUSXM7
SHDS-NI	126, 144	Steel	Electroless Nickel Plating	SCM435 (Electroless Nickel Plating)
SHDW-NI	126, 144	Steel	Electroless Nickel Plating	SCM435 (Electroless Nickel Plating)
SJC	120, 135, 160	Steel	Electroless Nickel Plating	SCM435 (Electroless Nickel Plating)
SOHMP	All Sizes	High Strength Aluminum Alloy	-	SUSXM7
SOHV	All Sizes	Stainless Steel	Electrolytic Polishing	SUSXM7

Customer-friendly Services

Balancing Correction

- Balancing is a very important factor of a coupling which is connected to high-spindling driving part i.e. machining tools. If it is unbalanced, vibration and noise could be brought to a great extent, resulting in reduced performance in the whole applications.
- Sung-il Machinery can conduct any sort of customized designs utilizing autonomous test machines. If a higher level of balancing is requested on our couplings, we could implement with the following steps.



Made-To-Order Process

Sung-il Machinery can conduct Made-To-Order processes (customization) upon our customers' requests.

Various Bore Area Shapes and Attachment Design



- D-Cuts, Rectangular Bores, Multiple keyways
- Spline Cutting, Any requested designs.

Various Materials/Surface Treatment Options



- Non-standard Metal or Plastic Materials
- Various kinds of Anodizing, Teflon Coating, Any custom Surface Treatment by request etc.

Length Adjustment



Customized Shaping



Customer-friendly Services

Environmental Compliance

- Sung-il Machinery develops and manufactures products which only conform to non-hazardous/ environmental regulations.
- Please refer to the following table for the specific list of hazardous materials. In order to receive the copy of the certificates, please ask our Customer Service team.

RoHS & RoHS2

Hazardous Materials	Concentration Limits (Critical Value)	RoHS1	RoHS2
Lead (Pb)	0.1wt% (1,000ppm)		
Mercury (Hg)	0.1wt% (1,000ppm)		
Cadmium (Cd)	0.01wt% (100ppm)		
Hexavalent Chromium (Cr)	0.1wt% (1,000ppm)		
Polybrominated Biphenyl (PBB)	0.1wt% (1,000ppm)		
Polybrominated Diphenyl (PBDEs)	0.1wt% (1,000ppm)		
Di-EthylHexyl Phthalate(DEHP)	0.1wt% (1,000ppm)		
Butyl Benzyl Phthalate(BBP)	0.1wt%(1,000ppm)		
Dibutyl Phthalate(DBP)	0.1wt% (1,000ppm)		
Diisobutyl Phthalate(DIBP)	0.1wt% (1,000ppm)		

No.	RoHS Impacted & Exempted Categories	RoHS1	RoHS2
1	Large household appliances: refrigerators, washers, stoves, air conditioners		
2	Small household appliances: vacuum cleaners, hair dryers, coffee makers, irons		
3	Computing & communications equipment: computers, printers, copiers, phones		
4	Consumer electronics: TVs, DVD players, stereos, video cameras		
5	Lighting: lamps, lighting fixtures, light bulbs		
6	Power tools: drills, saws, nail guns, sprayers, lathes, trimmers, blowers		
7	Toys and sports equipment: videogames, electric trains, treadmills		
8	Medical devices and equipment		
9	Control and monitoring equipment		
10	Automatic dispensers: vending machines, ATM machines		
11	All other electronic and electrical equipment (EEE) not covered under the other categories		

REACH (Registration, Evaluation, Authorization and Restriction of Chemicals)

- REACH is a regulation of the European Union, adopted to improve the protection of human health and the environment from the risks that can be posed by chemicals, while enhancing the competitiveness of the EU chemicals industry. It also promotes alternative methods for the hazard assessment of substances in order to reduce the number of tests on animals.
- Registration is the process of identifying substances that are produced or used in the EU. It applies to substances directly as well as substances in mixtures and in articles (parts). For substances in articles, a registration must be submitted if: The substance is produced or imported at a weight greater than 1 ton per year AND has a mixture or concentration greater than 0.1% by weight AND meets requirements of Article 57.
- Sung-il Machinery has completed the SVHC evaluation on all the coupling products based on 2012/12 standard. If it is requested to conduct any additional SVHC evaluation, please feel free to contact Sung-il Customer Service team.

Certification Mark(Logo)



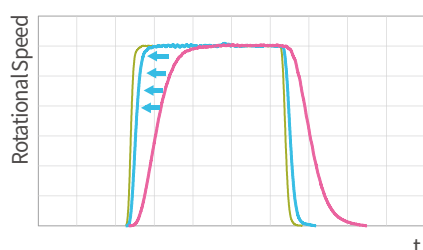
- Please refer to upper right-side on each product description pages to find the certification logo of RoHS and REACH.
- RoHS logo will not be shown as RoHS2 covers all the ranges of RoHS categories.

SHR SERIES



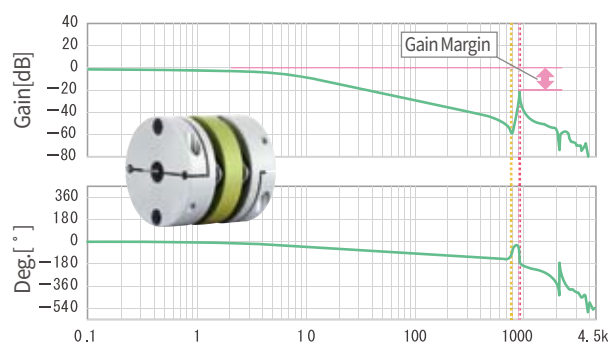
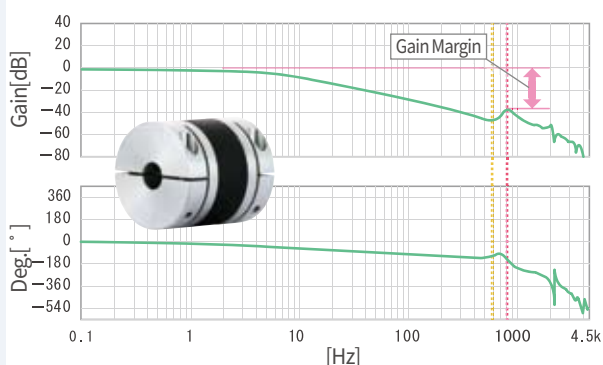
High Performance Rubber Coupling

Higher Efficiency through Higher Gain Allowance

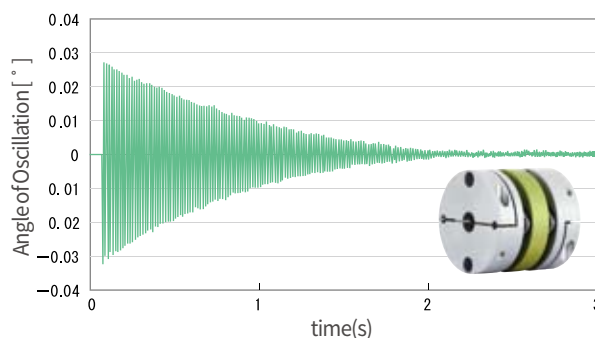
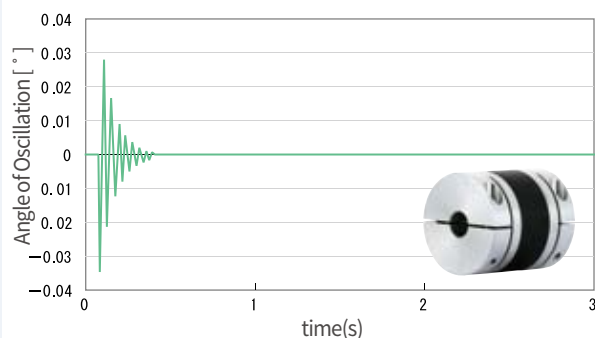


- Gain value is an indicator that shows how accurately it operates according to the command on servo motors.
- Higher gain brings higher responsivity, at the same time it also results in hunting and resonance onto application.
- The anti-vibration rubber (HNBR) is excellent for damping and has higher dynamic stiffness, so it enables to reduce side-effects under the increased gain value.

When SHR series is used, the gain value can be increased higher than SD series (Disk type) as there is relatively bigger gain margin on Bode Plot -180deg.

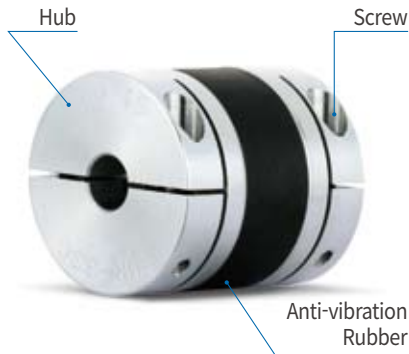


SHR series has the excellent function of damping so it allows to minimize stabilization time of the application.



SHR SERIES

High Performance Rubber Coupling



Structure and Material

Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	-
Anti-vibration Rubber	HNBR	-
Screw	SCM435	Black Oxide

Product Features & Application

Product Features : Great for Anti-vibration & increasing gain on Servo motor → High Productivity

Backlash free		☆
High Torque (Durability)		☆
Torsional Stiffness		○
Vibration Absorption		☆
Misalignment Absorption		○
Insulation of Electric Current		○
Oil Resistance		△
Applicable Motors	Servo	☆
	Stepping	☆
	Encoder	○
	General	-
Permissible Temperature		

Application : Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage

Chemical Resistance

- For your reference, please check whether SHR product is being used at an appropriate environment, referring to the below table for chemical resistance of HNBR material.

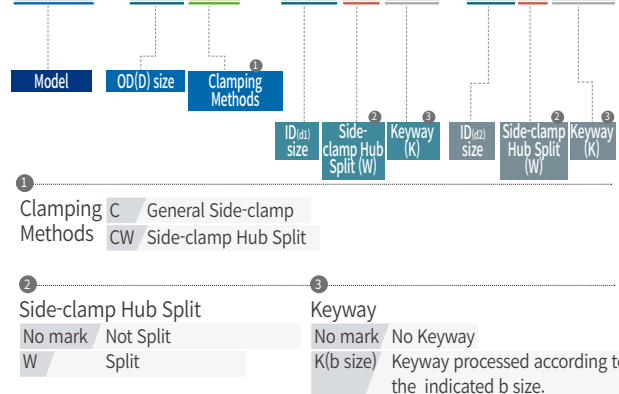
Weather-resistance, Ozone-resistance	excellent
Gasoline, Diesel	allowed
Water, Alcohol	excellent
Organic Acid & Low concentration Inorganic Acid	excellent
High concentration Inorganic Acid	allowed
Strong/Weak Alkali	excellent
Benzene & Toluene	not-allowed
Ether & Ethyl Acetate	not-allowed

Clamping Methods

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

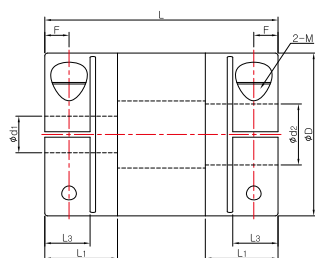
How to Order

SHR - 33 CW - 10 W K3 x 14 W K4



SHR SERIES

High Performance Rubber Coupling



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)					Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (°)
	D	L	L ₁	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SHR-14C	13.8	22.4	6.7	4	2.1	M1.6	0.3	1	2	42,000	1.6×10^{-7}	41	6	1.5	0.15	± 0.2	○
SHR-18C	17.8	25.5	8	5	2.7	M2	0.6	1.9	3.8	33,000	4.9×10^{-7}	84	11	1.5	0.15	± 0.2	○
SHR-24C	23.8	31.2	9.6	6.3	3.1	M2.6	1.1	3.5	7	25,000	1.9×10^{-6}	132	22	1.5	0.15	± 0.2	○
SHR-29C	28.8	35	11	7.2	3.7	M3	1.8	5.7	11.4	21,000	4.4×10^{-6}	209	34	1.5	0.2	± 0.3	○
SHR-33C	32.8	37	12	7.3	3.8	M3	1.8	7	14	18,000	8.3×10^{-6}	370	51	1.5	0.2	± 0.3	○
SHR-38C	37.8	47	15.5	8.9	4.6	M4	3.7	12	24	16,000	1.8×10^{-5}	479	78	1.5	0.2	± 0.3	○
SHR-43C	42.8	48	15.5	9	4.8	M4	3.7	16	32	14,000	3.2×10^{-5}	610	115	1.5	0.2	± 0.3	○
SHR-55C	54.8	59	19.5	10.8	5.5	M5	8.5	31.5	63	11,000	1.1×10^{-4}	1430	250	1.5	0.2	± 0.3	○

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																					
	3	4	4.5	5	6	6.35	7	8	10	11	12	13	14	15	16	17	18	19	20	22	24	25
SHR-14C	●	●	●	●	●																	
SHR-18C		●	●	●	●	●	●	●														
SHR-24C				●	●	●	●	●	●	●	●											
SHR-29C					●	●	●	●	●	●	●	●	●	●								
SHR-33C								●	●	●	●	●	●	●	●							
SHR-38C								●	●	●	●	●	●	●	●	●	●	●	●	●		
SHR-43C									●	●	●	●	●	●	●	●	●	●	●	●	●	
SHR-55C											●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)
- Side-clamp Hub Split is available. (Optional)

SHR SERIES

High Performance Rubber Coupling

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque(N·m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)															
		3	4	4.5	5	6	6.35	7	8	10	11	12	14	15	16	17	18
SHR-14C	2	1	1.2	1.3	1.5	1.6											
SHR-18C	3.8		1.7	1.8	3.7	3.4	3.8										
SHR-24C	7					7											
SHR-29C	11.4					7	9.1	9.8									
SHR-33C	14								11.9								
SHR-38C	24								9.1	12.6	18.2						
SHR-43C	32									28	30.8						
SHR-55C	63											42	47.6	49	50.4	55.2	59.5

Side-clamp Hub Split(W) Option is available on all sizes of SHR series

- Please refer to "HOW TO ORDER" page for more details.



Temperature Correction Factor

- Please modify rated/max. torque value with the below temperature correction factor when it's higher than 30°C.

Ambient Temperature	Correction Factor
-20 °C ~ 30 °C	1.0
30 °C ~ 40 °C	0.8
40 °C ~ 60 °C	0.7
60 °C ~ 120 °C	0.55

SD SERIES



Disk Type Coupling

Classification: SD Series

The plate springs in the middle part of SD Series transmit motion & power and absorb the misalignment. SD Series is usually adopted for high-precision applications thanks to its excellent static torsional stiffness and the backlash-free full metal structure.

Body Material	Plate-Spring Modules	Clamping Methods	
		Set-screw	Side-clamp
High Strength Aluminum Alloy	Single Disk (SDS)	 	 
	Double Disk (SDW, SDA)	 	 
Stainless Steel	Single Disk (SDSS)	-	 
	Double Disk (SDWS)	-	 

Single Module vs Double Module

	Single Disk	Double Disk
Plate-Spring Modules	1	2
Transmission Level of Torque (Max./Rated Torque)	Identical	
Static Torsional Stiffness	High	Low
Absorption of Misalignment	Low	High

- SD Series absorbs the misalignment through the plate springs in the middle part. Therefore, the double module is better at absorption of misalignment than the single module.
- On the other hand, the single module has higher stiffness and precise positioning feature as well as it saves space in terms of shorter length(L).

Custom Service : Extra plate springs Reinforcement

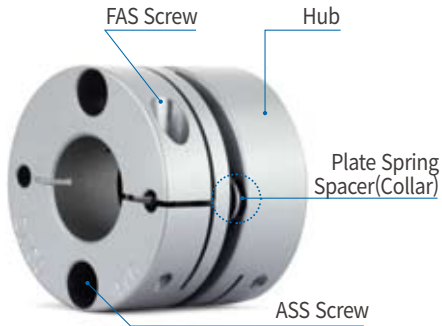
- The most important part that determines the performance of SD coupling is assembly set of Plate-Springs.
- As a customized service, Sung-il Machinery provides extra quantity of plate springs added according to customer's special requests.
- However, please be aware that this process makes strength of product enhanced, at the same time it may increase reaction force on shafts and would give negative effects on the connected devices.



- Please contact Sung-il Customer Service team for more details.

SD SERIES (SDS)

Single Disk Type Coupling (High Strength Aluminum Alloy Body)



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 (Precision)		☆
High Torque (Durability)		○
Torsional Stiffness		☆
Vibration Absorption		-
Misalignment Absorption		△
Applicable Motors	Servo	○
	Stepping	○
	Encoder	○
	General	-

Application : Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage, Machining 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
NI/ASS	Steel	Electroless Nickel Plating
SUS/ASS	Stainless Steel	-



No mark



SUS/ASS



NI/ASS

Clamping Methods

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

※ You may check the sizes that Side-clamp Hub Split type is applicable from the “Dimensions / Performance” tables in the following pages.

How to Order

SDS - 80 CW - 20 W K6 x 35 W K10

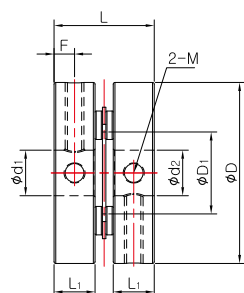
Model	OD(D) size	Clamping Methods	ID(d1) size	Side-clamp Hub Split (W)	Keyway (K)	ID(d2) size	Side-clamp Hub Split (W)	Keyway (K)
		1			2			3
		Clamping Methods			Side-clamp Hub Split			Keyway
		No mark			No mark			No Keyway
		C			Split (Only applicable on Side-clamp Type)			Keyway processed according to the indicated b size.
		CW			W			

SD SERIES (SDS)

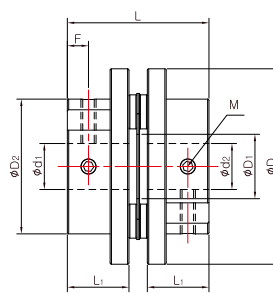
Single Disk Type Coupling (High Strength Aluminum Alloy Body)

Set-Screw

Cylinder-shaped



Flange-shaped



Dimensions / Performance

Model	Shape	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
		D	D ₁	D ₂	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SDS-16	Cylinder	16	6.7	-	12	5.1	2.5	M2.5	0.5	0.5	1	16,000	1.8×10 ⁻⁷	270	5	0.5	0.02	±0.1
SDS-19	Cylinder	19	8.5	-	14.5	6.1	3	M3	0.7	0.9	1.8	16,000	3.0×10 ⁻⁷	600	6	1	0.02	±0.1
SDS-22	Cylinder	22.2	10	-	14.8	6.2	3	M3	0.7	1.1	2.2	12,000	6.9×10 ⁻⁷	600	10	1	0.02	±0.1
SDS-26	Cylinder	26.6	12.2	-	17.6	7.4	3.6	M4	1.7	1.5	3	12,000	2.0×10 ⁻⁶	900	20	1	0.02	±0.15
SDS-31	Cylinder	31.8	14.4	-	17.6	7.2	3.6	M4	1.7	3	6	10,000	4.4×10 ⁻⁶	1,700	30	1	0.02	±0.2
SDS-42	Flange	42.5	18	29.3	30.8	13.4	4.6	M4	1.7	7	14	8,000	1.7×10 ⁻⁵	2,800	65	1	0.02	±0.25
SDS-47	Flange	47	20.4	33	31.4	13.9	4.5	M5	4	12	24	8,000	2.7×10 ⁻⁵	6,000	91	1	0.02	±0.25
SDS-54	Flange	54	25	38.5	42.3	19	5.8	M5	4	22	44	7,500	4.9×10 ⁻⁵	11,000	130	1	0.02	±0.25
SDS-64	Flange	64	25.8	48	58.2	26	8	M8	15	31	62	7,000	1.8×10 ⁻⁴	20,000	292	1	0.02	±0.25

- 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. (In general, the clamping force on set-screw type is weaker, therefore it is recommended that an additional keyway is processed for the enhanced clamping force.)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (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	21	22	24	25	26	28	30
SDS-16	●	●	●	●																									
SDS-19	●	●	●	●	●																								
SDS-22	●	●	●	●	●	●	●	●	●★	●★																			
SDS-26		●	●	●	●	●	●	●	●	●	●																		
SDS-31				●	●	●	●	●	●	●	●	●	●	●	●	●★													
SDS-42					●	●	●	●	●	●	●	●	●	●	●	●													
SDS-47								●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SDS-54											●	●	●	●	●	●	●	●	●	●	●	●							
SDS-64													●	●	●	●	●	●	●	●	●	●	●	●	●	●★	●★	●★	●★

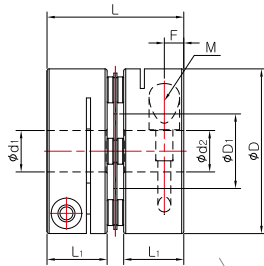
- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)
- Due to interference of the middle parts, make sure the shaft is only inserted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

SD SERIES (SDS)

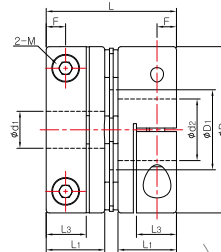
Single Disk Type Coupling (High Strength Aluminum Alloy Body)

Side-clamp

Cylinder-shaped



Size: 12C~47C



Size: 54C~100C

Dimensions / Performance

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm	Moment of Inertia (kg·m²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	D ₁	L	L ₁	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SDS-12C	12	5.5	12.3	5.9	-	1.9	M1.6	0.25	0.2	0.4	14,000	6.9×10 ⁻⁸	170	3	0.5	0.01	±0.04	X
SDS-16C	16	6.7	17.4	7.8	-	2.5	M2	0.5	0.5	1	14,000	2.6×10 ⁻⁷	270	7	1	0.02	±0.1	X
SDS-19C	19	8.5	19.3	8.7	-	2.9	M2.6	1	0.9	1.8	14,000	4.0×10 ⁻⁷	600	8	1	0.02	±0.1	X
SDS-22C	22.2	10	19.7	8.7	-	2.8	M2.6	1	1.1	2.2	10,000	1.0×10 ⁻⁶	600	15	1	0.02	±0.1	X
SDS-26C	26.6	12.2	24.1	10.6	-	3.4	M3	1.7	1.5	3	10,000	2.4×10 ⁻⁶	900	25	1	0.02	±0.15	X
SDS-31C	31.8	14.4	26.4	11.6	-	3.7	M3	1.7	3	6	9,000	5.8×10 ⁻⁶	1,700	40	1	0.02	±0.2	X
SDCS-35C	35	16.2	28	12.7	-	4.4	M4	3.5	4	8	8,500	1.0×10 ⁻⁵	2,000	57	1	0.02	±0.2	X
SDS-39C	39	17	31.3	13.7	-	4.3	M4	3.5	5	10	8,000	1.6×10 ⁻⁵	2,300	70	1	0.02	±0.25	X
SDCS-42C	42.5	18	31.4	13.7	-	4.3	M4	3.5	7	14	8,000	3.4×10 ⁻⁵	2,800	95	1	0.02	±0.25	X
SDCS-47C	47	20.4	35.6	16	-	5.2	M4	3.5	12	24	7,500	5.4×10 ⁻⁵	6,000	140	1	0.02	±0.25	X
SDCS-54C	54	25	42.3	19	13	6.3	M5	8	22	44	7,500	9.8×10 ⁻⁵	11,000	200	1	0.02	±0.25	○
SDCS-64C	64	25.8	58.2	26	15.2	7.5	M6	13	31	62	7,000	2.2×10 ⁻⁴	20,000	355	1	0.02	±0.25	○
SDS-80C	80	35.8	66.1	29.7	19	9.4	M8	30	75	150	7,000	7.5×10 ⁻⁴	40,000	800	1	0.02	±0.4	○
SDS-90C	94.5	41.6	68.9	30.4	19	9.3	M8	30	150	300	6,000	1.2×10 ⁻³	60,000	930	1	0.02	±0.5	○
SDS-100C	104.5	47.7	71.7	30.7	19	9.3	M8	30	220	440	6,000	2.2×10 ⁻³	70,000	1,300	1	0.02	±0.6	○

- 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) 12C~47C

Model	Standard Inner Diameter (d ₁ , d ₂) (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
SDS-12C	●	●		●																
SDS-16C	●	●	●	●																
SDS-19C	●	●	●	●	●															
SDS-22C	●	●	●	●	●	●	●	●	●★	●★										
SDS-26C		●	●	●	●	●	●	●	●	●	●									
SDS-31C				●	●	●	●	●	●	●	●	●	●	●	●	●★				
SDCS-35C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SDS-39C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SDCS-42C					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●★	●★
SDCS-47C								●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.

SD SERIES (SDS)

Single Disk Type Coupling (High Strength Aluminum Alloy Body)

Standard Inner Diameter (ID) 54C~100C

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	10	11	12	12.7	14	15	15.875	16	17	18	19	20	22	24	25	26	28	30	32	35
SDCS-54C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
SDCS-64C			●	●	●	●	●	●	●	●	●	●	●	●	●	★	★	★	★	
SDS-80C						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SDS-90C												●	●	●	●	●	●	●	●	●
SDS-100C												●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)
- Side-clamp Hub Split 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)													
		3	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	12.7
SDS-16C	1	0.9	0.9												
SDS-19C	1.8	1	1.7												
SDS-22C	2.2	1.1	1.4	2.2	2.1	2.1									
SDS-26C	3		2.5	2.9											
SDS-31C	6				3.2	3.9	4.6	5.6							
SDCS-35C	8				7.8										
SDS-39C	10				4.9	8	9.1								
SDCS-42C	14					8.7	10.6								
SDCS-47C	24								9.1	12.6	14.1	14.7	15.4	21	22.5

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																	
		10	11	12	12.7	14	15	16	18	19	20	22	24	25	28	30	32	35	40
SDCS-54C	44	30	42																
SDCS-64C	62			52	53	57													
SDS-80C	150						80	94	101	109	128	149							
SDS-90C	300										128	153	187	221	272	315			
SDS-100C	440										136	153	196	230	298	323	340	349	366

Side-clamp Hub Split(W) Option is available

- From certain outer diameter(OD) sizes, we can provide Side-clamp Hub Split products.
- Please refer to "HOW TO ORDER" page for more details.

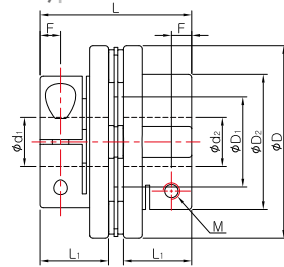


SD SERIES (SDS)

Single Disk Type Coupling (High Strength Aluminum Alloy Body)

Side-clamp

Flange-shaped (Low-inertia)



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	D ₁	D ₂	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SDS-35C	35	16.2	21.5	28	12.7	4.4	M3	1.7	4	8	8,500	4.6×10^{-6}	2,000	35	1	0.02	± 0.2
SDS-42C	42.5	18	29.3	30.8	13.4	3.8	M3	1.7	7	14	8,000	1.7×10^{-5}	2,800	65	1	0.02	± 0.25
SDS-47C	47	20.4	33/*38	37	16.7	5	M4	3.5	12	24	8,000	3.2×10^{-5}	6,000	108	1	0.02	± 0.25
SDS-54C	54	25	38.5	47.1	21.4	6.1	M5	8	22	44	8,000	5.5×10^{-5}	11,000	145	1	0.02	± 0.25
SDS-64C	64	25.8	48	58.2	26	7.5	M6	13	31	62	7,000	1.8×10^{-4}	20,000	292	1	0.02	± 0.25

- 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.
- For OD 47C products, please refer to D₂ values with * mark when inner diameters are bigger than 18mm.

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.875	16	17	18	19	20	22
SDS-35C	●	●	●	●	●	●	●	●												
SDS-42C		●	●	●	●	●	●	●	●	●	●	●	●							
SDS-47C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SDS-54C								●	●	●	●	●	●	●	●	●	●	●	●	
SDS-64C										●	●	●	●	●	●	●	●	●	●	●★

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.

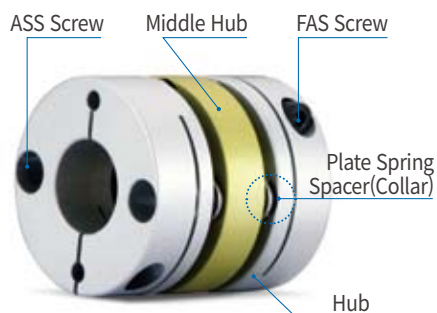
Slip Torque

- 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)													
		5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.875
SDS-35C	8	3.4	4.2	4.6	7.1										
SDS-42C	14		4.3	5.6	9.1	11.3	13.3								
SDS-47C	24					4.9	6.7	7.8	7.8	8.4	11.3	12.2	13.9	21.6	23.9
SDS-54C	44								26.9	37.8	40.7	41.3	42.7		
SDS-64C	62										46.3	47.7	51.2		

SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)



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 (Precision)		☆
High Torque (Durability)		○
Torsional Stiffness		☆
Vibration Absorption		-
Misalignment Absorption		○
Applicable Motors	Servo	○
	Stepping	○
	Encoder	○
	General	-

Application : Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage, Machining 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
NI/ASS	Steel	Electroless Nickel Plating
SUS/ASS	Stainless Steel	-



No mark



NI/ASS



SUS/ASS

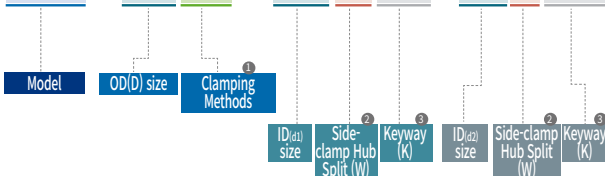
How to Order

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

※ You may check the sizes that Side-clamp Hub Split type is applicable from the “Dimensions / Performance” tables in the following pages.

How to Order

SDW - 80 CW - 20 W K6 x 35 W K10



1 Clamping Methods	No mark	Set-screw
	C	General Side-clamp
	CW	Side-clamp Hub Split
2 Side-clamp Hub Split	No mark	Keyway
	Not Split	No Keyway
	Split (Only applicable on Side-clamp Type)	K(b size) Keyway processed according to the indicated b size.
3 Keyway	No mark	No Keyway
	K(b size)	Keyway processed according to the indicated b size.
	Keyway processed according to the indicated b size.	

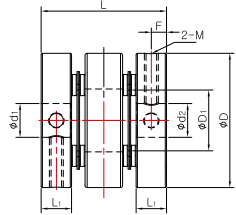
SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)

Set-Screw

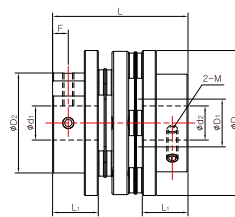
Cylinder-shaped

General Type

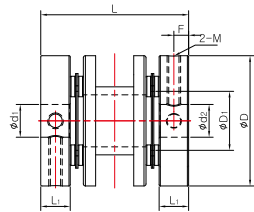


Flange-shaped

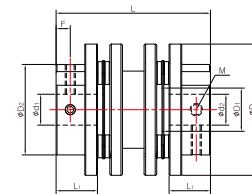
General Type



Lengthy Middle Body Type



Lengthy Middle Body Type



Dimensions / Performance General Type

Model	Shape	Size (±0.3mm)							Screw Fastening Torque (N·m)	Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
		D	D ₁	D ₂	L	L ₁	F	Size								Angular (°)	Parallel (mm)	End-play (mm)
SDWA-16	Cylinder-shaped	16	6.3	-	15.8	5.1	2.5	M2.5	0.5	0.5	1	16,000	2.2×10 ⁻⁷	200	6	1	0.05	±0.2
SDWB-16	Cylinder-shaped	16	6.3	-	17.8	5.1	2.5	M2.5	0.5	0.5	1	16,000	2.6×10 ⁻⁷	200	7	1	0.05	±0.2
SDWA-19	Cylinder-shaped	19	8.5	-	18.1	6.1	3	M3	0.7	0.9	1.8	16,000	5.3×10 ⁻⁷	300	10	1	0.05	±0.2
SDWB-19	Cylinder-shaped	19	8.5	-	21.1	6.1	3	M3	0.7	0.9	1.8	16,000	5.8×10 ⁻⁷	300	11	1	0.05	±0.2
SDWA-22	Cylinder-shaped	22.2	9	-	20.1	6.3	3	M3	0.7	1.1	2.2	12,000	1.0×10 ⁻⁶	400	16	1.5	0.12	±0.2
SDWB-22	Cylinder-shaped	22.2	9	-	22.3	6.3	3	M3	0.7	1.1	2.2	12,000	1.1×10 ⁻⁶	400	17	1.5	0.12	±0.2
SDWA-26	Cylinder-shaped	26.6	12.2	-	26	7.4	3.6	M4	1.7	1.5	3	12,000	2.3×10 ⁻⁶	600	28	1.5	0.15	±0.3
SDWA-31	Cylinder-shaped	31.8	14.4	-	24.7	7.2	3.6	M4	1.7	3	6	10,000	4.3×10 ⁻⁶	1,300	30	1.5	0.15	±0.4
SDWB-31	Cylinder-shaped	31.8	14.4	-	29.7	7.2	3.6	M4	1.7	3	6	10,000	5.5×10 ⁻⁶	1,300	38	1.5	0.15	±0.4
SDWA-42	Flange-shaped	42.5	18	29.3	39.7	13.4	4.6	M4	1.7	7	14	8,000	2.1×10 ⁻⁵	2,000	84	1.5	0.18	±0.5
SDWB-42	Flange-shaped	42.5	18	29.3	44.2	13.4	4.6	M4	1.7	7	14	8,000	2.4×10 ⁻⁵	2,000	94	1.5	0.18	±0.5
SDWA-47	Flange-shaped	47	20.4	33	39.9	13.9	4.5	M5	4	12	24	8,000	3.4×10 ⁻⁵	4,000	115	1.5	0.2	±0.5
SDWB-47	Flange-shaped	47	20.4	33	45.7	13.9	4.5	M5	4	12	24	8,000	3.6×10 ⁻⁵	4,000	120	1.5	0.2	±0.5
SDWA-54	Flange-shaped	54	25	38.5	55.8	19	5.8	M5	4	22	44	7,500	6.7×10 ⁻⁵	7,000	177	1.5	0.2	±0.5
SDWA-64	Flange-shaped	64	25.8	48	74.4	26	8	M8	15	31	62	7,000	2.2×10 ⁻⁴	11,000	373	1.5	0.3	±0.5

SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)

Dimensions / Performance Lengthy Middle Body Type

Model	Shape	Size ($\pm 0.3\text{mm}$)						Screw Size	Fastening Torque (N·m)	Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
		D	D ₁	D ₂	L	L ₁	F									Angular (°)	Parallel (mm)	End-play (mm)
SDA-22	Cylinder-shaped	22.2	8.3	-	28.3	6.3	3	M3	0.7	1.1	2.2	12,000	1.3×10^{-6}	400	18	1.5	0.12	± 0.2
SDA-26	Cylinder-shaped	26.6	10.5	-	31.7	7.4	3.6	M4	1.7	1.5	3	12,000	3.2×10^{-6}	600	32	1.5	0.15	± 0.3
SDA-31	Cylinder-shaped	31.8	12.7	-	36.1	7.2	3.6	M4	1.7	3	6	10,000	5.5×10^{-6}	1,300	38	1.5	0.15	± 0.4
SDAA-42	Flange-shaped	42.5	18	29.3	50	13.4	4.6	M4	1.7	7	14	8,000	2.7×10^{-5}	2,000	105	1.5	0.18	± 0.5
SDAB-42	Flange-shaped	42.5	18	29.3	57.9	13.4	4.6	M4	1.7	7	14	8,000	2.8×10^{-5}	2,000	110	1.5	0.18	± 0.5
SDAC-42	Flange-shaped	42.5	18	29.3	67.3	13.4	4.6	M4	1.7	7	14	8,000	2.9×10^{-5}	2,000	115	1.5	0.18	± 0.5
SDAA-47	Flange-shaped	47	20	33	58.1	13.9	4.5	M5	4	12	24	8,000	4.2×10^{-5}	4,000	140	1.5	0.2	± 0.5
SDAB-47	Flange-shaped	47	20	33	85	13.9	4.5	M5	4	12	24	8,000	4.7×10^{-5}	4,000	160	1.5	0.2	± 0.5
SDAA-54	Flange-shaped	54	24.3	38.5	71.2	19	5.8	M5	4	22	44	7,500	9.0×10^{-5}	7,000	230	1.5	0.2	± 0.5
SDAB-54	Flange-shaped	54	24.3	38.5	85.1	19	5.8	M5	4	22	44	7,500	1.1×10^{-4}	7,000	250	1.5	0.2	± 0.5
SDA-64	Flange-shaped	64	25.8	48	89.9	26	8	M8	15	31	62	7,000	2.7×10^{-4}	11,000	450	1.5	0.3	± 0.5

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Non-standard lengthy middle body type can be customized.**
- 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. (In general, the clamping force on set-screw type is weaker, therefore it is recommended that an additional keyway is processed for the enhanced clamping force.)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d_1, d_2) (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	21	22	24	25	26	28	30
SD□□-16	●	●	●	●																									
SD□□-19	●	●	●	●	●																								
SD□□-22	●	●	●	●	●	●	●	●	●★	●★																			
SD□□-26		●	●	●	●	●	●	●	●	●	●																		
SD□□-31				●	●	●	●	●	●	●	●	●	●	●	●	●★													
SD□□-42					●	●	●	●	●	●	●	●	●	●	●	●													
SD□□-47								●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SD□□-54											●	●	●	●	●	●	●	●	●	●	●	●							
SD□□-64													●	●	●	●	●	●	●	●	●	●	●	●	●	●★	●★	●★	●★

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.

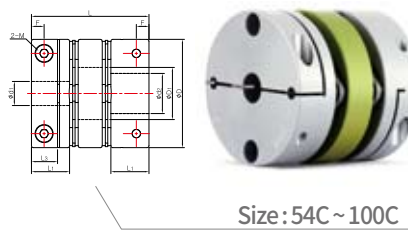
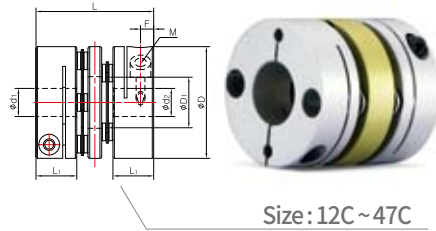
SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)

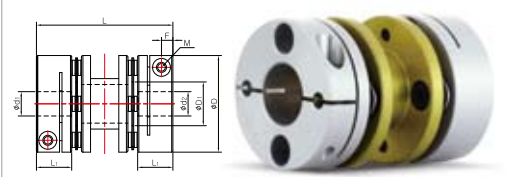
Side-clamp

Cylinder-shaped

General Type



Lengthy Middle Body Type



Dimensions / Performance General Type

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	D ₁	L	L ₁	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SDWA-12C	12	5.5	15.7	5.9	-	1.9	M1.6	0.25	0.2	0.4	14,000	7.5×10 ⁻⁸	85	4	1	0.03	±0.08	X
SDWA-16C	16	6.3	21.2	7.8	-	2.5	M2	0.5	0.5	0.5	14,000	3.3×10 ⁻⁷	200	9	1	0.05	±0.2	X
SDWB-16C	16	6.3	23.2	7.8	-	2.5	M2	0.5	0.5	0.5	14,000	3.7×10 ⁻⁷	200	10	1	0.05	±0.2	X
SDWA-19C	19	8.5	23.3	8.7	-	2.9	M2.6	1	0.9	1.8	14,000	7.4×10 ⁻⁷	300	14	1	0.05	±0.2	X
SDWB-19C	19	8.5	26.3	8.7	-	2.9	M2.6	1	0.9	1.8	14,000	7.9×10 ⁻⁷	300	15	1	0.05	±0.2	X
SDWA-22C	22.2	9	25	8.7	-	2.8	M2.6	1	1.1	2.2	10,000	1.3×10 ⁻⁶	400	18	1.5	0.12	±0.2	X
SDWB-22C	22.2	9	27.2	8.7	-	2.8	M2.6	1	1.1	2.2	10,000	1.4×10 ⁻⁶	400	19	1.5	0.12	±0.2	X
SDWA-26C	26.6	12.2	32.5	10.6	-	3.4	M3	1.7	1.5	3	10,000	3.4×10 ⁻⁶	600	34	1.5	0.15	±0.3	X
SDWA-31C	31.8	14.4	33.5	11.6	-	3.7	M3	1.7	3	6	9,000	7.5×10 ⁻⁶	1,300	52	1.5	0.15	±0.4	X
SDWB-31C	31.8	14.4	38.5	11.6	-	3.7	M3	1.7	3	6	9,000	8.8×10 ⁻⁶	1,300	60	1.5	0.15	±0.4	X
SDWA-35C	35	16.2	34.6	12.7	-	4.4	M4	3.5	4	8	8,500	1.2×10 ⁻⁵	1,500	67	1.5	0.16	±0.4	X
SDWC-35C	35	16.2	38.1	12.7	-	4.4	M4	3.5	4	8	8,500	1.4×10 ⁻⁵	1,500	75	1.5	0.16	±0.4	X
SDWA-39C	39	17	39.5	13.7	-	4.3	M4	3.5	5	10	8,000	2.1×10 ⁻⁵	1,800	95	1.5	0.18	±0.4	X
SDWC-39C	39	17	45	13.7	-	4.3	M4	3.5	5	10	8,000	2.4×10 ⁻⁵	1,800	110	1.5	0.18	±0.4	X
SDWC-42C	42.5	18	46.2	13.7	-	4.3	M4	3.5	7	14	8,000	3.3×10 ⁻⁵	2,000	120	1.5	0.18	±0.5	X
SDWC-47C	47	20.4	50	16	-	5.2	M4	3.5	12	24	7,500	5.5×10 ⁻⁵	4,000	160	1.5	0.2	±0.5	X
SDWB-54C	54	25	52.6	19	13	6.3	M5	8	22	44	7,500	1.1×10 ⁻⁴	7,000	250	1.5	0.2	±0.5	○
SDWC-54C	54	25	58.6	19	13	6.3	M5	8	22	44	7,500	1.2×10 ⁻⁴	7,000	280	1.5	0.2	±0.5	○
SDWB-64C	64	25.8	74.4	26	15.2	7.5	M6	13	31	62	6,500	3.5×10 ⁻⁴	11,000	455	1.5	0.3	±0.5	○
SDWC-64C	64	25.8	84.4	26	15.2	7.5	M6	13	31	62	6,500	4.8×10 ⁻⁴	11,000	530	1.5	0.3	±0.5	○
SDW-80C	80	35.8	81.8	29.7	19	9.4	M8	30	75	150	6,000	8.4×10 ⁻⁴	20,000	900	2	0.4	±0.6	○
SDWC-80C	80	35.8	98.3	29.7	19	9.4	M8	30	75	150	6,000	9.5×10 ⁻⁴	20,000	1,000	2	0.5	±0.6	○
SDW-90C	94.5	41.6	98.9	30.4	19	9.3	M8	30	150	300	6,000	1.8×10 ⁻³	35,000	1,350	2	0.4	±0.8	○
SDW-100C	104.5	47.7	103.8	30.7	19	9.3	M8	30	220	440	6,000	2.9×10 ⁻³	50,000	1,700	2	0.4	±0.8	○

- 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.

Dimensions / Performance Lengthy Middle Body Type

Model	Size (±0.3mm)					Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	D ₁	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SDA-22C	22.2	8.3	33.2	8.7	2.8	M2.6	1	1.1	2.2	10,000	1.5×10 ⁻⁶	400	20	1.5	0.12	±0.2	X
SDA-26C	26.6	10.5	38.2	10.6	3.4	M3	1.7	1.5	3	10,000	3.9×10 ⁻⁶	600	39	1.5	0.15	±0.3	X
SDA-31C	31.8	12.7	44.9	11.6	3.7	M3	1.7	3	6	9,000	8.8×10 ⁻⁶	1,300	60	1.5	0.15	±0.4	X
SDA-39C	39	15.3	56.5	13.7	4.3	M4	3.5	5	10	8,000	3.0×10 ⁻⁵	1,800	120	1.5	0.18	±0.4	X

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Non-standard lengthy middle body type can be customized.
- 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.

SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)

Standard Inner Diameter (ID) 12C~47C

Model	Standard Inner Diameter (d ₁ , d ₂) (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
SD□□-12C	●	●		●																		
SD□□-16C	●	●	●	●																		
SD□□-19C	●	●	●	●	●																	
SD□□-22C	●	●	●	●	●	●	●	●	●★	●★												
SD□□-26C		●	●	●	●	●	●	●	●	●	●											
SD□□-31C				●	●	●	●	●	●	●	●	●	●	●	●	●★						
SD□□-35C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SD□□-39C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SD□□-42C					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●★	●★	
SD□□-47C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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 L_1 depth for IDs with ★ mark.

Standard Inner Diameter (ID) 54C~100C

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																							
	10	11	12	12.7	14	15	15.875	16	17	18	19	20	22	24	25	26	28	30	32	35	40	45	50	
SD□□-54C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
SD□□-64C			●	●	●	●	●	●	●	●	●	●	●	●	●	●★	●★	●★	●★					
SD□□80C						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
SD□□-90C												●	●	●	●	●	●	●	●	●	●	●★		
SD□□-100C												●	●	●	●	●	●	●	●	●	●	●	●★	

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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 L_1 depth for IDs with ★ mark.
- Side-clamp Hub Split is available (Optional)

SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)													
		3	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	12.7
SD□□-16C	1	0.9	0.9												
SD□□-19C	1.8	1	1.7												
SD□□-22C	2.2	1.1	1.4	2.2	2.1	2.1									
SD□□-26C	3		2.5	2.9											
SD□□-31C	6				3.2	3.9	4.6	5.6							
SD□□-35C	8				7.8										
SD□□-39C	10				4.9	8	9.1								
SD□□-42C	14					8.7	10.6								
SD□□-47C	24								9.1	12.6	14.1	14.7	15.4	21	22.5

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																			
		10	11	12	12.7	14	15	16	18	19	20	22	24	25	28	30	32	35	40	45	50
SD□□-54C	44	30	42																		
SD□□-64C	62			52	53	57															
SD□□80C	150						80	94	101	109	128	149									
SD□□-90C	300										128	153	187	221	272	315					
SD□□-100C	440										136	153	196	230	298	323	340	349	366	383	408

Side-clamp Hub Split(W) Option is available

- From certain outer diameter(OD) sizes, we can provide Side-clamp Hub Split products.
- Please refer to "HOW TO ORDER" page for more details.



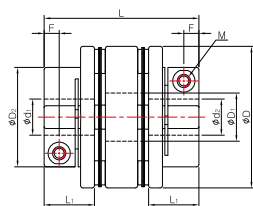
SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)

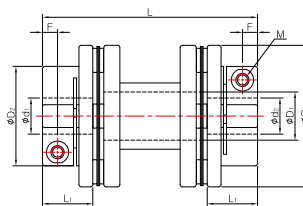
Side-clamp

Flange-shaped (Low-inertia) |

General Type



Lengthy Middle Body Type



Dimensions / Performance General Type

Model	Size ($\pm 0.3\text{mm}$)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	D ₁	D ₂	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SDWB-35C	35	16.2	21.5	34.6	12.7	4.4	M3	1.7	4	8	8,500	6.1×10^{-6}	1,500	44	1.5	0.16	± 0.4
SDWD-35C	35	16.2	21.5	38.1	12.7	4.4	M3	1.7	4	8	8,500	8.2×10^{-6}	1,500	55	1.5	0.16	± 0.4
SDWA-42C	42.5	18	29.3	39.7	13.4	3.8	M3	1.7	7	14	8,000	2.1×10^{-5}	2,000	84	1.5	0.18	± 0.5
SDWB-42C	42.5	18	29.3	44.2	13.4	3.8	M3	1.7	7	14	8,000	2.4×10^{-5}	2,000	94	1.5	0.18	± 0.5
SDWA-47C	47	20.4	33/*38	45.6	16.7	5	M4	3.5	12	24	7,500	3.6×10^{-5}	4,000	120	1.5	0.2	± 0.5
SDWB-47C	47	20.4	33/*38	51.4	16.7	5	M4	3.5	12	24	7,500	3.9×10^{-5}	4,000	132	1.5	0.2	± 0.5
SDWA-54C	54	25	38.5	60.6	21.4	6.1	M5	8	22	44	7,500	7.2×10^{-5}	7,000	192	1.5	0.2	± 0.5
SDWA-64C	64	25.8	48	74.4	26	7.5	M6	13	31	62	6,500	2.2×10^{-4}	11,000	373	1.5	0.3	± 0.5

- 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.
- Please refer to * marked value for D2 of OD 47 products when ID is over 18mm.

Dimensions / Performance Lengthy Middle Body Type

Model	Size ($\pm 0.3\text{mm}$)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	D ₁	D ₂	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SDAA-42C	42.5	18	29.3	50	13.4	3.8	M3	1.7	7	14	8,000	2.7×10^{-5}	2,000	105	1.5	0.18	± 0.5
SDAB-42C	42.5	18	29.3	57.9	13.4	3.8	M3	1.7	7	14	8,000	2.8×10^{-5}	2,000	110	1.5	0.18	± 0.5
SDAC-42C	42.5	18	29.3	67.3	13.4	3.8	M3	1.7	7	14	8,000	2.9×10^{-5}	2,000	115	1.5	0.18	± 0.5
SDAA-47C	47	20	33/*38	63.8	16.7	5	M4	3.5	12	24	7,500	4.5×10^{-5}	4,000	152	1.5	0.2	± 0.5
SDAB-47C	47	20	33/*38	90.7	16.7	5	M4	3.5	12	24	7,500	5.1×10^{-5}	4,000	172	1.5	0.2	± 0.5
SDAA-54C	54	24.3	38.5	76	21.4	6.1	M5	8	22	44	7,500	9.0×10^{-5}	7,000	240	1.5	0.2	± 0.5
SDAB-54C	54	24.3	38.5	89.9	21.4	6.1	M5	8	22	44	7,500	1.1×10^{-4}	7,000	266	1.5	0.2	± 0.5
SDA-64C	64	25.8	48	89.9	26	7.5	M6	13	31	62	6,500	2.7×10^{-4}	11,000	450	1.5	0.3	± 0.5

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Non-standard lengthy middle body type can be customized.**
- 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.
- Please refer to * marked value for D2 of OD 47 products when ID is over 18mm.

SD SERIES (SDW)

Double Disk Type Coupling (High Strength Aluminum Alloy Body)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.875	16	17	18	19	20	22
SD□□-35C	●	●	●	●	●	●	●	●												
SD□□-42C		●	●	●	●	●	●	●	●	●	●	●	●							
SD□□-47C					●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SD□□-54C								●	●	●	●	●	●	●	●	●	●	●	●	
SD□□-64C										●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.

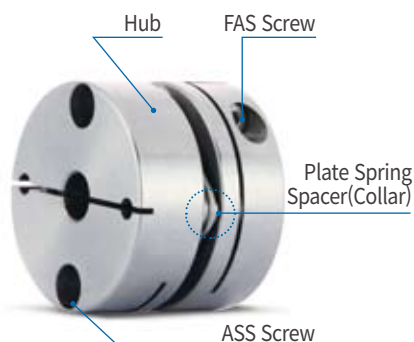
Slip Torque

- 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)													
		5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.875
SD□□-35C	8	3.4	4.2	4.6	7.1										
SD□□-42C	14		4.3	5.6	9.1	11.3	13.3								
SD□□-47C	24					4.9	6.7	7.8	7.8	8.4	11.3	12.2	13.9	21.6	23.9
SD□□-54C	44								26.9	37.8	40.7	41.3	42.7		
SD□□-64C	62										46.3	47.7	51.2		

SD SERIES (SDSS)

Single Disk Type Coupling (Stainless Steel Body)



Structure and Material

Structure	Material
Hub	Stainless Steel
Plate Spring	Stainless Steel
Spacer(Collar)	Stainless Steel
Assembly Screw	SUSXM7
Fastening Screw	SUSXM7

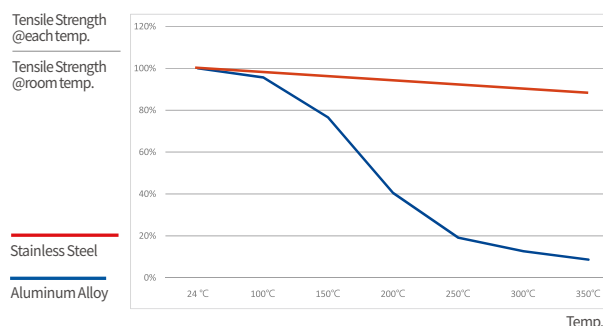
Product Features & Application

Backlash free (Precision)		☆
High Torque (Durability)		○
Torsional Stiffness		☆
Vibration Absorption		-
Misalignment Absorption		△
Corrosion resistance		☆
Applicable Motors	Servo	○
	Stepping	○
	Encoder	○
	General	-

Application : Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage, Machining tools, Index Table, and Corrosion resistant / High-precision / High-heated environment

Why Stainless Steel Products are recommended?

1. Corrosion Resistance allows to be used in rusty environment.
2. The heat resistance is better than aluminum alloy material's so that it keeps the mechanical properties of materials staying normal in high temperature applications.

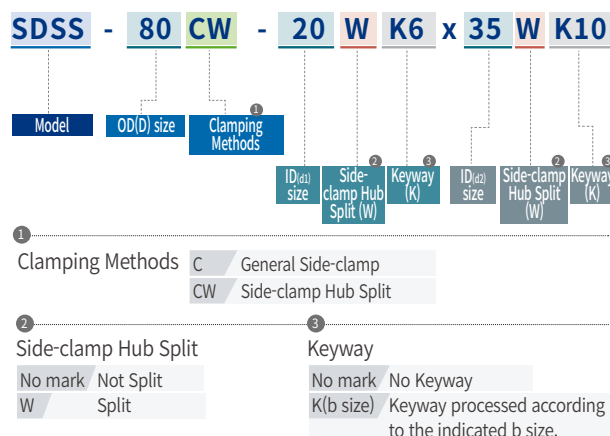


Clamping Methods

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

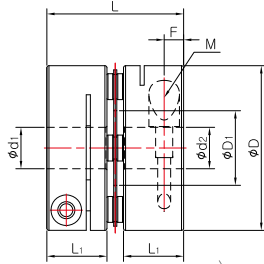
※ You may check the sizes that Side-clamp Hub Split type is applicable from the “Dimensions / Performance” tables in the following pages.

How to Order

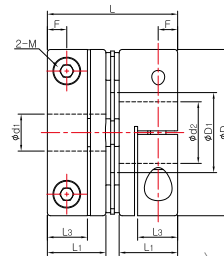


SD SERIES (SDSS)

Single Disk Type Coupling (Stainless Steel Body)



Size : 19C~47C



Size : 54C~90C

Dimensions / Performance

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	D ₁	L	L ₁	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SDSS-19C	19	8.5	19.3	8.7	-	2.9	M2.6	1	0.9	1.8	14,000	1.0 x 10 ⁻⁶	600	21	1	0.02	±0.1	X
SDSS-22C	22.2	10	19.7	8.7	-	2.8	M2.6	1	1.1	2.2	10,000	2.5 x 10 ⁻⁶	600	42	1	0.02	±0.1	X
SDSS-26C	26.6	12.2	24.1	10.7	-	3.4	M3	1.5	1.5	3	10,000	6.0 x 10 ⁻⁶	900	70	1	0.02	±0.15	X
SDSS-31C	31.8	14.4	26.4	11.6	-	3.7	M3	1.5	3	6	9,000	1.5 x 10 ⁻⁵	1,700	112	1	0.02	±0.2	X
SDSS-39C	39	17	31.3	13.7	-	4.3	M4	2.5	5	10	8,000	4.0 x 10 ⁻⁵	2,300	196	1	0.02	±0.2	X
SDSS-42C	42.5	18	31.4	13.7	-	4.3	M4	2.5	7	14	8,000	8.5 x 10 ⁻⁵	2,800	266	1	0.02	±0.25	X
SDSS-47C	47	20.4	36	16	-	5.2	M4	2.5	12	24	8,000	1.4 x 10 ⁻⁴	6,000	392	1	0.02	±0.25	X
SDSS-54C	54	25	42	19	13	6.3	M5	4	22	44	8,000	2.5 x 10 ⁻⁴	11,000	560	1	0.02	±0.25	○
SDSS-64C	64	25.8	57.5	26	15.2	7.5	M6	8	31	62	7,000	6.5 x 10 ⁻⁴	20,000	950	1	0.02	±0.25	○
SDSS-80C	80	35.8	66.1	29.7	19	9.4	M8	20	75	150	7,000	1.6 x 10 ⁻³	40,000	1,800	1	0.02	±0.4	○
SDSS-90C	94.5	41.6	68.9	30.4	19	9.3	M8	20	150	300	6,000	3.2 x 10 ⁻³	60,000	2,400	1	0.02	±0.5	○

- 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) 19C~47C

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																				
	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.88	16	17	18	19	20
SDSS-19C	●	●	●	●																	
SDSS-22C	●	●	●	●	●	●	●	●★	●★												
SDSS-26C			●	●	●	●	●	●	●	●											
SDSS-31C				●	●	●	●	●	●	●	●	●	●	●	●★						
SDSS-39C							●	●	●	●	●	●	●	●	●	●	●				
SDSS-42C							●	●	●	●	●	●	●	●	●	●	●	●	●★	●★	
SDSS-47C										●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.

SD SERIES (SDSS)

Single Disk Type Coupling (Stainless Steel Body)

Standard Inner Diameter (ID) 54C~90C

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																						
	10	11	12	12.7	14	15	15.875	16	17	18	19	20	22	24	25	26	28	30	32	35	40	45	50
SDSS-54C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SDSS-64C			●	●	●	●	●	●	●	●	●	●	●	●	●	★	★	●★					
SDSS-80C						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SDSS-90C												●	●	●	●	●	●	●	●	●	●	●★	

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.
- Side-clamp Hub Split is available (Optional)

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																			
		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
SDSS-19C	1.8	1.2	1.2																		
SDSS-22C	2.2	1.1	1.6	1.5	1.7																
SDSS-26C	3			2.9																	
SDSS-31C	6				2.6	3.1	3.8	5	5.5	5.3											
SDSS-39C	10							9.1													
SDSS-42C	14							7.9	9.1	10.2	11.3	11.9	13.5								
SDSS-47C	24										5.5	5.8	7.9	8.6	9.5	14.8	16.4	19.7	20.6	20.6	

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																					
		10	11	12	12.7	14	15	15.875	16	17	18	19	20	22	24	25	26	28	30	32	35	40	45
SDSS-54C	44	20.1	28.1	30.4	30.7	31.8	32.8	33.7	34.2	34.6	35.6	36.5											
SDSS-64C	62			38.2	39.5	42.4	57.4	59.5															
SDSS-80C	150						68	70	74.8	78	88.4	92	98.6	111	121	129	145						
SDSS-90C	300												102	116	133	134	136	145	153	170	179	179	196

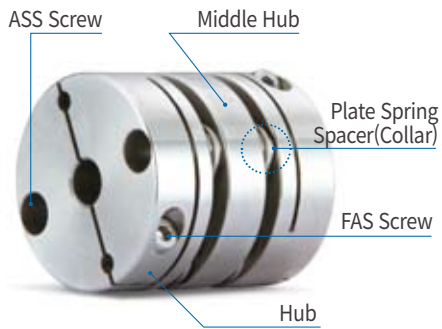
Side-clamp Hub Split(W) Option is available

- From certain outer diameter(OD) sizes, we can provide Side-clamp Hub Split products.
- Please refer to "HOW TO ORDER" page for more details.



SD SERIES (SDWS)

Double Disk Type Coupling (Stainless Steel Body)



Structure and Material

Structure	Material
Hub	Stainless Steel
Middle Hub	Stainless Steel
Plate Spring	Stainless Steel
Spacer(Collar)	Stainless Steel
Assembly Screw	SUSXM7
Fastening Screw	SUSXM7

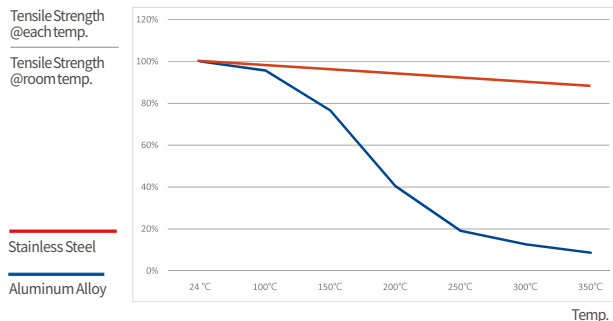
Product Features & Application

Backlash free (Precision)		☆
High Torque (Durability)		○
Torsional Stiffness		☆
Vibration Absorption		-
Misalignment Absorption		○
Corrosion resistance		☆
Applicable Motors	Servo	○
	Stepping	○
	Encoder	○
	General	-

Application : Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage, Machining tools, Index Table, and Corrosion resistant / High-precision / High-heated environment

Why Stainless Steel Products are recommended?

1. Corrosion Resistance allows to be used in rusty environment.
2. The heat resistance is better than aluminum alloy material's so that it keeps the mechanical properties of materials staying normal in high temperature applications.



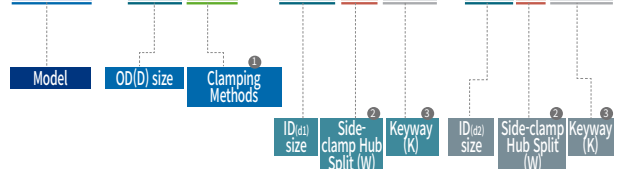
Clamping Methods

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

※ You may check the sizes that Side-clamp Hub Split type is applicable from the “Dimensions / Performance” tables in the following pages.

How to Order

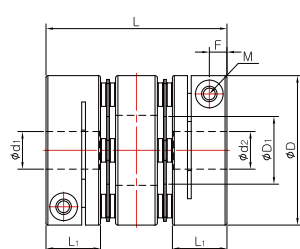
SDWS - 80 CW - 20 W K6 x 35 W K10



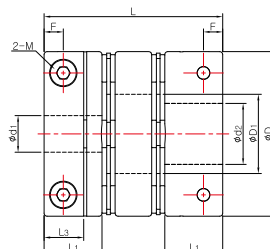
1	Clamping Methods	C General Side-clamp	CW Side-clamp Hub Split (d1 or d2)
2	Side-clamp Hub Split	No mark Not Split	W Split
3	Keyway	No mark No Keyway	K(b size) Keyway processed according to the indicated b size.

SD SERIES (SDWS)

Double Disk Type Coupling (Stainless Steel Body)



Size : 19C~47C



Size : 54C~90C

Dimensions / Performance

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	D ₁	L	L ₁	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SDWAS-19C	19	8.5	23.3	8.7	-	2.9	M2.6	1	0.5	1	14,000	1.6 x 10 ⁻⁶	300	37	1	0.05	±0.2	X
SDWBS-19C	19	8.5	26.3	8.7	-	2.9	M2.6	1	0.5	1	14,000	2.0 x 10 ⁻⁶	300	39	1	0.05	±0.2	X
SDWAS-22C	22.2	9	25	8.7	-	2.8	M2.6	1	1.1	2.2	10,000	3.3 x 10 ⁻⁶	400	47	1.5	0.12	±0.2	X
SDWBS-22C	22.2	9	27.2	8.7	-	2.8	M2.6	1	1.1	2.2	10,000	3.5 x 10 ⁻⁶	400	50	1.5	0.12	±0.2	X
SDWAS-26C	26.6	12.2	32.5	10.7	-	3.4	M3	1.5	1.5	3	10,000	8.5 x 10 ⁻⁶	600	92	1.5	0.15	±0.3	X
SDWAS-31C	31.8	14.4	33.5	11.6	-	3.7	M3	1.5	3	6	10,000	1.9 x 10 ⁻⁵	1,300	140	1.5	0.15	±0.4	X
SDWBS-31C	31.8	14.4	38.5	11.6	-	3.7	M3	1.5	3	6	8,000	2.2 x 10 ⁻⁵	1,300	162	1.5	0.15	±0.4	X
SDWAS-39C	39	17	39.5	13.7	-	4.3	M4	2.5	5	10	8,000	5.3 x 10 ⁻⁵	1,800	257	1.5	0.18	±0.4	X
SDWCS-39C	39	17	45	13.7	-	4.3	M4	2.5	5	10	8,000	6.0 x 10 ⁻⁵	1,800	297	1.5	0.18	±0.4	X
SDWCS-42C	42.5	18	46.2	13.7	-	4.3	M4	2.5	7	14	8,000	8.3 x 10 ⁻⁵	2,000	324	1.5	0.18	±0.5	X
SDWCS-47C	47	20.4	50.7	16	-	5.2	M4	2.5	12	24	8,000	1.4 x 10 ⁻⁴	4,000	432	1.5	0.2	±0.5	X
SDWBS-54C	54	25	52	19	13	6.3	M5	4	22	44	8,000	2.8 x 10 ⁻⁴	7,000	675	1.5	0.2	±0.5	○
SDWCS-54C	54	25	58	19	13	6.3	M5	4	22	44	8,000	3.0 x 10 ⁻⁴	7,000	756	1.5	0.2	±0.5	○
SDWAS-64C	64	25.8	73	26	15.2	7.5	M6	8	31	62	6,500	6.8 x 10 ⁻⁴	11,000	1,200	1.5	0.3	±0.5	○
SDWS-80C	80	35.8	81.8	29.7	19	9.4	M8	20	75	150	6,000	1.9 x 10 ⁻³	20,000	2,100	2	0.4	±0.6	○
SDWCS-80C	80	32	98.3	29.7	19	9.4	M8	20	75	150	6,000	2.4 x 10 ⁻³	20,000	2,600	2	0.5	±0.6	○
SDWS-90C	94.5	41.6	98.9	30.4	19	9.3	M8	20	150	300	6,000	4.2 x 10 ⁻³	35,000	3,100	2	0.4	±0.8	○

- 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) 19C~47C

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																				
	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.88	16	17	18	19	20
SDW□S-19C	●	●	●	●																	
SDW□S-22C	●	●	●	●	●	●	●	●★	●★												
SDW□S-26C			●	●	●	●	●	●	●	●											
SDW□S-31C				●	●	●	●	●	●	●	●	●	●	●	●★						
SDW□S-39C							●	●	●	●	●	●	●	●	●	●	●				
SDW□S-42C							●	●	●	●	●	●	●	●	●	●	●	●	●★	●★	
SDW□S-47C							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.

SD SERIES (SDWS)

Double Disk Type Coupling (Stainless Steel Body)

Standard Inner Diameter (ID) 54C ~ 90C

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	10	11	12	12.7	14	15	15.875	16	17	18	19	20	22	24	25	26	28	30	32	35
SDW□S-54C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
SDW□S-64C			●	●	●	●	●	●	●	●	●	●	●	●	●	★	★	★		
SDW□S-80C						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SDW□S-90C												●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. 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.
- Side-clamp Hub Split is available (Optional)

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																	
		4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	12.7	14	15	15.875	16	17
SDW□S-19C	1.8	1.2	1.2																
SDW□S-22C	2.2	1.1	1.6	1.5	1.7														
SDW□S-26C	3			2.9															
SDW□S-31C	6				2.6	3.1	3.8	5	5.5	5.3									
SDW□S-39C	10							9.1											
SDW□S-42C	14							7.9	9.1	10.2	11.3	11.9	13.5						
SDW□S-47C	24										5.5	5.8	7.9	8.6	9.5	14.8	16.4	19.7	20.6

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																	
		10	11	12	12.7	14	15	15.875	16	17	18	19	20	22	24	25	26	28	30
SDW□S-54C	44	20.1	28.1	30.4	30.7	31.8	32.8	33.7	34.2	34.6	35.6	36.5							
SDW□S-64C	62			38.2	39.5	42.4	57.4	59.5											
SDW□S-80C	150						68	70	74.8	78	88.4	92	98.6	111	121	129	145		
SDW□S-90C	300												102	116	133	134	136	145	153

Side-clamp Hub Split(W) Option is available

- From certain outer diameter(OD) sizes, we can provide Side-clamp Hub Split products.
- Please refer to "HOW TO ORDER" page for more details.



SHD SERIES

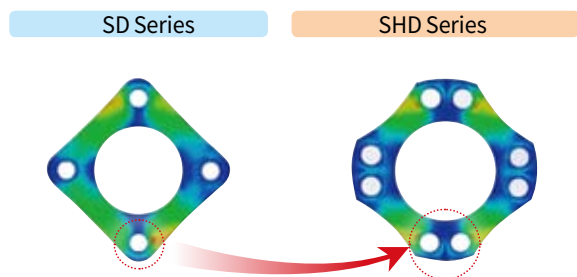


High Torque Disk Coupling

SHD vs SD

SHD Series is an advanced version of SD series with revised shape of its plate springs to disperse stress concentration and to enhance the stiffness and strength of the plate spring modules. In response to the advanced strength of SHD series, AL-7075-T6 material (Ultra high strength Aluminum Alloy) has been adopted as the body material to increase the overall durability.

1. Advanced version of Plate Spring shape



- Sung-il developed the improved version of plate spring with doubled assembly holes to disperse stress concentration, and it enhances both strength and stiffness to the higher extent.

2. Improved durability with advanced body material

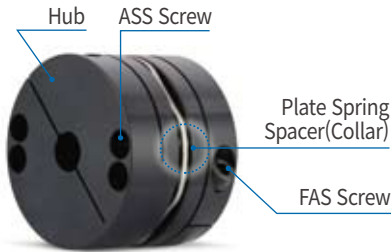
SD Series	AL2024
SHD Series	AL7075
Ratio (= AL7075 / AL2024)	
Yield Strength	1.7 ~ 1.8
Tensile Strength	1.3 ~ 1.4
Shearing Strength	1.15 ~ 1.2
Fatigue Strength	1.15 ~ 1.2

Index

Size (OD)	Body Material	Plate-Spring Modules	Clamping Methods		
			Set-screw	Side-clamp	Taper-ring
56 ~ 110	Al-7075-T6	Single Disk (SHDS)			
		Double Disk (SHDW)			
126 ~ 144	Steel	Single Disk (SHDS)			-
		Double Disk (SHDW)			-

SHD SERIES (SHDS)

Single Disk High Torque Disk Coupling



Structure and Material Size : 56 ~ 110

Structure	Material	Surface Treatment
Hub	Al-7075-T6	Anodizing
Plate Spring	Stainless Steel	-
Spacer(Collar)	Steel	Black Oxide
Assembly Screw	SCM435	Black Oxide
Fastening Screw	SCM435	Black Oxide

Structure and Material Size : 126 ~ 144

Structure	Material	Surface Treatment
Hub	Steel	Black Oxide (Standard)
Plate Spring	Stainless Steel	-
Spacer(Collar)	Steel	Black Oxide
Assembly Screw	SCM435	Black Oxide
Fastening Screw	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option.

Product Features & Application

Backlash free (Precision)		☆
High Torque (Durability)		☆
Torsional Stiffness		☆
Vibration Absorption		-
Misalignment Absorption		△
Applicable Motors	Servo	○
	Stepping	○
	Encoder	-
	General	○

Application : Cartesian Robot, Belt Drive, Machining tools, Index Table, Logistics facilities, Servo Press etc.

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



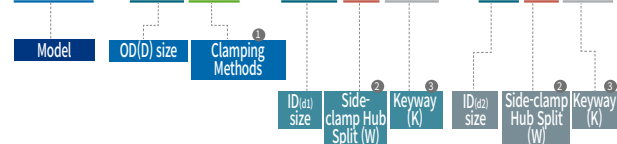
SUS/ASS

Clamping Methods

Set-screw (No mark)	General	○
	With Keyway	○
Side-clamp (C)	General	○
	Hub Split	○
	With Keyway	○
Taper-ring (T)		△

How to Order

SHDS - 56 CW - 20 W K6 x 25 W K8



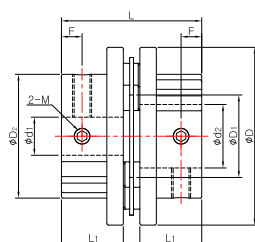
1 Clamping Methods		No mark	Set-screw
		C	General Side-clamp
		CW	Side-clamp Hub Split
		T	Taper-ring
2 Side-clamp Hub Split		3 Keyway	
		No mark	No Keyway
		W	Split (Only applicable on Side-clamp Type)
		K(b size)	Keyway processed according to the indicated b size. (Keyway is not applicable on Taper-ring type)

SHD SERIES (SHDS)

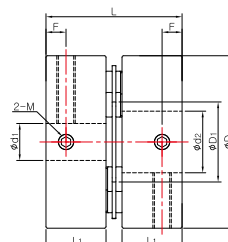
Single Disk High Torque Disk Coupling

Set-Screw

Flange-shaped



Cylinder-shaped



Size (OD)	56	66	88	110
Flange-shaped	< ID 22mm	< ID 26mm	< ID 32mm	< ID 48mm

Size (OD)	56	66	88	110
Cylinder-shaped	≥ ID 22mm	≥ ID 26mm	≥ ID 32mm	≥ ID 48mm

- Only flange-shaped products are available for OD126 and OD144

Dimensions / Performance

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	D ₁	D ₂	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SHDS-56	56	30.6	39	44.2	19.5	6.5	M6	7	35	70	7,700	2.9×10 ⁻⁵	2.0×10 ⁴	150	0.7	0.02	±0.3
SHDS-66	66	35.6	46	56.5	24.5	7.5	M8	15	60	120	7,000	8.0×10 ⁻⁵	3.0×10 ⁴	300	0.7	0.02	±0.3
SHDS-88	88	46	63	69.9	30	9.5	M8	15	180	360	5,500	2.9×10 ⁻⁴	7.0×10 ⁴	600	0.7	0.02	±0.3
SHDS-110	108	60.5	77	77.7	34.5	13	M10	30	280	560	4,000	2.0×10 ⁻³	1.4×10 ⁵	1190	0.7	0.02	±0.5
SHDS-126	126	65	78/*92	91.2	40	12	M10	30	360	720	3,500	4.4×10 ⁻³	4.4×10 ⁵	3200	1	0.02	±1.6
SHDS-144	144	75	88/*104	101.7	45	15	M10	30	530	1,060	3,000	8.4×10 ⁻³	7.8×10 ⁵	4700	1	0.02	±1.8

- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)
- Please refer to * marked value for D₂ of OD 126 & OD 144 products when ID is over 55mm.

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (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	65	70	
SHDS-56	●	●	●	●	●	●	●	●	●	●	●	●																
SHDS-66					●	●	●	●	●	●	●	●	●	●	●	●												
SHDS-88									●	●	●	●	●	●	●	●	●	●	●	●	●							
SHDS-110															●	●	●	●	●	●	●	●	●	●	●			
SHDS-126								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SHDS-144										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

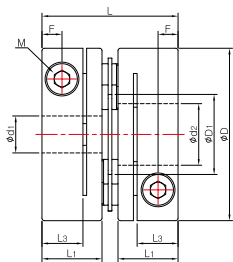
- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SHD SERIES (SHDS)

Single Disk High Torque Disk Coupling

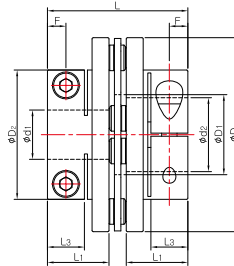
Side-clamp

Cylinder-shaped



Size : 56C ~ 110C

Flange-shaped (Low-inertia)



Size : 126C

Dimensions / Performance

Model	Size (±0.3mm)							Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	D ₁	D ₂	L	L ₁	L ₂	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SHDS-56C	56	30.6	-	44.2	19.5	13.3	6.5	M6	13	35	70	7,000	4.0×10 ⁻⁵	2.0×10 ⁴	210	0.7	0.02	±0.3	○
SHDS-66C	66	35.6	-	56.5	24.5	15.5	7.5	M6	13	60	120	6,500	1.0×10 ⁻⁴	3.0×10 ⁴	380	0.7	0.02	±0.3	○
SHDS-88C	88	46	-	69.9	30	19	10	M8	30	180	360	5,500	4.3×10 ⁻⁴	7.0×10 ⁴	900	0.7	0.02	±0.3	○
SHDS-110C	108	60.5	-	77.7	34.5	21	10.5	M10	50	280	560	4,000	2.3×10 ⁻³	1.4×10 ⁵	1,350	0.7	0.02	±0.5	○
SHDS-126C	126	65	84/*100	91.2	40	24	12	M10	50	360	720	3,500	6.0×10 ⁻³	4.4×10 ⁵	4,000	1	0.02	±1.6	○

- 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.
- For OD 126C products, please refer to D₂ values with * mark when inner diameters are bigger than 45mm.

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38	40	42
SHDS-56C	●	●	●	●	●	●	●	●	●	●	●	●								
SHDS-66C					●	●	●	●	●	●	●	●	●	●	●	●				
SHDS-88C									●	●	●	●	●	●	●	●	●	●	●	●
SHDS-110C															●	●	●	●	●	●
SHDS-126C															●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)
- Side-clamp Hub Split is available (Optional)

SHD SERIES (SHDS)

Single Disk High Torque Disk Coupling

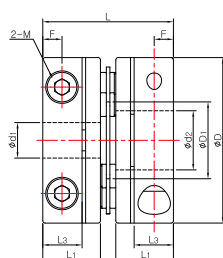
Slip Torque

- 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																	
		10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38
SHDS-56C	70	32	36.8	41.6	54.4	56	62.4	69.6											
SHDS-66C	120					70.4	76.8	80	88	112									
SHDS-88C	360									128	162	179	196	213	238	255	281	306	332
SHDS-110C	560															272	298	349	442
SHDS-126C	720															357	391	434	502

Side-clamp Hub Split(W) Option is available

- From certain outer diameter (OD) sizes, we can provide Side-clamp Hub Split products.
- Please refer to "HOW TO ORDER" page for more details.
- The no. of fastening screws for OD 56~110 products is only 1 each, however we provide 2 screws for Side-clamp Split (W) type according to the below drawing.



Electroless Nickel Plating for Steel-body Products

- The standard surface treatment (finish) for steel-body product is **Black Oxide**.
- If corrosion is highly concerned, there is another surface treatment option of 'Electroless Nickel Plating' adding an additional code "NI" next to the part no. as shown below.

SHDS - 126C - NI - 30 - 40

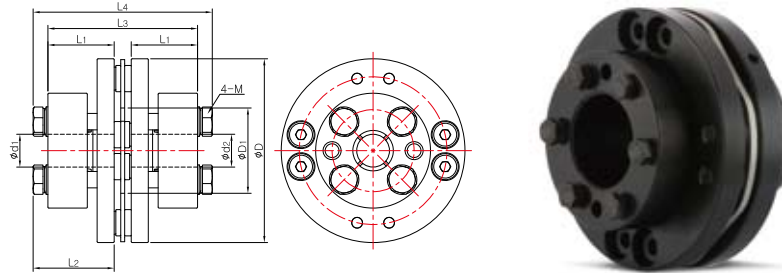
- All other parts (collars, ASS screws and FAS screws) will be Electroless Nickel Plated as well.



SHD SERIES (SHDS)

Single Disk High Torque Disk Coupling

Taper-ring



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)						Screw		Permissible Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	D ₁	L ₁	L ₂	L ₃	L ₄	Size	Fastening Torque (N·m)						Angular (°)	Parallel (mm)	End-play (mm)
SHDS-56T	56	30.6	20.2	24.7	45.6	54.6	M5	8	60	7,700	3.6×10^{-5}	2.0×10^4	190	0.7	0.02	± 0.3
SHDS-66T	66	35.6	25	30	57.5	67.5	M6	13	120	7,000	8.6×10^{-5}	3.0×10^4	320	0.7	0.02	± 0.3
SHDS-88T	88	46	30	35.2	69.9	80.3	M6	13	200	6,000	3.2×10^{-4}	7.0×10^4	670	0.7	0.02	± 0.3
SHDS-110T	108	60.5	30.7	35.9	70.1	80.5	M6	13	350	4,500	1.6×10^{-3}	1.4×10^5	980	0.7	0.02	± 0.5

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Due to the structure of Taper-ring, it's not allowed to have other complementary options to enhance clamping force such as keyway etc. This is the reason why the above-mentioned permissible torques are based on the slip torque at the min. standard inner diameter. (The bigger inner diameter, the higher permissible torque.)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (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
SHDS-56T	●	●	●	●	●	●	●	●	●	●	●	●													
SHDS-66T					●	●	●	●	●	●	●	●	●	●	●	●									
SHDS-88T									●	●	●	●	●	●	●	●	●	●	●	●	●				
SHDS-110T																●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is **NOT** available

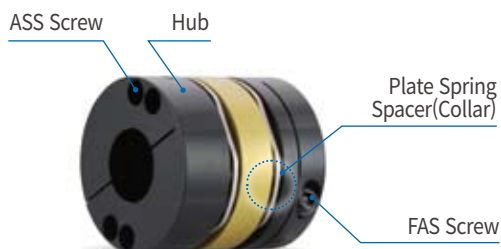
Slip Torque

- 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Permissible Torque (N·m)	Slip Torque (N·m) by Inner Diameter (d ₁ , d ₂)															
		10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32
SHDS-56T	60	56															
SHDS-66T	120					80											
SHDS-88T	200									140	196						
SHDS-110T	350															259	322

SHD SERIES (SHDW)

Double Disk High Torque Disk Coupling



Structure and Material Size : 56 ~ 110

Structure	Material	Surface Treatment
Hub	Al-7075-T6	Anodizing
Middle Hub	Al-7075-T6	
Plate Spring	Stainless Steel	-
Spacer(Collar)	Steel	Black Oxide
Assembly Screw	SCM435	Black Oxide
Fastening Screw	SCM435	Black Oxide

Structure and Material Size : 126 ~ 144

Structure	Material	Surface Treatment
Hub	Steel	Black Oxide (Standard)
Middle Hub	Steel	
Plate Spring	Stainless Steel	-
Spacer(Collar)	Steel	Black Oxide
Assembly Screw	SCM435	Black Oxide
Fastening Screw	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for electroless nickel plating surface treatment option.

Product Features & Application

Backlash free (Precision)		☆
High Torque (Durability)		☆
Torsional Stiffness		☆
Vibration Absorption		-
Misalignment Absorption		○
Applicable Motors	Servo	○
	Stepping	○
	Encoder	-
	General	○

Application : Cartesian Robot, Belt Drive, Machining tools, Index Table, Logistics facilities, Servo Press etc.

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

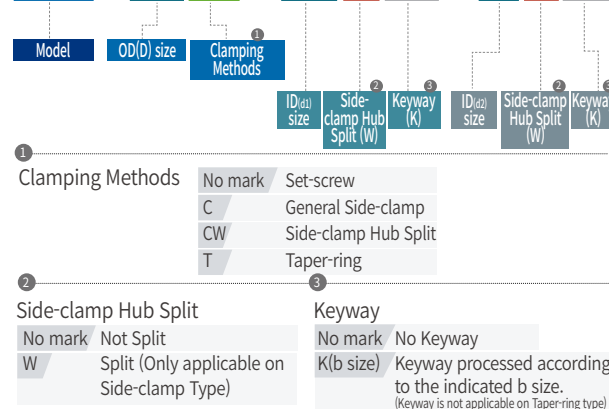
Clamping Methods

Set-screw (No mark)	General	○
	With Keyway	○
Side-clamp (C)	General	○
	Hub Split	○
	With Keyway	○
Taper-ring (T)		△

※ You may check the sizes that Side-clamp Hub Split type is applicable from the "Dimensions / Performance" tables in the following pages.

How to Order

SHDW - 56 CW - 20 W K6 x 25 W K8

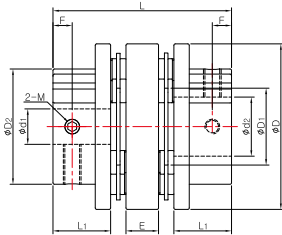


SHD SERIES (SHDW)

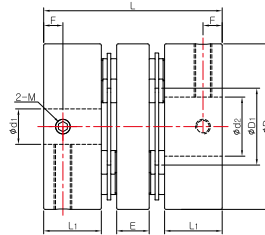
Double Disk High Torque Disk Coupling

Set-Screw

Flange-shaped



Cylinder-shaped



Size (OD)	56	66	88	110
Flange-shaped	< ID 22mm	< ID 26mm	< ID 32mm	< ID 48mm

Size (OD)	56	66	88	110
Cylinder-shaped	≥ ID 22mm	≥ ID 26mm	≥ ID 32mm	≥ ID 48mm

- Only flange-shaped products are available for OD126 and OD144

Dimensions / Performance

Model	Size (±0.3mm)							Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	D ₁	D ₂	L	L ₁	F	E	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End play (mm)
SHDW-56	56	28.6	39	60.4	19.5	6.5	11	M6	7	35	70	7,700	4.6×10 ⁻⁵	1.0×10 ⁴	240	1	0.2	±0.6
SHDW-66	66	35.6	46	80	24.5	7.5	16	M8	15	60	120	7,000	1.2×10 ⁻⁴	1.5×10 ⁴	440	1	0.2	±0.6
SHDW-88	88	46	63	99.8	30	9.5	20	M8	15	180	360	5,500	4.3×10 ⁻⁴	3.5×10 ⁴	900	1	0.2	±0.6
SHDW-110	108	60.5	77	111	34.5	13	24.6	M10	30	280	560	4,000	3.2×10 ⁻³	7.0×10 ⁴	1,750	1	0.25	±1
SHDW-126	126	65	78/*92	127.4	40	12	25	M10	30	360	720	3,500	1.0×10 ⁻²	2.2×10 ⁵	5,150	1	0.6	±3.2
SHDW-144	144	75	88/*104	143.4	45	15	30	M10	30	530	1,060	3,000	1.9×10 ⁻²	3.9×10 ⁵	7,600	1	0.6	±3.6

- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)
- Please refer to * marked value for D₂ of OD 126 & OD 144 products when ID is over 55mm.

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (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	65	70	
SHDW-56	●	●	●	●	●	●	●	●	●	●	●	●																
SHDW-66					●	●	●	●	●	●	●	●	●	●	●	●												
SHDW-88									●	●	●	●	●	●	●	●	●	●	●	●	●							
SHDW-110															●	●	●	●	●	●	●	●	●	●	●			
SHDW-126								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SHDW-144										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

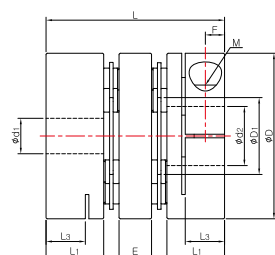
- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SHD SERIES (SHDW)

Double Disk High Torque Disk Coupling

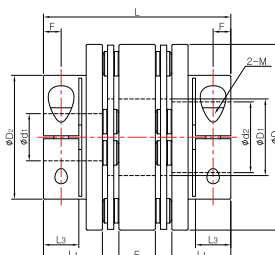
Side-clamp

Cylinder-shaped



Size: 56C~110C

Flange-shaped (Low-inertia)



Size: 126C

Dimensions / Performance

Model	Size (±0.3mm)								Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	D ₁	D ₂	L	L ₁	L ₃	F	E	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SHDW-56C	56	28.6	-	60.4	19.5	13.3	6.5	11	M6	13	35	70	7,000	5.8×10 ⁻⁵	1.0×10 ⁴	300	1	0.2	±0.6	○
SHDW-66C	66	35.6	-	80	24.5	15.5	7.5	16	M6	13	60	120	6,500	1.4×10 ⁻⁴	1.5×10 ⁴	520	1	0.2	±0.6	○
SHDW-88C	88	46	-	99.8	30	19	10	20	M8	30	180	360	5,500	5.7×10 ⁻⁴	3.5×10 ⁴	1,200	1	0.2	±0.6	○
SHDW-110C	108	60.5	-	111	34.5	21	10.5	24.6	M10	50	280	560	4,000	3.7×10 ⁻³	7.0×10 ⁴	1,920	1	0.25	±1	○
SHDW-126C	126	65	84/*100	127.4	40	24	12	25	M10	50	360	720	3,500	1.3×10 ⁻²	2.2×10 ³	5,800	1	0.6	±3.2	○

- 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.
- For OD 126C products, please refer to D₂ values with * mark when inner diameters are bigger than 45mm.

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																				
	10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38	40	42	45
SHDW-56C	●	●	●	●	●	●	●	●	●	●	●	●									
SHDW-66C					●	●	●	●	●	●	●	●	●	●	●	●					
SHDW-88C									●	●	●	●	●	●	●	●	●	●	●	●	●
SHDW-110C															●	●	●	●	●	●	●
SHDW-126C															●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SHD SERIES (SHDW)

Double Disk High Torque Disk Coupling

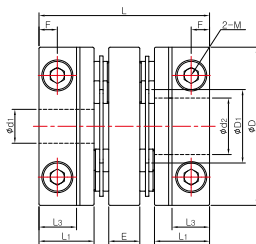
Slip Torque

- 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d_1, d_2)																	
		10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38
SHDW-56C	70	32	36.8	41.6	54.4	56	62.4	69.6											
SHDW-66C	120					70.4	76.8	80	88	112									
SHDW-88C	360									128	162	179	196	213	238	255	281	306	332
SHDW-110C	560															272	298	349	442
SHDW-126C	720															357	391	434	502

Side-clamp Hub Split(W) Option is available

- From certain outer diameter (OD) sizes, we can provide Side-clamp Hub Split products.
- Please refer to "HOW TO ORDER" page for more details.
- The no. of fastening screws for OD 56~110 products is only 1 each, however we provide 2 screws for Side-clamp Split (W) type according to the below drawing.



Electroless Nickel Plating for Steel-body Products

- The standard surface treatment (finish) for steel-body product is **Black Oxide**.
- If corrosion is highly concerned, there is another surface treatment option of 'Electroless Nickel Plating' adding an additional code "NI" next to the part no. as shown below.

SHDW - 126C - NI - 30 - 40

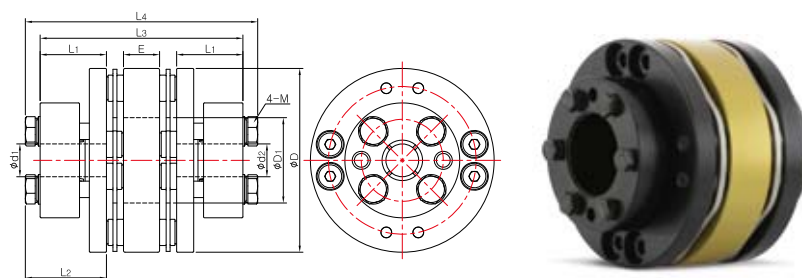
- All other parts (collars, ASS screws and FAS screws) will be Electroless Nickel Plated as well.



SHD SERIES (SHDW)

Double Disk High Torque Disk Coupling

Taper-ring



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)							Screw		Permissible Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	D ₁	L ₁	L ₂	L ₃	L ₄	E	Size	Fastening Torque (N·m)						Angular (°)	Parallel (mm)	End-play (mm)
SHDW-56T	56	28.6	20.2	24.7	61.8	70.8	11	M5	8	60	7,700	5.4×10^{-5}	1.0×10^4	280	1	0.2	± 0.6
SHDW-66T	66	35.6	25	30	81	91	16	M6	13	120	7,000	1.2×10^{-4}	1.5×10^4	460	1	0.2	± 0.6
SHDW-88T	88	46	30	35.2	99.8	110.2	20	M6	13	200	6,000	4.6×10^{-4}	3.5×10^4	970	1	0.2	± 0.6
SHDW-110T	108	60.5	30.7	35.9	103.4	113.8	24.6	M6	13	350	4,500	3.7×10^{-3}	7.0×10^4	1530	1	0.25	± 1

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Due to the structure of Taper-ring, it's not allowed to have other complementary options to enhance clamping force such as keyway etc. This is the reason why the above-mentioned permissible torques are based on the slip torque at the min. standard inner diameter. (The bigger inner diameter, the higher permissible torque.)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d_1, d_2) (mm)																			
	10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38	40	42
SHDW-56T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SHDW-66T					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SHDW-88T									●	●	●	●	●	●	●	●	●	●	●	●
SHDW-110T															●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is **NOT** available

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N·m)	Slip Torque (N·m) by Inner Diameter (d_1, d_2)															
		10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32
SHDW-56T	60	56															
SHDW-66T	120					80											
SHDW-88T	200									140	196						
SHDW-110T	350															259	322

SJC SERIES



Jaw Coupling



- Power transmission through the spider (sleeve) in the middle
- The highest durability comparing to other coupling series
- Various clamping methods available
- High precision with preloaded assembly

Product Features & Application

Backlash free (Precision)		○
High Torque (Durability)		☆
Torsional Stiffness		△
Vibration Absorption		○
Misalignment Absorption		△
Insulation of Electric Current		○
Applicable Motors	Servo	○
	Stepping	○
	Encoder	△
	General	☆
Permissible Temperature		-20°C ~ 120°C

Application : Machining tools, Press machine, Injection Molding machine, Pneumatic machine, Pump, Cartesian Robot, Belt Drive, Logistics facilities etc.

Clamping Methods

Set-screw (No mark)	General	△
	With Keyway	○
Side-clamp (C)	General	○
	Hub Split	△
	With Keyway	○
Shaft-insertion (I)		△
Taper-ring (T)		△

※ △ symbol in the above table means that the availability is subject to differ according to each outer diameter size.

※ You may check more details on the “Dimensions / Performance” tables in the following pages.

Sleeve Material



High Flexibility
High Absorption of misalignment

High Mechanical Strength
High Mechanical Stiffness

- A Sleeve (Spider) is the medium that transmits motion absorbing impact and misalignment and it is the core part of Jaw couplings.
- **Hytrell® (made by Dupont)** is superior in terms of **mechanical strength, abrasion resistance and heat resistance** comparing to PU (Poly Urethane)
- According to shore stiffness, there are 2 types of sleeves, **RD** (Sh 63D) and **GR** (Sh 98A) respectively.

SJC SERIES

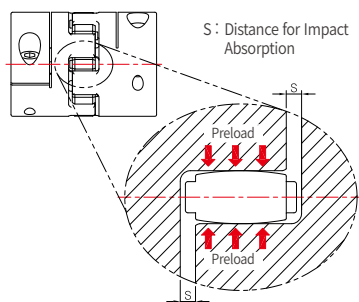
Jaw Coupling

Sleeve Types (General: Center-Solid / TH: Center-Through)

If the shaft has to be inserted deeper than L_1 value, we can provide appropriate center-through sleeves. Please refer to "HOW TO ORDER" in the previous page. Either type has the identical value of transmittable torque and the same level of misalignment absorption.

Type	14 - 30	40	48 - 100	120 - 135	160	Model	Max. standard ID	Sleeve-TH ID
General : Center-Solid						SJC-14	Φ5	-
						SJC-20	Φ8	Φ6
						SJC-25	Φ10	Φ6.35
						SJC-30	Φ14	Φ8
						SJC-40	Φ18	Φ15
						SJC-48	Φ28	Φ20
TH : Center-Through						SJC-55	Φ28	Φ25
						SJC-65	Φ35	Φ25
						SJC-80	Φ45	Φ32
						SJC-100	Φ60	Φ45
						SJC-120	Φ65	Φ55
						SJC-135	Φ70	Φ65
						SJC-160	Φ80	Φ75

Preload on Sleeves



Sung-il's SJC Series is assembled with adequate preload and its outstanding features are as below.

1. Improved static torsional stiffness brings faster response
2. Minimized backlash as there is no clearance at the assembled area

Model	Distance S	Model	Distance S	Model	Distance S
SJC-14	1.0mm	SJC-40, 48, 55	2mm	SJC-120	4mm
SJC-20	1.0mm	SJC-65	2.5mm	SJC-135	4.5mm
SJC-25	1.2mm	SJC-80	3mm	SJC-160	5mm
SJC-30	1.5mm	SJC-100	3.5mm		

Performance table according to sleeve types

Model	Code	Shore Stiffness	Rated Torque (N·m)	Max. Torque (N·m)	Static Torsional Stiffness (N·m/rad)	Permissible Misalignment		
						Angular (°)	Parallel (mm)	End-play (mm)
SJC-14	GR	98A	2	4	22	1	0.05	-0.2 ~ +0.6
SJC-20	GR	98A	3	10	50	1	0.07	-0.3 ~ +0.8
SJC-25	GR	98A	9	18	220	1	0.07	-0.4 ~ +1.0
SJC-30	GR	98A	12	24	180	1	0.08	-0.5 ~ +1.0
SJC-40	GR	98A	17	34	1,500	1	0.06	-0.6 ~ +1.2
SJC-48	GR	98A	35	70	1,800	1	0.08	-0.6 ~ +1.3
SJC-55	GR	98A	45	90	3,500	1	0.09	-0.6 ~ +1.4
SJC-65	GR	98A	120	240	6,000	1	0.1	-0.6 ~ +1.5
SJC-80	GR	98A	240	480	10,000	1	0.1	-0.6 ~ +1.5
SJC-100	GR	98A	300	600	24,000	1	0.15	-0.6 ~ +2.0
SJC-120	GR	98A	620	1,240	38,000	1.2	0.35	-1.0 ~ +2.2
SJC-135	GR	98A	850	1,700	43,000	1.2	0.4	-1.0 ~ +2.2
SJC-160	GR	98A	1,700	3,400	70,000	1.2	0.4	-1.5 ~ +3.0

Model	Code	Shore Stiffness	Rated Torque (N·m)	Max. Torque (N·m)	Static Torsional Stiffness (N·m/rad)	Permissible Misalignment		
						Angular (°)	Parallel (mm)	End-play (mm)
SJC-14	RD	63D	2.4	4.8	34	1	0.03	-0.2 ~ +0.6
SJC-20	RD	63D	6	12	74	1	0.05	-0.3 ~ +0.8
SJC-25	RD	63D	12	24	300	1	0.05	-0.4 ~ +1.0
SJC-30	RD	63D	16	32	220	1	0.06	-0.5 ~ +1.0
SJC-40	RD	63D	21	42	2,500	1	0.04	-0.6 ~ +1.2
SJC-48	RD	63D	45	90	3,600	1	0.05	-0.6 ~ +1.3
SJC-55	RD	63D	60	120	5,000	1	0.06	-0.6 ~ +1.4
SJC-65	RD	63D	180	360	10,000	1	0.08	-0.6 ~ +1.5
SJC-80	RD	63D	320	640	25,000	1	0.08	-0.6 ~ +1.5
SJC-100	RD	63D	600	1,200	50,000	1	0.1	-0.6 ~ +2.0
SJC-120	RD	63D	740	1,480	95,000	1.2	0.25	-1.0 ~ +2.2
SJC-135	RD	63D	1,050	2,100	105,000	1.2	0.3	-1.0 ~ +2.2
SJC-160	RD	63D	2,100	4,200	160,000	1.2	0.32	-1.5 ~ +3.0

SJC SERIES



Jaw Coupling

Structure and Material of SJC Series

Set-screw

Size : 14 ~ 100



Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Sleeve	Hytrel®(RD/GR)	-
Screw	SCM435	Black Oxide

Side-clamp

Size : 14C ~ 100C



Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Sleeve	Hytrel®(RD/GR)	-
Screw	SCM435	Black Oxide

Side-clamp

Size : 120C ~ 160C



Structure	Material	Surface Treatment
Hub	Steel	Electroless Nickel Plating
Sleeve	Hytrel®(RD/GR)	-
Screw	SCM435	Electroless Nickel Plating

Side-clamp (Space-saving)

Size : M-55C ~ M-100C



Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Sleeve	Hytrel®(RD/GR)	-
Screw	SCM435	Black Oxide

Shaft-insertion

Size : 25I ~ 65I



Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Sleeve	Hytrel®(RD/GR)	-
Bushing	Stainless Steel	
Screw	SCM435	Black Oxide

Taper-ring

Size : 55T ~ 100T



Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Sleeve	Hytrel®(RD/GR)	-
Screw	SCM435	Black Oxide

HOW TO ORDER Set-screw / Side-clamp / Taper-ring

SJC - 65 CW - RD - TH - 20 W K6 x 25 W K8

1 Clamping Methods

No mark	Set-screw
C	General Side-clamp
CW	Side-clamp Hub Split
T	Taper-ring

2 Sleeve Type
(Shore Stiffness)

RD	Shore 63D
GR	Shore 98A

3 Center-Through

No mark	Center-Solid
TH	Center-Through

4 Side-clamp Hub Split

No mark	Not Split
W	Split (Only applicable on Side-clamp Type)

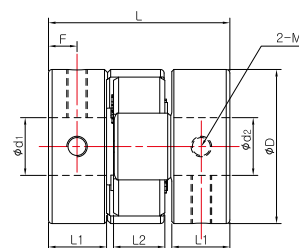
5 Keyway

No mark	No Keyway
K(b size)	Keyway processed according to the indicated b size. (Keyway is not applicable on Taper-ring type)

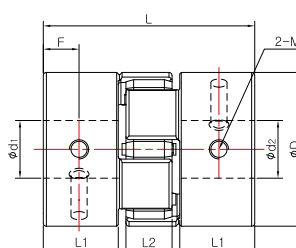
SJC SERIES

Jaw Coupling

Set-screw



Size : 14~30



Size : 40



Dimensions / Performance

Model	Size (±0.3mm)					Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SJC-14-GR	14	22	7	6	3.5	M3	0.7	2	4	27,000	2.1×10 ⁻⁷	22	6.7	1	0.05	-0.2 ~ +0.6
SJC-14-RD	14	22	7	6	3.5	M3	0.7	2.4	4.8	27,000	2.1×10 ⁻⁷	34	6.7	1	0.03	-0.2 ~ +0.6
SJC-20-GR	20	30	10	8	4.7	M3	0.7	5	10	19,000	1.0×10 ⁻⁶	50	18.3	1	0.07	-0.3 ~ +0.8
SJC-20-RD	20	30	10	8	4.7	M3	0.7	6	12	19,000	1.0×10 ⁻⁶	74	18.3	1	0.05	-0.3 ~ +0.8
SJC-25-GR	25	31.3	10	9	5	M4	1.7	9	18	15,000	2.7×10 ⁻⁶	220	30	1	0.07	-0.4 ~ +1.0
SJC-25-RD	25	31.3	10	9	5	M4	1.7	12	24	15,000	2.7×10 ⁻⁶	300	30	1	0.05	-0.4 ~ +1.0
SJCA-30-GR	30	35.3	11.3	10	5.6	M4	1.7	12	24	13,000	6.2×10 ⁻⁶	180	46	1	0.08	-0.4 ~ +1.0
SJCA-30-RD	30	35.3	11.3	10	5.6	M4	1.7	16	32	13,000	6.2×10 ⁻⁶	220	46	1	0.06	-0.4 ~ +1.0
SJCB-30-GR	30	44.7	16	10	7.3	M4	1.7	12	24	13,000	8.2×10 ⁻⁶	180	60	1	0.08	-0.4 ~ +1.0
SJCB-30-RD	30	44.7	16	10	7.3	M4	1.7	16	32	13,000	8.2×10 ⁻⁶	220	60	1	0.06	-0.4 ~ +1.0
SJCA-40-GR	40	55	19.5	12	9.3	M5	4	17	34	9,600	3.3×10 ⁻⁵	1,500	132	1	0.06	-0.5 ~ +1.2
SJCA-40-RD	40	55	19.5	12	9.3	M5	4	21	42	9,600	3.3×10 ⁻⁵	2,500	132	1	0.04	-0.5 ~ +1.2
SJCB-40-GR	40	66	25	12	11.6	M5	4	17	34	9,600	4.0×10 ⁻⁵	1,500	163	1	0.06	-0.5 ~ +1.2
SJCB-40-RD	40	66	25	12	11.6	M5	4	21	42	9,600	4.0×10 ⁻⁵	2,500	163	1	0.07	-0.5 ~ +1.2

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

Standard Inner Diameter (ID)

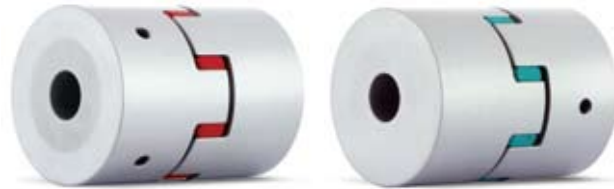
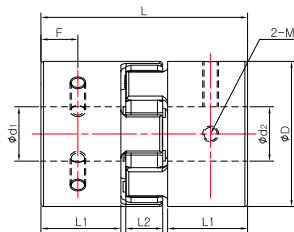
Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																
	3	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	14	15	16	18
SJC□-14	●	●	●	●													
SJC□-20		●	●	●	●	●	●	●									
SJC□-25				●	●	●	●	●	●	●	●						
SJC□-30					●	●	●	●	●	●	●	●	●	●			
SJC□-40								●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SJC SERIES

Jaw Coupling

Set-screw



Size: 55 ~ 100

Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)					Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SJC-55-GR	55	78.3	30.3	14	14	M6	7	45	90	7,500	1.7×10^{-4}	3,500	344	1	0.09	-0.5 ~ +1.4
SJC-55-RD	55	78.3	30.3	14	14	M6	7	60	120	7,500	1.7×10^{-4}	5,000	344	1	0.06	-0.5 ~ +1.4
SJC-65-GR	65	90.3	35.3	15	17.2	M8	15	120	240	6,000	3.9×10^{-4}	6,000	535	1	0.1	-0.6 ~ +1.5
SJC-65-RD	65	90.3	35.3	15	17.2	M8	15	180	360	6,000	3.9×10^{-4}	10,000	535	1	0.08	-0.6 ~ +1.5
SJC-80-GR	80	114.2	45.2	18	21.7	M8	15	240	480	5,000	1.1×10^{-3}	10,000	1,150	1	0.1	-0.6 ~ +1.5
SJC-80-RD	80	114.2	45.2	18	21.7	M8	15	320	640	5,000	1.1×10^{-3}	25,000	1,150	1	0.08	-0.6 ~ +1.5
SJC-100-GR	104	140.2	56.2	21	27.3	M10	25	300	600	4,000	4.8×10^{-3}	24,000	2,650	1	0.1	-0.6 ~ +2.0
SJC-100-RD	104	140.2	56.2	21	27.3	M10	25	600	1,200	4,000	4.8×10^{-3}	50,000	2,650	1	0.1	-0.6 ~ +2.0

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

Standard Inner Diameter (ID)

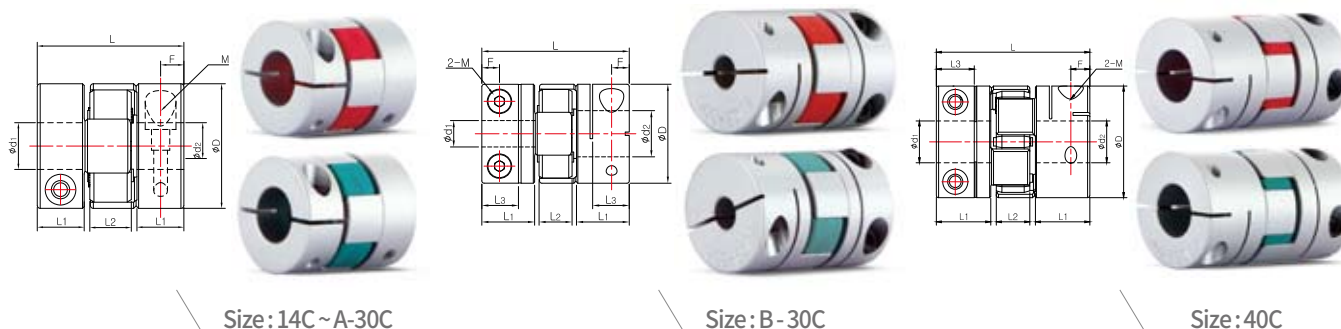
Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																		
	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	40	45	50	60
SJC-55	●	●	●	●	●	●	●	●	●	●	●	●							
SJC-65			●	●	●	●	●	●	●	●	●	●	●	●	●				
SJC-80			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SJC-100							●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SJC SERIES

Jaw Coupling

Side-clamp



Size : 14C ~ A-30C

Size : B-30C

Size : 40C

Dimensions / Performance

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	L	L ₁	L ₂	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SJC-14C-GR	14	22	7	6	-	3.5	M2	0.5	2	4	22,000	1.6×10 ⁻⁷	22	6	1	0.05	-0.2 ~ +0.6	X
SJC-14C-RD	14	22	7	6	-	3.5	M2	0.5	2.4	4.8	22,000	1.6×10 ⁻⁷	34	6	1	0.03	-0.2 ~ +0.6	X
SJC-20C-GR	20	30	10	8	-	5	M2.6	1	5	10	15,000	1.1×10 ⁻⁶	50	19	1	0.07	-0.3 ~ +0.8	X
SJC-20C-RD	20	30	10	8	-	5	M2.6	1	6	12	15,000	1.1×10 ⁻⁶	74	19	1	0.05	-0.3 ~ +0.8	X
SJC-25C-GR	25	31.3	10	9	-	5	M3	1.7	9	18	13,000	2.4×10 ⁻⁶	220	25	1	0.07	-0.4 ~ +1.0	X
SJC-25C-RD	25	31.3	10	9	-	5	M3	1.7	12	24	13,000	2.4×10 ⁻⁶	300	25	1	0.05	-0.4 ~ +1.0	X
SJCA-30C-GR	30	35.3	11.3	10	-	5.6	M4	3.5	12	24	10,000	6.2×10 ⁻⁶	180	50	1	0.08	-0.4 ~ +1.0	X
SJCA-30C-RD	30	35.3	11.3	10	-	5.6	M4	3.5	16	32	10,000	6.2×10 ⁻⁶	220	50	1	0.06	-0.4 ~ +1.0	X
SJCB-30C-GR	30	44.7	16	10	11.1	5.4	M4	3.5	12	24	10,000	7.5×10 ⁻⁶	180	55	1	0.08	-0.4 ~ +1.0	○
SJCB-30C-RD	30	44.7	16	10	11.1	5.4	M4	3.5	16	32	10,000	7.5×10 ⁻⁶	220	55	1	0.06	-0.4 ~ +1.0	○
SJCA-40C-GR	40	55	19.5	12	13.6	6.8	M5	8	17	34	8,500	3.1×10 ⁻⁵	1,500	135	1	0.06	-0.5 ~ +1.2	○
SJCA-40C-RD	40	55	19.5	12	13.6	6.8	M5	8	21	42	8,500	3.1×10 ⁻⁵	2,500	135	1	0.04	-0.5 ~ +1.2	○
SJCB-40C-GR	40	66	25	12	16.5	8.4	M5	8	17	34	8,500	3.9×10 ⁻⁵	1,500	160	1	0.06	-0.5 ~ +1.2	○
SJCB-40C-RD	40	66	25	12	16.5	8.4	M5	8	21	42	8,500	3.9×10 ⁻⁵	2,500	160	1	0.04	-0.5 ~ +1.2	○

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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)

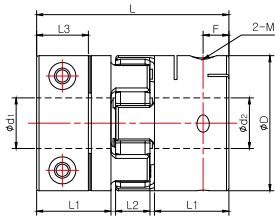
Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																
	3	4	4.5	5	6	6.35	7	8	9	9.525	10	11	12	14	15	16	18
SJC□-14C	●	●	●	●													
SJC□-20C		●	●	●	●	●	●	●									
SJC□-25C				●	●	●	●	●	●	●	●						
SJC□-30C					●	●	●	●	●	●	●	●	●	●			
SJC□-40C								●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

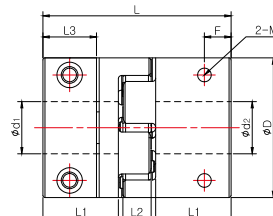
SJC SERIES

Jaw Coupling

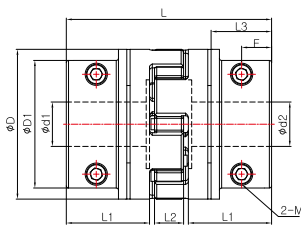
Side-clamp



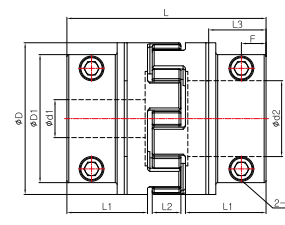
Size : 48C ~ 80C



Size : 100C



Size : 120C ~ 135C



Size : 160C

Dimensions / Performance

Model	Size (±0.3mm)							Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	L	D ₁	L ₁	L ₂	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SJC-48C-GR	48	66.8	-	25.3	13	17.4	9	M6	13	35	70	7,000	8.2×10 ⁻⁵	1,800	224	1	0.08	-0.6 ~ +1.3	○
SJC-48C-RD	48	66.8	-	25.3	13	17.4	9	M6	13	45	90	7,000	8.2×10 ⁻⁵	3,600	224	1	0.05	-0.6 ~ +1.3	○
SJC-55C-GR	55	78.3	-	30.3	14	21	10.5	M6	13	45	90	6,500	1.6×10 ⁻⁴	3,500	330	1	0.09	-0.5 ~ +1.4	○
SJC-55C-RD	55	78.3	-	30.3	14	21	10.5	M6	13	60	120	6,500	1.6×10 ⁻⁴	5,000	330	1	0.06	-0.5 ~ +1.4	○
SJC-65C-GR	65	90.3	-	35.3	15	25.6	12.5	M8	30	120	240	5,500	3.8×10 ⁻⁴	6,000	560	1	0.1	-0.6 ~ +1.5	○
SJC-65C-RD	65	90.3	-	35.3	15	25.6	12.5	M8	30	180	360	5,500	3.8×10 ⁻⁴	10,000	560	1	0.08	-0.6 ~ +1.5	○
SJC-80C-GR	80	114.2	-	45.2	18	30.2	14.7	M10	50	240	480	4,500	1.0×10 ⁻³	10,000	1,050	1	0.1	-0.6 ~ +1.5	○
SJC-80C-RD	80	114.2	-	45.2	18	30.2	14.7	M10	50	320	640	4,500	1.0×10 ⁻³	25,000	1,050	1	0.08	-0.6 ~ +1.5	○
SJC-100C-GR	104	140.2	-	56.2	21	39.9	19.9	M12	90	300	600	3,500	4.6×10 ⁻³	24,000	2,550	1	0.15	-0.6 ~ +2.0	○
SJC-100C-RD	104	140.2	-	56.2	21	39.9	19.9	M12	90	600	1,200	3,500	4.6×10 ⁻³	50,000	2,550	1	0.1	-0.6 ~ +2.0	○
SJC-120C-GR	120	160	110	65	22.2	44.5	22	M12	115	620	1,240	3,150	2.4×10 ⁻²	38,000	7,390	1.2	0.35	-1.0 ~ +2.2	○
SJC-120C-RD	120	160	110	65	22.2	44.5	22	M12	115	740	1,480	3,150	2.4×10 ⁻²	95,000	7,390	1.2	0.25	-1.0 ~ +2.2	○
SJC-135C-GR	135	185	115	75	26.2	54.5	27	M12	115	850	1,700	2,800	4.0×10 ⁻²	43,000	9,900	1.2	0.4	-1.0 ~ +2.6	○
SJC-135C-RD	135	185	115	75	26.2	54.5	27	M12	115	1,050	2,100	2,800	4.0×10 ⁻²	105,000	9,900	1.2	0.3	-1.0 ~ +2.6	○
SJC-160C-GR	160	210	135	85	30.2	60.5	26	M16	280	1,700	3,400	2,350	8.6×10 ⁻²	70,000	16,300	1.2	0.4	-1.5 ~ +3.0	○
SJC-160C-RD	160	210	135	85	30.2	60.5	26	M16	280	2,100	4,200	2,350	8.6×10 ⁻²	160,000	16,300	1.2	0.32	-1.5 ~ +3.0	○

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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.

SJC SERIES

Jaw Coupling

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	10	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	40	45	50	60
SJC-48C	●	●	●	●	●	●	●	●	●	●										
SJC-55C		●	●	●	●	●	●	●	●	●	●	●	●							
SJC-65C				●	●	●	●	●	●	●	●	●	●	●	●	●				
SJC-80C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SJC-100C								●	●	●	●	●	●	●	●	●	●	●	●	●
SJC-120C															●	●	●	●	●	●
SJC-135C																●	●	●	●	●
SJC-160C																	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)
- Side-clamp Hub Split is available (Optional)

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)												
		3	4	4.5	5	6	6.35	7	8	9.525	10	11	12	14
SJC□-14C	4.8	0.7	1.2	1.4	1.7									
SJC□-20C	12		1.3	1.9	2.2	2.8	2.6	3.4	4					
SJC□-25C	24				2.4	3.2	3.2	3.7	4	4.8	6			
SJC□-30C	32					7.7	8.4	9.8	11.6	12.6	14.4	15.1	17.5	23.1
SJC□-40C	42								28.4	31.5	36.4	37.8	39.2	

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)															
		10	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35
SJC-48C	90	54.6	64.4	75.6	79.3	84											
SJC-55C	120		74.2	78.4	85.4	91	102	105	109	112	116						
SJC-65C	360				98	112	126	147	158	168	175	245	266	280	300	310	320
SJC-80C	640				133	154	168	196	224	252	266	287	329	392	455	469	509
SJC-100C	1200								560	623	658	700	700	700	700	700	700

Side-clamp Hub Split(W) Option is available

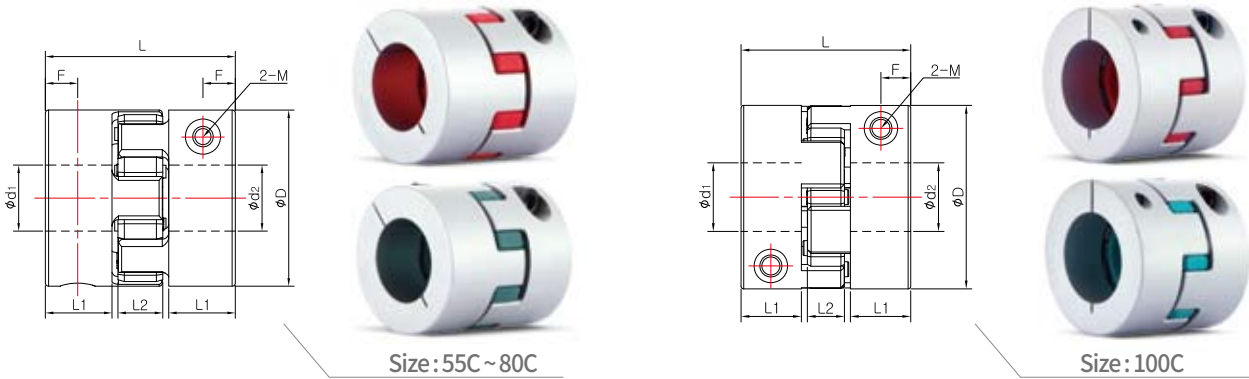
- From certain outer diameter (OD) sizes, we can provide Side-clamp Hub Split products.
- Please refer to "HOW TO ORDER" page for more details.



SJC SERIES (SJCM)

Jaw Coupling

Side-clamp (Spacer-saving)



Dimensions / Performance

Model	Size (±0.3mm)					Screw Fastening Torque (N·m)	Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	F								Angular (°)	Parallel (mm)	End-play (mm)
SJCM-55C-GR	55	59.3	20.8	14	10.1	M6	13	45	90	4,000	1.3×10 ⁻⁴	3,500	1	0.09	-0.5 ~ +1.4
SJCM-55C-RD	55	59.3	20.8	14	10.1	M6	13	60	120	4,000	1.3×10 ⁻⁴	5,000	1	0.06	-0.5 ~ +1.4
SJCM-65C-GR	65	63.3	21.8	15	10.5	M8	30	120	240	3,500	2.6×10 ⁻⁴	5,000	1	0.1	-0.6 ~ +1.5
SJCM-65C-RD	65	63.3	21.8	15	10.5	M8	30	180	360	3,500	2.6×10 ⁻⁴	10,000	1	0.08	-0.6 ~ +1.5
SJCM-80C-GR	80	87.2	31.7	18	15.5	M10	50	240	480	3,000	8.7×10 ⁻⁴	10,000	1	0.1	-0.6 ~ +1.5
SJCM-80C-RD	80	87.2	31.7	18	15.5	M10	50	320	640	3,000	8.7×10 ⁻⁴	25,000	1	0.08	-0.6 ~ +1.5
SJCM-100C-GR	104	96.2	34.2	21	16.9	M12	90	300	600	3,000	3.1×10 ⁻³	24,000	1	0.15	-0.6 ~ +2.0
SJCM-100C-RD	104	96.2	34.2	21	16.9	M12	90	600	1,200	3,000	3.1×10 ⁻³	50,000	1	0.1	-0.6 ~ +2.0

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																		
	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	40	45	50	60
SJCM-55C	●	●	●	●	●	●	●	●	●	●	●	●							
SJCM-65C			●	●	●	●	●	●	●	●	●	●	●	●	●				
SJCM-80C			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SJCM-100C							●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Keyway is available. (Optional)
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Side-clamp Hub Split is **NOT** available

Slip Torque

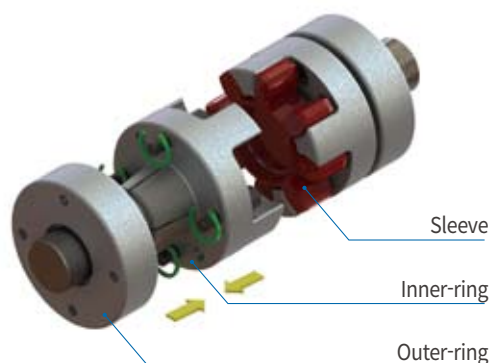
- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operational torque 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m) RD Sleeve	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																		
		12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	40	45	50	60
SJCM-55C	120	41.3	47.6	50.4	54.6	64.4	75.6	81.2	84	89.6	96.6	99.4	105							
SJCM-65C	360			88.2	101	113	132	141	151	157	220	239	252	269	291	309				
SJCM-80C	640			119	139	151	176	202	227	239	258	295	353	409	421	455	476	504		
SJCM-100C	1200							280	322	364	413	455	504	553	588	623	700	700	700	700

SJC SERIES

Jaw Coupling

Taper-ring



Principles

- When inner screws are fastened, the inner ring and outer ring move closer each other by the thrust of screws and the taper ring structure.
- The inner ring shrinks evenly and gives contact pressure on shafts and then the shaft and the coupling are tightly interlocked.
- Perfect symmetry for the rotating shafts.

Feature 1 Perfect Rotation Balancing

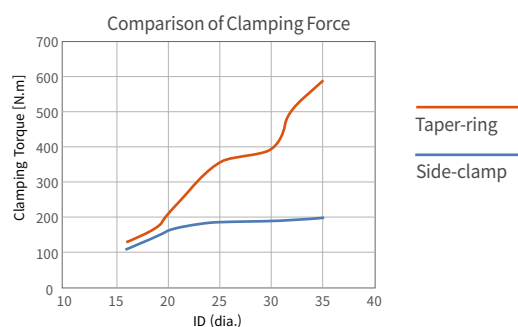
Example) Comparison between 2 products with the identical OD (55mm) and different clamping methods shows the results as below.

Model name	Clamping Methods	Unbalance (g-mm)
SJC-55T	Taper-ring	0.7
SJC-55C	Side-clamp	21.6

- Unbalance is the main reason that causes noise and vibration on high speed rotating applications
- The Taper type product has the structure of complete symmetry which leads to nearly zero-unbalance

※ The above values may be subject to change based on test conditions (i.e. shaft material or tolerance)

Feature 2 Stronger Clamping Force on Shafts

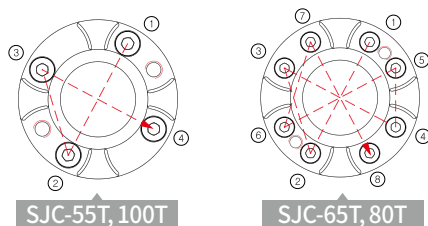


- Excellent Clamping force comparing to Set-screw or Side-clamp type
- Enough clamping force is granted without keyway

HOW TO MOUNT

- Step 1. Firstly remove dust or oil substances from the surface where outer and inner ring hubs face each other as well as the surface of the inserting shaft.
- Step 2. Spread oil thinly on the surface where outer and inner ring hubs face each other as well as the surface of the inserting shaft. (Any oil type which includes molybdenum-sulfur compounds or silicone is prohibited)
- Step 3. Insert the shaft up to L_2 of the inner ring hub.
- Step 4. Fasten the screws with $\frac{1}{2}$ of fastening torque one time each in sequential order as shown on the below Fig.(1)

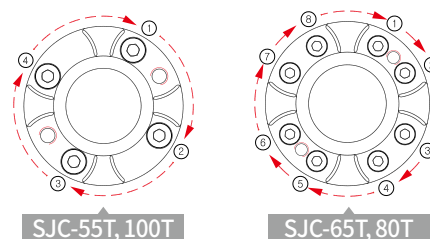
Fig.(1)



- Step 5. Fasten the screws with full of fastening torque one time each in sequential order as shown on the below Fig.(1)
- Step 6. Fasten the screws with full of fastening torque in sequential order as shown on the below Fig.(2). Repeat Step 6 until all screws are fastened appropriately.

※ Please refer to "Dimensions / Performance" tables for fastening torques.

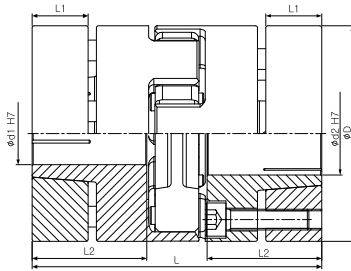
Fig.(2)



SJC SERIES

Jaw Coupling

Taper-ring



Dimensions / Performance

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SJC-55T-GR	55	78	16	30.3	M5	8	45	90	12,000	1.59 x 10 ⁻⁴	3,500	345	1	0.09	-0.5 ~ +1.4
SJC-55T-RD	55	78	16	30.3	M5	8	60	120	12,000	1.59 x 10 ⁻⁴	5,000	345	1	0.06	-0.5 ~ +1.4
SJC-65T-GR	65	90.3	18	35.5	M5	8	120	240	10,000	3.75 x 10 ⁻⁴	5,000	536	1	0.1	-0.6 ~ +1.5
SJC-65T-RD	65	90.3	18	35.5	M5	8	180	360	10,000	3.75 x 10 ⁻⁴	10,000	536	1	0.08	-0.6 ~ +1.5
SJC-80T-GR	80	114.2	25	45.2	M6	13	240	480	8,000	1.09 x 10 ⁻³	10,000	1,043	1	0.1	-0.6 ~ +1.5
SJC-80T-RD	80	114.2	25	45.2	M6	13	320	640	8,000	1.09 x 10 ⁻³	25,000	1,043	1	0.08	-0.6 ~ +1.5
SJC-100T-GR	104	140.2	27	56	M10	50	300	600	6,500	3.70 x 10 ⁻³	24,000	2,126	1	0.15	-0.6 ~ +2.0
SJC-100T-RD	104	140.2	27	56	M10	50	600	1200	6,500	3.70 x 10 ⁻³	50,000	2,126	1	0.1	-0.6 ~ +2.0

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																		
	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	40	45	50	55
SJC-55T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SJC-65T			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SJC-80T			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SJC-100T							●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is **NOT** available.

Slip Torque

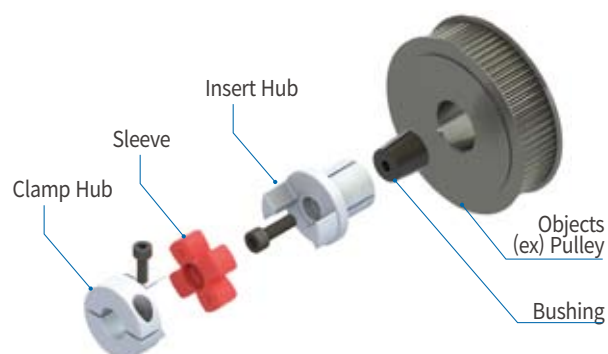
- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operational torque 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N·m)	Slip Torque (N·m) by Inner Diameter (d ₁ , d ₂)																		
		12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	40	45	50	55
SJC-55T	120	105																		
SJC-65T	360			280	322															
SJC-80T	640			490	574															
SJC-100T	1200							700	700	700	700	700	700	700	700	700	700	700	700	700

SJC SERIES

Jaw Coupling

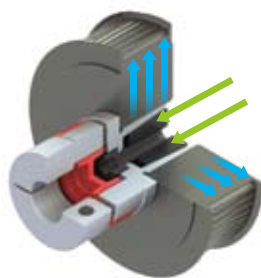
Shaft-insertion



Features of SJC-I Series

- Easy attachment to various hub types i.e. Pulleys, Gears, Sprockets, or Hollow shafts
- Space-saving design
- Simple clamping methods by tightening a single bolt
- Self-centering function by the taper structure
- Various types of coupling hubs (i.e. Side-clamp, Set-screw) can be combined

Principles



- Bushing and Insert hub are tightly coupled by the thrust of fastening screws.
- And then the insert part gets spread outward due to the taper structure and clamped into the inner diameter on the other side.

Dimensions

Model	Coupling hub OD	Shaft-insertion hub OD
SJC-25I□	25mm	10mm
SJC□-30I□	30mm	12mm
SJC□-40I□	40mm	20mm
SJC-55I□	55mm	25mm
SJC-65I□	65mm	35mm

※ OD: Outer Diameter

※ Please contact Sung-il Customer Service team for non-standard Inserted hub OD products.

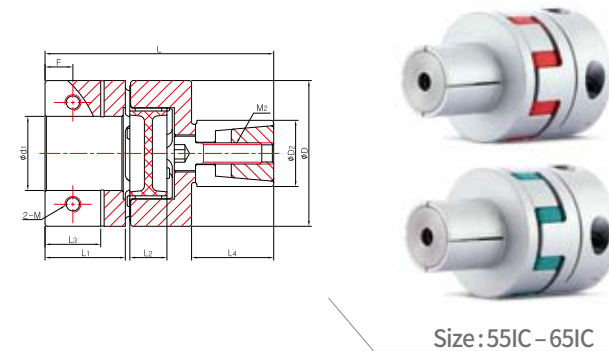
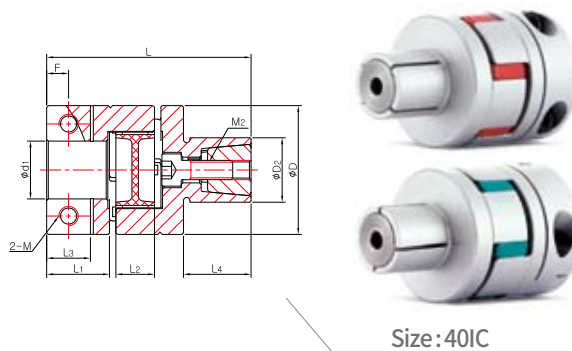
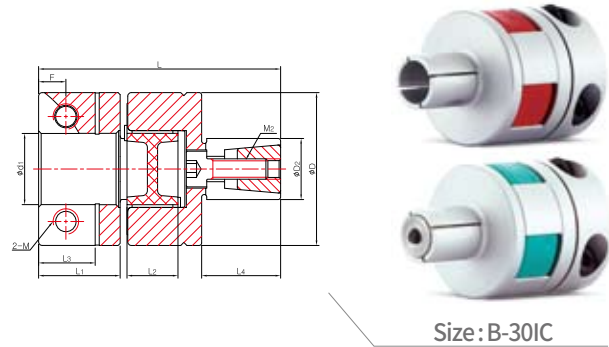
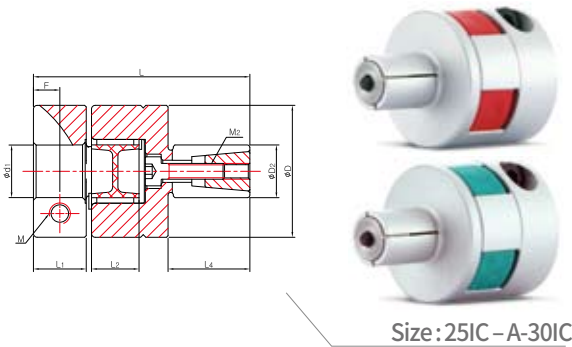
HOW TO ORDER

Shaft-insertion x Side-clamp									
SJC	-	65	IC	-	RD	-	35	I	x
Model		OD(D) size	Clamping Methods		Sleeve		OD(D2) size	Shaft-insertion	
Shaft-insertion x Set-screw									
SJC	-	65	IS	-	RD	-	35	I	x
Model		OD(D) size	Clamping Methods		Sleeve		OD(D2) size	인서트표기	
Shaft-insertion x Taper-ring									
SJC	-	65	IT	-	RD	-	35	I	x
Model		OD(D) size	Clamping Methods		Sleeve		OD(D2) size	인서트표기	

SJC SERIES

Jaw Coupling

Shaft-insertion x Side-clamp



Dimensions / Performance

Model	Size (±0.3mm)									Screw		Screw (Shaft-insertion)		Permissible Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	L	L ₁	L ₂	L ₃	F	L ₄	D ₂	Size	Fastening Torque (N·m)	Size	Fastening Torque (N·m)	Angular (°)						Parallel (mm)	End-play (mm)		
SJC-25IC-GR	25	41.2	10	9	-	5	15.5	10	M3	1.7	M3	1.2	7	13,000	4.7×10 ⁻⁶	220	30	1	0.07	-0.4 ~ +1.0	X	
SJC-25IC-RD	25	41.2	10	9	-	5	15.5	10	M3	1.7	M3	1.2	7	13,000	4.7×10 ⁻⁶	300	30	1	0.05	-0.4 ~ +1.0	X	
SJCA-30IC-GR	30	42.8	11.3	10	-	5.6	15.5	12	M4	3.5	M4	2.5	7.5	10,000	9.3×10 ⁻⁶	180	46	1	0.08	-0.4 ~ +1.0	X	
SJCA-30IC-RD	30	42.8	11.3	10	-	5.6	15.5	12	M4	3.5	M4	2.5	7.5	10,000	9.3×10 ⁻⁶	220	46	1	0.06	-0.4 ~ +1.0	X	
SJCB-30IC-GR	30	47.5	16	10	11.1	5.4	15.5	12	M4	3.5	M4	2.5	7.5	10,000	1.2×10 ⁻⁵	180	52	1	0.08	-0.4 ~ +1.0	○	
SJCB-30IC-RD	30	47.5	16	10	11.1	5.4	15.5	12	M4	3.5	M4	2.5	7.5	10,000	1.2×10 ⁻⁵	220	52	1	0.06	-0.4 ~ +1.0	○	
SJCA-40IC-GR	40	63.5	19.5	12	13.6	6.8	21	20	M5	8	M6	10	35	8,500	5.6×10 ⁻⁵	1,500	136	1	0.06	-0.5 ~ +1.2	○	
SJCA-40IC-RD	40	63.5	19.5	12	13.6	6.8	21	20	M5	8	M6	10	35	8,500	5.6×10 ⁻⁵	2,500	136	1	0.04	-0.5 ~ +1.2	○	
SJCB-40IC-GR	40	69	25	12	16.5	8.4	21	20	M5	8	M6	10	35	8,500	7.4×10 ⁻⁵	1,500	151	1	0.06	-0.5 ~ +1.2	○	
SJCB-40IC-RD	40	69	25	12	16.5	8.4	21	20	M5	8	M6	10	35	8,500	7.4×10 ⁻⁵	2,500	151	1	0.04	-0.5 ~ +1.2	○	
SJC-55IC-GR	55	86.3	30.3	14	21	10.5	31	25	M6	13	M8	20	80	6,500	1.2×10 ⁻⁴	3,500	310	1	0.09	-0.5 ~ +1.4	○	
SJC-55IC-RD	55	86.3	30.3	14	21	10.5	31	25	M6	13	M8	20	80	6,500	1.2×10 ⁻⁴	5,000	310	1	0.06	-0.5 ~ +1.4	○	
SJC-65IC-GR	65	99.3	35.3	15	25.6	12.5	37	35	M8	30	M10	40	180	5,500	1.7×10 ⁻⁴	6,000	400	1	0.1	-0.6 ~ +1.5	○	
SJC-65IC-RD	65	99.3	35.3	15	25.6	12.5	37	35	M8	30	M10	40	180	5,500	1.7×10 ⁻⁴	10,000	400	1	0.08	-0.6 ~ +1.5	○	

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- It's not allowed to have other complementary options to enhance clamping force such as keyway etc. on the shaft-insertion hub. This is the reason why the above-mentioned permissible torques are based on the slip torque on the shaft-insertion hub.
- Please contact Sung-il Customer Service team for non-standard Inserted hub OD(D₂) products.
- Please refer to previous pages for the standard ID range of Side-clamp hubs.
- It's also possible to assemble with space-saving side-clamp, set-screw and taper-ring hubs.

SOH SERIES



Oldham Coupling

SOH Series Classification

- SOH series transmits motion through the middle spacer and is particularly excellent for absorption of parallel misalignment.
- It has a simple structure for easier self-maintenance.
- It enables reaction force on the shaft to be reduced by moving the spacer even though there is parallel misalignment.
- Sung-il Machinery provides various spacer types which are allowed to be used in special circumstances.

Spacer Material	Model	Hub Material	Set-screw	Side-clamp
Polyacetal(POM)/ General	SOH	High Strength Aluminum Alloy		
	SOHM (Spacer-saving)		-	
PEEK/ For Vacuum application	SOHMP		-	
VESPEL(PI)/ For High-temperature application)	SOHV	Stainless Steel	-	

Center-Through Spacer Option is available



Center-Solid (no mark)

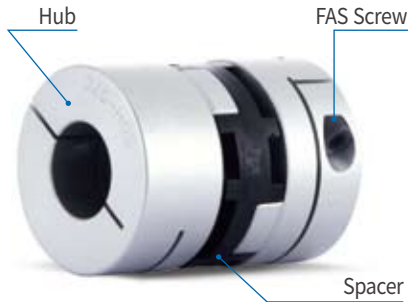
Center-Through (TH)

- If the shaft has to be inserted deeper than L_1 value, we can provide appropriate center-through sleeves.
- Please indicate additional mark (TH) next to the part no. Please refer to "HOW TO ORDER" for more details.
- Center-Through (TH) is standard for the following models, SOH-6, 8, 10, 12, SOHM-12C and all sizes of SOHMP & SOHV series.
- The standard color of spacer for SOH-6, 8, 10, 12, SOHM-12C is white, but the material is the identical Polyacetal(POM).

Model	Max. standard ID	Spacer-TH ID
SOH-16	Φ6	Φ7
SOH-20	Φ8	Φ10
SOH-25	Φ10	Φ14
SOH-32	Φ15	Φ16
SOH-43	Φ19	Φ21
SOH-53	Φ25	Φ24
SOH-57	Φ28	Φ26
SOH-70	Φ40	Φ35
SOH-90	Φ50	Φ40
SOH-120	Φ60	Φ50

SOH SERIES

Oldham Coupling



Structure and Material

Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Spacer	Polyacetal(POM)	-
Screw	SCM435	Black Oxide

※ The standard surface treatment for SOH-70C, 90C and 120C (Side-clamp) is Electroless Nickel Plating.

※ There is no surface treatment for SOH-6,8,10,12 (Set-screw) and SOHM-12C(Side-clamp).

Product Features & Application

High Torque (Durability)		○
Torsional Stiffness		△
Vibration Absorption		○
Misalignment Absorption		☆
Insulation of Electric Current		○
Minimized Reaction Force		☆
Oil Resistance		△
Applicable Motors	Servo	△
	Stepping	○
	Encoder	○
	General	☆
Permissible Temperature		-20℃ ~ 80℃

Application : Part feeder, Cartesian Robot, Logistics facilities

Temperature Correction Factor

- Please modify rated/max. torque value with the below temperature correction factor when it's higher than 30°C.

Ambient Temperature	Correction Factor
-20 °C ~ 30 °C	1.0
30 °C ~ 40 °C	0.8
40 °C ~ 60 °C	0.7
60 °C ~ 80 °C	0.55

Clamping Methods

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

※ You may check the sizes that Side-clamp Hub Split type is applicable from the "Dimensions / Performance" tables in the following pages.

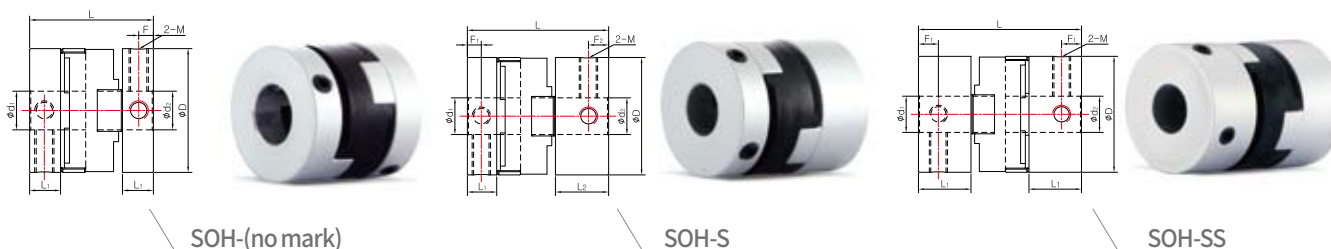
How to Order

SOH - 70 CW - TH - 20 W K6 x 25 W K8																	
Model		OD(D) size		Clamping Methods		ID(d1) size		Side-clamp Hub Split (W)		Keyway (K)		ID(d2) size		Side-clamp Hub Split (W')		Keyway (K')	
				Center-Through (TH)													
1 Clamping Methods										2 Center-Through							
No mark		Set-screw				No mark		Center-Solid									
C		General Side-clamp				TH		Center-Through									
CW		Side-clamp Hub Split															
3 Side-clamp Hub Split										4 Keyway							
No mark		Not Split				No mark		No Keyway									
W		Split (Only applicable on Side-clamp Type)				K(b size)		Keyway processed according to the indicated b size.									

SOH SERIES

Oldham Coupling

Set-screw



Dimensions / Performance

SOH-(no mark)

Model	Size ($\pm 0.3\text{mm}$)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SOH-6	5.9	8.4	2.5	1.3	M2	0.3	0.2	0.4	22,000	2.5×10^{-9}	5	0.5	1.5	0.5	0.05
SOH-8	7.9	9.8	2.5	1.3	M2	0.3	0.5	1	20,000	8.4×10^{-9}	10	0.9	1.5	0.7	0.05
SOH-10	9.9	10.4	2.9	1.5	M2	0.3	0.7	1.4	18,000	2.4×10^{-8}	25	1.7	1.5	0.9	0.05
SOH-12	11.9	14.5	3.9	2	M3	0.7	0.9	1.8	15,000	6.3×10^{-8}	55	3	1.5	1	0.05
SOH-16	16	17.9	4.7	2.2	M3	0.7	1	2	13,000	2.4×10^{-7}	65	7	1.5	1	0.1
SOH-20	20	19.9	5.1	2.4	M4	1.7	1.5	3	11,000	6.4×10^{-7}	120	12	1.5	1.5	0.1
SOH-25	25.5	25.4	6.9	3.1	M4	1.7	2.5	5	10,000	2.2×10^{-6}	200	24	1.5	2	0.1
SOH-32	32	31.9	8	3.8	M5	4	7	14	9,000	6.3×10^{-6}	620	41	1.5	2.5	0.2
SOH-43	43	52	16.5	7.1	M5	4	12.5	25	8,000	3.7×10^{-5}	1,200	135	1.5	3	0.15
SOH-53	53	58.3	19.5	7.5	M6	7	20	40	7,000	1.0×10^{-4}	1,400	228	1.5	3.2	0.15
SOH-57	57	76.2	26.9	9.9	M8	15	34	68	6,000	1.8×10^{-4}	2,600	345	1.5	3.5	0.2
SOH-70	73	75.5	25	12.2	M8	15	60	120	4,500	4.5×10^{-4}	4,800	567	1.5	3.5	0.2

SOH-S

Model	Size ($\pm 0.3\text{mm}$)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	F ₁	F ₂	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SOH-16S	16	20.9	4.7	7.7	2.2	3.8	M3	0.7	1	2	13,000	2.7×10^{-7}	65	7.9	1.5	1	0.1
SOH-20S	20	22.8	5.1	8	2.4	3.6	M4	1.7	1.5	3	11,000	7.5×10^{-7}	120	13	1.5	1.5	0.1
SOH-25S	25.5	28.7	6.9	10.2	3.1	4.9	M4	1.7	2.5	5	10,000	2.6×10^{-6}	200	27.2	1.5	2	0.1
SOH-32S	32	38.3	8	14.4	3.8	5.5	M5	4	7	14	9,000	8.1×10^{-6}	620	52	1.5	2.5	0.2

SOH-SS

Model	Size ($\pm 0.3\text{mm}$)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	F ₁	F ₂	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SOH-8SS	7.9	12.6	4.6	4.6	2.3	2.3	M3	0.7	0.5	1	20,000	1.3×10^{-8}	10	1.5	1.5	0.7	0.05
SOH-16SS	16	23.9	7.7	7.7	3.8	3.8	M3	0.7	1	2	13,000	3.4×10^{-7}	65	9.3	1.5	1	0.1
SOH-20SS	20	25.7	8	8	3.6	3.6	M4	1.7	1.5	3	11,000	8.9×10^{-7}	120	15	1.5	1.5	0.1
SOH-25SS	25.5	32	10.2	10.2	4.9	4.9	M4	1.7	2.5	5	10,000	2.9×10^{-6}	200	31	1.5	2	0.1
SOH-32SS	32	44.7	14.4	14.4	5.5	5.5	M5	4	7	14	9,000	9.5×10^{-6}	620	63	1.5	2.5	0.2

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

SOH SERIES

Oldham Coupling

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																	
	1	1.5	2	2.5	3	4	4.5	5	6	6.35	8	9	9.525	10	11	12	14	15
SOH-6□□	●	●	●															
SOH-8□□	●		●	●	●													
SOH-10□□			●		●	●												
SOH-12□□					●	●	●	●										
SOH-16□□					●	●		●	●									
SOH-20□□						●		●	●	●	●							
SOH-25□□								●	●	●	●	●	●	●				
SOH-32□□									●	●	●	●	●	●	●	●	●	●

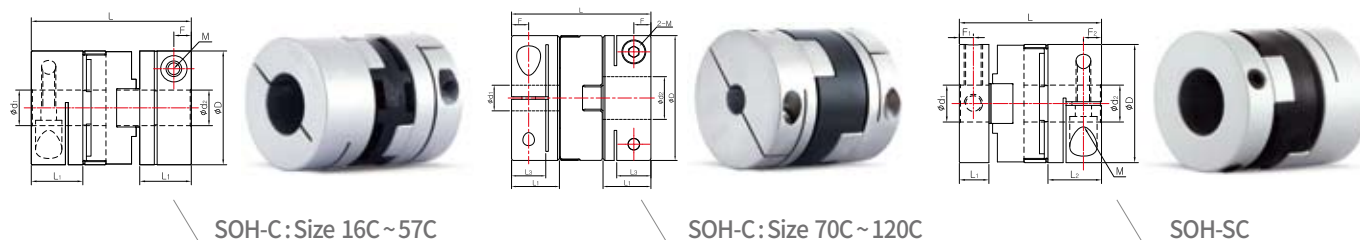
Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	8	9	9.525	10	11	12	14	15	16	18	19	20	22	24	25	25.4	28	30	32	35
SOH-43□□	●	●	●	●	●	●	●	●	●	●	●									
SOH-53□□				●	●	●	●	●	●	●	●	●	●	●	●					
SOH-57□□								●	●	●	●	●	●	●	●	●	●			
SOH-70								●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SOH SERIES

Oldham Coupling

Side-clamp



Dimensions / Performance

SOH-C

Model	Size (±0.3mm)					Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	L	L ₁	L ₃	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)	
SOH-16C	16	23.9	7.7	-	2.7	M2.6	1	1	2	13,000	3.1×10 ⁻⁷	65	8.5	1.5	1	0.1	X
SOH-20C	20	25.7	8	-	2.8	M2.6	1	1.5	3	11,000	8.2×10 ⁻⁷	120	14.2	1.5	1.5	0.1	X
SOH-25C	25.5	32	10.2	-	3.5	M3	1.7	2.5	5	10,000	2.7×10 ⁻⁶	200	29.3	1.5	2	0.1	X
SOH-32C	32	44.7	14.4	-	4.9	M4	3.5	7	14	9,000	9.2×10 ⁻⁶	620	59.6	1.5	2.5	0.15	X
SOH-43C	43	52	16.5	-	5.8	M5	8	12.5	25	8,000	3.4×10 ⁻⁵	1,200	127	1.5	3	0.15	X
SOH-53C	53	58.3	19.5	-	6.3	M5	8	20	40	7,000	9.1×10 ⁻⁵	1,400	217	1.5	3.2	0.2	X
SOH-57C	57	76.2	26.9	-	7.7	M6	13	34	68	6,000	1.6×10 ⁻⁴	2,600	329	1.5	3.5	0.2	X
SOH-70C	73	81.5	28	20	10	M8	30	65	130	4,500	5.4×10 ⁻⁴	2,000	670	1.5	3.5	0.3	○
SOH-90C	88	97	33.5	25	12	M10	50	105	210	4,500	1.2×10 ⁻³	2,500	1,240	1.5	4	0.35	○
SOH-120C	118	138	40.5	26.5	13	M12	90	200	400	3,500	6.5×10 ⁻³	6,300	2,600	1.5	4.5	0.4	○

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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.

SOH-SC (Combination)

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	F ₁	F ₂	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SOH-16SC	16	20.9	4.7	7.7	2.2	2.7	M3/M2.6	0.7/1	1	2	13,000	2.9×10 ⁻⁷	65	7.5	1.5	1	0.1
SOH-20SC	20	22.8	5.1	8	2.4	2.8	M4/M2.6	1.7/1	1.5	3	11,000	7.2×10 ⁻⁷	120	12.6	1.5	1.5	0.1
SOH-25SC	25.5	28.7	6.9	10.2	3.1	3.5	M4/M3	1.7/1.7	2.5	5	10,000	2.6×10 ⁻⁶	200	26	1.5	2	0.1
SOH-32SC	32	38.3	8	14.4	3.8	4.9	M5/M4	4/3.5	7	14	9,000	7.8×10 ⁻⁶	620	50.3	1.5	2.5	0.2

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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.

SOH SERIES

Oldham Coupling

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																															
	3	4	5	6	6.35	8	9	9.525	10	11	12	14	15	16	18	19	20	22	24	25	25.4	28	30	32	35	40	42	45	50	55	60	
SOH-16□□	●	●	●	●																												
SOH-20□□		●	●	●	●	●																										
SOH-25□□			●	●	●	●	●	●	●																							
SOH-32□□				●	●	●	●	●	●	●	●	●	●																			
SOH-43□□						●	●	●	●	●	●	●	●	●	●	●																
SOH-53□□									●	●	●	●	●	●	●	●	●	●	●	●												
SOH-57□□													●	●	●	●	●	●	●	●	●	●										
SOH-70□□													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
SOH-90□□													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SOH-120□□																				●	●	●	●	●	●	●	●	●	●	●	●	

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

Slip Torque

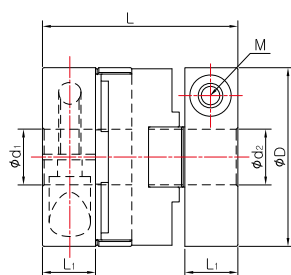
- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operational torque 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)																		
		3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	18	19	20	22	24	25
SOH-16C	2	1.9																		
SOH-20C	3		2.3	2.4																
SOH-25C	5			3.1	3.5	3.9														
SOH-32C	14				7.2	8.4														
SOH-43C	25						15	15.7	18.5	18.2	21									
SOH-53C	40								22	22.4	23.8									
SOH-57C	68												42	46.2	49	51.8	56.7			
SOH-70C	130												121							
SOH-90C	210												168	192						
SOH-120C	400																		344	

SOH SERIES (SOHM)

Oldham Coupling

Side-clamp (Spacer-saving)



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SOHM-12C	11.9	16.5	5	2.5	M2	0.5	0.9	1.8	15,000	7.4×10^{-8}	55	3.5	1.5	1	0.05
SOHM-16C	16	20.7	6.1	3	M2.6	1	1	2	13,000	2.6×10^{-7}	65	7.4	1.5	1	0.1
SOHM-20C	20	21.9	6.1	2.9	M2.6	1	1.5	3	11,000	6.8×10^{-7}	120	12	1.5	1.5	0.1
SOHM-25C	25.5	26.4	7.4	3.7	M3	1.7	2.5	5	10,000	2.2×10^{-6}	200	23	1.5	2	0.1
SOHM-32C	32	34.9	9.5	4.7	M4	3.5	7	14	9,000	6.8×10^{-6}	620	44	1.5	2.5	0.2
SOHM-43C	43	47	14.7	7.3	M5	8	12.5	25	8,000	3.0×10^{-5}	1,200	114	1.5	3	0.15
SOHM-53C	53	53.1	16.9	8.3	M5	8	20	40	7,400	8.3×10^{-5}	1,400	197	1.5	3.2	0.15
SOHM-57C	57	56.8	18	8.7	M6	13	34	68	6,000	1.2×10^{-4}	2,600	232	1.5	3.5	0.2
SOHM-70C	73	75.5	25	12.3	M8	30	60	120	4,500	4.5×10^{-4}	4,800	547	1.5	3.5	0.2

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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)

Model	Standard Inner Diameter (d_1, d_2) (mm)																											
	3	4	4.5	5	6	6.35	8	9	9.525	10	11	12	14	15	16	18	19	20	22	24	25	25.4	28	30	32	35		
SOHM-12C	●	●	●	●																								
SOHM-16C	●	●		●	●																							
SOHM-20C		●		●	●	●	●																					
SOHM-25C				●	●	●	●	●	●	●																		
SOHM-32C					●	●	●	●	●	●	●	●	●	●														
SOHM-43C							●	●	●	●	●	●	●	●	●	●	●											
SOHM-53C										●	●	●	●	●	●	●	●	●	●	●	●							
SOHM-57C														●	●	●	●	●	●	●	●	●	●	●				
SOHM-70C														●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SOH SERIES (SOHM)

Oldham Coupling

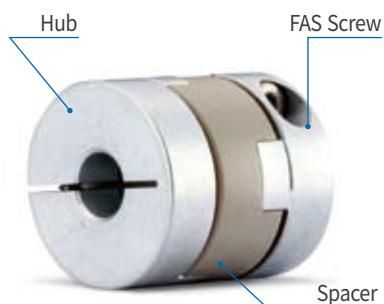
Slip Torque

- 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d_1, d_2)														
		3	4	4.5	5	6	6.35	8	9.525	10	11	12	14	15	16	18
SOHM-12C	1.8	0.5	0.6	1	1.2											
SOHM-16C	2	0.6	1		1.2	1.4										
SOHM-20C	3		1.4		1.5	1.8	2.7									
SOHM-25C	5				1.8	2.6	3.6									
SOHM-32C	14					5	5.9	6.8	8.4	12.5	13.4					
SOHM-43C	25							14.7	18.8	22.6						
SOHM-53C	40									24.8	26.4	29	33.3			
SOHM-57C	68													49.6	57.6	62.4
SOHM-70C	130													96	112	

SOH SERIES (SOHMP)

Oldham Coupling (PEEK Spacer)



Structure and Material

Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	-
Spacer	PEEK	-
Screw	SUSXM7	-

Product Features & Application

Minimized Outgas	☆
High Torque (Durability)	○
Torsional Stiffness	△
Chemical Resistance	○
Misalignment Absorption	☆
Insulation of Electric Current	☆
Minimized Reaction Force	☆
Permissible Temperature	-20°C ~ 120°C

Application : Semi-conductor machine, OLED vacuum machine, High-temperature applications, cleanroom facilities.

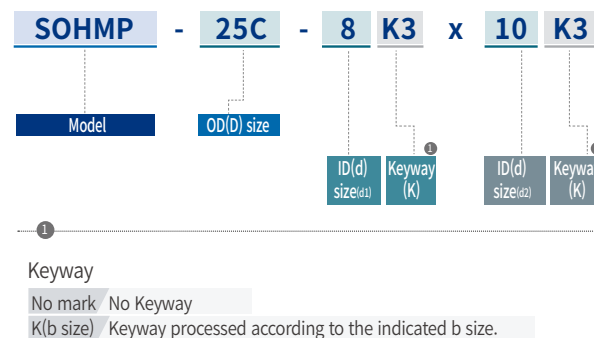
Features of SOHMP Series

- Excellent for Vacuum applications in regards of extremely low level of outgas. (In terms of outgas, SOHMP performs better than SOHV Series)
- Optimal heat/chemical Resistance allowing to be used in cleanroom facilities and high-temperature applications.
- Please contact Sung-il Customer Service team for more specific details about each chemical resistances. It may be varied by conditions, however, at least we can advise general information.

Properties of PEEK Material

	Item	Test Method	Value	Unit
Physical Properties	Density	ISO 1183-1	1.31	g/cm ³
Thermal Properties	Heat Deflection Temperature (1.8 Mpa)	ISO 75-1	160	°C
	Coefficient of Thermal Expansion (23 ~ 150°C)	-	55x10 ⁻⁶	m/m·K
Mechanical Properties	Tensile Strength	ISO 527-1	115	Mpa
	Elongation at yield	ISO 527-1	5	%
	Rockwell Hardness	ISO 2039-2	M105	

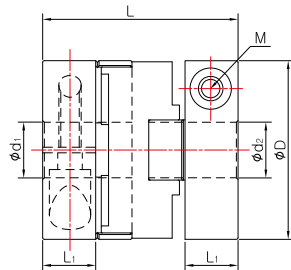
How to Order



SOH SERIES (SOHMP)

Oldham Coupling (PEEK Spacer)

Side-clamp



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SOHMP-20C	20	21.9	6.1	2.9	M2.6	1	1.2	2.4	11,000	6.8×10^{-7}	80	12	1.5	1.5	0.1
SOHMP-25C	25.5	26.4	7.4	3.7	M3	1.7	2	4	10,000	2.2×10^{-6}	120	23	1.5	2	0.1
SOHMP-32C	32	34.9	9.5	4.7	M4	3.5	5.6	11.2	9,000	6.8×10^{-6}	300	44	1.5	2.5	0.2

- 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.

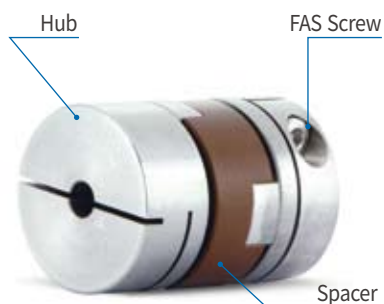
Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)												
	3	4	5	6	6.35	8	9	9.525	10	11	12	14	15
SOHMP-20C		●	●	●	●	●							
SOHMP-25C			●	●	●	●	●	●	●				
SOHMP-32C				●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SOH SERIES (SOHV)

Oldham Coupling (VESPEL Spacer)



Structure and Material

Structure	Material	Surface Treatment
Hub	Stainless Steel	Electro-polishing
Spacer	VESPEL (PI)	-
Screw	SUSXM7	-

Product Features & Application

Minimized Outgas	☆
High Torque (Durability)	○
Torsional Stiffness	△
Chemical Resistance	○
Misalignment Absorption	☆
Insulation of Electric Current	☆
Minimized Reaction Force	☆
Permissible Temperature	-20°C ~ 200°C

Application : Semi-conductor machine, OLED vacuum machine, High-temperature applications, cleanroom facilities.

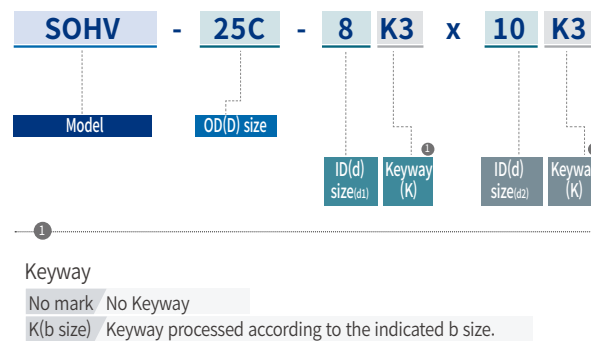
Features of SOHV Series

- Excellent for high-temperature applications in regards of heat resistance.
- Outgas amount is relatively lower and it's ideal to be used in cleanroom facilities and vacuum applications.
- Please contact Sung-il Customer Service team for more specific details about each chemical resistances. It may be varied by conditions, however, at least we can advise general information.

Properties of VESPEL Material

	Item	Test Method	Value	Unit
Physical Properties	Density	ISO 1183-1	1.43	g/cm ³
	Heat Deflection Temperature (1.8 Mpa)	ISO 75-1	340	°C
Thermal Properties	Coefficient of Thermal Expansion (23 - 300°C)	-	45x10 ⁻⁶	m/m·K
	Tensile Strength	ISO 527-1	163	Mpa
Mechanical Properties	Elongation at yield	ISO 527-1	7.5	%
	Rockwell Hardness	ISO 2039-2	E95	

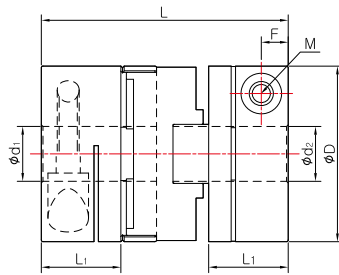
How to Order



SOH SERIES (SOHV)

Oldham Coupling (VESPEL Spacer)

Side-clamp



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SOHV-20C	20	25.7	8	2.8	M2.6	1	0.8	1.6	11,000	1.7×10^{-6}	96	31	1.5	1.5	0.1
SOHV-25C	25.5	32	10.2	3.5	M3	1.7	1.4	2.7	10,000	5.7×10^{-6}	144	62	1.5	2	0.1
SOHV-32C	32	44.7	14.4	4.9	M4	3.5	3.8	7.6	9,000	1.8×10^{-5}	360	125	1.5	2.5	0.2

- 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)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)												
	3	4	5	6	6.35	8	9	9.525	10	11	12	14	15
SOHV-20C		●	●	●	●	●							
SOHV-25C			●	●	●	●	●	●	●				
SOHV-32C				●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SRB SERIES



Radial Beam Coupling (Ultra High Strength Aluminum Alloy Body)



Structure and Material

General



Set-screw (SRB-no mark)



Side-clamp (SRB-C)

Structure	Material	Surface Treatment
Body	AL-7075-T6	Anodizing
Screw	SCM435	Black Oxide

※ There is no surface treatment for SRB-8 (Set-screw).

Space-saving



Set-screw (SRBM-no mark)



Side-clamp (SRBM-C)

Structure	Material	Surface Treatment
Body	AL-7075-T6	Anodizing
Screw	SCM435	Black Oxide

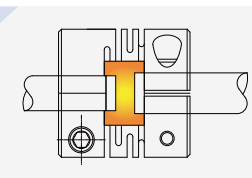
Product Features & Application

- SRB series is one-piece metal coupling with no backlash and absorbs misalignment through its slit structures.
- SRB series is made of ultra high strength aluminum alloy material (AL-7075-T6) in order to enhance its durability.

	SRB	SRBM
Backlash free (Precision)	☆	☆
High Torque (Durability)	△	△
Torsional Stiffness	○	○
Vibration Absorption	-	-
Misalignment Absorption	○	△
Applicable Motors	Servo	○
	Stepping	○
	Encoder	○
	General	-

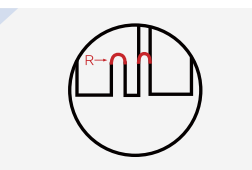
Application : UVW Stage, XY Stage, Part feeder, Encoder

INNER-RELIEF AREA



- SRB series has the “relief” space structure in the middle area, in case there is interference that causes damages.

ROUND-SHAPED SLITS



- SRB series has rounded slits(cuts) structure to disperse stress concentration.

Clamping Methods

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

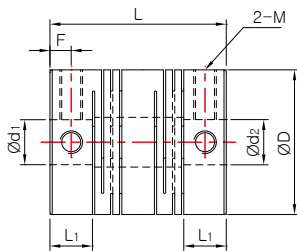
How to Order

SRB	-	32	C	-	10	K3	x	14	K4
Model		OD(D) size	Clamping Methods		ID(d) size(d1)	Keyway (K)		ID(d) size(d2)	Keyway (K)
¹ Clamping Methods No mark Set-screw C General Side-clamp				² Keyway No mark No Keyway K(b size) Keyway processed according to the indicated b size.					

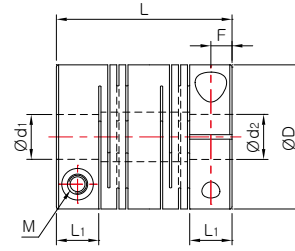
SRB SERIES

Radial Beam Coupling (Ultra High Strength Aluminum Alloy Body)

Set-screw (SRB-no mark)



Side-clamp (SRB-C)



Dimensions / Performance

Set-screw

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SRB-8	7.9	14	3.5	1.7	M2	0.3	0.1	0.2	50,000	1.2×10^{-8}	16	1.5	2.5	0.1	±0.2
SRB-12	12.7	18	4.5	2.2	M2.5	0.5	0.2	0.4	40,000	1.1×10^{-7}	40	4.4	2.5	0.1	±0.3
SRB-16	16	18.5	4.7	2.3	M3	0.7	0.4	0.8	30,000	2.8×10^{-7}	75	7.2	2.5	0.15	±0.3
SRB-19	19.1	22	6	2.9	M3	0.7	0.6	1.2	24,000	6.4×10^{-7}	150	12	2.5	0.15	±0.3
SRB-22	22.2	25	6.5	3.2	M4	1.7	1	2	20,000	1.4×10^{-6}	200	17.4	2.5	0.15	±0.4
SRB-26	26.2	30	7.7	3.4	M4	1.7	2	4	18,000	3.1×10^{-6}	340	29.2	2.5	0.2	±0.4
SRB-32	31.8	39	9.4	4.7	M5	4	3.8	7.6	18,000	9.4×10^{-6}	450	56.8	2.5	0.2	±0.4
SRB-39	39	56	16	5.9	M5	4	7	14	12,000	2.8×10^{-5}	640	124	2.5	0.25	±0.4
SRB-49	49	70	19.8	9.4	M6	7	15	30	10,000	1.0×10^{-4}	1,500	280	2.5	0.25	±0.5
SRB-60	60	88	19	9	M8	15	30	60	8,500	2.7×10^{-4}	2,500	500	2.5	0.3	±0.5

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- The number of screw for SRB-8 is 1pc.
- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

Side-clamp

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SRB-12C	12.7	19	5	2.5	M2	0.5	0.2	0.4	35,000	1.1×10^{-7}	40	4.4	2.5	0.1	±0.3
SRB-16C	16	21.5	6.1	3	M2.6	1	0.4	0.8	27,000	3.1×10^{-7}	75	8.2	2.5	0.15	±0.3
SRB-19C	19.1	23	6.2	3.1	M2.6	1	0.6	1.2	20,000	6.4×10^{-7}	150	12	2.5	0.15	±0.3
SRB-22C	22.2	26.5	7.2	3.6	M3	1.7	1	2	18,000	1.4×10^{-6}	200	17.9	2.5	0.15	±0.4
SRB-26C	26.2	31.5	7.5	3.7	M3	1.7	2	4	17,000	3.2×10^{-6}	340	29.9	2.5	0.2	±0.4
SRBA-32C	31.8	39	9.4	4.7	M4	3.5	3.8	7.6	14,000	8.6×10^{-6}	450	54.9	2.5	0.2	±0.4
SRBB-32C	31.8	44	9.4	4.7	M4	3.5	3.8	7.6	14,000	1.0×10^{-5}	450	62.3	2.5	0.2	±0.4
SRBA-39C	39	43	10.7	5.3	M5	8	7	14	10,000	2.1×10^{-5}	640	87.8	2.5	0.25	±0.4
SRBB-39C	39	56	12	5.5	M5	8	7	14	10,000	2.8×10^{-5}	640	117	2.5	0.25	±0.4
SRBA-49C	49	63.5	15.1	7.5	M6	13	15	30	10,000	8.4×10^{-5}	1,500	236	2.5	0.25	±0.5
SRBB-49C	49	70	14.5	7.2	M6	13	15	30	8,400	1.0×10^{-4}	1,500	258	2.5	0.25	±0.5
SRBA-60C	60	76.2	19	9.4	M8	30	30	60	7,000	2.2×10^{-4}	2,500	407	2.5	0.25	±0.5
SRBB-60C	60	88	19	9.4	M8	30	30	60	7,000	2.6×10^{-4}	2,500	483	2.5	0.25	±0.5

- 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.

SRB SERIES

Radial Beam Coupling (Ultra High Strength Aluminum Alloy Body)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																			
	2	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	18	19	20	22	24	25
SRB-8□	●	●																		
SRB-12□		●	●	●																
SRB-16□		●	●	●	●															
SRB-19□			●	●	●	●	●													
SRB-22□				●	●	●	●	●	●											
SRB-26□				●	●	●	●	●	●	●	●									
SRB□-32□							●	●	●	●	●	●	●							
SRB□-39□									●	●	●	●	●	●	●	●				
SRB□-49□											●	●	●	●	●	●	●			
SRB□-60□													●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

Slip Torque

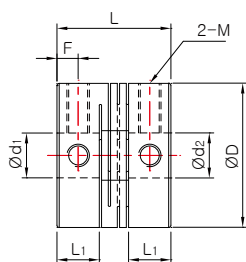
- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operational torque 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)				
		12	14	15	16	18
SRB□-49C	30	29.4				
SRB□-60C	60			40.6	46.9	54.6

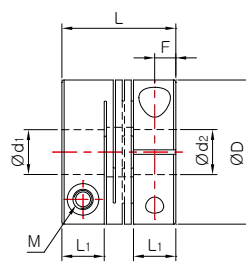
SRB SERIES (SRBM)

Radial Beam Coupling (Ultra High Strength Aluminum Alloy Body)

Set-screw (SRBM-no mark)



Side-clamp (SRBM-C)



Dimensions / Performance

Set-screw

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SRBM-12	12.7	13	4.5	2.2	M2.5	0.5	0.2	0.4	40,000	8.0×10^{-8}	60	3.2	1	-	±0.15
SRBM-16	16	14	5	2.4	M3	0.7	0.4	0.8	30,000	2.2×10^{-7}	130	5.8	1	-	±0.15
SRBM-19	19.1	17	6.3	3.1	M3	0.7	0.6	1.2	24,000	5.3×10^{-7}	160	10	1	-	±0.15
SRBM-22	22.2	19	6.9	3.3	M4	1.7	1	2	20,000	1.1×10^{-6}	180	14	1	-	±0.15
SRBM-26	26.2	22	7.9	3.8	M4	1.7	2	4	18,000	2.5×10^{-6}	480	25	1	-	±0.15
SRBM-32	31.8	29	10.5	5.1	M5	4	3.8	7.6	16,000	6.9×10^{-6}	780	44.9	1	-	±0.15

- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

Side-clamp

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SRBM-12C	12.7	14	5	2.5	M2	0.5	0.2	0.4	35,000	7.9×10^{-8}	60	3.2	1	-	±0.15
SRBM-16C	16	16	6	3	M2.6	1	0.4	0.8	27,000	2.3×10^{-7}	130	6.3	1	-	±0.15
SRBM-19C	19.1	17	6.3	3.1	M2.6	1	0.6	1.2	20,000	5.0×10^{-7}	160	9.2	1	-	±0.15
SRBM-22C	22.2	20	7.4	3.7	M3	1.7	1	2	18,000	1.1×10^{-6}	180	15	1	-	±0.15
SRBM-26C	26.2	23	8.4	4.1	M3	1.7	2	4	17,000	2.5×10^{-6}	480	25	1	-	±0.15
SRBM-32C	31.8	30	11	5.4	M4	3.5	3.8	7.6	14,000	6.8×10^{-6}	780	44	1	-	±0.15

- 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.

SRB SERIES (SRBM)

Radial Beam Coupling (Ultra High Strength Aluminum Alloy Body)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)											
	3	4	5	6	6.35	8	9.525	10	11	12	14	15
SRBM-12□	●	●	●									
SRBM-16□	●	●	●	●								
SRBM-19□		●	●	●	●	●						
SRBM-22□			●	●	●	●	●	●				
SRBM-26□			●	●	●	●	●	●	●	●		
SRBM-32□				●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

Slip Torque (Side-clamp type only)

- 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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)		
		6	6.35	8
SRBM-32C	7.6	5.6	6	7.6

SRBS SERIES



Radial Beam Coupling (Stainless Steel Body)



Structure and Material

General



Set-screw (SRBS-no mark)



Side-clamp (SRBS-C)

Structure	Material	Surface Treatment
Body	Stainless Steel	-
Screw	SUSXM7	-

Space-saving



Side-clamp (SRBMS-C)

Structure	Material	Surface Treatment
Body	Stainless Steel	-
Screw	SUSXM7	-

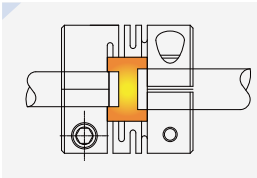
Product Features & Application

- SRB series is one-piece metal coupling with no backlash and absorbs misalignment through its slit structures.
- SRBS series is made of stainless steel in order to enhance its corrosion resistance function.

	SRBS	SRBMS
Backlash free (Precision)	☆	☆
High Torque (Durability)	△	△
Torsional Stiffness	○	○
Vibration Absorption	-	-
Misalignment Absorption	○	△
Corrosion resistance	☆	☆
Applicable Motors	Servo	○
	Stepping	○
	Encoder	○
	General	-

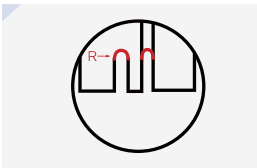
Application : UVW Stage, XY Stage, Part feeder, Encoder and applications which requires corrosion resistant couplings.

INNER-RELIEF AREA



- SRB series has the “relief” space structure in the middle area, in case there is interference that causes damages.

ROUND-SHAPED SLITS



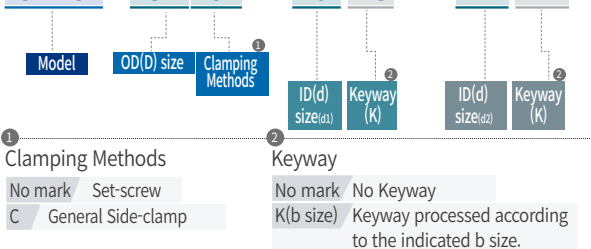
- SRB series has rounded slits(cuts) structure to disperse stress concentration.

Clamping Methods

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

How to Order

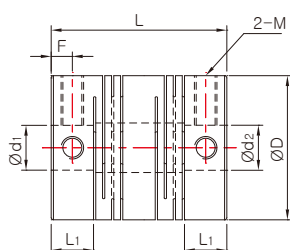
SRBS - 32 C - 10 K3 x 14 K4



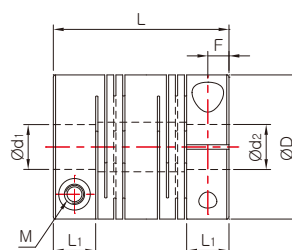
SRBS SERIES

Radial Beam Coupling (Stainless Steel Body)

Set-screw (SRBS-no mark)



Side-clamp (SRBS-C)



Dimensions / Performance

Set-screw

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SRBS-12	12.7	18	4.5	2.2	M2.5	0.5	0.2	0.4	34,000	3.0×10 ⁻⁷	65	12.4	2.5	0.1	±0.3
SRBS-16	16	18.5	4.7	2.3	M3	0.7	0.4	0.8	27,000	7.7×10 ⁻⁷	85	21	2.5	0.15	±0.3
SRBS-19	19.1	22	5.9	2.9	M3	0.7	0.6	1.2	20,000	1.8×10 ⁻⁶	230	34	2.5	0.15	±0.3
SRBS-22	22.2	25	6.5	3.2	M4	1.5	1	2	17,000	3.8×10 ⁻⁶	290	49.5	2.5	0.15	±0.4
SRBS-26	26.2	30	7.7	3.4	M4	1.5	2	4	16,000	8.8×10 ⁻⁶	350	84	2.5	0.2	±0.4
SRBS-32	31.8	39	9.4	4.7	M5	2	3.8	7.6	14,000	2.7×10 ⁻⁵	840	160	2.5	0.2	±0.4
SRBS-39	39	56	16	5.9	M5	2	7	14	10,000	8.8×10 ⁻⁵	1,000	388	2.5	0.25	±0.4
SRBS-49	49	70	19.8	9.4	M6	4	15	30	7,000	2.8×10 ⁻⁴	1,400	775	2.5	0.25	±0.5
SRBS-60	60	88	19	9	M8	8	30	60	6,000	7.6×10 ⁻⁴	1,800	1,416	2.5	0.3	±0.5

- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

Side-clamp

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SRBS-12C	12.7	19	5	2.5	M2	0.5	0.2	0.4	32,000	3.0×10 ⁻⁷	65	13	2.5	0.1	±0.3
SRBS-16C	16	21.5	6.1	3	M2.6	1	0.4	0.8	25,000	9.0×10 ⁻⁷	85	26	2.5	0.15	±0.3
SRBS-19C	19.1	23	6.2	3.1	M2.6	1	0.6	1.2	18,000	1.7×10 ⁻⁶	230	32	2.5	0.15	±0.3
SRBS-22C	22.2	26.5	7.2	3.6	M3	1.5	1	2	15,000	3.8×10 ⁻⁶	290	43	2.5	0.15	±0.4
SRBS-26C	26.2	31.5	7.5	3.7	M3	1.5	2	4	14,000	8.6×10 ⁻⁶	350	84	2.5	0.2	±0.4
SRBS-32C	31.8	39	9.4	4.7	M4	2.5	3.8	7.6	12,000	2.5×10 ⁻⁵	840	160	2.5	0.2	±0.4
SRBAS-39C	39	43	10.7	5.3	M5	4	7	14	9,000	6.1×10 ⁻⁵	1,200	280	2.5	0.25	±0.4
SRBBS-39C	39	56	12	5.5	M5	4	7	14	9,000	8.6×10 ⁻⁵	1,000	360	2.5	0.25	±0.4
SRBAS-49C	49	63.5	15.1	7.5	M6	8	15	30	7,000	2.7×10 ⁻⁴	1,600	672	2.5	0.25	±0.5
SRBBS-49C	49	70	14.5	7.2	M6	8	15	30	7,000	2.8×10 ⁻⁴	1,400	740	2.5	0.25	±0.5
SRBAS-60C	60	76.2	19	9.4	M8	16	30	60	5,000	7.2×10 ⁻⁴	2,000	1,150	2.5	0.25	±0.5
SRBBS-60C	60	88	19	9.4	M8	16	30	60	5,000	8.6×10 ⁻⁴	1,800	1,370	2.5	0.25	±0.5

- 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.

SRBS SERIES

Radial Beam Coupling (Stainless Steel Body)

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																		
	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	18	19	20	22	24	25
SRBS-12□	●	●	●																
SRBS-16□	●	●	●	●															
SRBS-19□		●	●	●	●	●													
SRBS-22□			●	●	●	●	●	●											
SRBS-26□			●	●	●	●	●	●	●	●									
SRB□S-32□						●	●	●	●	●	●	●							
SRB□S-39□								●	●	●	●	●	●						
SRB□S-49□										●	●	●	●	●	●	●			
SRB□S-60□												●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

Slip Torque

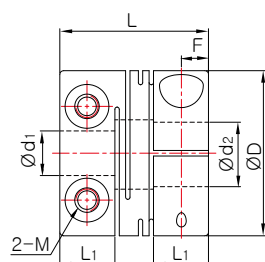
- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operational torque 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d ₁ , d ₂)														
		3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	18	19
SRBS-12C	0.4															
SRBS-16C	0.8	0.9														
SRBS-19C	1.2		0.9	1.2	1.5											
SRBS-22C	2			2.7												
SRBS-26C	4			3.1												
SRB□S-32C	7.6															
SRB□S-39C	14								14.6							
SRB□S-49C	30										23.5	26.3	30.2			
SRB□S-60C	60												32.5	37.5	43.7	57.1

SRBS SERIES (SRBMS)

Radial Beam Coupling (Stainless Steel Body)

Side-clamp (SRBMS-C)



Dimensions / Performance

Model	Size (±0.3mm)				Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)	End-play (mm)
SRBMS-12C	12.7	14	5	2.5	M2	0.2	0.4	0.6	20,000	2.4×10^{-7}	120	10	1	-	±0.15
SRBMS-16C	16	16	6	3	M2.6	0.4	0.8	1	20,000	7.0×10^{-7}	240	20	1	-	±0.15
SRBMS-19C	19.1	17	6.3	3.1	M2.6	0.6	1.2	1.8	19,000	1.5×10^{-6}	300	32	1	-	±0.15
SRBMS-22C	22.2	20	7.4	3.7	M3	1	2	3.2	17,000	3.1×10^{-6}	350	42	1	-	±0.15
SRBMS-26C	26.2	23	8.4	4.1	M3	2	4	4.2	15,000	7.2×10^{-6}	720	70	1	-	±0.15
SRBMS-32C	31.8	30	11	5.4	M4	3.8	7.6	7.6	10,000	2.0×10^{-5}	1,300	140	1	-	±0.15

- 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)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)											
	3	4	5	6	6.35	8	9.525	10	11	12	14	15
SRBMS-12C	●	●	●									
SRBMS-16C	●	●	●	●								
SRBMS-19C		●	●	●	●	●						
SRBMS-22C			●	●	●	●	●	●				
SRBMS-26C			●	●	●	●	●	●	●	●		
SRBMS-32C						●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Max. Torque (N·m)	Slip Torque (N·m) by Inner Diameter (d ₁ , d ₂)										
		3	4	5	6	6.35	8	9.525	10	11	12	14
SRBMS-12C	0.6	0.5	0.5	0.6								
SRBMS-16C	1	0.5	0.9									
SRBMS-19C	1.8		0.7	1.1	1.4							
SRBMS-22C	3.2			1.4	2	2.2	2.7					
SRBMS-26C	4.2			1.7	2.1	2.4	3	3.7	3.8			
SRBMS-32C	7.6				3.6	3.7	4	4.7	4.9	5.3	5.8	7.5

SRG SERIES



Rigid Coupling



Structure and Material

Set-screw



SRG-no mark

Structure	Material	Surface Treatment
Body	High Strength Aluminum Alloy	Anodizing
Screw	SCM435	Black Oxide

Side-clamp



SRG-C



SRGL-C

Structure	Material	Surface Treatment
Body	High Strength Aluminum Alloy	Anodizing
Screw	SCM435	Black Oxide

Product Features & Application

- SRG Series is one-piece metal coupling with no backlash and it doesn't allow any loss of motion while transmitting.
- Because this series doesn't absorb misalignment, the allocation of shafts should be set-up in line accurately without any misalignment.

Backlash free (Precision)	☆
High Torque (Durability)	○
Torsional Stiffness	☆
Vibration Absorption	-
Misalignment Absorption	-

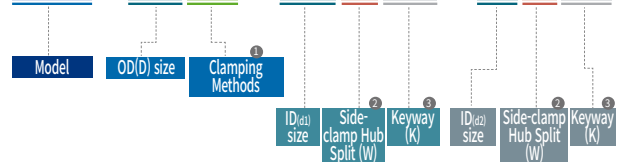
Applicable Motors	Servo	○
	Stepping	○
	Encoder	-
	General	-

Clamping Methods

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

How to Order

SRGL - 53 CW - 20 W K6 x 20 W K6

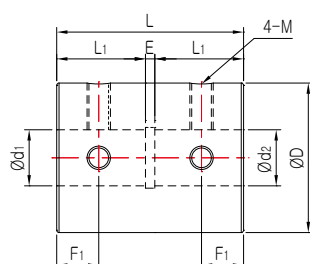


1 Clamping Methods		No mark	Set-screw
		C	General Side-clamp
		CW	Side-clamp Hub Split
2 Side-clamp Hub Split		No mark	No Keyway
		W	Split
		K(b size)	Keyway processed according to the indicated b size.

SRG SERIES

Rigid Coupling

Set-screw



Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)					Screw		Rated Torque (N·m)	Max. rpm (min^{-1})	Moment of Inertia ($\text{kg}\cdot\text{m}^2$)	Mass (g)
	D	L	L ₁	E	F ₁	Size	Fastening Torque (N·m)				
SRG-16	16	22.5	10.3	2	5	M3	0.7	1	25,000	3.9×10^{-7}	10
SRG-20	20	24	11	2	5.5	M3	0.7	2.5	20,000	9.7×10^{-7}	15.4
SRG-25	25	35	16.5	2	7.5	M4	1.7	4	18,000	3.5×10^{-6}	36
SRG-32	32	40	19	2	9	M5	4	9	14,000	1.1×10^{-5}	69
SRG-43	43	52	25	2	12	M6	7	20	12,000	4.6×10^{-5}	153
SRG-53	53	66	32	2	15.5	M8	15	25	8,000	1.4×10^{-4}	316

- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

Standard Inner Diameter (ID)

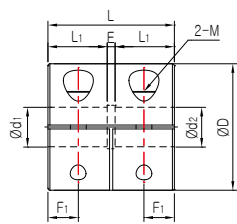
Model	Standard Inner Diameter (d_1, d_2) (mm)														
	3	4	5	6	8	10	11	12	14	15	16	18	20	22	24
SRG-16	●	●	●	●											
SRG-20		●	●	●	●	●									
SRG-25			●	●	●	●	●	●							
SRG-32				●	●	●	●	●	●	●					
SRG-43						●	●	●	●	●	●	●	●	●	
SRG-53								●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

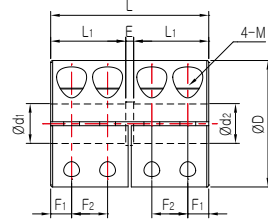
SRG SERIES

Rigid Coupling

Side-clamp



SRG-C



SRGL-C



Dimensions / Performance

SRG-C

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Mass (g)	Side-clamp Hub Split (W)
	D	L	L ₁	E	F ₁	F ₂	Size	Fastening Torque (N·m)					
SRG-16C	16	16	7	2	3.7	-	M2.6	1	1	18,000	2.5×10^{-7}	6.8	○
SRG-20C	20	20	9	2	4.6	-	M2.6	1	2.5	15,000	7.5×10^{-7}	12	○
SRG-25C	25	25	11.5	2	5.8	-	M3	1.7	4	12,000	2.3×10^{-6}	24	○
SRG-32C	32	32	15	2	7.6	-	M4	3.5	9	10,000	8.0×10^{-6}	52	○
SRG-43C	43	41	19.5	2	10	-	M5	8	20	8,000	3.3×10^{-5}	114	○
SRG-53C	53	51	24.5	2	12.5	-	M6	13	25	6,000	9.2×10^{-5}	234	○

- 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.

SRGL-C

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Mass (g)	Side-clamp Hub Split (W)
	D	L	L ₁	E	F ₁	F ₂	Size	Fastening Torque (N·m)					
SRGL-16C	16	22.5	10.3	2	3	5.4	M2.6	1	1	16,000	3.4×10^{-7}	9.3	○
SRGL-20C	20	24	11	2	3.1	5.6	M2.6	1	2.5	14,000	8.6×10^{-7}	14	○
SRGL-25C	25	35	16.5	2	4.7	7.6	M3	1.7	4	10,000	3.2×10^{-6}	34	○
SRGL-32C	32	40	19	2	5.3	9.1	M4	3.5	9	9,000	9.8×10^{-6}	63	○
SRGL-43C	43	52	25	2	7	11.5	M5	8	20	7,000	4.1×10^{-5}	141	○
SRGL-53C	53	66	32	2	9	14.5	M6	13	25	5,500	1.3×10^{-4}	297	○

- 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)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)														
	3	4	5	6	8	10	11	12	14	15	16	18	20	22	24
SRG□-16C	●	●	●	●											
SRG□-20C		●	●	●	●	●									
SRG□-25C			●	●	●	●	●	●							
SRG□-32C				●	●	●	●	●	●	●					
SRG□-43C						●	●	●	●	●	●	●	●	●	
SRG□-53C								●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SRG SERIES

Rigid Coupling

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 operational 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 operational torque.
- The below slip torque values may be subject to change according to different testing conditions. (i.e. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts)

Model	Rated Torque (N.m)	Slip Torque (N.m) by Inner Diameter (d_1, d_2)						
		3	4	5	6	8	10	11
SRG□-16C	1	1						
SRG□-20C	2.5		1.8	2.3				
SRG□-25C	4			3.1	3.7			
SRG□-32C	9							
SRG□-43C	20						14.9	18.2
SRG□-53C	25							

Various options for Side-clamp Hub Split available

SRG-C 1-side hub split

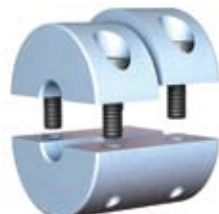


SRG-32CW-10W-14

ID 10mm : Hub Split (W)
ID 14mm : Not Split



SRG-C Both-sides hub split



SRG-32CW-10W-14W

ID 10mm : Hub Split (W)
ID 14mm : Hub Split (W)



SRGL-C 1-side hub split



SRGL-32CW-10W-14

ID 10mm : Hub Split (W)
ID 14mm : Not Split



SRGL-C Both-sides hub split



SRGL-32CW-10W-14W

ID 10mm : Hub Split (W)
ID 14mm : Hub Split (W)



SCJ SERIES



Cross Joint Coupling



Structure and Material



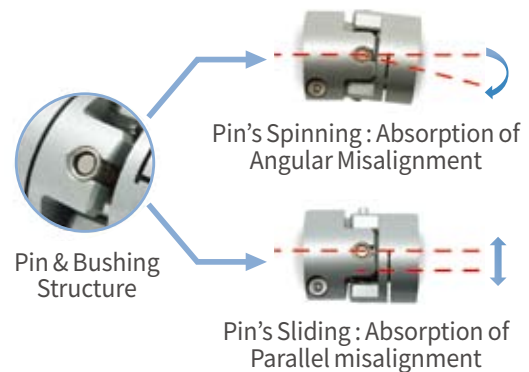
Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Center Block	Stainless Steel	Electroless Nickel Plating
Pin	SUJ2	Electroless Nickel Plating
Bushing	DU Bearing	-
Screw	SCM435	Black Oxide

Product Features & Application

- SCJ series is excellent for absorbing both angular/parallel misalignment through middle pin/bushing structure and minimizes reaction force on the shaft. (This coupling combines strong features of SOH series coupling and universal joint.)
- This series structurally doesn't absorb end-play.

High Torque (Durability)		△
Torsional Stiffness		○
Vibration Absorption		△
Misalignment Absorption		☆
Minimized Reaction Force		☆
Applicable Motors	Servo	○
	Stepping	○
	Encoder	○
	General	-

Application : Cartesian Robot, UVW Stage, Machining tools, Index Table



Clamping Methods

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

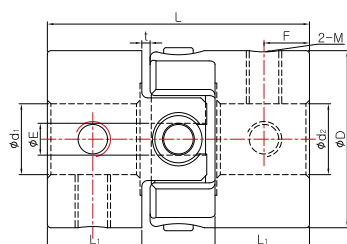
How to Order

SCJA	-	32	C	-	10	K3	x	14	K4
Model		OD(D) size	Clamping Methods		ID(d) size(d1)	Keyway (K)		ID(d) size(d2)	Keyway (K)
1 Clamping Methods				2 Keyway					
No mark	Set-screw			No mark	No Keyway				
C	General Side-clamp			K(b size)	Keyway processed according to the indicated b size.				

SCJ SERIES

Cross Joint Coupling

Set-screw



Dimensions / Performance

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment	
	D	L	L ₁	E	t	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)
SCJ-15	15	22.2	8	2.7	0.7	3.9	M3	0.7	0.25	0.5	21,000	2.9×10 ⁻⁷	200	9	1.5	0.3
SCJ-20	20	23.4	7.9	4.2	0.8	3.8	M3	0.7	0.5	1	16,000	1.0×10 ⁻⁶	450	20	1.5	0.5
SCJ-25	25	30.4	10.4	5.2	1.3	5	M4	1.7	1	2	12,000	3.1×10 ⁻⁶	800	35	1.5	0.5
SCJ-32	32	39	13.5	8.2	1.6	6.6	M4	4	2	4	9,000	1.1×10 ⁻⁵	1,200	75	1.5	0.5
SCJ-40	40	45.6	16	10	1.8	7.8	M5	4	5	10	7,000	3.1×10 ⁻⁵	1,900	145	1.5	0.5

- 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. (Set-screw type is usually less durable than other clamping method, thus please consider it has a complementary option i.e. keyway along with.)

Standard Inner Diameter (ID)

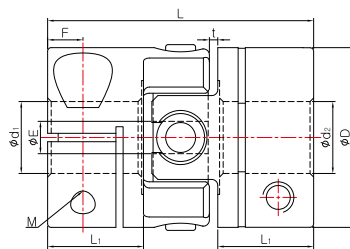
Model	Standard Inner Diameter (d ₁ , d ₂) (mm)											
	3	4	5	6	6.35	8	10	11	12	14	15	
SCJ-15	●	●	●									
SCJ-20		●	●	●	●	●						
SCJ-25			●	●	●	●	●					
SCJ-32				●	●	●	●	●	●	●		
SCJ-40					●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SCJ SERIES

Cross Joint Coupling

Side-clamp



Dimensions / Performance

Model	Size (±0.3mm)						Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment	
	D	L	L ₁	E	t	F	Size	Fastening Torque (N·m)							Angular (°)	Parallel (mm)
SCJA-15C	15	22.2	8	2.7	0.7	3	M2.6	1	0.25	0.5	21,000	3.3×10 ⁻⁷	220	9	1.5	0.3
SCJB-15C	15	24.2	8	2.7	1.7	3	M2.6	1	0.25	0.5	18,000	3.5×10 ⁻⁷	200	10	2	0.3
SCJA-20C	20	23.4	7.9	4.2	0.8	2.8	M2.6	1	0.5	1	16,000	1.2×10 ⁻⁶	350	19	1.5	0.5
SCJB-20C	20	26.4	7.9	4.2	2.3	2.8	M2.6	1	0.5	1	12,000	1.3×10 ⁻⁶	300	20	2	0.5
SCJA-25C	25	30.4	10.4	5.2	1.3	3.6	M3	1.7	1	2	12,000	3.3×10 ⁻⁶	800	34	1.5	0.5
SCJB-25C	25	33.4	10.4	5.2	2.8	3.6	M3	1.7	1	2	9,000	3.4×10 ⁻⁶	700	35	2	0.5
SCJA-32C	32	39	13.5	8.2	1.6	4.4	M4	3.5	2	4	9,000	1.1×10 ⁻⁵	1,200	72	1.5	0.5
SCJB-32C	32	43	13.5	8.2	3.6	4.4	M4	3.5	2	4	7,000	1.2×10 ⁻⁵	1,000	75	2	0.5
SCJA-40C	40	45.6	16	10	1.8	5.9	M5	8	5	10	7,000	3.2×10 ⁻⁵	1,900	140	1.5	0.5
SCJB-40C	40	51	16	10	4.5	5.9	M5	8	5	10	5,000	3.3×10 ⁻⁵	1,800	145	2	0.5

- 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)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)										
	3	4	5	6	6.35	8	10	11	12	14	15
SCJ□-15C	●	●	●								
SCJ□-20C		●	●	●	●	●					
SCJ□-25C			●	●	●	●	●				
SCJ□-32C				●	●	●	●	●	●	●	
SCJ□-40C					●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SFC SERIES



Urethane Flexible Coupling



Structure and Material

Structure	Material	Surface Treatment
Hub	Steel	Electroless Nickel Plating
Middle Part	Poly Urethane	-
Screws	SCM435	Black Oxide

Product Features & Application

- SFC series is flexible with Urethane material and is especially excellent for absorbing misalignment to a greater extent.
- The middle Urethane structure absorbs external impacts and absorbs vibration.

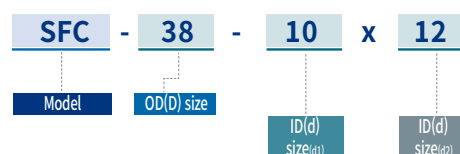
Vibration Absorption	○
Misalignment Absorption	○
Insulation of Electric Current	○

Applicable Motors	Servo	-
	Stepping	-
	Encoder	○
	General	○

Clamping Methods

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

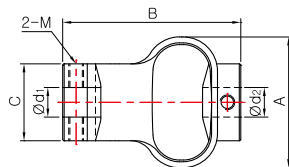
How to Order



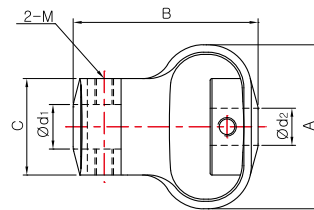
SFC SERIES

Urethane Flexible Coupling

Set-screw



Size: 29, 38



Size: 48, 54

Dimensions / Performance

Model	Size ($\pm 0.3\text{mm}$)			Screw		Max. Torque (N·m)	Max. rpm (min ⁻¹)	Mass (g)	Permissible Misalignment		
	A	B	C	Size	Fastening Torque (N·m)				Angular (°)	Parallel (mm)	End-play (mm)
SFC-29	25	28	18	M4	1.7	0.35	3,000	19	10	2	1.5
SFC-38	32	35	22.5	M4	1.7	1.35	3,000	38	10	2.5	2
SFC-48	43	50	26	M5	4	1.8	3,000	60	12	2.5	2
SFC-54	50	59	29.5	M6	7	4.5	3,000	140	12	3	2

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d_1, d_2) (mm)								
	4	5	6	8	10	12	14	15	16
SFC-29	●	●	●	●	●				
SFC-38			●	●	●	●			
SFC-48				●	●	●	●		
SFC-54					●	●	●	●	●

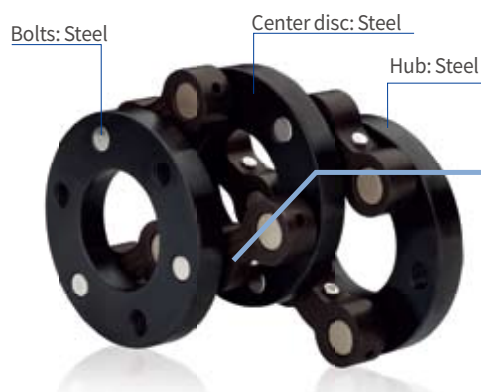
※ Keyway is **NOT** available for all sized SFC series.

SK SERIES



Schmidt-Kupplung Coupling

Structure and Material



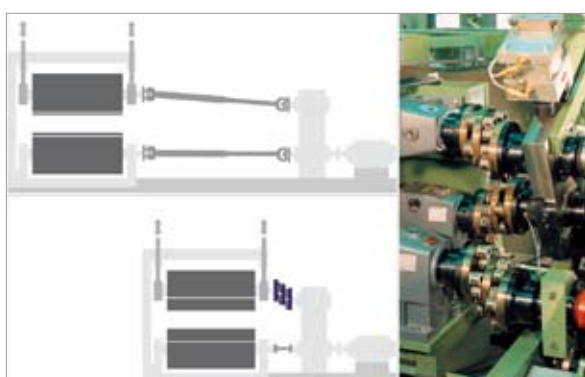
Coupling link: Steel
Surface treatment: Black-Oxide

Grease nipple

Needle bearings



Product Features & Application



The most appropriate solution for big misalignment absorption

- Large offset with absolute angle synchronization.
- Precise and compact.
- High torsional stiffness, no restoring forces.

The optimal solution for every application

- Packaging machines
 - Cartoner modules
 - Box folding machines
 - Thermoforming machines
- Forming industry
 - Metal sheet transport
 - Edge trimming shears
 - Embossing rollers
- Paper machines
 - Breast rollers
 - Paper cutters
 - Rotary cutter systems
- Printing machines
 - Paint rollers
 - Duct rollers
 - Tampon printing machines
- Wood working industry
 - Lamination machines
 - Deburrers
 - Edge processing

HOW TO ORDER

SK	-	10	5	12	/	3
Model		Length	Offset	ØD		Numbers of links

SK SERIES

Schmidt-Kupplung Coupling

Radial offset

The Schmidt-Kupplung coupling can be radially offset within the relevant pivoting range. Please note the limits specified in the tables of values for maximum allowable offset, maximum displacement and minimum required offset. Compliance with these values ensures that the shafts of the coupling do not run in an inadmissible alignment or in extended position.

■ Minimal Radial Offset ΔK_{rmin}

The coupling may not operate in alignment position $K_r=0$. In alignment position, the center disc would have no definite position in space but would be stimulated to its own movement. Therefore, a minimal required radial offset ΔK_{rmin} must be provided for both shafts to be connected. To this end, the output shaft must be moved horizontally (Figure 1) or vertically to achieve this minimum offset.

The figure below illustrates the installation position of the coupling when selecting ΔK_{rmin} in the lateral, horizontal direction. The center disc can be located above (Figure 2a) or below (Figure 2b).

For the relevant value of the minimum required radial offset ΔK_{rmin} for a coupling size, please refer to the technical data.

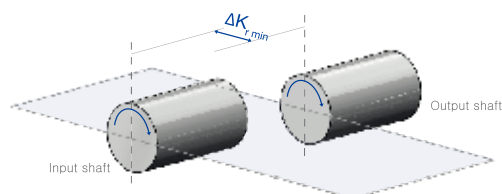


Figure 1. Output shaft moved in the lateral, horizontal direction to achieve the minimum required radial offset

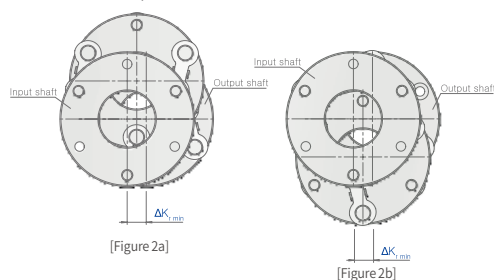


Figure 2. Alternative location of the center disc when selecting ΔK_{rmin} in horizontal direction

■ Maximum Radial Offset ΔK_{rmax}

The Schmidt-Kupplung coupling is a compactly built coupling for precise torque transmission of extremely radially offset shafts. The height of the maximum permissible radial displacement is dependent on the length/depth gauge of the coupling elements used for the relevant coupling size.

The maximum permissible radial offset results from the sum ΔK_{rmin} and the adjustment range (Figure 3). For the relevant value of the maximum permissible radial offset ΔK_r for a coupling size, please refer to the technical data.

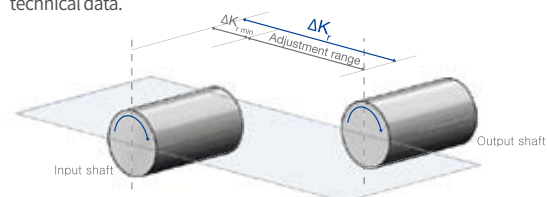


Figure 3. Maximum radial offset

Figure 4 shows the path of the centre disc of the Schmidt-Kupplung coupling with adjusting movements starting at ΔK_{rmin} to ΔK_r . Here, the center disc moves on a circular portion defined by the length/pitches of the coupling elements and thus always has a definite position.

To determine the exact position of the center disc for required installation space our application engineers will be pleased to assist you.

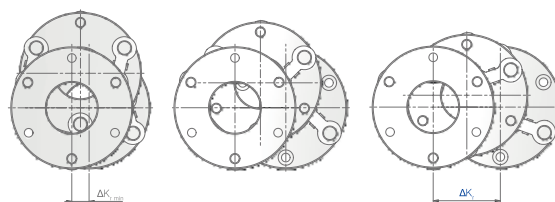
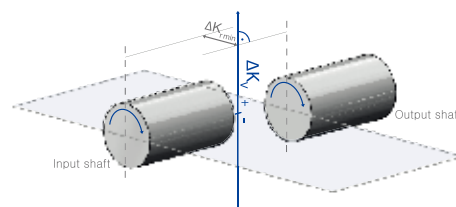


Figure 4. path of the center disc with adjusting movements starting at ΔK_{rmin} to ΔK_r

■ Maximum Linear Range of Coupling ΔK_v



■ Two installation situations are not permitted

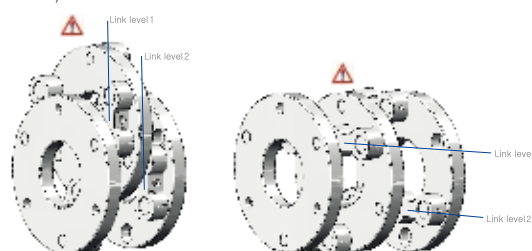
1. Inadmissible alignment

The coupling may not operate in alignment position $K_r=0$ (recognizable in that the coupling elements of link level 1 are parallel to the coupling elements in level 2). In alignment position, the center disc would have no definite position in space but would be stimulated to its own movement. For this reason, the aforementioned

minimum required radial offset must be provided for every Schmidt-Kupplung coupling.

2. Inadmissible extended position

The coupling may not operate in extended position (recognizable in that the coupling elements of link level 1 are parallel to the coupling elements in level 2).



SK SERIES

Schmidt-Kupplung Coupling

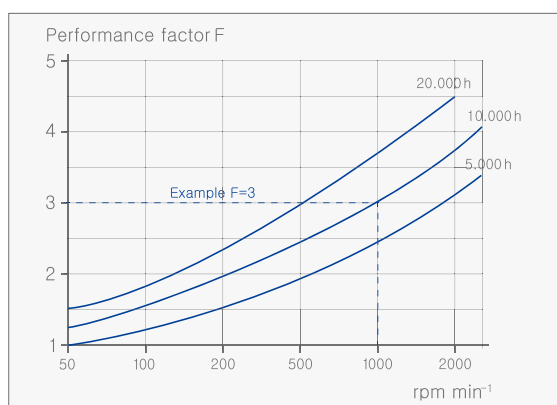
Selection sequence

The selection of the Schmidt coupling is determined by the various performance parameters. These include torque, speed and occurring displacement. The influences of these parameters are described below :

Selection according to torque

To calculate the dimensioning moment T_D , please multiply your drive torque T_A with the corresponding performance factor F and the expected load factor K .

$$T_D = T_A \times F \times K$$



Select the anticipated operating speed of your application combined with the desired service life in hour.

Example: Anticipated operating speed: 1,000 rpm
Desired service life: 10,000 h

Performance factor F : 3

Load factor K			
Uniform	Light shocks	Medium shocks	Heavy shocks
1,0	1,25	1,75	2,25

$$T_{KN} > T_D$$

Select a coupling whose rated torque T_{KN} is larger than the calculated dimensioning torque T_D .

※ Make sure that the maximum torque of coupling T_{Kmax} is not exceeded.

Selection example (Application: Roller drive in automatic lamination machine)

Required conditions

- Requested maximum radial offset ΔK_r : 40mm
- Drive torque T_A : 50Nm
- Operating speed: 200 rpm
- Desired service life: 10,000 h
- Expected load factor K : 1.25 (light shocks)

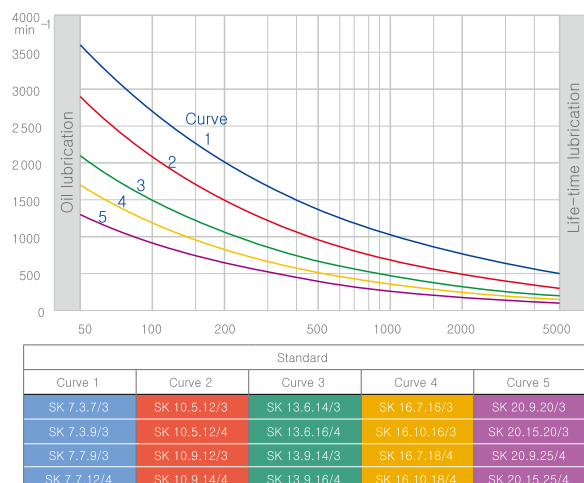
Selection

- Performance factor F : 2
- Dimensional torque $T_D = 50\text{Nm} \times 2 \times 1.25 = 125\text{Nm}$
- Select a coupling whose rated torque T_{KN} is larger than the calculated dimensioning torque 125 Nm

Appropriate size: SK 7.7.9/3 (TKN: 150 Nm / TKmax: 290 Nm)

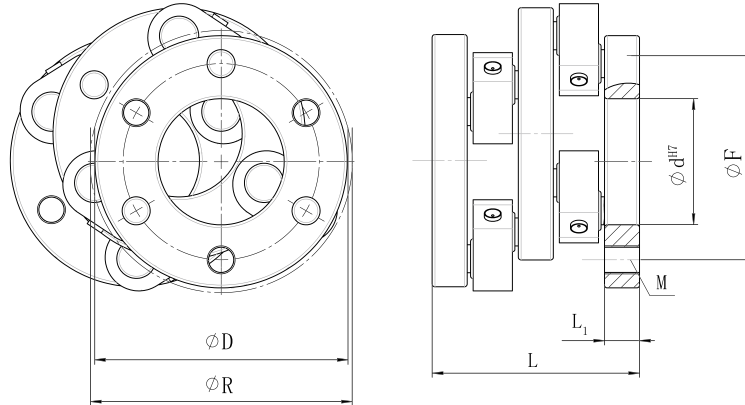
Lubrication period

The Schmidt-Kupplung, except for size SK 4.2.6/3, SK 4.2.8/5, SK 4.5.6/3 and SK 4.5.8/5, has a lubrication fitting for regreasing. Adequate lubrication is required for full operating life. The Schmidt-Kupplung, should be regreased exclusively with Klüber Staburags NBU 12-300 KP. Mixing lubrication is not recommended and will reduce coupling operating life.



SK SERIES

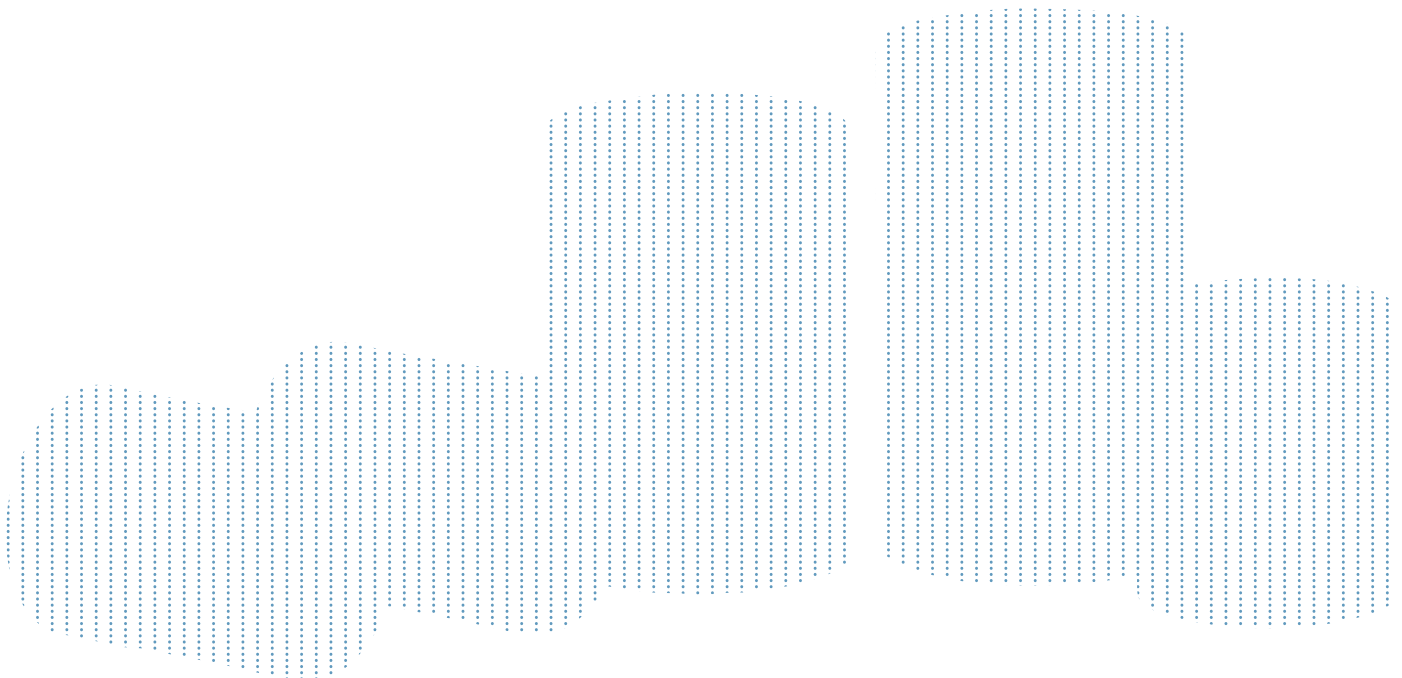
Schmidt-Kupplung Coupling



Dimensions / Performance (Technical Data)

SIZE	Performance							C _T kNm/rad	Dimensions								
	ΔK _{r min} mm	ΔK _r mm	ΔK _v mm	ΔK _w °	T _{KN} Nm	T _{Kmax} Nm	min ⁻¹		D mm	R mm	J kg cm ²	m kg	L mm	L ₁ mm	F mm	d mm	M
SK 4.2.6/3	6	23	45	0.8	45	85	2800	10	60	62	2.8	0.5	44	8	45	25	3xM6
SK 4.2.8/5				0.5	110	210	1800	24	82	84	8.9	0.8			67	40	5xM6
SK 4.5.6/3	13	50	95	0.8	45	85	1900	10	60	62	3.1	0.6			45	25	3xM6
SK 4.5.8/5				0.5	110	210	1600	24	82	84	9.1	1.1			67	40	5xM6
SK 7.3.7/3	9	34	64	0.8	110	210	3500	24	70	74	7.5	1.1	74	12.5	48	25	3xM10
SK 7.3.9/3				0.8	150	290	3100	33	90	94	21.5	1.7			70	45	3xM10
SK 7.7.9/3	17	66	126	0.8	150	290	2200	33	90	94	24	1.9			70	45	3xM10
SK 7.7.12/4				0.5	280	550	1900	63	120	124	63	3			98	50	4xM10
SK 10.5.12/3	14	53	100	0.5	360	710	2300	81	120	120	95	4.5	101	17	90	50	3xM12
SK 10.5.12/4				0.5	480	945	2300	108	120	120	105	5			90	50	4xM12
SK 10.9.12/3	22	85	162	0.5	360	710	1700	81	120	120	107	5.1			90	50	3xM12
SK 10.9.14/4				0.5	590	1155	1800	132	140	140	187	6.8			110	50	4xM12
SK 13.6.14/3	17	64	122	0.5	630	1240	1700	142	140	143	275	9.8	134	26	100	55	3xM16
SK 13.6.16/4				0.5	1010	1980	1600	227	158	164	475	13			120	60	4xM16
SK 13.9.14/3	22	85	162	0.5	630	1240	1500	142	140	143	285	10			100	55	3xM16
SK 13.9.16/4				0.5	1010	1980	1400	227	158	164	480	13.2			120	60	4xM16
SK 16.7.16/3	18	68	129	0.5	1130	2200	1500	252	158	164	550	15	155	31	115	60	3xM16
SK 16.7.18/4				0.5	1760	3440	1400	395	180	184	680	17			135	70	4xM16
SK 16.10.16/3	25	95	180	0.5	1130	2200	1200	252	158	164	585	16			115	60	3xM16
SK 16.10.18/4				0.5	1760	3440	1200	395	180	180	910	20			135	70	4xM16
SK 20.9.20/3	22	85	162	0.3	2160	4220	1200	484	200	202	1500	26	196	33	150	80	3xM20
SK 20.9.25/4				0.3	3830	7500	1000	860	250	252	3700	41			200	100	4xM20
SK 20.15.20/3	37	142	270	0.3	2160	4220	900	484	200	202	1850	32			150	80	3xM20
SK 20.15.25/4				0.3	3830	7500	800	860	250	252	4100	44			200	100	4xM20

- T_{KN}= rated torque, T_{Kmax}= Maximum torque capacity, min⁻¹= Max. rpm, ΔK_v= Maximum linear range of the coupling, ΔK_r= Maximum radial offset capacity, ΔK_{r min}= Min. required radial offset
- ΔK_w= Max. angular misalignment capacity, C_T= Torsional stiffness, J= Moment of inertia, m= Mass, L= Coupling length, M= Numbers of threaded bores x bolt size, F= Bolt circle diameter
- Size SK 4.2.6/3 – SK 16.10.18/4 allows an axial misalignment up to 1mm; Size SK 20.9.20/3 – SK 20.15.25/4 up to 2mm



CONNECTING SHAFT

Overview

How to determine the proper length(L)	108p
How to calculate permissible parallel misalignment	108p
How to calculate torsional stiffness	108p

Dimensions / Performance

SJCL Series [Jaw]	109~110p
SHDL Series [High Torque Disk]	111~113p





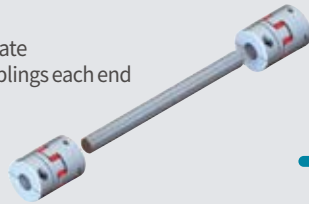
Why Connecting Shaft?



How to transmit motion when there is a longer distance between the shafts?

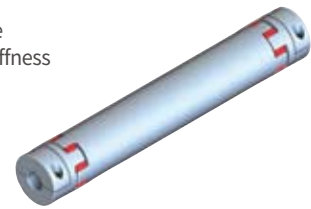
Combined set of coupling + Ground shaft

- 3 different parts (2 Couplings, 1 ground shaft) are separately needed.
- Bigger laboring required
- Hard to keep the appropriate straightness between couplings each end and a ground shaft



Connecting Shaft

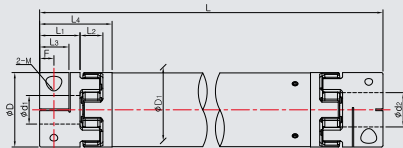
- 1 Whole piece structure
- Simple installation
- Easy and handy maintenance
- The hollow shaft with high stiffness



➔ Better

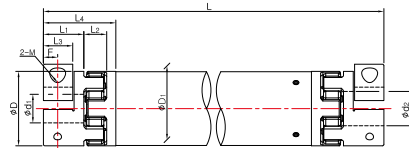
How to determine the proper length(L)

General Side-clamp Type



$$L(\text{Total Length}) = L_s(\text{distance between shafts}) + 2L_1$$

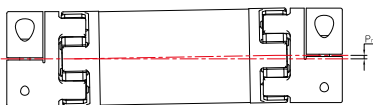
Side-clamp Hub Split Type



$$L(\text{Total Length}) = L_s(\text{distance between shafts}) + 2L_3$$

※ Side-clamp Hub Split type is commonly used for connecting shaft in regards to an easier maintenance.

How to calculate permissible parallel misalignment



$$P_m = (L - 2(L_1 + L_2)) \times \tan \frac{A_m}{2}$$

P_m = Permissible parallel misalignment

L = Total length

A_m = Permissible angular misalignment of connecting shaft (= 2 x coupling's value)

- The value calculated by the above formula is maximum permissible parallel misalignment in the allowable range of motion transmission, which means sleeves of SJCL and plate spring of SHDL may still get worn down even within the range of permissible parallel misalignment.
- The P_m value shrinks by $\frac{1}{2}$ when there are both angular and parallel misalignment at the same time.
- It is recommended to use at the $\frac{1}{3}$ value L of P_m for longer lifespan, as well as keep the shafts located in line as straight as possible.
- If you need any further assistance, please contact Sung-il Customer Service team for more details.

How to calculate Torsional Stiffness

$$TS_L = \frac{1}{2 \times \frac{1}{TS_C} + \frac{L_{\text{pipe}}}{TS_S}} \quad (\text{Nm/rad})$$

TS_L = Torsional Stiffness of Connecting Shaft

TS_C = Torsional Stiffness of Coupling

TS_S = Torsional Stiffness of Pipe/m

L_{pipe} = Length of Pipe

$$L_{\text{pipe}} = \frac{L - 2L_4}{1000} \quad (\text{m})$$

SJCL SERIES



Jaw Type Connecting Shaft

Structure and Material

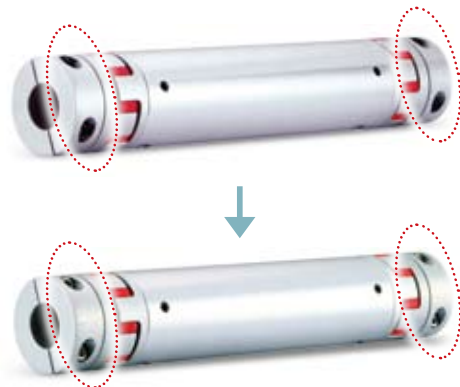


Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	Anodizing
Sleeve	Hytrel®(RD/GR)	-
Hollow Shaft	High Strength Aluminum Alloy	Anodizing
Screw	SCM435	Black Oxide

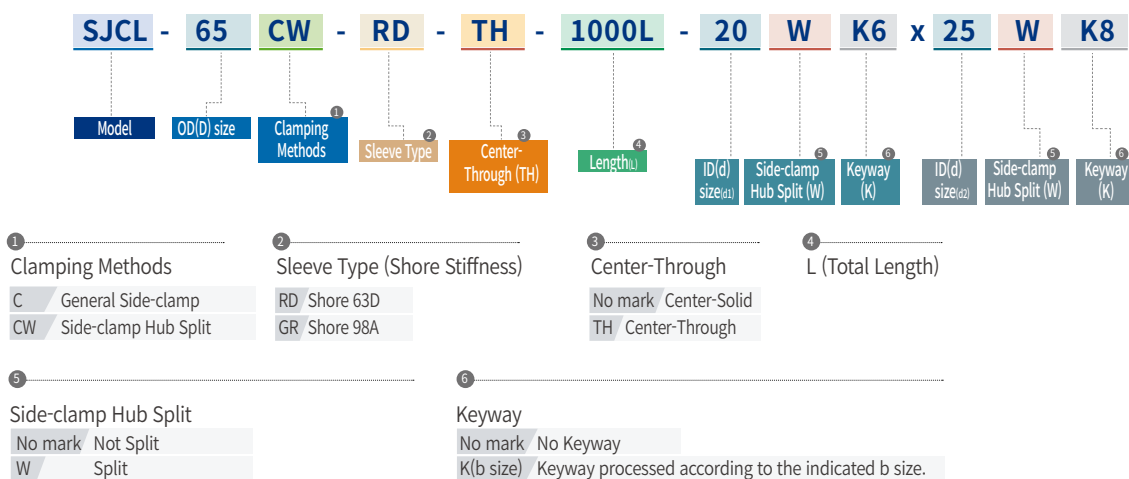
Product Features

- High durability (the best feature of SJC series coupling)
- Precise concentricity/straightness
- Minimized moment of inertia by aluminum alloy material
- Absorption of Impact/Vibration
- Easier installation and simpler maintenance

Parts with Alternative Material Options



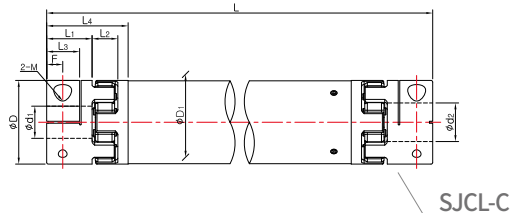
How to Order



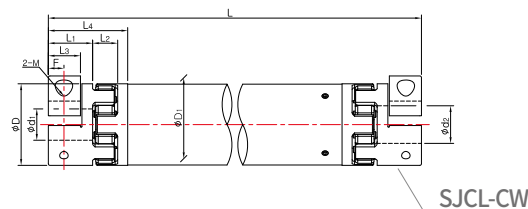
SJCL SERIES

Jaw Type Connecting Shaft

Side-clamp



Side-clamp Hub Split (W)



Dimensions / Performance

Model	Size (±0.3mm)							Screw		Length (mm)		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm (min ⁻¹)	Torsional Stiffness (N·m/rad)		Moment of Inertia (kg·m ²)		Permissible Misalignment		
	D	D ₁	L ₁	L ₂	L ₃	L ₄	F	Size	Fastening Torque (N·m)	min.	max.				coupling [TSc]	PIPE/m [TSs]	coupling	PIPE/m	Angular (°)	Parallel (mm)	End-play (mm)
SJCBL-30□□-GR	30	29.5	15.8	12.4	11.1	32.7	5.4	M4	3.5	95	2,000	10	20	1,500	180	1,380	7.5 × 10 ⁻⁶	1.6 × 10 ⁻⁴	2	16	-1.0 ~ +1.0
SJCBL-30□□-RD												14	28		220						
SJCBL-40□□-GR	40	39.5	25	16	16.5	45	8.4	M5	8	130	2,000	16	32	1,500	1,200	3,800	3.9 × 10 ⁻⁵	4.3 × 10 ⁻⁴	2	15.6	-1.0 ~ +1.2
SJCBL-40□□-RD												18	36		2,000						
SJCL-55□□-GR	55	54.5	30.3	18	21	54	10.5	M6	13	175	2,000	45	90	1,500	2,500	11,150	1.6 × 10 ⁻⁴	1.3 × 10 ⁻³	2	15.4	-1.0 ~ +1.4
SJCL-55□□-RD												60	120		4,000						
SJCL-65□□-GR	65	64.5	35.3	20	25.6	63	12.5	M8	30	200	2,000	120	240	1,500	4,000	19,310	3.8 × 10 ⁻⁴	2.2 × 10 ⁻³	2	15.1	-1.2 ~ +1.5
SJCL-65□□-RD												180	360		8,000						
SJCL-80□□-GR	80	79.5	45.2	24	30.2	77	14.7	M10	30	245	2,000	240	480	1,500	10,000	37,840	1.0 × 10 ⁻³	4.2 × 10 ⁻³	2	14.6	-1.2 ~ +1.5
SJCL-80□□-RD												320	640		20,000						
SJCL-100□□-GR	104	50.5	56.2	21	39.9	88.2	19.9	M12	90	300	1,400	300	600	1,500	20,000	100,000	4.6 × 10 ⁻³	4.2 × 10 ⁻²	2	14.4	-1.2 ~ +2.0
SJCL-100□□-RD												600	1,200		40,000						

- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- 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.
- Please contact Sung-il Customer Service team for the special lengths (out of range).

Standard Inner Diameter (ID)

[illegible]

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SHDL SERIES



High Torque Disk Type Connecting Shaft

Structure and Material



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

Product Features

- Enhanced durability with SHD series coupling
- Precise concentricity/straightness
- Minimized moment of inertia by aluminum alloy material
- Backlash free
- High Torsional Stiffness
- Easier installation and simpler maintenance

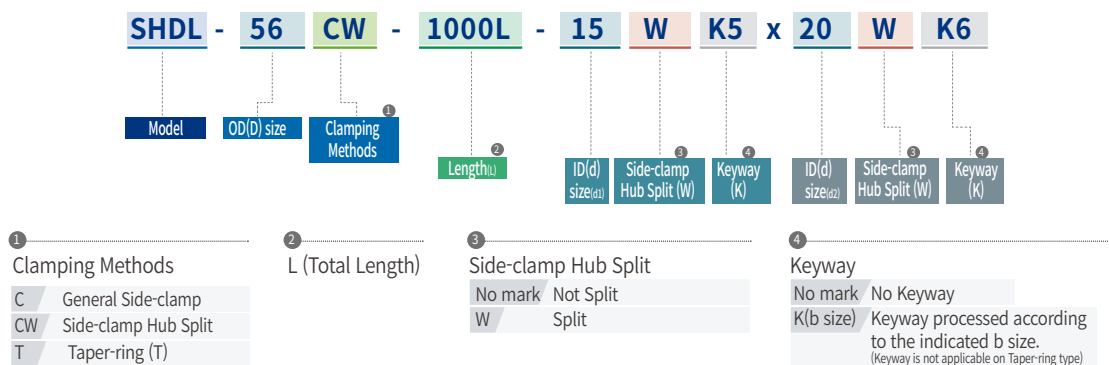
Parts with Alternative Material Options

- 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	-



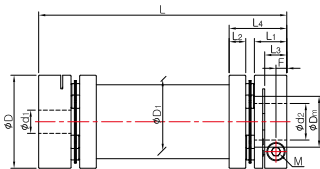
How to Order



SHDL SERIES

High Torque Disk Type Connecting Shaft

Side-clamp

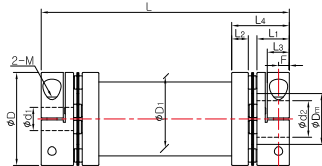


Integral Shaft Type



Inserted Shaft Type

Side-clamp Hub Split (W)



Integral Shaft Type



Inserted Shaft Type

Dimensions / Performance

Integral Shaft Type

Model	Size (±0.3mm)								Screw		Length (mm)		Permissible Torque (N·m)	Max. rpm (min ⁻¹)	Static Torsional Stiffness (N·m/rad)		Permissible Misalignment		
	D	D ₁	D _m	L ₁	L ₂	L ₃	L ₄	F	Size	Fastening Torque (N·m)	min.	max.			coupling [TSc]	PIPE/m [TSs]	Angular (°)	Parallel (mm)	End-play (mm)
SHDL-56□□	56	35	30.6	19.5	6	13.3	30.7	6.5	M6	13	80	130	60	1,500	2.0 × 10 ⁴	1.6 × 10 ⁴	1.4	0.5	± 1.2
SHDL-66□□	66	41	35.6	24.5	8	15.5	40	7.5	M6	13	100	150	120	1,500	3.0 × 10 ⁴	2.9 × 10 ⁴	1.4	0.5	± 1.6
SHDL-88□□	88	55	46.1	30	10	19	49.6	9.9	M8	30	120	170	200	1,500	7.0 × 10 ⁴	6.0 × 10 ⁴	1.4	0.5	± 2.0

Inserted Shaft Type

Model	Size (±0.3mm)								Screw		Length (mm)		Permissible Torque (N·m)	Max. rpm (min ⁻¹)	Static Torsional Stiffness (N·m/rad)		Moment of Inertia (kg·m ²)		Permissible Misalignment		
	D	D ₁	D _m	L ₁	L ₂	L ₃	L ₄	F	Size	Fastening Torque (N·m)	min.	max.			coupling [TSc]	PIPE/m [TSs]	coupling	PIPE/m	Angular (°)	Parallel (mm)	End-play (mm)
SHDL-56□□	56	44.5	30.6	19.5	10	13.3	34.7	6.5	M6	13	130	2,000	60	1,500	2.0 × 10 ⁴	6,000	3.8 × 10 ⁻⁵	1.5 × 10 ⁻⁴	1.4	11.1	± 1.2
SHDL-66□□	66	49.5	35.6	24.5	11	15.5	43	7.5	M6	13	150	2,000	120	1,500	3.0 × 10 ⁴	8,000	9.3 × 10 ⁻⁵	2.7 × 10 ⁻⁴	1.4	10.8	± 1.6
SHDL-88□□	88	64.5	46.1	30	13	19	52.6	9.9	M8	30	170	2,000	200	1,500	7.0 × 10 ⁴	20,000	3.8 × 10 ⁻⁴	8.5 × 10 ⁻⁴	1.4	10.6	± 2.0

- Please contact Sung-il Customer Service team for the special lengths (out of range).

Standard Inner Diameter (ID)

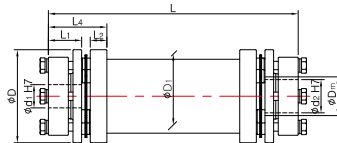
Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																				
	10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38	40	42	45
SHDL-56□□	●	●	●	●	●	●	●	●	●	●	●	●									
SHDL-66□□					●	●	●	●	●	●	●	●	●	●	●	●					
SHDL-88□□									●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)

SHDL SERIES

High Torque Disk Type Connecting Shaft

Taper-ring



Integral Shaft Type



Inserted Shaft Type

Dimensions / Performance

Integral Shaft Type

Model	Size (±0.3mm)						Screw		Length (mm)		Permissible Torque (N·m)	Max. rpm (min ⁻¹)	Static Torsional Stiffness (N·m/rad)		Permissible Misalignment		
	D	D _m	D ₁	L ₁	L ₂	L ₄	Size	Fastening Torque (N·m)	min.	max.			coupling [TSc]	PIPE/m [TSs]	Angular (°)	Parallel (mm)	End-play (mm)
SHDL-56T	56	35	30.6	20.2	6	31.2	M6	13	80	130	60	1,500	2.0 x 10 ⁴	1.6 x 10 ⁴	1.4	0.5	± 1.2
SHDL-66T	66	41	35.6	25	8	40.5	M6	13	100	150	120	1,500	3.0 x 10 ⁴	2.9 x 10 ⁴	1.4	0.5	± 1.6
SHDL-88T	88	55	46	30	10	49.6	M8	30	120	170	200	1,500	7.0 x 10 ⁴	6.0 x 10 ⁴	1.4	0.5	± 2.0

Inserted Shaft Type

Model	Size (±0.3mm)						Screw		Length (mm)		Permissible Torque (N·m)	Max. rpm (min ⁻¹)	Static Torsional Stiffness (N·m/rad)		Moment of Inertia (kg·m ²)		Permissible Misalignment		
	D	D _m	D ₁	L ₁	L ₂	L ₄	Size	Fastening Torque (N·m)	min.	max.			coupling [TSc]	PIPE/m [TSs]	coupling	PIPE/m	Angular (°)	Parallel (mm)	End-play (mm)
SHDL-56T	56	44.5	30.6	20.2	10	35.2	M6	13	130	2,000	60	1,500	2.0 x 10 ⁴	6,000	3.8 x 10 ⁻⁵	1.5 x 10 ⁻⁴	1.4	11.1	± 1.2
SHDL-66T	66	49.5	35.6	25	11	43.5	M6	13	150	2,000	120	1,500	3.0 x 10 ⁴	8,000	9.3 x 10 ⁻⁵	2.7 x 10 ⁻⁴	1.4	10.8	± 1.6
SHDL-88T	88	64.5	46	30	13	52.6	M8	30	170	2,000	200	1,500	7.0 x 10 ⁴	20,000	3.8 x 10 ⁻⁴	8.5 x 10 ⁻⁴	1.4	10.6	± 2.0

- Please contact Sung-il Customer Service team for the special lengths (out of range).

Standard Inner Diameter (ID)

Model	Standard Inner Diameter (d ₁ , d ₂) (mm)																					
	10	11	12	14	15	16	18	19	20	22	24	25	26	28	30	32	35	38	40	42	45	
SHDL-56T	●	●	●	●	●	●	●	●	●	●	●	●										
SHDL-66T					●	●	●	●	●	●	●	●	●	●	●	●						
SHDL-88T									●	●	●	●	●	●	●	●	●	●	●	●	●	

- The recommended shaft tolerance is h7.
- Custom process (i.e. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is **NOT** available.

SAFETY COUPLING

Overview

Why Safety Coupling?	116p
Safety Coupling Line-up	116p
Product Features	116p
Structure	117p
Operating Principles (How it works)	117p
Additional Sensor Attachment	117p
Disengagement Torque Set-up Guide	117p

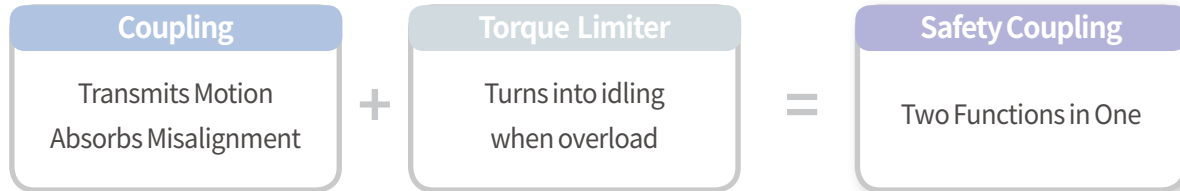
Dimensions / Performance

STL Series [Coupling attached Type]	118~119p
STL-F Series [Flange Type]	120~121p





Why Safety Coupling?



Safety Coupling Line-up

Coupling attached Type



- For connection between shafts
- Absorption of parallel/angular misalignment

Flange Type



- For attachment to different objects (i.e. timing pulley, sprocket, etc.)

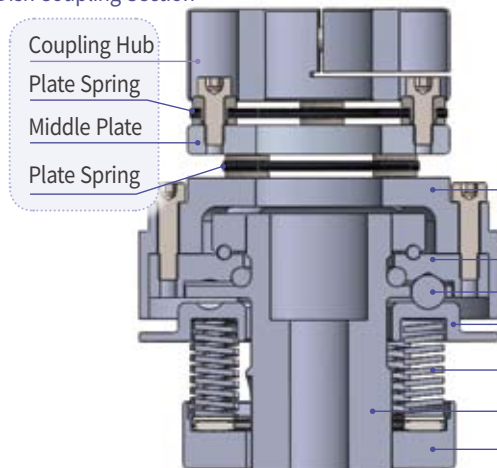
Product Features

1. Wide range of standard preset torque values
2. Absorption of misalignment by plate springs. (Disk Coupling attached type Only)
3. Easier torque adjustment with an adjusting nut and an indicator of spring pressure amount
4. Various assembly options according to each clamping objects

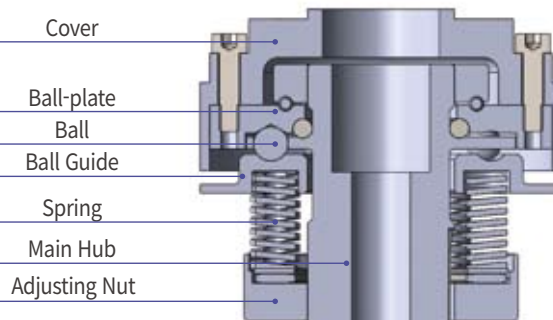
Structure

Disk Coupling Attached Type (STL)

Disk Coupling Section

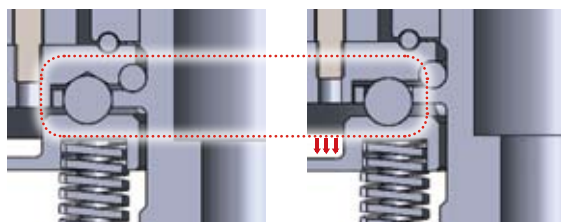


Flange Type (STL-F)



Operating Principles (How it works)

- If torque is overloaded (exceeded the disengagement set value), balls fixed on the V pocket-shaped ball plate push the ball guide while getting out of the ball plate. And then idle operation occurs between the coupling section and the main hub, which enables to mechanically cut off motion.



Normal Operation

Idle Operation

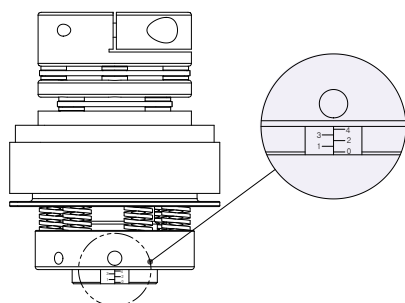
Additional Sensor Attachment

Ball guide pushed when overloaded ➡



- You may grasp how far the ball guide is pushed through an additional limit switch or a proximity sensor attached on the bottom of ball guide. This means you can link it to the driving part (i.e. motor etc.) and stop the linked part as well. (Please refer to "Dimensions / Performance" tables for more details)
- In case a proximity sensor is installed, make sure the proximity sensor senses the location of ball guide after making idle operation status by manually putting load on safety coupling.

Disengagement Torque Set-up Guide

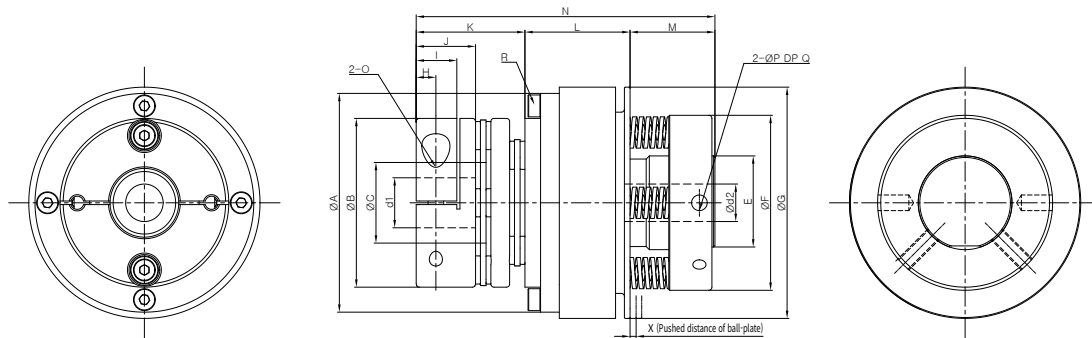


- Fasten the adjusting nut by ticks on the main hub according to disengagement torque information by each spring pressure gauge.
- The harder fastening, the higher slip torque.
- The margin of error (between disengagement torque to actual slip torque) is smaller than $\pm 10\%$.

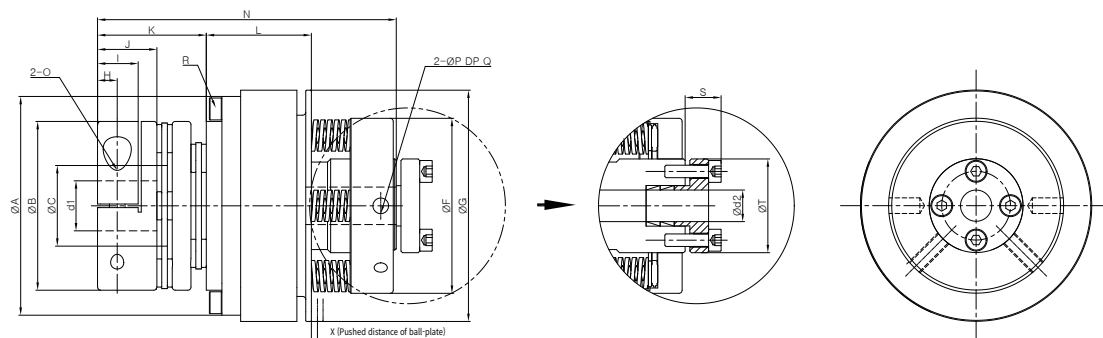
STL SERIES

Safety Coupling for Torque Overload Protection (Coupling attached Type)

General Set-screw Type



A.P. LOCK Type



Dimensions / Performance

Model	Torque Range (N·m)	Spring		Size(± 0.3mm)											
		Color	Q'ty	A	B	C	E	F	G	H	I	J	K	L	M
STL25-L	1.5 ~ 7	BLUE	3	70	54	25	M30 X1.0P	58	74	6.3	13	19	34.8	33.6	27.2
STL25-M	4.5 ~ 20	RED	6												
STL25-H	9 ~ 25	GREEN	6												
STL55-L	7.5 ~ 27	BLUE	6	79	80	35	M40 X1.0P	70	104	9.4	19	29.7	52.1	42.9	25.8
STL55-M	13.5 ~ 41	RED	6												
STL55-H	21 ~ 55	GREEN	6												

Model	Size(± 0.3mm)							Screw		Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Mass (g)	Permissible Misalignment		
	N	P	Q	R	S	T	X	Size	Fastening Torque (N·m)				Angular (°)	Parallel (mm)	End-play (mm)
STL25-L	95.6	5	10	M4X16	11.5	30	1.2	M5	8	700	7.1X10 ⁻⁴	1.2	0.6	0.1	±0.5
STL25-M															
STL25-H															
STL55-L	120.8	5	10	M5X18	11.5	40	1.3	M8	30	550	3.3X10 ⁻³	3	0.6	0.1	±0.5
STL55-M															
STL55-H															

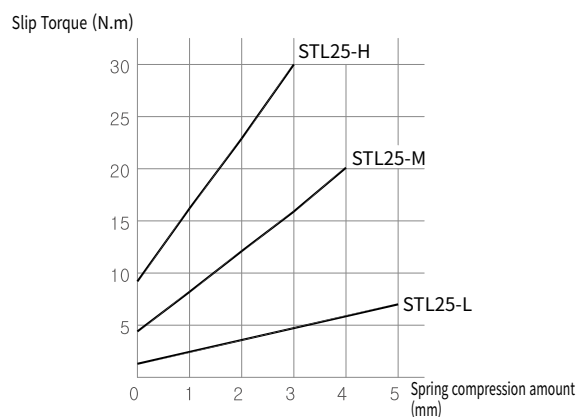
STL SERIES

Safety Coupling for Torque Overload Protection (Coupling attached Type)

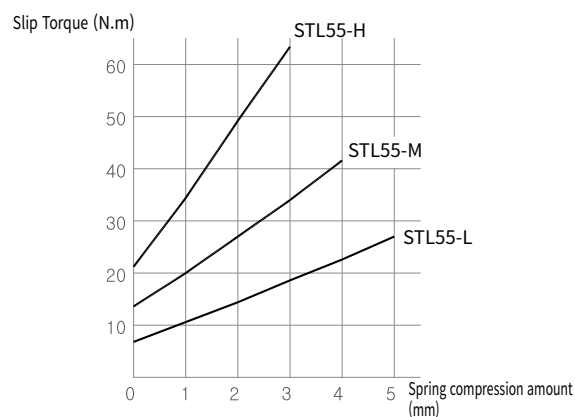
Standard Inner Diameter (ID)

Model			Standard Inner Diameter (d ₁ , d ₂) (mm)																
			10	11	12	14	15	16	17	18	19	20	21	22	24	25	28	30	32
STL25	d ₁ Coupling side	General	●	●	●	●	●	●	●	●	●	●	●	●	●				
	d ₂ Torque Limiter side	General Set-screw	●	●	●	●	●												
		A.P. Lock Type	●	●	●														
STL55	d ₁ Coupling side	General					●	●	●	●	●	●	●	●	●	●	●	●	●
	d ₂ Torque Limiter side	General Set-screw				●	●	●	●	●	●	●	●	●	●				
		A.P. Lock Type	●	●	●	●	●	●	●	●	●	●							

Tightening amount – Slip torque correlation chart



STL25



STL55

How to Order

STL25-L - TS5 - C 10 K3 x N 12 K4

Model

Disengagement
Torque Set-upSymbol of
Coupling sideID(d)
size(d₁)Keyway
(K)Symbol of Torque
Limiter sideID(d)
size(d₂)Keyway
(K)

①

Disengagement Torque Set-up

No mark User's own set-up
TS(torque) Already set-up at a certain torque at the dispatch stage

②

Keyway

No mark No Keyway
K(b size) Keyway processed according to the indicated b size. (Keyway is not applicable on A.P. Lock type)

③

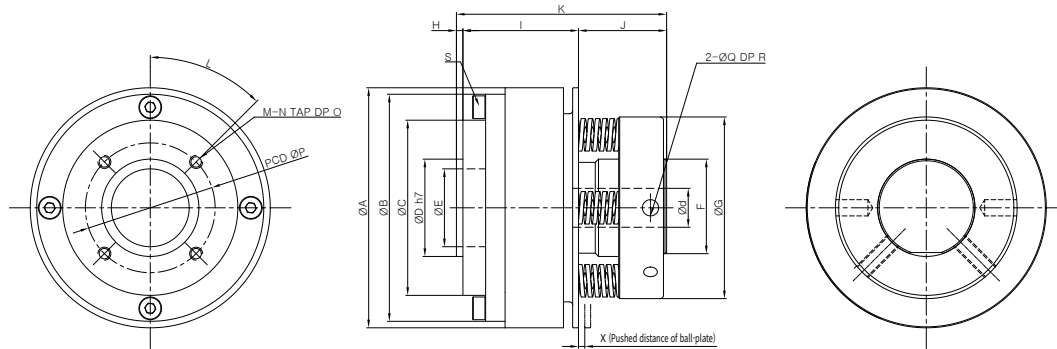
Clamping way of torque limiter side

N General Set-screw Type
P A.P. Lock Type

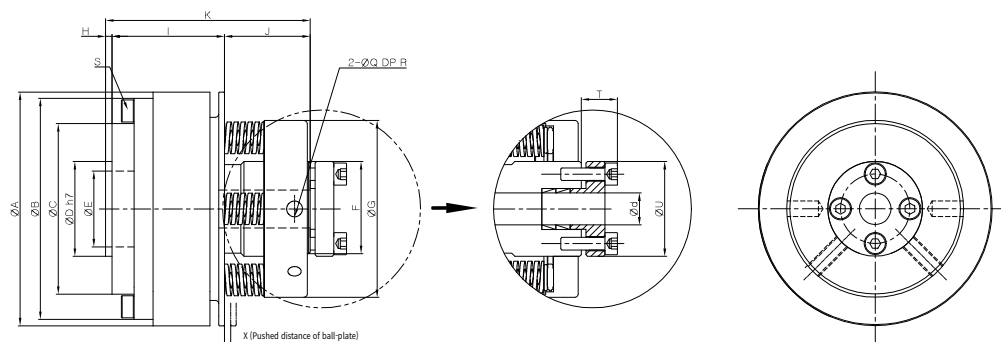
STL-F SERIES

Safety Coupling for Torque Overload Protection (Flange Type)

General Set-screw



A.P. LOCK Type



Dimensions / Performance

Model	Torque Range (N·m)	Spring		Size(± 0.3mm)											
		Color	Q'ty	A	B	C	D h7	E	F	G	H	I	J	K	M
STL25F-L	1.5~7	BLUE	3	74	70	54	30	24	M30 X1.0P	58	2	35.6	27.2	64.8	27.2
STL25F-M	4.5~20	RED	6												
STL25F-H	9~25	GREEN	6												
STL55F-L	7.5~27	BLUE	6	104	100	79	45	40	M40 X1.0P	70	3	42.9	26	71.8	25.8
STL55F-M	13.5~41	RED	6												
STL55F-H	21~55	GREEN	6												

Model	Size(± 0.3mm)											Max. rpm (min ⁻¹)	Moment of Inertia (kg·m ²)	Mass (g)
	L (deg)	M	N	O	P	Q	R	S	T	U	X			
STL25F-L	45	4 (90° equal spacing)	M4	8	40	5	10	M4X16	11.5	30	1.2	700	6.4X10 ⁻⁴	1.1
STL25F-M														
STL25F-H														
STL55F-L	60	6 (60° equal spacing)	M6	8	60	5	10	M5X18	11.5	40	1.3	550	2.1X10 ⁻³	2.4
STL55F-M														
STL55F-H														

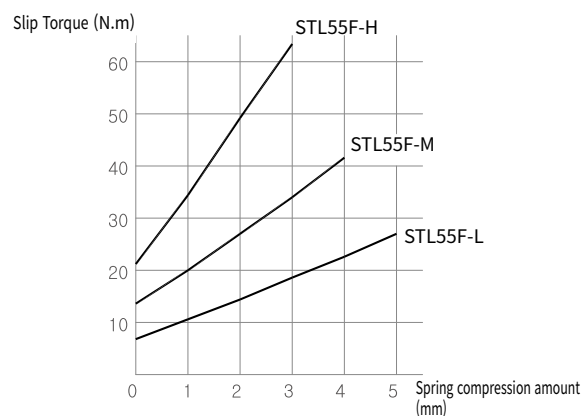
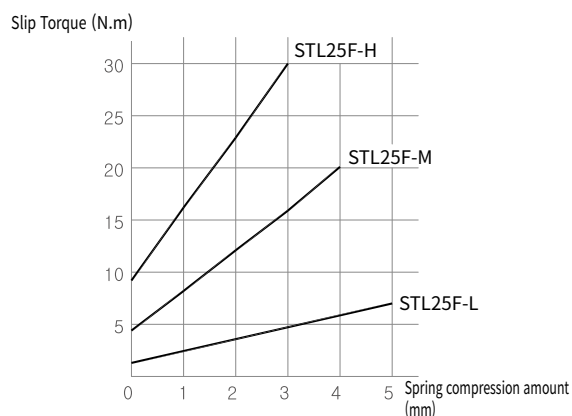
STL-F SERIES

Safety Coupling for Torque Overload Protection (Flange Type)

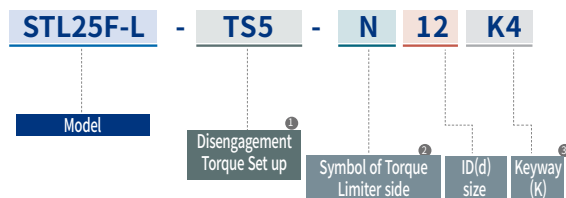
Standard Inner Diameter (ID)

Model		Standard Inner Diameter (d ₁ , d ₂) (mm)													
		10	11	12	14	15	16	17	18	19	20	21	22	24	25
STL25F	General Set-screw	●	●	●	●	●									
	A.P. Lock Type	●	●	●											
STL55F	General Set-screw				●	●	●	●	●	●	●	●	●	●	●
	A.P. Lock Type	●	●	●	●	●	●	●	●	●					

Tightening amount – Slip torque correlation chart



How to Order



1 Disengagement Torque Set-up

No mark User's own set-up

TS(torque) Already set-up at a certain torque at the dispatch stage

2 Clamping way of torque limiter side

N General Set-screw Type

P A.P. Lock Type

3 Keyway

No mark No Keyway

K(b size) Keyway processed according to the indicated b size. (Keyway is not applicable on A.P. Lock type)

A.P. LOCK

Overview

Index (A.P. Lock)	124p
Selection and Design Guide	125p
Installation Guide	126~127p

Dimensions / Performance

SAPL-A Series	128~131p
SAPL-B Series	132~133p
SAPL-C Series	134~137p
SAPL-D1 Series	138~139p
SAPL-D2 Series	140~141p
SAPL-D3 Series	142~143p
SAPL-D4 Series	144~145p
SAPL-T Series	146~147p
SAPL-R Series	148~150p
SAPC Series	151~152p
SAPA Series	153~154p





INDEX (A.P.LOCK)

Series	SAPL-A Series			SAPL-B Series	SAPL-C Series
Model	SAPL-A	SAPL-AK	SAPL-AS	SAPL-B	SAPL-C
Material (Body)	S45C	S45C (Electroless Nickel Plating)	SUS304	S45C	S45C
Shape					
page	129p	130p	131p	133p	135p

Series	SAPL-C Series		SAPL-D Series		
Model	SAPL-CK	SAPL-CS	SAPL-D1	SAPL-D2	SAPL-D3
Material (Body)	S45C (Electroless Nickel Plating)	SUS304	S45C	S45C	S45C
Shape					
page	136p	137p	139p	141p	143p

Series	SAPL-D Series	SAPL-T Series	SAPL-R Series	SAPC Series	SAPA Series
Model	SAPL-D4	SAPL-T	SAPL-R	SAPC	SAPA
Material (Body)	S45C	S45C	S45C	AL-7075-T6	AL-7075-T6
Shape					
page	145p	147p	150p	152p	154p

A.P. LOCK OVERVIEW

A.P. Lock - Selection and Design Guide

Calculation of a Motor's Max. Torque

- Maximum torque is calculated by motor's rotational speed (rpm), output power and reduction ratio etc. The safety factor (in the below table) has to be considered by all means in case motor's torque information is not available.

$$T_{\max} = \frac{9554 \times P_{\max}}{N \times i} \times SF$$

T_{\max} = Max. Motor Torque [N m]
 P_{\max} = Max. Output Power [kW]
 N = Rotational Speed [rpm]
 i = Gear Reduction Ratio
 SF = Safety Factor

Load Conditions		Safety Factor (SF)
Low Inertia	At 60% (or less) of motor's rated torque	1.5~2.0
Medium Inertia	Longer acceleration/deceleration time, limited reverse motion and small impact	2.0~3.0
High Inertia	Shorter acceleration/deceleration time, frequent reverse motion and large impact	3.0~5.0

$$T_{\max} (\text{Max. Motor Torque}) < T_c (\text{Max. Permissible Torque of A.P. Lock})$$

- Max. motor torque (with SF applied) must be lower than max. permissible torque of A.P. Lock.

Thrust Load

$$P (\text{Max. Thrust Load}) < P_t (\text{Max. Permissible Thrust Load of A.P. Lock})$$

- The thrust load on A.P. Lock's fastening area must be lower than max. permissible thrust load of A.P. Lock.

Combined Torque and Thrust Load

- If torque and thrust load occur simultaneously, please refer to the below formula for load calculation.

$$T_{\text{comb}} = \sqrt{\left(\frac{9554 \times P_{\max}}{N}\right)^2 + \left(\frac{P \times d}{2000}\right)^2} \times SF$$

T_{comb} = Combined Load [n.m]
 P_{\max} = Max. Motor Output Power [kW]
 N = Rotational Speed [rpm]
 d = Shaft Diameter [mm]
 P = Thrust Load [N]
 SF = Safety Factor

$$T_{\text{comb}} (\text{Combined Load}) < T_c (\text{Max. Permissible Torque of A.P. Lock})$$

- Combined Load of torque and thrust must be lower than max. permissible torque of A.P. Lock.

Permissible Torque Variation

1. Permissible Torque Increase

When several A.P. Locks are used together, permissible torque and thrust load gets increased.

※ Make sure all foreign substances must be removed from surface of the both shaft and inner part of A.P. Lock.

2. Permissible Torque Decrease

When the shaft has an additional keyway, permissible torque would be decreased by appx. 20% due to reduced contact area.

Shaft Design Guide

- Please refer to each overview pages for shaft tolerance.
- Check the strength of shaft's raw material.

$$\sigma_s > 1.2 \times P_i$$

σ_s : Yield stress of shaft's raw material [Mpa]
 P_i : Surface pressure onto shaft by A.P. Lock [Mpa]

3. Determine max. inner diameter of hollow shaft.

High surface pressure is delivered on the shaft. Thus, make sure the below formula is referred when the hollow shaft is designed.

$$d_i \leq d \times \sqrt{\frac{\sigma_s - 2 \times 0.8 \times P_i}{\sigma_s}}$$

d_i : Inner dia. of hollow shaft
 d : Outer dia. of hollow shaft
 σ_s : Yield stress of shaft's raw material [Mpa]
 P_i : Surface Pressure onto Shaft by A.P. Lock [Mpa]

Hub Design Guide

- Please refer to each overview pages for hub tolerance.
- Check the strength of hub's raw material.

$$\sigma_h > 1.2 \times P_o$$

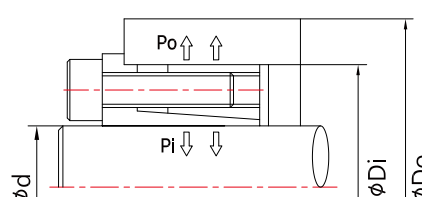
σ_h : Yield stress of hub's raw material [Mpa]
 P_o : Surface pressure onto hub by A.P. Lock [Mpa]

3. Check the min. hub outer diameter.

You may refer to the below formula in case the material information is not available.

$$D_o \geq D_i \times \sqrt{\frac{\sigma_h + 0.8 \times P_o}{\sigma_h - 0.8 \times P_o}}$$

D_o : Outer dia. of hub [mm]
 D_i : Inner dia. of hub [mm]
 σ_h : Yield stress of hub's raw material [Mpa]
 P_o : Surface pressure onto hub by A.P. Lock [Mpa]

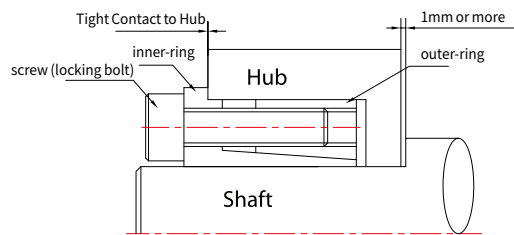


A.P. LOCK OVERVIEW

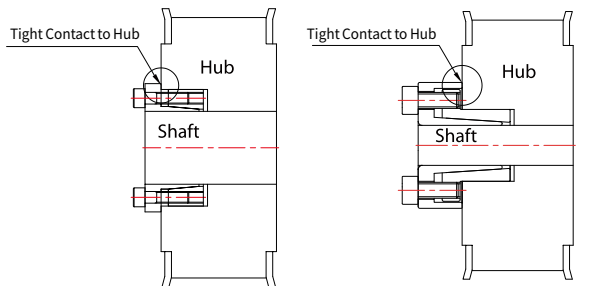
A.P.Lock - Installation Guide

HOW TO INSTALL (SAPL-A, B, C, D1, D2, D3, D4, T Series)

1. Wipe inner surface of shaft and hub to remove dust and oil.
2. Wipe inner and outer surface of A.P. Lock.
3. Spread anti-wear hydraulic oil or grease on to inner surface of shaft and hub. (Any oil type which includes molybdenum-sulfur compounds or silicone is prohibited.)
4. Unfasten all screws and spread hydraulic oil #68 onto A.P. Lock body and taper-ring surface. (Make sure oil is not in use under vacuum environment. In this case, clamping force may be subject to change from catalog values.)
5. Interlock an A.P. Lock with shaft temporarily and insert it into the hub.
 - Make sure the corner of hub becomes properly attached to A.P. Lock's flange part.
 - Determine the relative location of shaft and hub.
 - Make sure there is bigger than 1mm of clearance between shaft-end and hub. (Otherwise, there will be problem in disassembling and it may result in shape distortion.)
 - In case A.P. Lock doesn't go into hub smoothly, try to loosen fastening screws or tapping them into hub slightly. (Make sure the force is not too strong.)

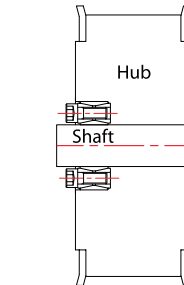


▲ SAPL-A Series (Example)

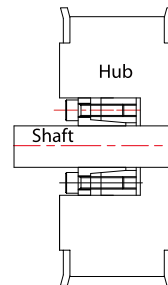


▲ SAPL-B Series (Example)

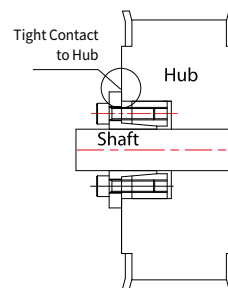
▲ SAPL-C Series (Example)



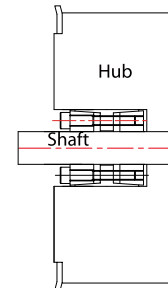
▲ SAPL-D1 Series (Example)



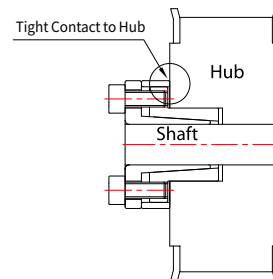
▲ SAPL-D2 Series (Example)



▲ SAPL-D3 Series (Example)

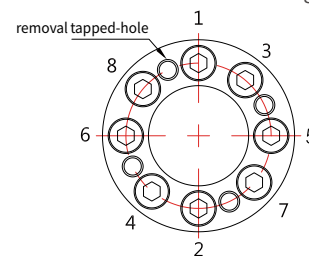


▲ SAPL-D4 Series (Example)



▲ SAPL-T Series (Example)

6. Fasten the screws with appropriate fastening torque in sequential order as shown on the below figure.



- * Fasten the screws with identical torque (1/8 of fastening torque) using torque wrench.
- * Make sure you fasten the screws in sequential order as shown on the above figure.
- * Make sure A.P. Lock's flange part becomes properly attached to hub.
- * Repeat fastening the screws with 1/4 of fastening torque. (in diagonal order)
- * Repeat fastening the screws with 1/2 of fastening torque. (in diagonal order)
- * Finally repeat fastening the screws with full fastening torque until screws don't rotate any longer.

A.P. LOCK OVERVIEW

A.P. Lock - Installation Guide

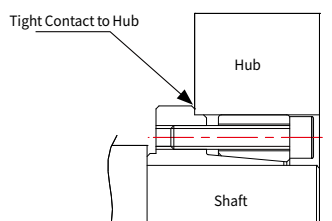
HOW TO INSTALL (SAPC, SAPA)

1. Wipe inner surface of shaft and hub to remove dust and oil.
2. A.P. Lock which is made of aluminum alloy does not require any anti-wear hydraulic oil.
3. Interlock an A.P. Lock with shaft temporarily and insert it into the hub.

- Make sure the corner of hub becomes properly attached to A.P. Lock's flange part.

- Determine the relative location of shaft and hub using measurement tool i.e. Vernier calipers etc.

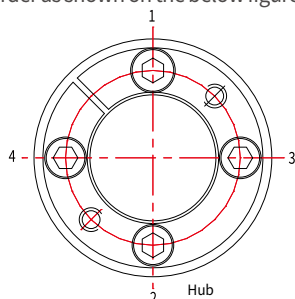
- In case A.P. Lock doesn't go into hub smoothly, try to loosen fastening screws or tapping them into hub slightly. (Make sure the force is not too strong.)



▲ SAPC Series (Example)

※ SAPA series looks identical to SAPL-A series when installed.

4. Fasten the screws with appropriate fastening torque in sequential order as shown on the below figure.



* Fasten the screws with identical torque 1/4 of fastening torque) using torque wrench.

* Make sure you fasten the screws in sequential order as shown on the above figure.

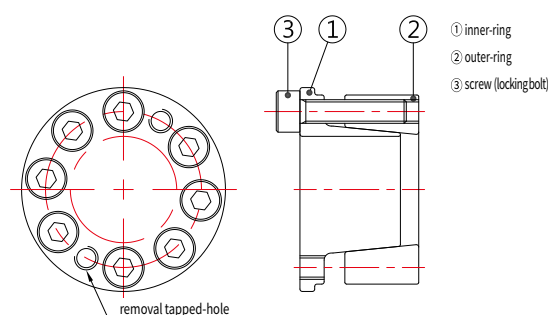
* Make sure A.P. Lock's flange part becomes properly attached to hub.

* Repeat fastening the screws with 1/2 of fastening torque. (in diagonal order)

* Finally repeat fastening the screws with full fastening torque until screws don't rotate any longer.

HOW TO DISASSEMBLE

1. Remove external load (torque/thrust) on the shaft and hub.
2. Remove self-load of i.e. chain, belt etc.
3. Unfasten all screws in the same order that they were fastened.
4. In case A.P. Lock is not detached properly, try to disassemble using the removal tapped-hole on A.P. Lock body.

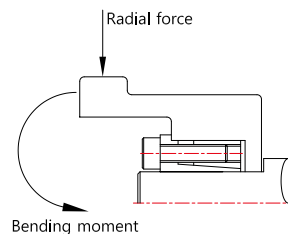


RE-USE

- A.P. Lock can be used repeatedly.
- In case surface pressure is stronger than yield stress of shaft or hub, it may result in shape distortion of shaft or hub as well as A.P. Lock.

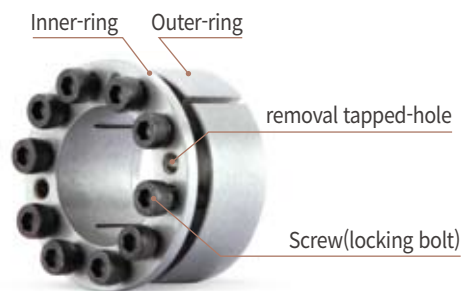
CAUTIONS

1. Temperature range : - 30°C ~ + 200°C
2. Make sure the screws are fastened by torque wrench. (Please refer to "Dimensions / Performance" tables for fastening torques.
3. A.P. Lock is vulnerable at bending moment.



4. In case there is not enough lubrication with anti-wear hydraulic oil, transmittable torque would be decreased by appx. 25%. **(Please do not allow to use anti-wear hydraulic oil at vacuum area.)**
5. When the shaft has an additional keyway, permissible torque would be decreased by appx. 20% due to reduced contact area.

A.P. LOCK : SAPL-A SERIES



SAPL-A



SAPL-AK



SAPL-AS

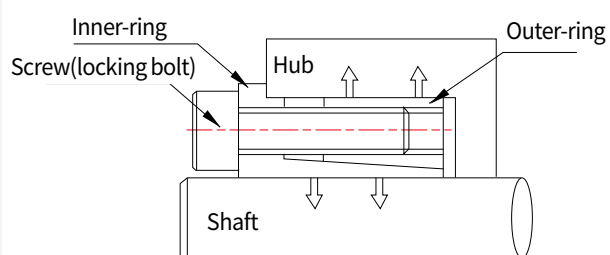
Structure and Material for SAPL-A Series

Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-A	STEEL	-	SCM435	Black Oxide
SAPL-AK	STEEL	Electroless Nickel Plating	SCM435	Electroless Nickel Plating
SAPL-AS	SUS304	-	SUSXM7	-

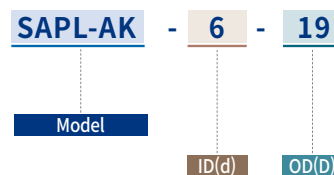
Product Features

- Self-centering function (prevention of slight off-center matters)
- Designed to suit relatively smaller hubs (as there is only small difference in dimension between inner(d) and outer(D) diameters, as well as its surface pressure is low)
- A wide range of standard inner diameters (from Ø5 to Ø50)
- Simple structure for easier installation & handier maintenance
- Diverse material & finish options available (i.e. stainless steel body for vacuum area, electroless nickel plating etc.)

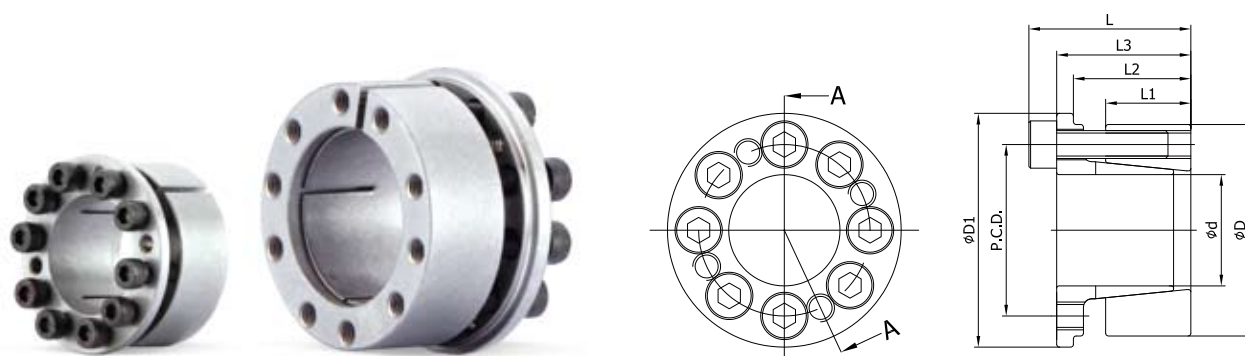
Principles



How to Order



SAPL-A SERIES : SAPL-A

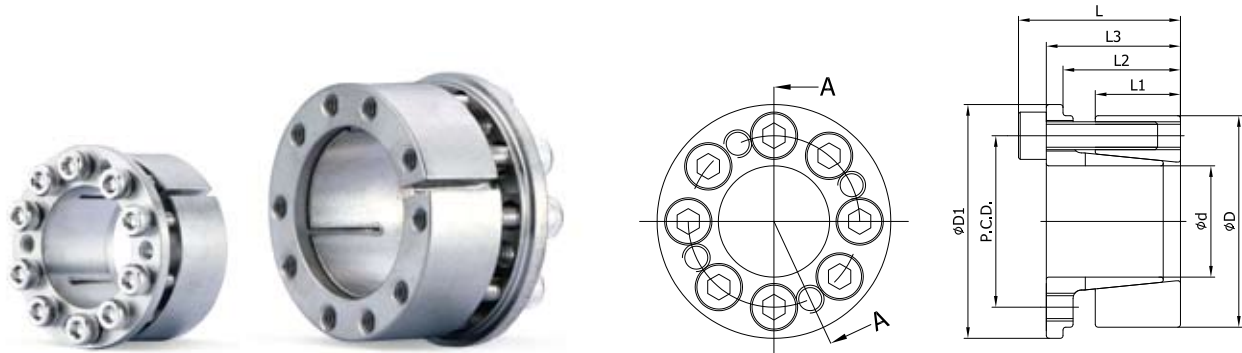


Dimensions / Performance

Model d x D	Size ($\pm 0.3\text{mm}$)						Max. Permissible Torque (Tc) (N·m)	Max. Permissible Thrust Load (Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L ₃	L	D ₁	P.C.D.			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque (N·m)	
SAPL-A-5 x 16	8	11.2	13	16	18.5	11.7	7	2.8	249	81	M3x10	4	1.9	18
SAPL-A-6 x 19	9	12.3	14.3	18.3	21.5	14	14	4.7	318	102	M4x12	4	3.9	26
SAPL-A-6.35 x 20	9	12.3	14.3	18.3	22.5	14.4	14	4.7	301	97	M4x12	4	3.9	29
SAPL-A-8 x 21	9.3	12.6	14.6	18.6	23.5	15.4	22	5.6	239	107	M4x12	4	3.9	35
SAPL-A-10 x 23	9.5	12.8	14.8	18.8	25.5	17.5	25	5.6	186	96	M4x12	4	3.9	40
SAPL-A-11 x 24	9.5	13.8	15.8	19.8	26.5	18.5	30	5.6	170	92	M4x12	4	3.9	45
SAPL-A-12 x 26	10.5	15.5	18	22	28.5	20.2	50	8.4	233	115	M4x15	6	3.9	53
SAPL-A-14 x 28	10.5	15.5	18	22	30.5	22.2	65	9.5	225	120	M4x15	6	3.9	61
SAPL-A-15 x 29	11.5	16.5	19	23	31.5	23.2	70	9.5	186	106	M4x15	6	3.9	66
SAPL-A-16 x 30	12	17.1	19.6	23.6	33	24.2	75	9.5	166	98	M4x15	6	3.9	75
SAPL-A-17 x 31	12.5	17.6	20.1	24.1	33.5	25.4	110	12.6	197	121	M4x15	8	3.9	75
SAPL-A-18 x 32	12.5	17.6	20.1	24.1	34.5	26.4	115	12.6	186	118	M4x15	8	3.9	80
SAPL-A-19 x 33	12.5	17.6	20.1	24.1	35.5	27.4	120	12.6	177	114	M4x15	8	3.9	81
SAPL-A-20 x 38	15.3	21.1	24.1	29.1	42	30.8	220	21.6	234	139	M5x18	8	8.8	144
SAPL-A-22 x 40	15.3	21.1	24.1	29.1	44	32.8	290	26	256	159	M5x18	8	8.8	165
SAPL-A-24 x 42	16.3	22.1	25.1	30.1	46	34.8	320	26	217	142	M5x18	8	8.8	180
SAPL-A-25 x 43	17.3	23.1	26.1	31.1	47	35.8	350	27.2	216	137	M5x18	8	8.8	188
SAPL-A-28 x 46	17.3	23.1	26.6	31.6	50	38.8	380	27	192	127	M5x18	10	8.8	195
SAPL-A-30 x 48	17.3	23.1	26.6	31.6	52	40.8	410	27	179	122	M5x18	10	8.8	208
SAPL-A-32 x 50	18.3	24.1	27.6	32.6	54	42.8	440	27	156	110	M5x18	10	8.8	219
SAPL-A-35 x 57	19.5	26	30	36	62	48.4	720	41.1	204	138	M6x20	8	15.7	325
SAPL-A-38 x 60	20	26.5	30.5	36.5	65	51.4	770	40.2	178	125	M6x20	10	15.7	362
SAPL-A-40 x 62	20.5	27	31	37	67	53.4	810	40.2	164	118	M6x20	10	15.7	380
SAPL-A-42 x 64	20.5	27	31	37	69	55.4	850	50.2	156	114	M6x20	10	15.7	405
SAPL-A-45 x 67	21	27.5	31.5	37.5	72	58.4	1200	52.9	186	140	M6x20	10	15.7	435
SAPL-A-48 x 70	21	27.5	32	38	75	61.4	1200	48.2	159	123	M6x20	12	15.7	460
SAPL-A-50 x 72	21.5	28	32.5	38.5	77	63.4	1500	56.3	173	136	M6x20	14	15.7	485

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

SAPL-A SERIES : SAPL-AK

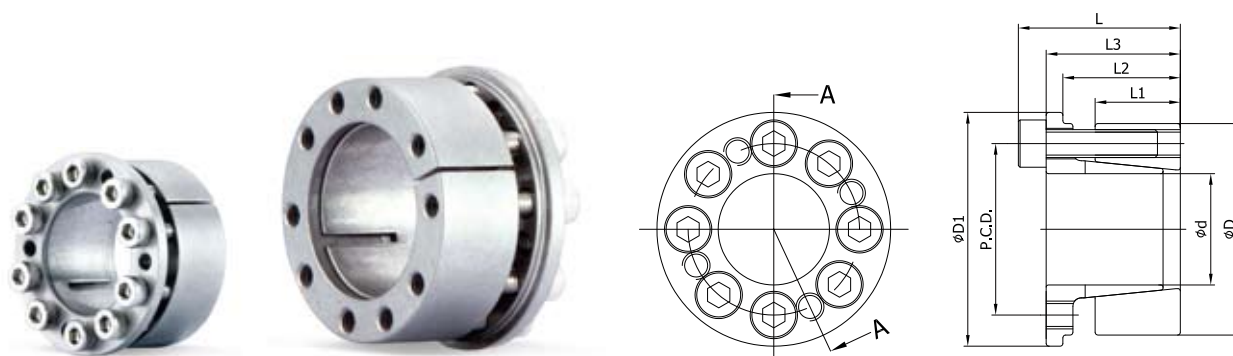


Dimensions / Performance

Model d x D	Size (±0.3mm)						Max. Permissible Torque (Tc) (N·m)	Max. Permissible Thrust Load (Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L ₃	L	D ₁	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque (N·m)	
SAPL-AK-5 x 16	8	11.2	13	16	18.5	11.7	4.6	1.8	244	51	M3x12	4	1.9	18
SAPL-AK-6 x 19	9	12.3	14.3	18.3	21.5	14	10.7	2.6	256	59	M4x12	4	3.9	26
SAPL-AK-6.35 x 20	9	12.3	14.3	18.3	22.5	14.4	10.7	2.6	270	62	M4x12	4	3.9	29
SAPL-AK-8 x 21	9.3	12.6	14.6	18.6	23.5	15.4	16.6	4.1	244	92	M4x12	4	3.9	35
SAPL-AK-10 x 23	9.5	12.8	14.8	18.8	25.5	17.5	19.6	3.9	192	77	M4x12	4	3.9	40
SAPL-AK-11 x 24	9.5	13.8	15.8	19.8	26.5	18.5	22.5	4	174	73	M4x12	4	3.9	45
SAPL-AK-12 x 26	10.5	15.5	18	22	28.5	20.2	36.2	5.9	239	91	M4x15	6	3.9	53
SAPL-AK-14 x 28	10.5	15.5	18	22	30.5	22.2	50.9	7.2	204	84	M4x15	6	3.9	61
SAPL-AK-15 x 29	11.5	16.5	19	23	31.5	23.2	54.8	7.2	205	90	M4x15	6	3.9	66
SAPL-AK-16 x 30	12	17.1	19.6	23.6	33	24.2	58.8	7.3	193	87	M4x15	6	3.9	75
SAPL-AK-17 x 31	12.5	17.6	20.1	24.1	33.5	25.4	76.4	8.9	205	97	M4x15	8	3.9	75
SAPL-AK-18 x 32	12.5	17.6	20.1	24.1	34.5	26.4	80.3	8.9	166	93	M4x15	8	3.9	80
SAPL-AK-19 x 33	12.5	17.6	20.1	24.1	35.5	27.4	85.2	8.9	184	91	M4x15	8	3.9	81
SAPL-AK-20 x 38	15.3	21.1	24.1	29.1	42	30.8	183	18.3	213	97	M5x18	8	8.8	144
SAPL-AK-22 x 40	15.3	21.1	24.1	29.1	44	32.8	201	18.3	193	92	M5x18	8	8.8	165
SAPL-AK-24 x 42	16.3	22.1	25.1	30.1	46	34.8	252	21	121	105	M5x18	8	8.8	180
SAPL-AK-25 x 43	17.3	23.1	26.1	31.1	47	35.8	264	21.1	212	102	M5x18	8	8.8	188
SAPL-AK-28 x 46	17.3	23.1	26.6	31.6	50	38.8	295	21.1	212	107	M5x18	10	8.8	195
SAPL-AK-30 x 48	17.3	23.1	26.6	31.6	52	40.8	396	26.4	198	102	M5x18	10	8.8	208
SAPL-AK-32 x 50	18.3	24.1	27.6	32.6	54	42.8	423	26	192	103	M5x18	10	8.8	219
SAPL-AK-35 x 57	19.5	26	30	36	62	48.4	548	31.3	207	105	M6x20	8	15.7	325
SAPL-AK-38 x 60	20	26.5	30.5	36.5	65	51.4	741	39	208	110	M6x20	10	15.7	362
SAPL-AK-40 x 62	20.5	27	31	37	67	53.4	779	39	202	110	M6x20	10	15.7	380
SAPL-AK-42 x 64	20.5	27	31	37	69	55.4	823	39.2	192	106	M6x20	10	15.7	405
SAPL-AK-45 x 67	21	27.5	31.5	37.5	72	58.4	882	39.2	184	104	M6x20	10	15.7	435
SAPL-AK-48 x 70	21	27.5	32	38	75	61.4	1117	46.5	206	118	M6x20	12	15.7	460
SAPL-AK-50 x 72	21.5	28	32.5	38.5	77	63.4	1362	54.4	202	119	M6x20	14	15.7	485

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

SAPL-A SERIES : SAPL-AS

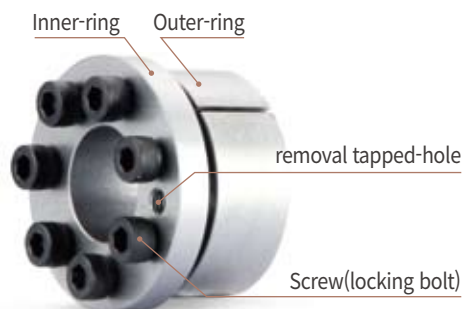


Dimensions / Performance

Model d x D	Size ($\pm 0.3\text{mm}$)						Max. Permissible Torque (Tc) (N·m)	Max. Permissible Thrust Load (Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L ₃	L	D ₁	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque (N·m)	
SAPL-AS-5 x 16	8	11.2	13	16	18.5	11.7	2.8	1.1	204	42	M3x12	4	1.9	18
SAPL-AS-6 x 19	9	12.3	14.3	18.3	21.5	14	7.8	2.5	260	58	M4x12	4	3.9	26
SAPL-AS-8 x 21	9.3	12.6	14.6	18.6	23.5	15.4	10.7	2.6	196	62.6	M4x12	4	2.7	35
SAPL-AS-10 x 23	9.5	12.8	14.8	18.8	25.5	17.5	12.7	2.6	153	55.9	M4x12	4	2.7	40
SAPL-AS-11 x 24	9.5	13.8	15.8	19.8	26.5	18.5	14.7	2.6	139	53.6	M4x12	4	2.7	45
SAPL-AS-12 x 26	10.5	15.5	18	22	28.5	20.2	24.5	4	191	67.1	M4x15	6	2.7	53
SAPL-AS-14 x 28	10.5	15.5	18	22	30.5	22.2	28.4	4	164	62.3	M4x15	6	2.7	61
SAPL-AS-15 x 29	11.5	16.5	19	23	31.5	23.2	30.4	4	136	55	M4x15	6	2.7	66
SAPL-AS-16 x 30	12	17.1	19.6	23.6	33	24.2	32.3	4	121	50.9	M4x15	6	2.7	75
SAPL-AS-17 x 31	12.5	17.6	20.1	24.1	33.5	25.4	46.1	5.4	144	63.1	M4x15	8	2.7	75
SAPL-AS-18 x 32	12.5	17.6	20.1	24.1	34.5	26.4	49	5.4	136	61.2	M4x15	8	2.7	80
SAPL-AS-19 x 33	12.5	17.6	20.1	24.1	35.5	27.4	51.9	5.4	129	59.2	M4x15	8	2.7	81
SAPL-AS-20 x 38	15.3	21.1	24.1	29.1	42	30.8	121.6	12.2	165	69.8	M5x18	8	5.6	144
SAPL-AS-22 x 40	15.3	21.1	24.1	29.1	44	32.8	133.4	12.1	150	66.3	M5x18	8	5.6	165
SAPL-AS-24 x 42	16.3	22.1	25.1	30.1	46	34.8	146.1	12.2	128	59.2	M5x18	8	5.6	180
SAPL-AS-25 x 43	17.3	23.1	26.1	31.1	47	35.8	153	12.2	122	54.5	M5x18	8	5.6	188
SAPL-AS-28 x 46	17.3	23.1	26.6	31.6	50	38.8	213.8	15.2	136	63.7	M5x18	10	5.6	195
SAPL-AS-30 x 48	17.3	23.1	26.6	31.6	52	40.8	229.5	15.3	127	61.1	M5x18	10	5.6	208
SAPL-AS-32 x 50	18.3	24.1	27.6	32.6	54	42.8	244.2	15.2	110	55.4	M5x18	10	5.6	219
SAPL-AS-35 x 57	19.5	26	30	36	62	48.4	301.1	17.2	107	51.4	M6x20	8	9.6	325
SAPL-AS-38 x 60	20	26.5	30.5	36.5	65	51.4	403	21.5	119	59.5	M6x20	10	9.6	362
SAPL-AS-40 x 62	20.5	27	31	37	67	53.4	430.6	21.5	110	56.2	M6x20	10	9.6	380

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-B SERIES



SAPL-B

Structure and Material for SAPL-B Series

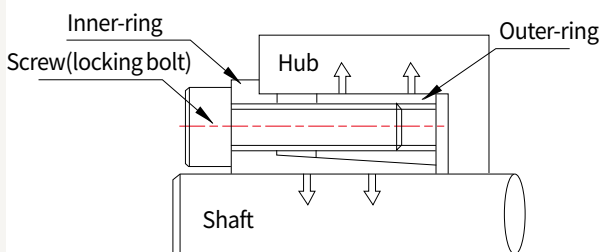
Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-B	STEEL	-	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option for SAPL-B Series.

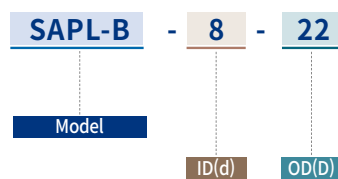
Product Features

- Self-centering function (prevention of slight off-center matters)
- Higher durability with bigger outer diameters and screws comparing to the same inner diameter products in SAPL-A Series

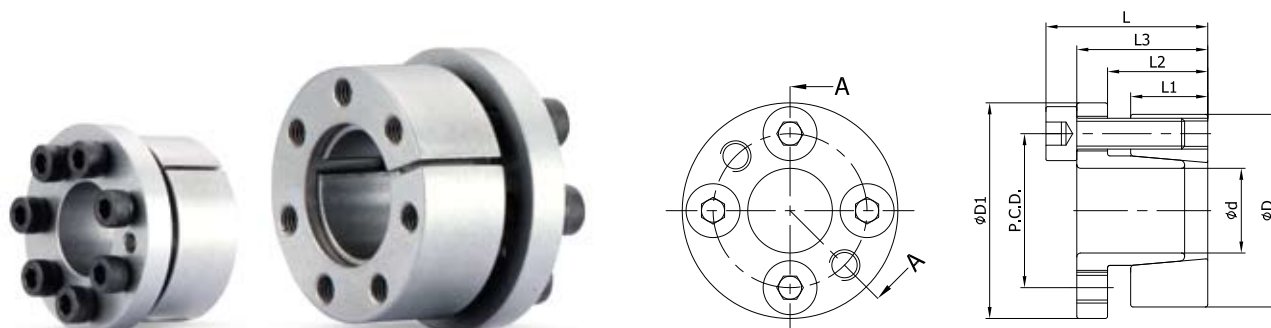
Principles



How to Order



SAPL-B SERIES : SAPL-B



Dimensions / Performance

Model d x D	Size ($\pm 0.3\text{mm}$)						Max. Permissible Torque (Tc) (N·m)	Max. Permissible Thrust Load (Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L ₃	L	D ₁	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque (N·m)	
SAPL-B-8 x 22	10	13	17	21	25	17	18	5	274	70	M4 x 15	3	4	45
SAPL-B-9 x 23	10	13	17	21	26	18	21	5	243	67	M4 x 15	3	4	50
SAPL-B-10 x 24	10	13	17	21	27	19	29	6	294	85	M4 x 15	4	4	53
SAPL-B-11 x 25	10	13	17	21	28	20	33	6	265	82	M4 x 15	4	4	56
SAPL-B-12 x 26	10	13	17	21	29	21	46	8	304	98	M4 x 15	5	4	60
SAPL-B-13 x 27	10	13	17	21	30	22	49	7	280	95	M4 x 15	5	4	63
SAPL-B-14 x 31	12.5	16	21	26	34	25	69	10	261	85	M5 x 15	4	8	100
SAPL-B-15 x 32	12.5	16	21	26	35	25	74	10	243	82	M5 x 15	4	8	105
SAPL-B-16 x 33	12.5	16	21	26	36	26	78	10	228	79	M5 x 15	4	8	110
SAPL-B-17 x 34	12.5	16	21	26	37	27	103	12	268	97	M5 x 15	5	8	115
SAPL-B-18 x 35	12.5	16	21	26	38	28	108	12	253	94	M5 x 15	5	8	120
SAPL-B-19 x 47	20	24	32	38	53	33	284	29	284	92	M6 x 22	6	16	355
SAPL-B-20 x 47	20	24	32	38	53	33	294	29	270	92	M6 x 22	6	16	350
SAPL-B-22 x 47	20	24	32	38	53	37	324	29	245	92	M6 x 22	6	16	335
SAPL-B-24 x 50	20	24	32	38	56	40	412	34	262	101	M6 x 22	7	16	380
SAPL-B-25 x 50	20	24	32	38	56	40	431	34	252	101	M6 x 22	7	16	370
SAPL-B-28 x 55	20	24	32	38	62	45	471	34	225	92	M6 x 22	7	16	440
SAPL-B-30 x 55	20	24	32	38	62	45	510	34	210	92	M6 x 22	7	16	425

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-C SERIES



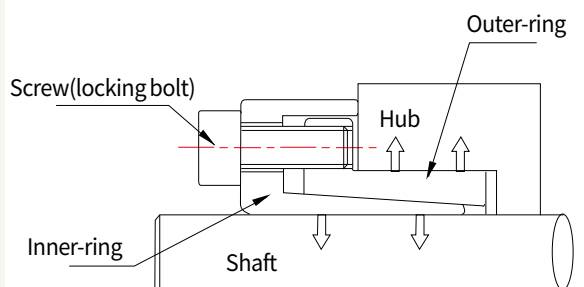
Structure and Material for SAPL-C Series

Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-C	STEEL	-	SCM435	Black Oxide
SAPL-CK	STEEL	Electroless Nickel Plating	SCM435	Electroless Nickel Plating
SAPL-CS	SUS304	-	SUSXM7	-

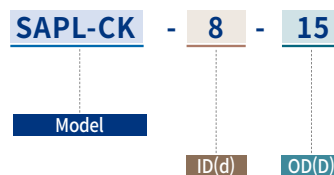
Product Features

- Self-centering function (prevention of slight off-center matters)
- Designed to suit smaller and shorter hubs (as there is only small difference in dimension between inner(d) and outer(D) diameters, as well as its surface pressure is low) – The most compact-designed series
- No movement while installed as the inner-ring is directly attached to hub surface
- Diverse material & finish options available (i.e. stainless steel body for vacuum area, electroless nickel plating etc.)

Principles



How to Order



SAPL-C SERIES : SAPL-C

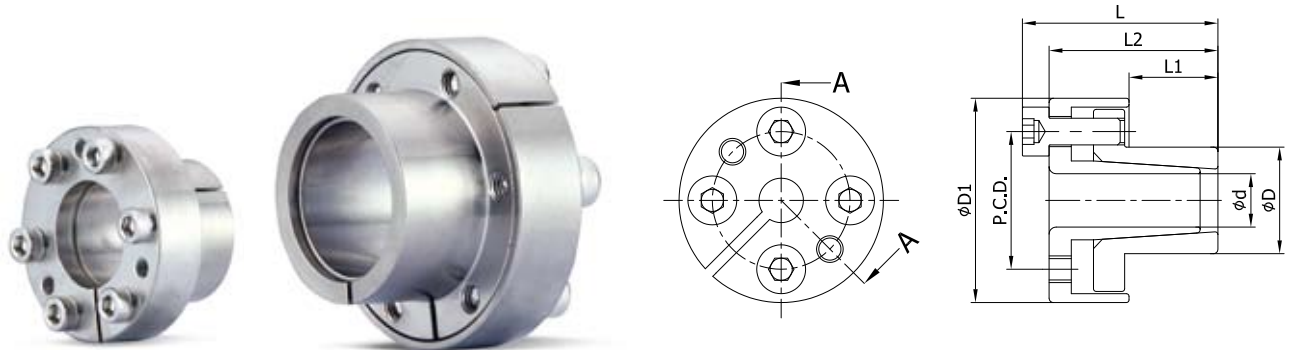


Dimensions / Performance

Model d x D	Size (±0.3mm)					Max. Permissible Torque (Tc) (N·m)	Max. Permissible Thrust Load (Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L	D ₁	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque (N·m)	
SAPL-C-5 x 12	10	19	22	23	15.5	9	3.45	188	99	M3x8	4	1.7	36
SAPL-C-6 x 12	10	19	22	23	15.5	11	3.45	156	99	M3x8	4	1.7	34
SAPL-C-8 x 15	12	23	27	28	19.5	25	6.09	174	116	M4x10	4	4	61
SAPL-C-10 x 18	12	23	27	31.5	22.5	44	8.71	193	134	M4x10	5	4	78
SAPL-C-11 x 18	12	23	27	31.5	22.5	48	8.71	176	134	M4x10	5	4	75
SAPL-C-12 x 20	12	23	27	33.5	24.5	53	8.71	161	121	M4x10	5	4	86
SAPL-C-14 x 22	12	23	27	35.5	26.5	61	8.71	138	110	M4x10	5	4	94
SAPL-C-15 x 23	14	27	32	38.5	28.5	115	15.3	178	150	M5x12	4	8	135
SAPL-C-16 x 24	14	27	32	39.5	29.5	123	15.3	167	144	M5x12	4	8	140
SAPL-C-17 x 25	14	27	32	40.5	30.5	131	15.3	158	138	M5x12	4	8	146
SAPL-C-18 x 26	14	30	36	46	33	210	23.2	195	198	M6x14	4	14	221
SAPL-C-19 x 27	14	30	36	47	34	221	23.2	185	191	M6x14	4	14	228
SAPL-C-20 x 28	14	30	36	48	35	233	23.2	176	184	M6x14	4	14	235
SAPL-C-22 x 32	16	32	38	52	39	256	23.2	146	141	M6x14	4	14	287
SAPL-C-24 x 34	16	32	38	54	41	279	23.2	134	133	M6x14	4	14	302
SAPL-C-25 x 34	16	32	38	54	41	291	23.2	128	133	M6x14	4	14	293
SAPL-C-28 x 39	20	36	42	59	46	488	34.8	146	139	M6x14	6	14	378
SAPL-C-30 x 41	20	36	42	61	48	523	34.8	136	132	M6x14	6	14	396

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

SAPL-C SERIES : SAPL-CK



Dimensions / Performance

Model d x D	Size (±0.3mm)					Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L	D ₁	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPL-CK-5 x 12	10	19	22	23	15.5	9	3.4	188	99	M3x8	4	1.7	36
SAPL-CK-6 x 12	10	19	22	23	15.5	11	3.4	156	99	M3x8	4	1.7	34
SAPL-CK-8 x 15	12	23	27	28	19.5	25	6	174	116	M4x10	4	4	61
SAPL-CK-10 x 18	12	23	27	31.5	22.5	44	8.7	193	134	M4x10	5	4	78
SAPL-CK-11 x 18	12	23	27	31.5	22.5	48	8.7	176	134	M4x10	5	4	75
SAPL-CK-12 x 20	12	23	27	33.5	24.5	53	8.7	161	121	M4x10	5	4	86
SAPL-CK-14 x 22	12	23	27	35.5	26.5	61	8.7	138	110	M4x10	5	4	94
SAPL-CK-15 x 23	14	27	32	38.5	28.5	115	15.3	178	150	M5x12	4	8	135
SAPL-CK-16 x 24	14	27	32	39.5	29.5	123	15.3	167	144	M5x12	4	8	140
SAPL-CK-17 x 25	14	27	32	40.5	30.5	131	15.3	158	138	M5x12	4	8	146
SAPL-CK-18 x 26	14	30	36	46	33	210	23.2	195	198	M6x14	4	14	221
SAPL-CK-19 x 27	14	30	36	47	34	221	23.2	185	191	M6x14	4	14	228
SAPL-CK-20 x 28	14	30	36	48	35	233	23.2	176	184	M6x14	4	14	235
SAPL-CK-22 x 32	16	32	38	52	39	256	23.2	146	141	M6x14	4	14	287
SAPL-CK-24 x 34	16	32	38	54	41	279	23.2	134	133	M6x14	4	14	302
SAPL-CK-25 x 34	16	32	38	54	41	291	23.2	128	133	M6x14	4	14	293
SAPL-CK-28 x 39	20	36	42	59	46	488	34.8	146	139	M6x14	6	14	378
SAPL-CK-30 x 41	20	36	42	61	48	523	34.8	136	132	M6x14	6	14	396

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

SAPL-C SERIES : SAPL-CS

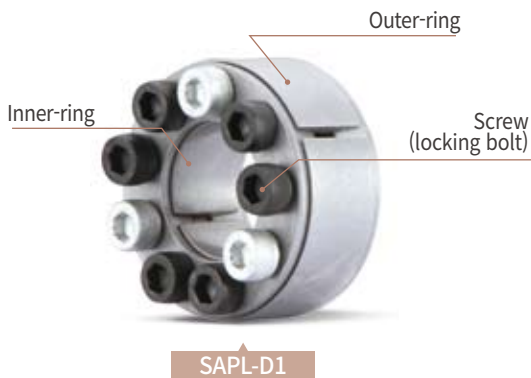


Dimensions / Performance

Model d x D	Size ($\pm 0.3\text{mm}$)					Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L	D ₁	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPL-CS-5 x 12	10	19	22	23	15.5	3	1.1	57	30	M3x8	4	1.1	36
SAPL-CS-6 x 12	10	19	22	23	15.5	4	1.1	48	30	M3x8	4	1.1	34
SAPL-CS-8 x 15	12	23	27	28	19.5	8	1.9	55	37	M4x10	4	2.7	61
SAPL-CS-10 x 18	12	23	27	31.5	22.5	14	2.7	61	43	M4x10	5	2.7	78
SAPL-CS-11 x 18	12	23	27	31.5	22.5	16	2.7	56	43	M4x10	5	2.7	75
SAPL-CS-12 x 20	12	23	27	33.5	24.5	17	2.7	51	39	M4x10	5	2.7	86
SAPL-CS-14 x 22	12	23	27	35.5	26.5	20	2.7	44	35	M4x10	5	2.7	94
SAPL-CS-15 x 23	14	27	32	38.5	28.5	38	5	59	49	M5x12	4	5.6	135
SAPL-CS-16 x 24	14	27	32	39.5	29.5	41	5	55	47	M5x12	4	5.6	140
SAPL-CS-17 x 25	14	27	32	40.5	30.5	43	5	52	46	M5x12	4	5.6	146
SAPL-CS-18 x 26	14	30	36	46	33	68	7.4	63	64	M6x14	4	9.6	221
SAPL-CS-19 x 27	14	30	36	47	34	71	7.4	60	62	M6x14	4	9.6	228
SAPL-CS-20 x 28	14	30	36	48	35	75	7.4	57	59	M6x14	4	9.6	235
SAPL-CS-22 x 32	16	32	38	52	39	83	7.4	47	46	M6x14	4	9.6	287
SAPL-CS-24 x 34	16	32	38	54	41	90	7.4	43	43	M6x14	4	9.6	302
SAPL-CS-25 x 34	16	32	38	54	41	94	7.4	42	43	M6x14	4	9.6	293
SAPL-CS-28 x 39	20	36	42	59	46	157	11.1	47	45	M6x14	6	9.6	378
SAPL-CS-30 x 41	20	36	42	61	48	168	11.1	44	43	M6x14	6	9.6	396

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-D1



Structure and Material for SAPL-D1 Series

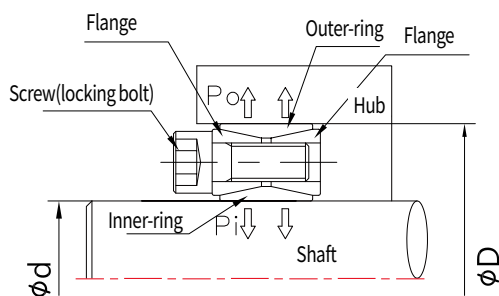
Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-D1	STEEL	-	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option for SAPL-D1 Series.

Product Features

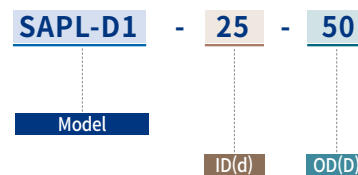
- The most standard clamping structure between shaft and hub
- Relatively higher clamping force
- A wide range of standard inner diameters (from Ø18 to Ø200)
- Recommended tolerance (Shaft's OD: h8, Hub's ID: H8)
- Simple structure for easier installation & handier maintenance

Principles

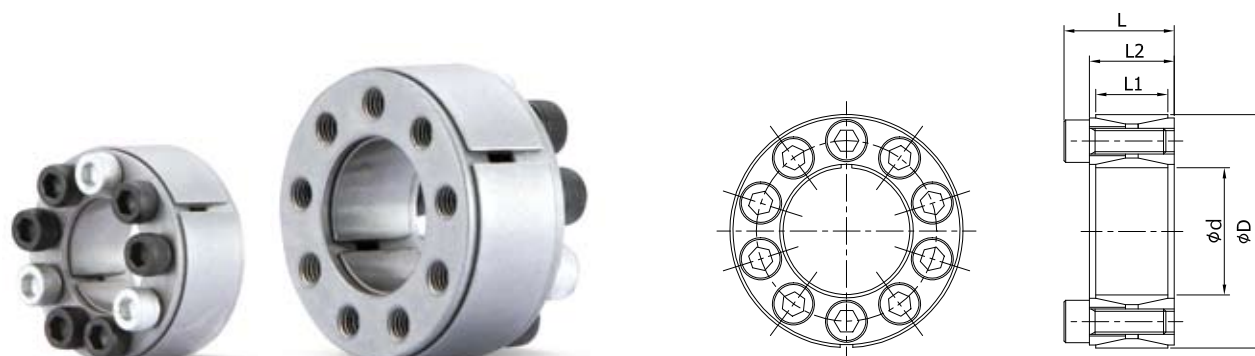


- ※ If more than 2pcs of SAPL-D1 are mounted simultaneously, the clamping force on shaft (permissible torque) becomes higher.
- SAPL-D1/ 1pc mounted: T_c (Max. Permissible Torque)
 - SAPL-D1/ 2pcs mounted : T_c (Max. Permissible Torque) x 1.9
 - SAPL-D1/ 3pcs mounted : T_c (Max. Permissible Torque) x 2.7

How to Order



SAPL-D SERIES : SAPL-D1

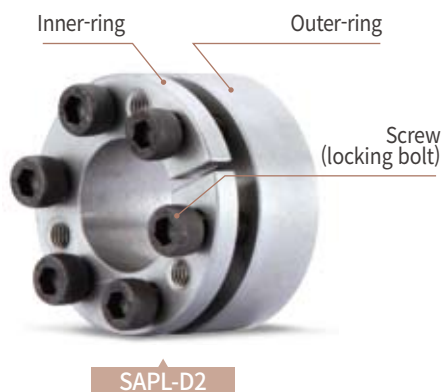


Dimensions / Performance

Model d x D	Size (±0.3mm)			Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPL-D1-18 x 47	17	20	26	240	26.5	210	85	M6x18	8	14.9	200
SAPL-D1-19 x 47	17	20	26	245	26.5	210	85	M6x18	8	14.9	200
SAPL-D1-20 x 47	17	20	26	265	26.5	199	85	M6x18	8	14.9	200
SAPL-D1-22 x 47	17	20	26	294	26.5	181	85	M6x18	8	14.9	190
SAPL-D1-24 x 50	17	20	26	402	33.3	211	101	M6x18	9	14.9	220
SAPL-D1-25 x 50	17	20	26	421	33.3	203	101	M6x18	9	14.9	220
SAPL-D1-28 x 55	17	20	26	470	33.3	180	92	M6x18	10	14.9	220
SAPL-D1-30 x 55	17	20	26	510	33.3	169	92	M6x18	10	14.9	240
SAPL-D1-32 x 60	17	20	26	676	42.1	198	106	M6x18	12	14.9	270
SAPL-D1-35 x 60	17	20	26	745	42.1	181	106	M6x18	12	14.9	270
SAPL-D1-38 x 65	17	20	26	892	47	183	107	M6x18	14	14.9	300
SAPL-D1-40 x 65	17	20	26	941	47	174	107	M6x18	14	14.9	300
SAPL-D1-42 x 75	20	24	32	1490	70.6	214	121	M8x22	12	35	510
SAPL-D1-45 x 75	20	24	32	1600	70.6	200	121	M8x22	12	35	510
SAPL-D1-48 x 80	20	24	32	1700	70.6	188	113	M8x22	12	35	550
SAPL-D1-50 x 80	20	24	32	1770	70.6	180	113	M8x22	12	35	550
SAPL-D1-55 x 85	20	24	32	2390	86.2	201	130	M8x22	14	35	600
SAPL-D1-60 x 90	20	24	32	2610	86.2	184	123	M8x22	14	35	640
SAPL-D1-65 x 95	20	24	32	3228	99	225	154	M8x22	16	35	700
SAPL-D1-70 x 110	24	28	38	4811	138	241	154	M10x25	14	69	1240
SAPL-D1-75 x 115	24	28	38	5154	138	225	147	M10x25	14	69	1290
SAPL-D1-80 x 120	24	28	38	5497	138	212	140	M10x25	14	69	1350
SAPL-D1-85 x 125	24	28	38	6675	158	227	155	M10x25	16	69	1430
SAPL-D1-90 x 130	24	28	38	7069	158	214	149	M10x25	16	69	1500
SAPL-D1-95 x 135	24	28	38	8393	176	229	161	M10x25	18	69	1540
SAPL-D1-100 x 145	26	33	45	10226	204	232	160	M12x30	14	69	2200
SAPL-D1-110 x 155	26	33	45	11248	204	211	149	M12x30	14	123.3	2300
SAPL-D1-120 x 165	26	33	45	14020	234	221	160	M12x30	16	123.3	2400
SAPL-D1-130 x 180	34	38	50	18986	293	195	140	M12x35	20	123.3	3600
SAPL-D1-140 x 190	34	38	50	22494	321	199	147	M12x35	22	123.3	3900
SAPL-D1-150 x 200	34	38	50	26295	351	203	152	M12x35	24	123.3	4000
SAPL-D1-160 x 210	34	38	50	33756	422	229	174	M12x35	26	123.3	4300
SAPL-D1-170 x 225	38	44	58	39483	465	212	160	M14x40	22	187	5700
SAPL-D1-180 x 235	38	44	58	45606	507	218	167	M14x40	24	187	6000
SAPL-D1-190 x 250	46	52	66	56163	591	199	152	M14x45	28	187	8200
SAPL-D1-200 x 260	46	52	66	63342	633	203	156	M14x45	30	187	8600

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-D2



Structure and Material for SAPL-D2 Series

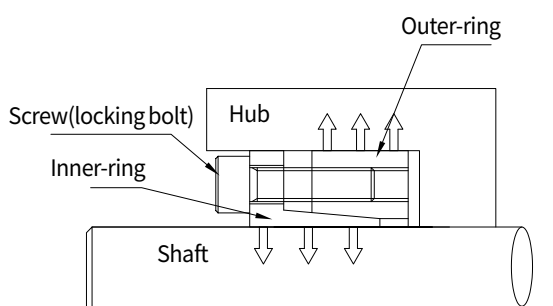
Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-D2	STEEL	-	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option for SAPL-D2 Series.

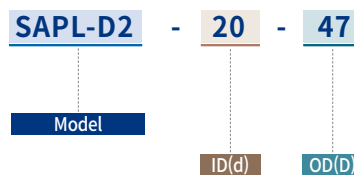
Product Features

- Equivalent to SAPL-D1 series with the same dimensions (which is the most standard clamping structure between shaft and hub)
- Effective installation with less quantity of fastening screws
- Axial movement of the shaft may occur while installed
- Self-centering function (prevention of slight off-center matters)
- Recommended tolerance (Shaft's OD: h8, Hub's ID: H8)

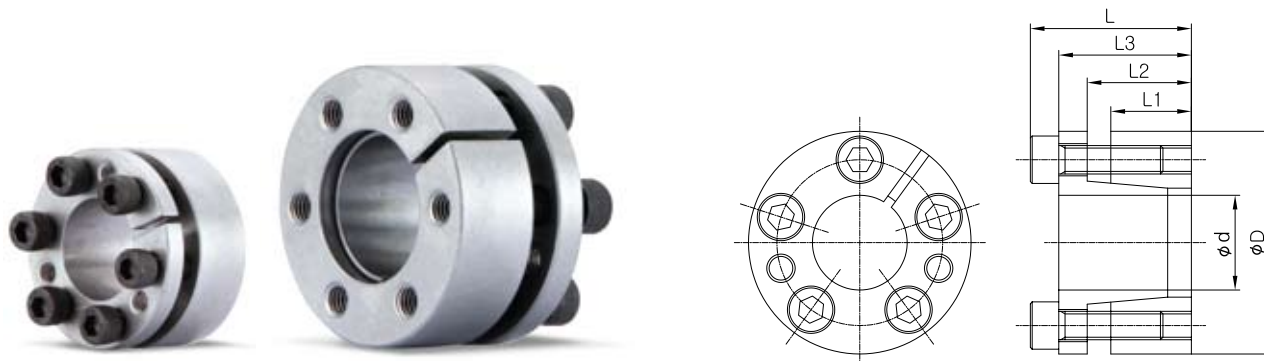
Principles



How to Order



SAPL-D SERIES : SAPL-D2

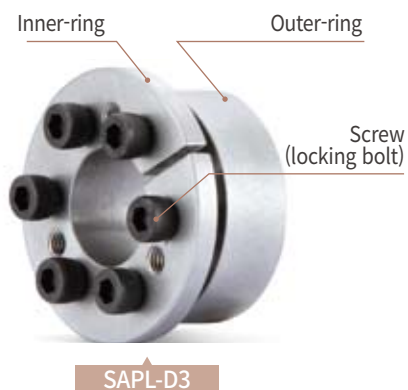


Dimensions / Performance

Model d x D	Size ($\pm 0.3\text{mm}$)				Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L ₃	L			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPL-D2-19 x 47	17	22	28	34	273	29	262	106	M6x20	5	13	300
SAPL-D2-20 x 47	17	22	28	34	287	29	249	106	M6x20	5	13	300
SAPL-D2-22 x 47	17	22	28	34	316	29	227	106	M6x20	5	13	300
SAPL-D2-24 x 50	17	22	28	34	413	34	249	120	M6x20	6	13	300
SAPL-D2-25 x 50	17	22	28	34	431	34	239	120	M6x20	6	13	300
SAPL-D2-28 x 55	17	22	28	34	482	34	213	109	M6x20	6	13	400
SAPL-D2-30 x 55	17	22	28	34	517	34	199	109	M6x20	6	13	400
SAPL-D2-32 x 60	17	22	28	34	734	46	249	133	M6x20	8	13	400
SAPL-D2-35 x 60	17	22	28	34	803	46	227	133	M6x20	8	13	400
SAPL-D2-38 x 65	17	22	28	34	872	46	210	122	M6x20	8	13	400
SAPL-D2-40 x 65	17	22	28	34	918	46	199	122	M6x20	8	13	400
SAPL-D2-42 x 75	17	25	33	41	1573	74	261	146	M8x25	7	32	800
SAPL-D2-45 x 75	20	25	33	41	1674	74	244	146	M8x25	7	32	800
SAPL-D2-48 x 80	20	25	33	41	1750	74	220	146	M8x25	7	32	800
SAPL-D2-50 x 80	20	25	33	41	1860	74	219	137	M8x25	7	32	800
SAPL-D2-55 x 85	20	25	33	41	2340	85	228	148	M8x25	8	32	800
SAPL-D2-60 x 90	20	25	33	41	2553	85	209	139	M8x25	8	32	800

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-D3



Structure and Material for SAPL-D3 Series

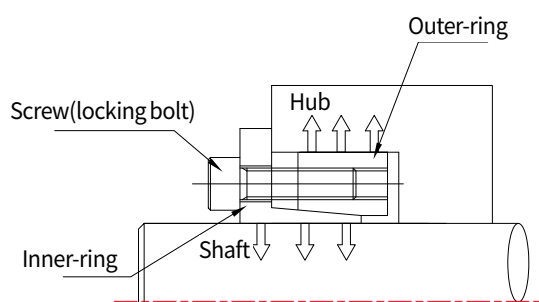
Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-D3	STEEL	-	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option for SAPL-D3 Series.

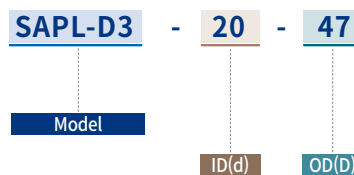
Product Features

- Equivalent to SAPL-D1 series with the same dimensions (which is the most standard clamping structure between shaft and hub)
- Effective installation with less quantity of fastening screws
- No movement while installed as the flange-shaped part is directly attached to hub surface
- Self-centering function (prevention of slight off-center matters)
- Recommended tolerance (Shaft's OD: h8, Hub's ID: H8)

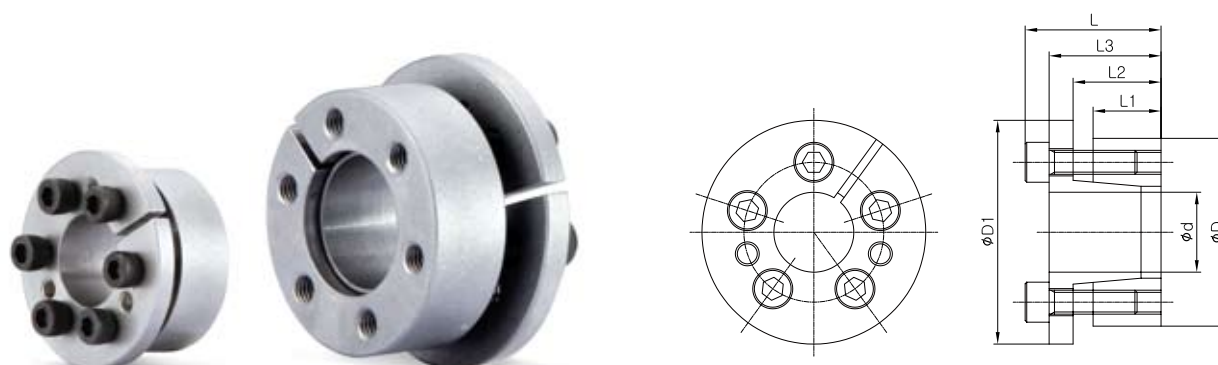
Principles



How to Order



SAPL-D SERIES : SAPL-D3

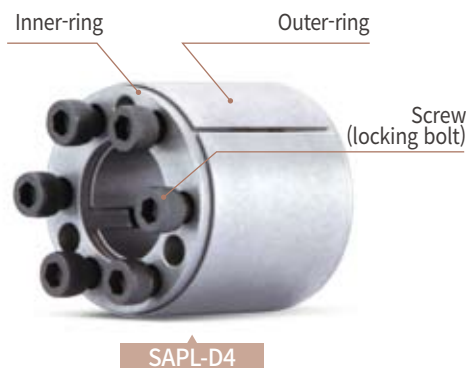


Dimensions / Performance

Model d x D	Size ($\pm 0.3\text{mm}$)					Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	D ₁	L ₁	L ₂	L ₃	L			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPL-D3-19 x 47	56	17	22	28	34	243	26	234	94	M6x20	5	17	300
SAPL-D3-20 x 47	56	17	22	28	34	256	26	222	94	M6x20	5	17	300
SAPL-D3-22 x 47	56	17	22	28	34	282	26	202	94	M6x20	5	17	300
SAPL-D3-24 x 50	59	17	22	28	34	368	31	222	106	M6x20	6	17	300
SAPL-D3-25 x 50	59	17	22	28	34	383	31	213	106	M6x20	6	17	300
SAPL-D3-28 x 55	64	17	22	28	34	429	31	190	97	M6x20	6	17	400
SAPL-D3-30 x 55	64	17	22	28	34	460	31	177	97	M6x20	6	17	400
SAPL-D3-32 x 60	69	17	22	28	34	655	41	222	118	M6x20	8	17	400
SAPL-D3-35 x 60	69	17	22	28	34	716	41	203	118	M6x20	8	17	400
SAPL-D3-38 x 65	74	17	22	28	34	778	41	187	109	M6x20	8	17	500
SAPL-D3-40 x 65	74	17	22	28	34	819	41	178	109	M6x20	8	17	500
SAPL-D3-42 x 75	84	17	25	33	41	1361	65	227	127	M8x25	7	41	800
SAPL-D3-45 x 75	84	20	25	33	41	1458	65	212	127	M8x25	7	41	700
SAPL-D3-48 x 80	89	20	25	33	41	1550	65	200	123	M8x25	7	41	800
SAPL-D3-50 x 80	89	20	25	33	41	1620	65	191	119	M8x25	7	41	800
SAPL-D3-55 x 85	94	20	25	33	41	2037	74	199	129	M8x25	8	41	900
SAPL-D3-60 x 90	99	20	25	33	41	2223	74	182	121	M8x25	8	41	900

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-D4



Structure and Material for SAPL-D4 Series

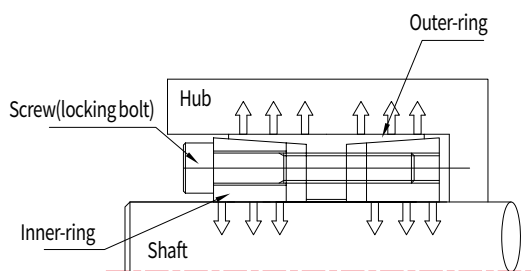
Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-D4	STEEL	-	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option for SAPL-D4 Series.

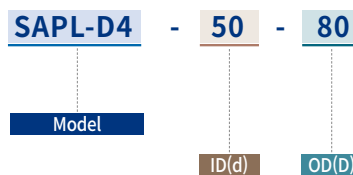
Product Features

- Excellent for high-torque transmission capacity
- Equivalents to SAPL-D1 series with the same dimensions (which is the most standard clamping structure between shaft and hub) in particular to the double-row SAPL-D1 version
- Self-centering function (prevention of slight off-center matters)
- Recommended tolerance (Shaft's OD: h8, Hub's ID: H8)

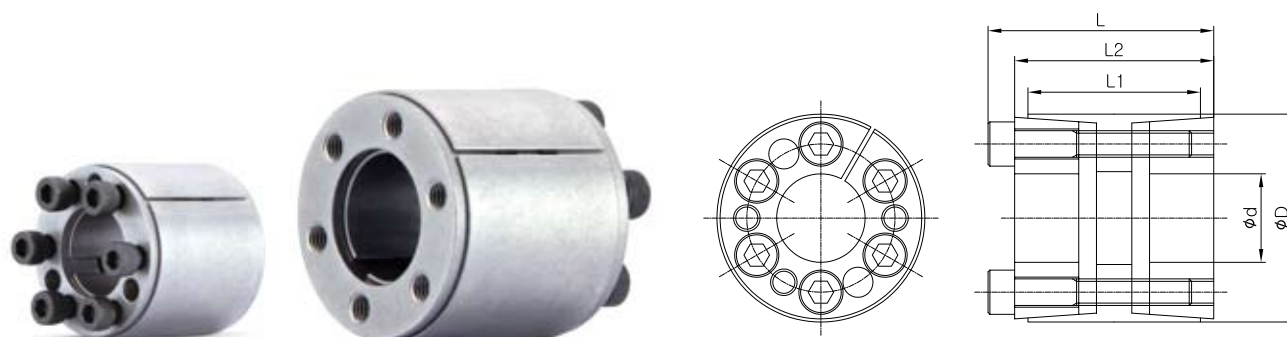
Principles



How to Order



SAPL-D SERIES : SAPL-D4

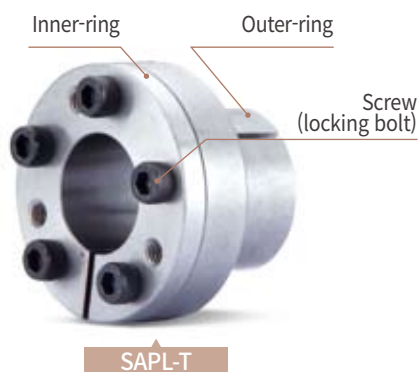


Dimensions / Performance

Model d x D	Size (±0.3mm)			Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPL-D4-19 x 47	39	45	51	360	40	135	60	M6	6	17	300
SAPL-D4-20 x 47	39	45	51	380	40	140	60	M6	6	17	300
SAPL-D4-22 x 47	39	45	51	425	40	125	60	M6	6	17	300
SAPL-D4-24 x 50	39	45	51	660	53	155	75	M6	6	17	300
SAPL-D4-25 x 50	39	45	51	680	53	150	75	M6	6	17	300
SAPL-D4-28 x 55	39	45	51	750	42	135	65	M6	8	17	400
SAPL-D4-30 x 55	39	45	51	790	53	120	65	M6	8	17	400
SAPL-D4-32 x 60	39	45	51	1250	80	165	90	M6	8	17	400
SAPL-D4-35 x 60	39	45	51	1400	80	155	90	M6	8	17	400
SAPL-D4-38 x 65	39	45	51	1650	90	160	90	M6	10	17	500
SAPL-D4-40 x 65	39	45	51	1750	90	150	90	M6	10	17	500
SAPL-D4-42 x 75	39	45	51	3100	155	200	110	M8	8	41	800
SAPL-D4S-45 x 75	39	45	51	3200	155	180	110	M8	8	41	700
SAPL-D4-45 x 75	56	64	72	3460	155	165	100	M8	8	41	700
SAPL-D4-48 x 80	56	64	72	3680	155	150	95	M8	8	41	800
SAPL-D4-50 x 80	56	64	72	3820	155	147	95	M8	8	41	800
SAPL-D4-55 x 85	56	64	72	4260	155	135	85	M8	8	41	900
SAPL-D4-60 x 90	56	64	72	5820	190	155	100	M8	10	41	900

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-T SERIES



Structure and Material for SAPL-T Series

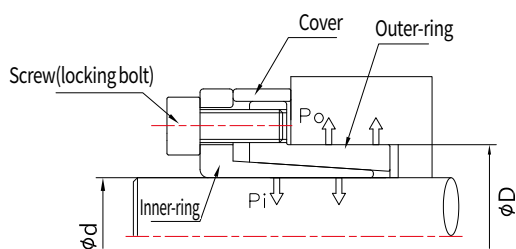
Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPL-T	STEEL	-	SCM435	Black Oxide

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option for SAPL-T Series.

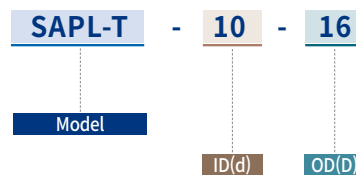
Product Features

- Designed to suit smaller and shorter hubs
- No movement while installed
- Self-centering function (prevention of slight off-center matters)
- Simple structure for easier installation & handier maintenance
- Recommended tolerance (Shaft's OD: h8, Hub's ID: H8)

Principles



How to Order



SAPL-T SERIES : SAPL-T



Dimensions / Performance

Model d x D	Size (±0.3mm)					Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L ₁	L ₂	L ₃	L	D ₁			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPL-T-6 x 14	10	18.5	21	24	25	12	4	185	80	M3x8	3	2	40
SAPL-T-7 x 15	12	21	24	28	27	25	7	235	110	M4x10	3	5	60
SAPL-T-8 x 15	12	21	24	28	28	29	7	205	110	M4x10	3	5	50
SAPL-T-9 x 16	14	23	27	31	32	44	10	205	115	M4x12	4	5	60
SAPL-T-10 x 16	14	23	27	31	32	49	10	185	115	M4x12	4	5	60
SAPL-T-11 x 18	14	23	27	31	34	53	10	170	105	M4x12	4	5	70
SAPL-T-12 x 18	14	23	27	31	34	58	10	160	105	M4x12	4	5	70
SAPL-T-13 x 23	14	23	27	31	39	63	10	140	80	M4x12	4	5	110
SAPL-T-14 x 23	14	23	27	31	39	68	10	130	80	M6x18	4	17	100
SAPL-T-15 x 24	16	29	36	42	45	127	17	185	115	M6x18	3	17	220
SAPL-T-16 x 24	16	29	36	42	45	136	17	175	115	M6x18	3	17	220
SAPL-T-17 x 26	18	31	38	44	47	180	22	190	125	M6x18	4	17	250
SAPL-T-18 x 26	18	31	38	44	47	200	22	180	125	M6x18	4	17	240
SAPL-T-19 x 27	18	31	38	44	48	210	22	170	120	M6x18	4	17	260
SAPL-T-20 x 28	18	31	38	44	49	220	22	160	115	M6x18	4	17	270
SAPL-T-22 x 32	25	38	45	51	54	250	22	115	80	M6x18	4	17	340
SAPL-T-24 x 34	25	38	45	51	56	270	22	105	75	M6x18	4	17	360
SAPL-T-25 x 34	25	38	45	51	56	280	22	100	75	M6x18	4	17	350
SAPL-T-28 x 39	25	38	45	51	61	465	33	135	97	M6x18	5	17	480
SAPL-T-30 x 41	25	38	45	51	63	510	33	127	90	M6x18	6	17	480
SAPL-T-32 x 43	30	43	50	56	65	540	33	120	90	M6x18	6	17	470
SAPL-T-35 x 47	30	43	50	56	69	790	45	105	80	M6x18	8	17	580
SAPL-T-38 x 50	30	43	50	56	72	860	45	100	75	M6x18	8	17	610
SAPL-T-40 x 53	32	45	52	58	75	900	45	95	70	M6x18	9	17	680
SAPL-T-42 x 55	32	45	52	58	77	950	45	90	85	M6x18	9	17	760
SAPL-T-45 x 59	40	56	64	72	85	1890	84	110	80	M8x22	8	41	1200
SAPL-T-48 x 62	40	56	64	72	88	2010	84	105	75	M8x22	8	41	1200
SAPL-T-50 x 65	50	66	74	82	92	2100	84	100	65	M8x22	10	41	1400

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPL-R SERIES



Structure and Material for SAPL-R Series

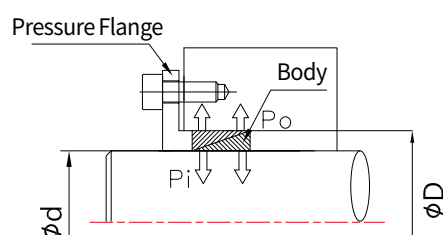
Model	Body (Inner-ring / Outer-ring)	
	Material	Surface Treatment
SAPL-R	STEEL	-

※ Please contact Sung-il Customer Service team for eletroless nickel plating surface treatment option for SAPL-R Series.

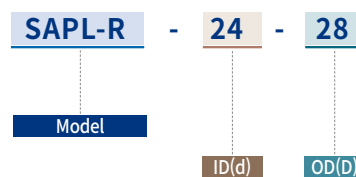
Product Features

- Relatively lower Transmissible torque
- Compact design for limited space of Hub's OD
- Recommended tolerance for Shaft: h6 (\leq ID 40mm), h8 (\geq ID 42mm)
- Recommended tolerance for Hub: H7 (\leq 40mm), H8 (\geq ID 42mm)

Principles



How to Order

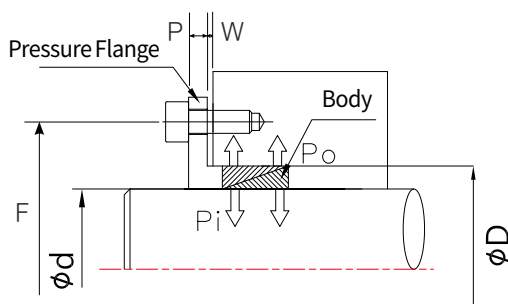


SAPL-R SERIES : SAPL-R

Selection and Design Guide

Design of Pressure Flange

In general, SAPL-R series is supposed to be used along with pressure flanges whose design varies according to user's shaft/hub design. Please refer to the below design variables.



1. Location of screws (locking bolts) on the pressure flange (F)

- 1) Case1: Pressure flange mounted on Hub
 $F = D + 12 + d_b$ (screw size)
- 2) Case2: Pressure flange mounted on Shaft
 $F = D - 12 - d_b$ (screw size)

2. Thickness of pressure flange (P)

- 1) Case1: Fastened with Grade 8.8 class screw
 $P = 1.3 \times d_b$ (screw size)
- 2) Case2: Fastened with Grade 12.9 class screw
 $P = 1.8 \times d_b$ (screw size)

※ If more than 2pcs of SAPL-R are mounted simultaneously
 - Distance(W) between pressure flange and hub/shaft has to be adjusted. Please refer to "Dimensions / Performance" pages for (W) values.

Transmissible Torque Calculation (Formula)

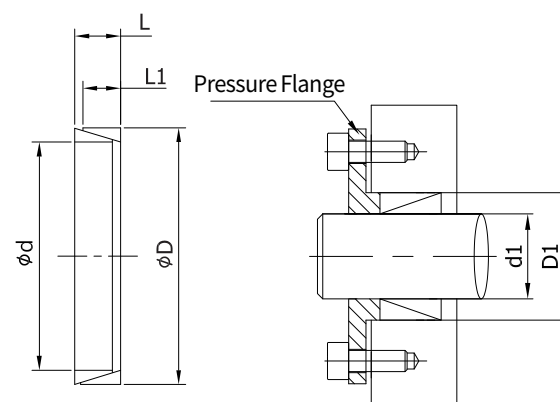
$$TC = \frac{P_{\text{total}} - P_{\text{pre-load}}}{0.54} \times 0.12 \times \frac{d}{2000}$$

Screw Size d_b	Pressure on each screw P_b [N]		
	Grade 8.8 class	Grade 10.9 class	Grade 12.9 class
M4	3900	5450	6550
M5	6350	8950	10700
M6	9000	12600	15100
M8	16500	23200	27900
M10	26200	36900	44300
M12	38300	54000	64500

※ If more than 2pcs of SAPL-R are mounted simultaneously, the clamping force on shaft (permissible torque) becomes higher.

- SAPL-R/ 1pc mounted: Tc (Max. Permissible Torque)
- SAPL-R/ 2pcs mounted: Tc (Max. Permissible Torque) x 1.55
- SAPL-R/ 3pcs mounted: Tc (Max. Permissible Torque) x 1.85
- SAPL-R/ 4pcs mounted: Tc (Max. Permissible Torque) x 2.02

SAPL-R SERIES : SAPL-R

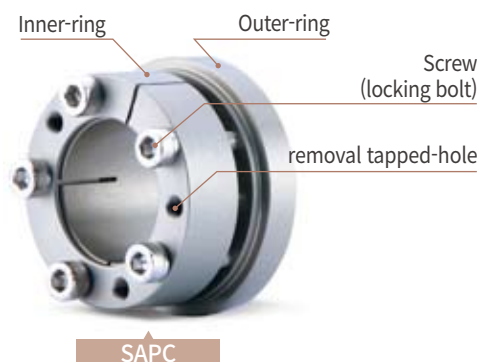


Dimensions / Performance

Model d x D	Size(±0.3mm)		Initial Clamping Force P _{pre-load} (N)	W* (mm)				Pressure Flange		Surface Pressure (Mpa)		Mass(g)
	L ₁	L		1 set	2 set	3 set	4 set	d ₁	D ₂	Shaft(Pi)	Hub(Po)	
SAPL-R-6 x 9	3.7	4.5	8400	2.5	2.5	3	4	6.1	8.9	115	75	2
SAPL-R-7 x 10	3.7	4.5	8200	2.5	2.5	3	4	7.1	9.9	105	70	2
SAPL-R-8 x 11	3.7	4.5	7700	2.5	2.5	3	4	8.1	10.9	120	90	2
SAPL-R-9 x 12	3.7	4.5	7650	2.5	2.5	3	4	9.1	11.9	140	105	2
SAPL-R-10 x 13	3.7	4.5	7000	2.5	2.5	3	4	10.1	12.9	135	105	2
SAPL-R-11 x 14	3.7	4.5	7000	2.5	2.5	3	4	11.1	13.9	115	90	2
SAPL-R-12 x 15	3.7	4.5	7000	2.5	2.5	3	4	12.1	14.9	115	90	2
SAPL-R-13 x 16	3.7	4.5	6500	2.5	2.5	3	4	13.1	15.9	110	90	2
SAPL-R-14 x 18	5.3	6.3	11000	3.5	3.5	4.5	5.5	14.1	17.9	115	85	5
SAPL-R-15 x 19	5.3	6.3	10800	3.5	3.5	4.5	5.5	15.1	18.9	110	85	5
SAPL-R-16 x 20	5.3	6.3	10000	3.5	3.5	4.5	5.5	16.1	19.9	105	85	6
SAPL-R-17 x 21	5.3	6.3	9600	3.5	3.5	4.5	5.5	17.1	20.9	105	80	6
SAPL-R-18 x 22	5.3	6.3	9150	3.5	3.5	4.5	5.5	18.1	21.9	100	110	7
SAPL-R-19 x 24	5.3	6.3	12500	3.5	3.5	4.5	5.5	19.2	23.8	140	105	7
SAPL-R-20 x 25	5.3	6.3	12000	3.5	3.5	4.5	5.5	20.2	24.8	135	115	9
SAPL-R-22 x 26	5.3	6.3	9000	3.5	3.5	4.5	5.5	22.2	25.8	135	110	7
SAPL-R-24 x 28	5.3	6.3	8400	3.5	3.5	4.5	5.5	24.2	27.8	130	95	8
SAPL-R-25 x 30	5.3	6.3	10000	3.5	3.5	4.5	5.5	25.2	29.8	115	100	9
SAPL-R-28 x 32	5.3	6.3	7500	3.5	3.5	4.5	5.5	28.2	31.8	115	85	10
SAPL-R-30 x 35	5.3	6.3	8600	3.5	3.5	4.5	5.5	30.2	34.8	100	115	11
SAPL-R-32 x 36	5.3	6.3	7900	3.5	3.5	4.5	5.5	32.2	35.8	130	110	11
SAPL-R-35 x 40	6	7	10000	3.5	3.5	4.5	5.5	35.2	39.8	125	100	16
SAPL-R-36 x 42	6	7	11700	3.5	3.5	4.5	5.5	36.2	41.8	115	95	19
SAPL-R-38 x 44	6	7	11000	3.5	3.5	4.5	5.5	38.2	43.8	110	105	21
SAPL-R-40 x 45	6.6	8	13900	3.5	4.5	5.5	6.5	40.2	44.8	115	95	21
SAPL-R-42 x 48	6.6	8	15550	3.5	4.5	5.5	6.5	42.2	47.8	110	95	26
SAPL-R-45 x 52	8.6	10	28300	3.5	4.5	5.5	6.5	45.2	51.8	105	135	45
SAPL-R-48 x 55	8.6	10	24700	3.5	4.5	5.5	6.5	48.2	54.8	155	130	43
SAPL-R-50 x 57	8.6	10	23600	3.5	4.5	5.5	6.5	50.2	56.8	150	125	45

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.
- W*: Distance(W) between pressure flange and hub/shaft when several pieces of SAPL-R are mounted simultaneously.

A.P. LOCK : SAPC SERIES



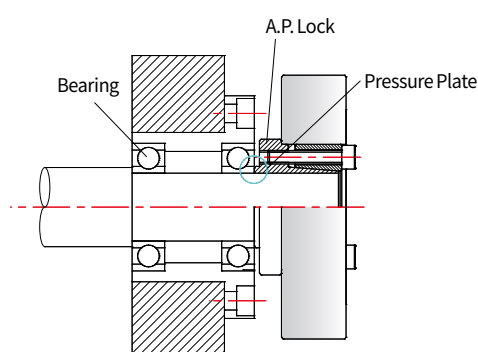
Structure and Material for SAPC Series

Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPC	AL-7075-T6	Anodizing	SCM435	Electroless Nickel Plating

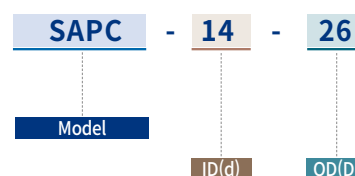
Product Features

- Excellent for high rotating application (AL-Alloy Material has lower moment of inertia)
- The most optimal solution with AL Pulley (Lower surface pressure, less shape distortion) comparing to Steel A.P. Lock
- Adequate surface pressure for power transmission from servo motors with less quantity of fastening screws comparing to Steel body A.P. Lock series
- Self pressure plate function through the unique structure, without requiring an additional part to press bearings
- Designed to suit clean rooms with high corrosion resistance feature

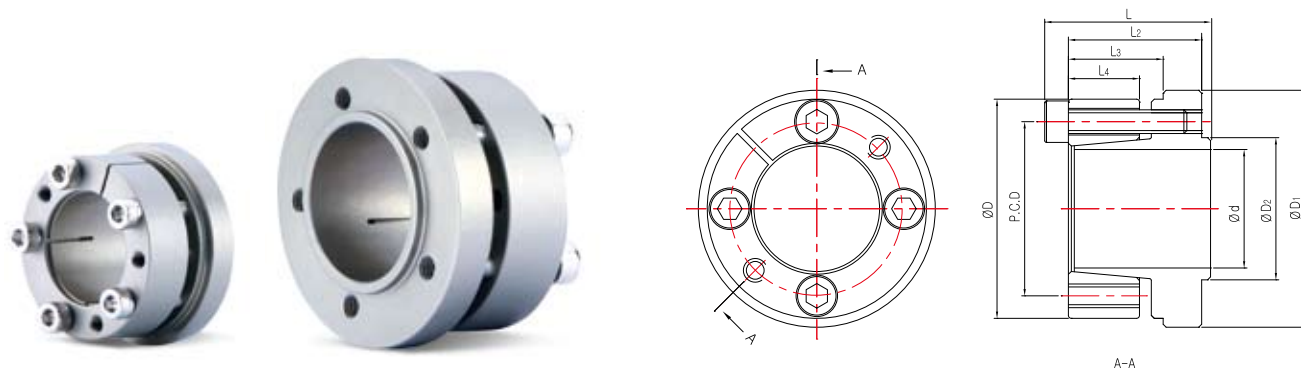
Principles



How to Order



SAPC SERIES : SAPC

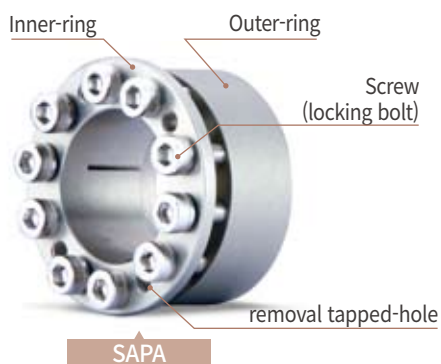


Dimensions / Performance

Model d x D	Size (±0.3mm)							Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L	L ₂	L ₃	L ₄	D ₁	D ₂	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPC-5-16	15.5	13	9	6.5	19	7.5	11.1	2.5	1	121	35	M2.5	2	1.3	7
SAPC-6-17	15.5	13	9	6.5	20	8.5	12.1	4	1.33	151	49	M2.5	3	1.3	8
SAPC-8-19	17.5	15	10	7.5	22	11	14.1	6	1.51	129	51	M2.5	4	1.3	11
SAPC-10-21	17.5	15	10	7.5	24	13	16.1	8	1.63	104	46	M2.5	4	1.3	12
SAPC-11-22	19.5	17	11	8	25	14	17.1	9	1.66	88	41	M2.5	4	1.3	14
SAPC-12-24	20.5	18	12	9	27	15	19.2	12	1.99	89	42	M2.5	5	1.3	17
SAPC-14-26	20.5	18	12	9	29	17	21.2	18	2.56	91	47	M2.5	6	1.3	19
SAPC-15-28	23	20	13	9.5	31	18.5	22.2	25	3.34	79	38	M3	4	2.3	24
SAPC-16-29	23	20	13	9.5	32	19.5	23.2	26	3.34	74	37	M3	4	2.3	25
SAPC-17-30	24	21	14	10	33	20.5	24	27	3.18	66	34	M3	4	2.3	28
SAPC-18-31	24	21	14	10	34	21.5	25	29	3.23	78	41	M3	5	2.3	29
SAPC-19-32	24	21	14	10	35	22.5	26	33	3.5	74	40	M3	5	2.3	30
SAPC-20-37	28	24	16	12	40	24	29.4	54	5.47	92	46	M4	4	5.1	47
SAPC-22-39	28	24	16	12	42	26	31.4	65	5.94	83	43	M4	4	5.1	52
SAPC-24-41	30	26	18	13	45	28	33.3	85	7.07	84	46	M4	5	5.1	57
SAPC-25-42	32	28	19	13.5	46	29	34.3	110	8.77	97	53	M4	6	5.1	67
SAPC-28-45	32	28	19	13.5	49	32	37.3	125	8.91	101	57	M4	7	5.1	73
SAPC-30-50	35	30	20	14.5	55	34.5	41.3	180	12.08	99	56	M5	5	10	101
SAPC-32-53	35	30	20	14.5	58	36.5	43.3	210	13.13	104	59	M5	6	10	112
SAPC-35-56	38	33	22.5	16	62	40	46.6	230	13.13	92	54	M5	6	10	134

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.

A.P. LOCK : SAPA SERIES



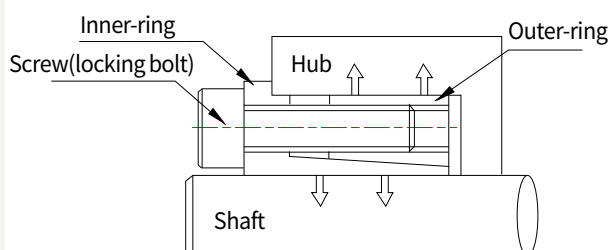
Structure and Material for SAPA Series

Model	Body (Inner-ring / Outer-ring)		Screw(locking bolt)	
	Material	Surface Treatment	Material	Surface Treatment
SAPA	AL-7075-T6	Anodizing	SCM435	Electroless Nickel Plating

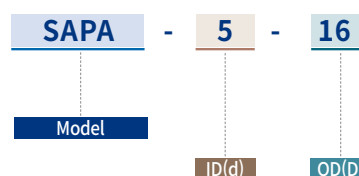
Product Features

- Excellent for high rotating application (AL-Alloy Material has lower moment of inertia)
- Designed to suit not only AL-Alloy pulleys but also steel ones with higher surface pressure comparing to SAPC series
- Designed to suit clean rooms with high corrosion resistance
- Exactly identical dimensions with SAPL-A Series
- Self-centering function (prevention of slight off-center matters)

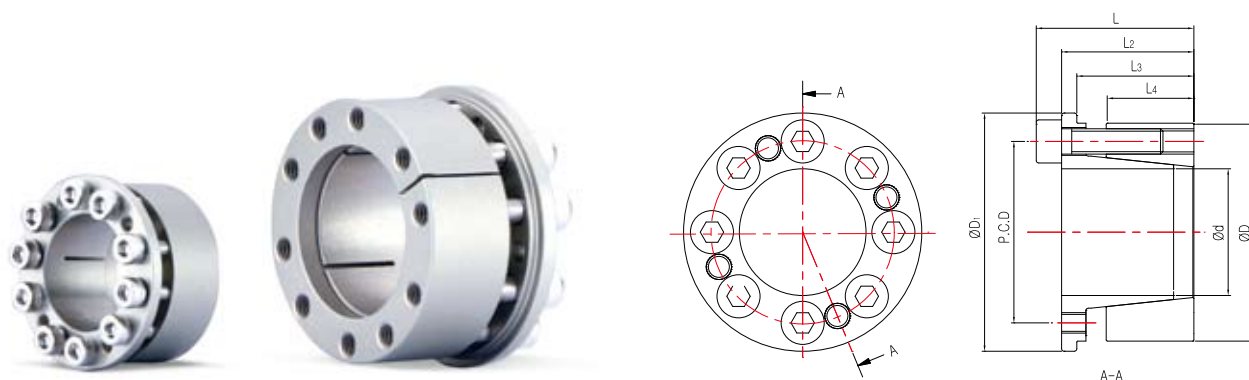
Principles



How to Order



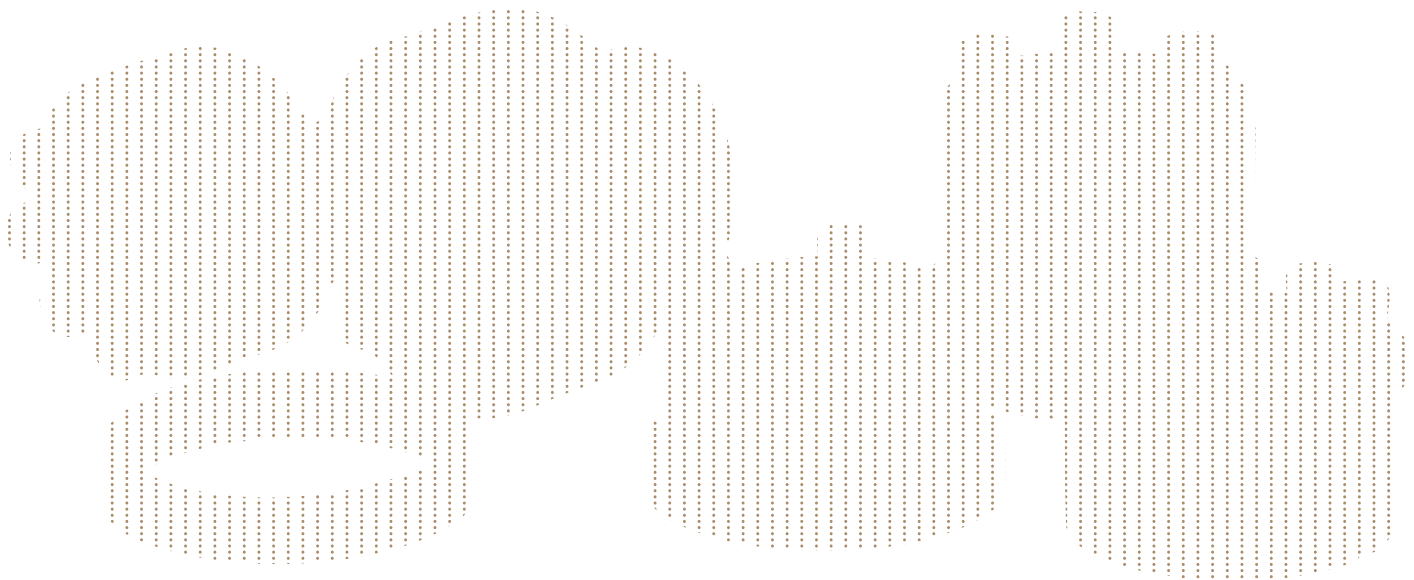
SAPA SERIES : SAPA



Dimensions / Performance

Model d x D	Size (±0.3mm)						Max. Permissible Torque(Tc) (N·m)	Max. Permissible Thrust Load(Pt) (kN)	Surface Pressure (Mpa)		screw(locking bolt)			Mass(g)
	L	L ₂	L ₃	L ₄	D ₁	P.C.D			Shaft(Pi)	Hub(Po)	Size	The no. of screws	Fastening Torque(N·m)	
SAPA-5-16	16	13	11.2	8	18.5	11.7	6	2.24	197	64	M3	4	2.3	7
SAPA-6-19	18.3	14.3	12.3	9	21.5	14	11	3.74	285	92	M4	4	5.1	10
SAPA-8-21	18.6	14.6	12.6	9.3	23.5	15.4	18	4.48	214	96	M4	4	5.1	13
SAPA-10-23	18.8	14.8	12.8	9.5	25.5	17.5	20	4.48	167	86	M4	4	5.1	15
SAPA-11-24	19.8	15.8	13.8	10.5	26.5	18.4	24	4.48	153	83	M4	4	5.1	17
SAPA-12-26	22	18	15.5	10.5	28.5	20.2	40	6.73	209	103	M4	6	5.1	20
SAPA-14-28	22	18	15.5	10.5	30.5	22.2	52	7.57	202	108	M4	6	5.1	23
SAPA-15-29	23	19	16.5	11.5	31.5	23.2	56	7.57	167	95	M4	6	5.1	25
SAPA-16-30	23.6	19.6	17.1	12	33	24.2	60	7.57	149	88	M4	6	5.1	28
SAPA-17-31	24.1	20.1	17.6	12.5	33.5	25.4	88	10.08	177	109	M4	8	5.1	28
SAPA-18-32	24.1	20.1	17.6	12.5	34.5	26.4	92	10.08	167	106	M4	8	5.1	30
SAPA-19-33	24.1	20.1	17.6	12.5	35.5	27.4	96	10.08	159	102	M4	8	5.1	31
SAPA-20-38	29.1	24.1	21.1	15.3	42	30.8	176	17.28	186	111	M5	8	10	53
SAPA-22-40	29.1	24.1	21.1	15.3	44	32.8	232	20.8	204	126	M5	8	10	60
SAPA-24-42	30.1	25.1	22.1	16.3	46	34.8	256	20.8	173	113	M5	8	10	65
SAPA-25-43	31.1	26.1	23.1	17.3	47	35.8	270	21.76	172	109	M5	8	10	68
SAPA-28-46	31.6	26.6	23.1	17.3	50	38.8	290	21.6	153	101	M5	10	10	71
SAPA-30-48	31.6	26.6	23.1	17.3	52	40.8	320	21.6	142	97	M5	10	10	76
SAPA-32-50	32.6	27.6	24.1	18.3	54	42.8	352	21.6	124	88	M5	10	10	80
SAPA-35-57	36	30	26	19.5	62	48.4	576	32.88	195	132	M6	8	18	117

- Pt(Max. Permissible Thrust Load) indicates values at the zero(0) torque, and Tc(Max. Permissible Torque) at the zero(0) thrust load respectively. In case torque and thrust load occur simultaneously, please refer to the formula in the [Selection guide] page for combined load calculation.
- For the best performance, make sure all foreign substances i.e. corrosion, dust etc. are removed from each surface of shaft, hub, and A.P. Lock's inner and outer ring.



SUPPORT UNIT FOR BALL SCREW

Support Unit for Ball Screw

Overview

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Support Unit for Ball Screw (General Load)

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Dimensions / Performance

▪ EK/EF Series	165~166p
▪ BK/BF Series	167~168p
▪ AK/AF Series	169p
▪ FK/FF Series	170~172p
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High-load Type Support unit

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Grease-Injection Type Support Unit

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Dimensions / Performance

▪ BK-G Series	180p
▪ FK-G Series	181p
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Lock-Nut

▪ RN Series (General Load)	183p
▪ HLRN Series (High Load)	184p

Joint Unit

▪ SJU Series	185p
▪ SBJU Series	186p

Bearing Unit

▪ SBS Series	187p
▪ SBD Series	187p





INDEX (SUPPORT UNIT FOR BALL SCREW)

	Ball Screw Support Unit				
	GENERAL				GREASE INJECTION
Series	EK	EF	BK	BF	BK-G
Use for	FIXED SIDE	SUPPORTED SIDE	FIXED SIDE	SUPPORTED SIDE	FIXED SIDE
Shape					
Page	165p	166p	167p	168p	180p

Series	AK	AF	FK	FF	FK-G
Use for	FIXED SIDE	SUPPORTED SIDE	FIXED SIDE	SUPPORTED SIDE	FIXED SIDE
Shape					
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Series	CK	CF	WBK	SWBK	SWBK-G
Use for	FIXED SIDE	SUPPORTED SIDE	FIXED SIDE (MINIATURE)	FIXED SIDE (HIGH LOAD)	FIXED SIDE (HIGH LOAD)
Shape					
Page	173p	173p	174p	177p	182p

	Lock-Nut		Joint Unit		Bearing Unit	
Series	RN	HLRN	SJU	SBJU	SBS	SBD
Shape						
Page	178p	179p	180p	181p	182p	182p

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW

Product Features

- ▶ High accuracy (No need of additional adjustment)
- ▶ Simpler application design possible with standardized bearings
- ▶ Compact Structure for installing even at small and narrow areas
- ▶ Prevention of foreign material and leak of grease by the inner oil-seal rings
- ▶ Diverse finish options available (Standard: Black Oxide)

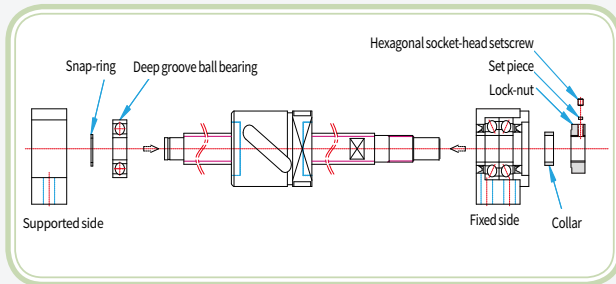
Product Classification

General Load	Fixed Side	Square					
			EK	BK	AK	CK	BK-G
		Round					
			FK		WBK	FK-G	
	Supported Side	Square					CF
			EF	BF	AF	CF	
		Round					
			FF				
High Load	Fixed Side	Round					
			SWBK	SWBK-G			

SUPPORT UNIT

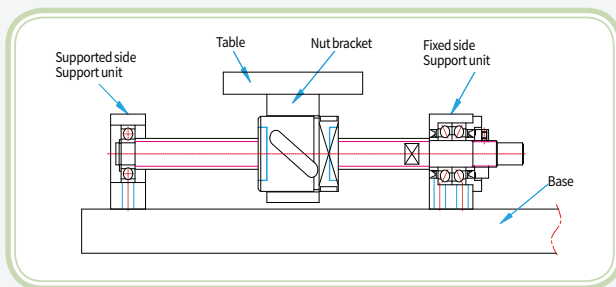
SUPPORT UNIT FOR BALL SCREW

Installation Guide



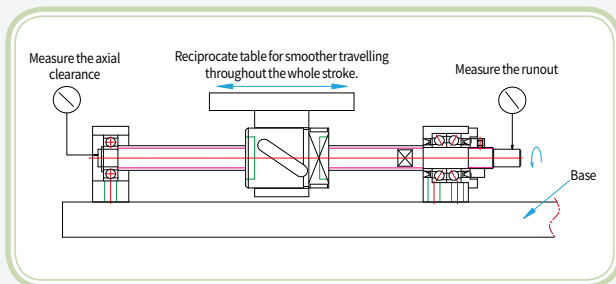
Installation of Support Unit with Ball Screw

1. Mount ball screw onto fixed side support unit.
 - The support unit must not be disassembled.
 - Make sure the oil-seal ring is not folded when the shaft-end is pushed towards the bearing.
 - Fasten set-screws of lock-nut after assembling collars.
 - Mount a nut bracket onto the nut of ball screw.
2. Mount the deep groove ball bearing (of supported side support unit) onto the ball screw shaft-end, and fix with a snap-ring to secure and then insert the assembly to the housing of supported side support unit.



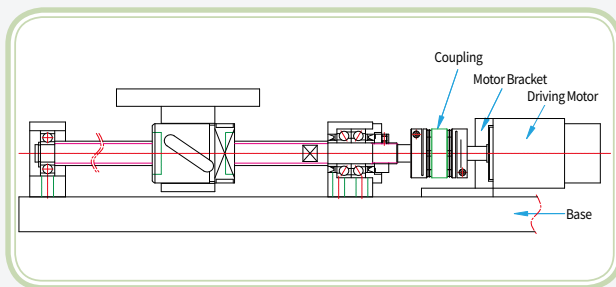
Assembly with the Table & Base

1. Assemble the table with the nut bracket of ball screw.
2. Mount the fixed side support unit temporarily with the base.
 - If the fixed side support unit is used as a reference point, make sure there is clearance secured between the outer diameter of ball screw nut and table. (or inner diameter of bracket)
 - If the table is used as a reference point, adjust height with shims for square shaped support unit or secure clearance between outer and inner diameter of inserted area for round shaped support unit.
3. Mount the supported side support unit temporarily with the base.



Checking Accuracy & Fastening Fully

1. Shift the table towards the center of the shaft and make it reciprocate between both ends so that motion is adjusted running in line as smoothly as possible.
2. Measure the runout of the ball screw shaft-end and axial end-play by using a dial gauge. In the meantime, fully fasten in the following order, the nut bracket with the table, fixed side support unit and base, supported side support unit and base.



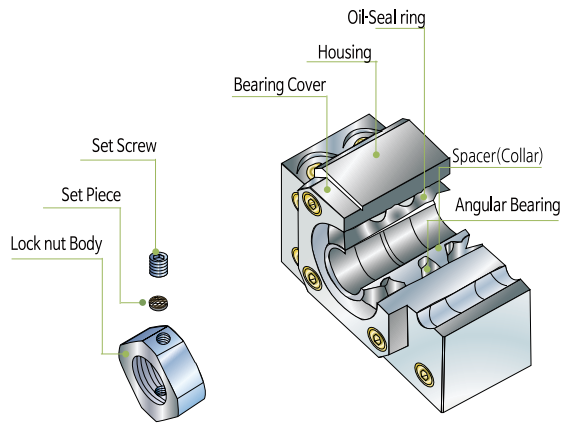
Connection with the Driving Motor

1. Fully mount the motor bracket to the base accurately aligning with the ball screw.
2. Connect the motor and the ball screw with a coupling.
3. Operate the motor trial-run at a slow speed to make sure the assembly is accurately done.

SUPPORT UNIT

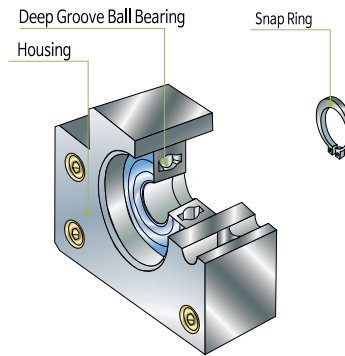
SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

Structure



Fixed Side

- DF arrangement of angular contact ball bearing combinations
- Full ranges with high accuracy without runout according to adequate preload given in advance
- Prevention of foreign material and leak of grease by the inner oil-seal rings
- Accompanied by a high accuracy lock-nut and collars(spacer)



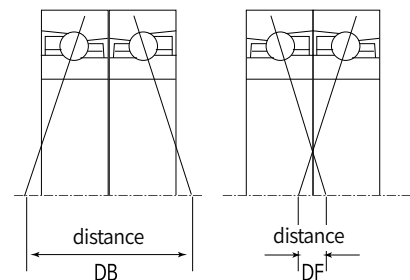
Supported Side

- Accompanied by a deep-groove ball bearing and a snap-ring

Bearing Combinations

1. Arrangement types of angular contact ball bearing combinations

- 1) DB combination (back to back): The large distance between the effective load centers results in higher rigidity at the moment load. However if accuracy of housing is not enough, it may produce damage i.e. flaking at a earlier stage due to the increased internal load. Preload is determined by torque when the user fastens the lock-nut.
- 2) DF combination (face to face): The small distance between effective load centers limits bearing capacity to sustain moment load, however it performs at a better level to absorb the margin of assembly error. Preload is determined at maker's assembly of bearing cover, thus this way allows easier self-management for users.

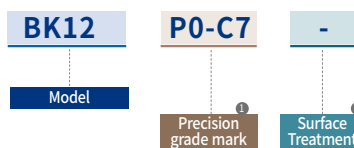


2. Standard arrangement type of Sung-il products is DF combination.

※ In any case DB combination type is requested, please contact Sung-il Customer Service team for further assistance.

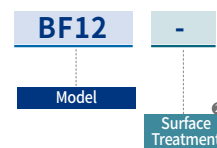
How to Order

Fixed Side



	Mark (Fixed Side Only)	Bearing precision grade	Preload
① Precision grade mark	P5	P5	Medium
	C8	General	Medium
	P0-C7	General	Light

Supported Side



	mark	Surface Treatment
② Surface Treatment	no mark	Black Oxide
	RA	Low temperature Black Chrome Plating (Raydent)

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

List of Bearings (Fixed Side)

Bearing Inner dia. (mm)	Model					Bearing		
	EK	BK	AK	FK	CK	P5	C8	P0-C7
Ø4	EK4			FK4		AC-4-12-DF		634ZZ
Ø5	EK5			FK5		AC-5-14-DF		625ZZ
Ø6	EK6			FK6		706ATYNDFMP5	706ATYNDFC8	606ZZ
		BK6						EN6
Ø8	EK8			FK8	CK8	708ATYNDFMP5	708ATYNDFC8	EN8
		BK8						EN8
			AK8			708ATYNDFMP5		
Ø10	EK10	BK10	AK10	FK10	CK10	7000ATYNDFMP5	7000AWDFM	7000AW
Ø12	EK12	BK12	AK12	FK12	CK12	7001ATYNDFMP5	7001AWDFM	7001AW
Ø15	EK15	BK15	AK15	FK15	CK15	7002ATYNDFMP5	7002AWDFM	7002AW
Ø17		BK17		FK17		7203ATYNDFMP5	7203AWDFM	7203AW
Ø20	EK20		AK20	FK20		7204ATYNDFMP5	7204AWDFM	7204AW
		BK20				7004ATYNDFMP5	7004AWDFM	7004AW
Ø25		BK25		FK25		7205ATYNDFMP5	7205AWDFM	7205AW
Ø30		BK30		FK30		7206ATYNDFMP5	7206AWDFM	7206AW
Ø35		BK35		FK35		7207ATYNDFMP5	7207AWDFM	7207AW
Ø40		BK40		FK40		7208ATYNDFMP5	7208AWDFM	7208AW

List of Bearings (Supported Side)

Bearing Inner dia. (mm)	Model					Bearing
	EF	BF	AF	FF	CF	
Ø6	EF6/EF8	BF6/BF8	AF8	FF6/FF8	CF8	606ZZ
Ø8	EF10	BF10	AF10	FF10		608ZZ
Ø10	EF12	BF12	AF12	FF12	CF10/CF12	6000ZZ
Ø15	EF15	BF15	AF15	FF15	CF15	6002ZZ
Ø17		BF17		FF17		6203ZZ
Ø20	EF20		AF20	FF20		6204ZZ
		BF20				6004ZZ
Ø25	EF25	BF25		FF25		6205ZZ
Ø30		BF30		FF30		6206ZZ
Ø35		BF35		FF35		6207ZZ
Ø40		BF40		FF40		6208ZZ

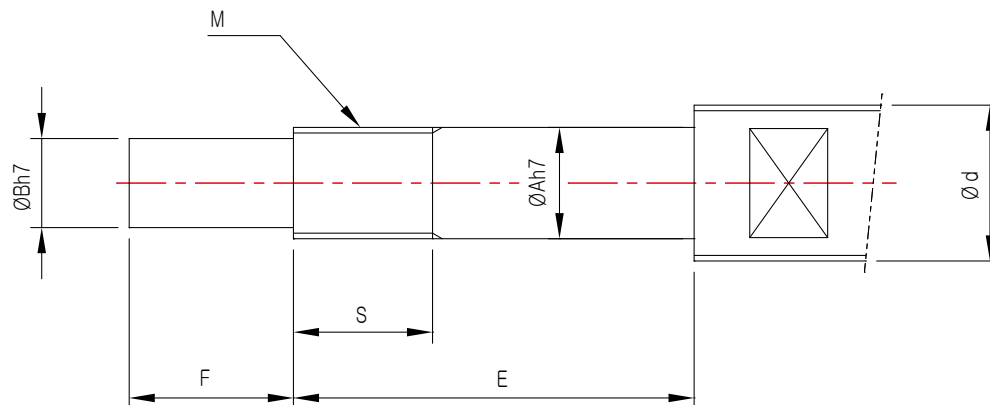
Product Recommendation by Ball Screw Outer Diameters

Ball Screw Outer dia. (mm)	Fixed Side					Supported Side				
	EK	BK	AK	FK	CK	EF	BF	AF	FF	CF
Ø6	EK4			FK4						
Ø8	EK5/EK6	BK6		FK5/FK6		EF6	BF6		FF6	
Ø10, Ø12	EK8	BK8	AK8	FK8	CK8	EF8	BF8	AF8	FF8	CF8
Ø10, Ø12, Ø15	EK10	BK10	AK10	FK10	CK10	EF10	BF10	AF10	FF10	CF10
Ø14, Ø15, Ø16, Ø18	EK12	BK12	AK12	FK12	CK12	EF12	BF12	AF12	FF12	CF12
Ø20	EK15	BK15	AK15	FK15	CK15	EF15	BF15	AF15	FF15	CF15
Ø25, Ø28		BK17		FK17			BF17		FF17	
	EK20	BK20	AK20	FK20		EK20	BF20	AF20	FF20	
Ø30, Ø32, Ø36	EK25	BK25		FK25		EF25	BF25		FF25	
Ø40		BK30		FK30			BF30		FF30	
Ø45		BK35		FK35			BF35		FF35	
Ø50~Ø55		BK40		FK40			BF40		FF40	

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

Recommended Shape Of Ball Screw Shaft-End (Fixed Side)

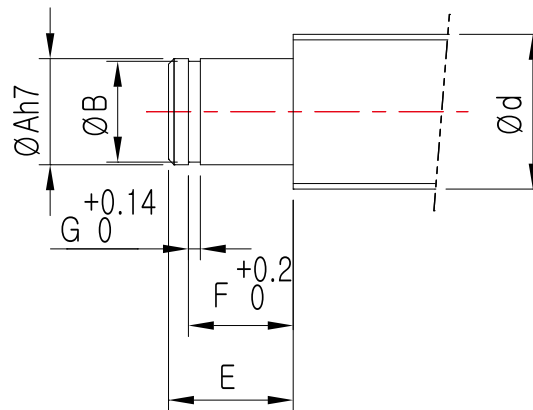


Dimensions(mm)																						Lock-nut		
d	A	B	EK				BK				AK				FK				CK				Model	Size (MxPitch)
			Model	E	F	S	Model	E	F	S	Model	E	F	S	Model	E	F	S	Model	E	F	S		
Ø6	4	3	EK4	23	5	8									FK4	23	5	8				RN4	M4 x 0.5	
Ø8	5	4	EK5	25	6	8									FK5	25	6	8				RN5	M5 x 0.5	
	6	4	EK6	30	8	8	BK6	30	8	8					FK6	30	8	8				RN6	M6 x 0.75	
Ø10 - Ø12	8	6	EK8	35	9	10	BK8	35	9	10	AK8	30	9	10	FK8	35	9	10	CK8	34	9	10	RN8	M8 x 1/0.75
Ø10 - Ø15	10	8	EK10	36	15	11	BK10	39	15	16	AK10	36	15	11	FK10	36	15	11	CK10	36	15	11	RN10	M10 x 1/0.75
Ø14 - Ø18	12	10	EK12	36	15	11	BK12	39	15	14	AK12	36	15	11	FK12	36	15	11	CK12	36	15	11	RN12	M12 x 1
Ø20	15	12	EK15	49	20	13	BK15	40	20	12	AK15	49	20	13	FK15	49	20	13	CK15	49	20	13	RN15	M15 x 1
Ø25 - Ø28	17	15					BK17	53	23	17					FK17	57	23	17					RN17	M17 x 1
	20	17	EK20	64	25	17	BK20	53	25	16	AK20	64	25	17	FK20	64	25	17					RN20	M20 x 1
Ø30 - Ø36	25	20	EK25	76	30	22	BK25	65	30	19					FK25	76	30	20					RN25	M25 x 1.5
Ø40	30	25					BK30	72	38	25					FK30	72	38	25					RN30	M30 x 1.5
Ø45	35	30					BK35	83	45	28					FK35	83	45	28					RN35	M35 x 1.5
Ø50 - Ø55	40	35					BK40	98	50	35					FK40	98	50	35					RN40	M40 x 1.5

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

Recommended Shape Of Ball Screw Shaft-End (Supported Side)



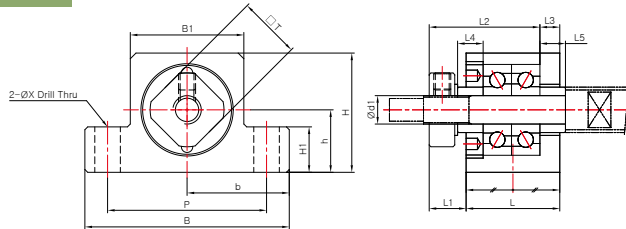
Dimensions(mm)										
d	EF	BF	AF	FF	CF	A	E	B	F	G
Ø8	EF6	BF6		FF6		6	9	5.6	6.9	0.9
Ø10 - Ø12	EF8	BF8	AF8	FF8	CF8	6	9	5.6	6.9	0.9
Ø10 - Ø15	EF10	BF10	AF10	FF10		8	10	7.6	7.9	0.9
Ø14 - Ø18	EF12	BF12	AF12	FF12	CF12	10	11	9.6	9.15	1.15
Ø20	EF15	BF15	AF15	FF15	CF15	15	13	14.3	10.15	1.15
Ø25 - Ø28		BF17		FF17		17	16	16.2	13.15	1.15
	EF20	BF20	AF20	FF20		20	19(16)	19	15.35(13.35)	1.35
Ø30 - Ø36	EF25	BF25		FF25		25	20	23.9	16.35	1.35
Ø40		BF30		FF30		30	21	28.6	17.75	1.75
Ø45		BF35		FF35		35	22	33	18.75	1.75
Ø50 - Ø55		BF40		FF40		40	23	38	19.95	1.95

SUPPORT UNIT : EK SERIES

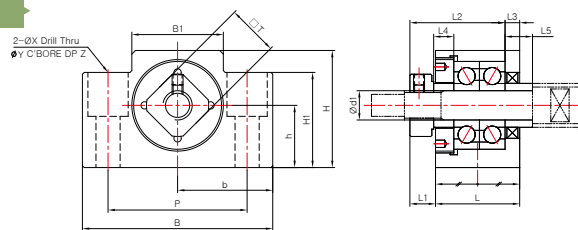


SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

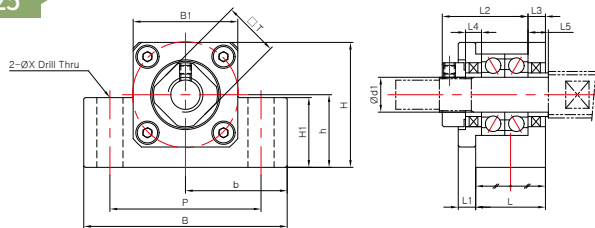
EK4 ~ EK5



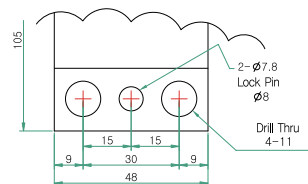
EK6 ~ EK8



EK10 ~ EK25



Additional note for [EK-25]



Dimensions

Model	Sizes (mm)																		Mass (g)
	Body																Spacer(collar)		
	d1	L	L1	L2	L3	B	H	b±0.02	h±0.02	B1	H1	P	X	Y	Z	□T	L4	L5	
EK4 P5/P0-C7	4	15	5.5	17.5/18.5	3/2	34	19	17	10	18	7	26	4.5	-	-	10	4.5/3.5	4.5/3.5	50
EK5 P5/P0-C7	5	16.5	5.5/6.5	19.5	3.5	36	21	18	11	20	8	28	4.5	-	-	11	5.5/4.5	5.5/4.5	68
EK6	6	20	5.5	22	3.5	42	25	21	13	18	20	30	5.5	9.5	11	12	5	7	120
EK8	8	23	7	26	4	52	32	26	17	25	26	38	6.6	11	12	14	5.5	7.5	230
EK10	10	24	6	29.5	6	70	43	35	25	36	24	52	9	-	-	16	5.5	5.5	430
EK12	12	24	6	29.5	6	70	43	35	25	36	24	52	9	-	-	19	5.5	5.5	420
EK15	15	25	6	36	5	80	50	40	30	41	25	60	11	-	-	22	10	10	530
EK20	20	42	10	50	10	95	58	47.5	30	56	25	75	11	-	-	30	11	11	1310
EK25	25	48	13	59	14	105	68	52.5	35	66	25	85	<See the additional note above>			35	14	14	1950

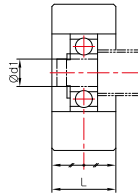
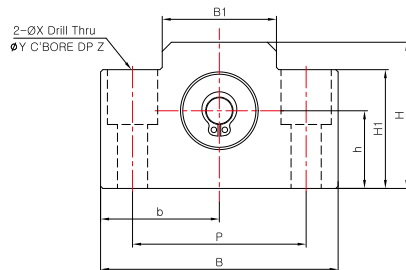
※ Only EK-4 and EK-5 have different dimensions according to the bearing grade (P5/P0-C7).

SUPPORT UNIT : EF SERIES

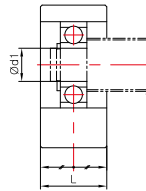
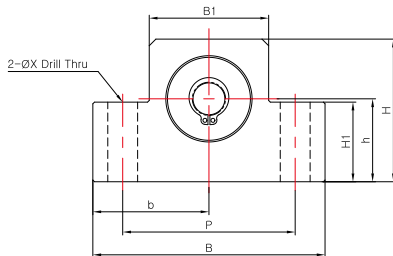


SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

EF6 ~ EF8



EF10 ~ EF25



Dimensions

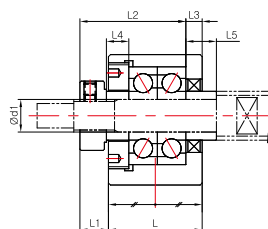
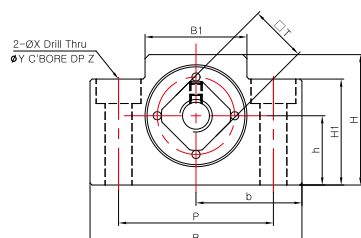
Model	Sizes (mm)												Mass (g)	Snap-ring	Bearing
	Body														
	d1	L	B	H	b±0.02	h±0.02	B1	H1	P	X	Y	Z			
EF6	6	12	42	25	21	13	18	20	30	5.5	9.5	11	120	C6	606ZZ
EF8	6	14	52	32	26	17	25	26	38	6.6	11	12	230	C6	606ZZ
EF10	8	20	70	43	35	25	36	24	52	9	-	-	430	C8	608ZZ
EF12	10	20	70	43	35	25	36	24	52	9	-	-	420	C10	6000ZZ
EF15	15	20	80	50	40	30	41	25	60	9	-	-	530	C15	6002ZZ
EF20	20	26	95	58	47.5	30	56	25	75	11	-	-	1310	C20	6204ZZ
EF25	25	30	105	68	52.5	35	66	25	85	11	-	-	1950	C25	6205ZZ

SUPPORT UNIT : BK SERIES

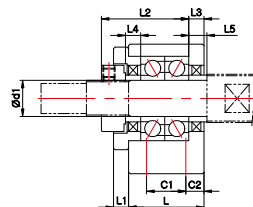
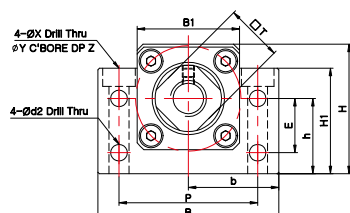


SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

BK6 ~ BK8



BK10 ~ BK40



Dimensions

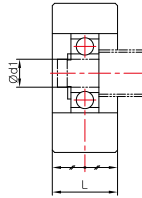
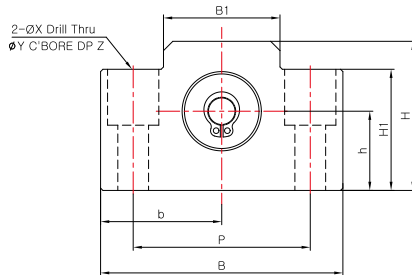
Model	Sizes (mm)																						Mass (g)
	Body																				Spacer(collar)		
	d1	L	L1	L2	L3	B	H	b±0.02	h±0.02	B1	H1	E	P	C1	C2	d2	X	Y	Z	□T	L4	L5	
BK6	6	23	5	24	4	52	32	26	17	25	26	-	38	-	-	-	6.6	11	6	12	5	5	230
BK8	8	23	7	26	4	52	32	26	17	25	26	-	38	-	-	-	6.6	11	6	14	5.5	7.5	230
BK10	10	25	5	29	5	60	39	30	22	34	32.5	15	46	13	6	5.5	6.6	10.8	5	16	5	5	360
BK12	12	25	5	29	5	60	43	30	25	34	35	18	46	13	6	5.5	6.6	10.8	6	19	5	5	390
BK15	15	27	6	32	6	70	48	35	28	40	38	18	54	15	6	5.5	6.6	11	6	22	6	6	530
BK17	17	35	9	44	7	86	64	43	39	50	55	28	68	19	8	6.6	9	14	8.5	24	7	7	1270
BK20	20	35	8	43	8	88	60	44	34	52	50	22	70	19	8	6.6	9	14	8.5	30	8	8	1650
BK25	25	42	12	54	9	106	80	53	48	64	70	33	85	22	10	9	11	17.5	11	35	9	9	2310
BK30	30	45	14	61	9	128	89	64	51	76	78	33	102	23	11	11	14	20	13	40	9	9	3330
BK35	35	50	14	67	12	140	96	70	52	88	79	35	114	26	12	11	14	20	13	50	12	12	4380
BK40	40	61	18	76	15	160	110	80	60	100	90	37	130	33	14	14	18	26	17.5	50	15	15	6670

SUPPORT UNIT : BF SERIES

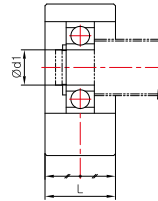
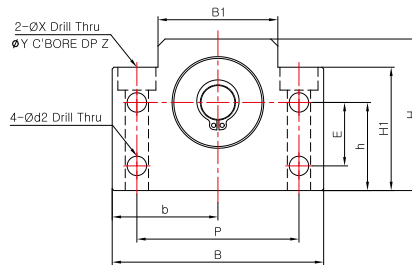


SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

BF6 ~ BF8



BF10 ~ BF40



Dimensions

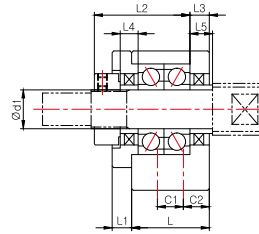
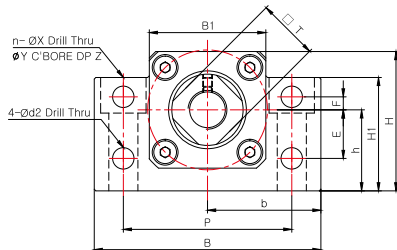
Model	Sizes (mm)														Mass (g)	Snap- ring	Bearing
	Body																
	d1	L	B	H	b±0.02	h±0.02	B1	H1	E	P	d2	X	Y	Z			
BF6/BF8	6	14	52	32	26	17	25	26	-	38	-	6.6	11	12	120	C6	606ZZ
BF10	8	20	60	39	30	22	34	32.5	15	46	5.5	6.6	10.8	5	260	C8	608ZZ
BF12	10	20	60	43	30	25	34	35	18	46	5.5	6.6	10.8	6.5	270	C10	6000ZZ
BF15	15	20	70	48	35	28	40	38	18	54	5.5	6.6	11	6.5	310	C15	6002ZZ
BF17	17	23	86	64	43	39	50	55	28	68	6.6	9	14	8.5	680	C17	6203ZZ
BF20	20	26	88	60	44	34	52	50	22	70	6.6	9	14	8.5	710	C20	6004ZZ
BF25	25	30	106	80	53	48	64	70	33	85	9	11	17.5	11	1340	C25	6205ZZ
BF30	30	32	128	89	64	51	76	78	33	102	11	14	20	13	1880	C30	6206ZZ
BF35	35	32	140	96	70	52	88	79	35	114	11	14	20	13	2080	C35	6207ZZ
BF40	40	37	160	110	80	60	100	90	37	130	14	18	26	17.5	3100	C40	6208ZZ

SUPPORT UNIT : AK/AF SERIES



SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

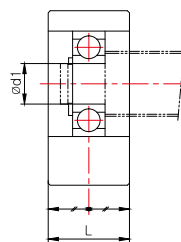
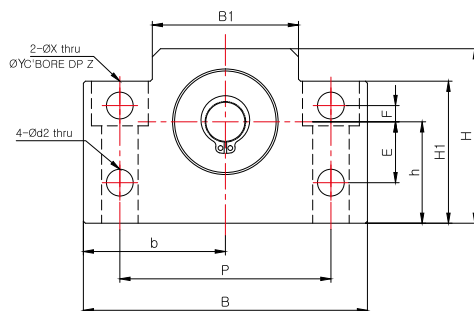
AK8 ~ AK20



Dimensions

Model	Sizes (mm)																							Mass (g)	
	Body																				Spacer(collar)				
	d1	L	L1	L2	L3	B	H	b±0.02	h±0.02	B1	H1	E	F	P	C1	C2	d2	n	X	Y	Z	□T	L4		L5
AK8	8	20	3	24.5	4	52	32	26	17	25	26	10	4	38	-	10	5.5	2	6.6	11	12	14	4	4	190
AK10	10	24	6	29.5	6	70	43	35	25	36	35	15	4	52	-	12	6.6	2	9	14	11	16	5.5	5.5	450
AK12	12	24	6	29.5	6	70	43	35	25	36	35	15	4	52	-	12	6.6	2	9	14	11	19	5.5	5.5	440
AK15	15	25	6	36	5	80	50	40	30	41	40	15	4	60	-	12.5	6.6	2	11	17	15	22	10	10	570
AK20	20	42	10	50	10	95	58	47.5	30	56	45	-	-	75	22	10	-	4	11	17	15	30	11	11	1400

AF8 ~ AF20



Dimensions

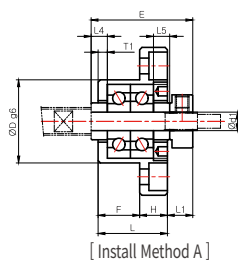
Model	Sizes (mm)															Mass (g)	Snap-ring	Bearing
	Body																	
	d1	L	B	H	b±0.02	h±0.02	B1	H1	E	F	P	d2	X	Y	Z			
AF8	6	15	52	32	26	17	25	26	10	4	38	5.5	6.6	11	12	130	C6	606ZZ
AF10	8	20	70	43	35	25	36	35	15	4	52	6.6	9	14	11	320	C8	608ZZ
AF12	10	20	70	43	35	25	36	35	15	4	52	6.6	9	14	11	330	C10	6000ZZ
AF15	15	20	80	50	40	30	41	40	15	4	60	6.6	9	14	11	370	C15	6002ZZ
AF20	20	26	95	58	47.5	30	56	45	-	-	75	-	11	17	15	660	C20	6204ZZ

SUPPORT UNIT : FK SERIES

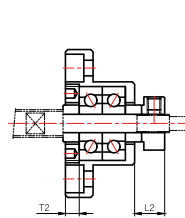
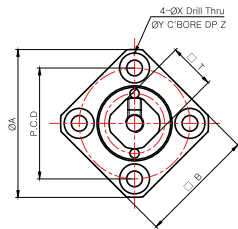


SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

FK4 ~ FK8



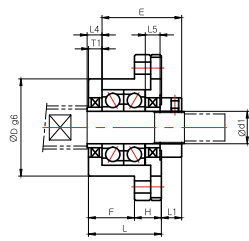
[Install Method A]



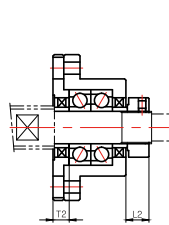
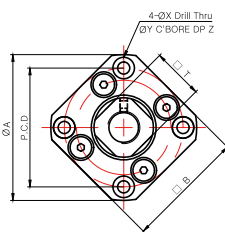
[Install Method B]



FK10 ~ FK30



[Install Method A]



[Install Method B]



※ Additional note for [FK-30]

In case of choosing "Install Method B", size of spacer(collar) needs to be accordingly changed. Please contact Sung-il Customer Service team for more details.

Dimensions

Model	Sizes (mm)																		Mass (g)	
	Body																Spacer(collar)			
	d1	L	H	F	E	D	A	P.C.D	□B	Install Method A		Install Method B		X	Y	Z	□T	L4		L5
FK4 P5/P0-C7	4	15	6	9	22	18	32	24	25	5.5	3/2	6.5	4/3	3.4	6	4	10	4.5/3.5	4.5/3.5	40
FK5 P5/P0-C7	5	16.5	6	10.5	24	20	34	26	26	5.5/6.5	3.5	7/6	5/3	3.4	6/6.5	4	11	5.5/4.5	5.5/4.5	50
FK6	6	20	7	13	29	22	36	28	28	5.5	3.5	8.5	4.5	3.4	6.5	4	12	7	5	65
FK8	8	23	9	14	33.5	28	43	35	35	7	4	10	5	3.4	6.5	4	14	7.5	5.5	125
FK10	10	27	10	17	29.5	34	52	42	42	7.5	5	8.5	6	4.5	8	4	16	5.5	5.5	200
FK12	12	27	10	17	29.5	36	54	44	44	7.5	5	8.5	6	4.5	8	4	19	5.5	5.5	225
FK15	15	32	15	17	36	40	63	50	52	10	6	12	8	5.5	9.5	6	22	10	10	340
FK17	17	45	22	23	46	50	77	62	61	10	9	13	12	6.6	11	10	24	9	9	770
FK20	20	52	22	30	50	57	85	70	68	8	10	12	14	6.6	11	10	30	11	11	1065
FK25	25	57	27	30	60	63	98	80	79	13	10	20	17	9	15	13	35	15	15	1465
FK30	30	62	30	32	61	75	117	95	93	11	12	21	18	11	17.5	15	40	9	9	2300

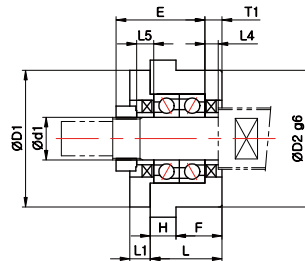
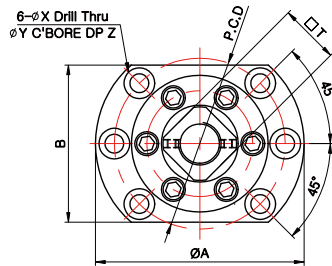
※ Only FK-4 and FK-5 have different dimensions according to the bearing grade (P5/P0-C7).

SUPPORT UNIT : FK SERIES

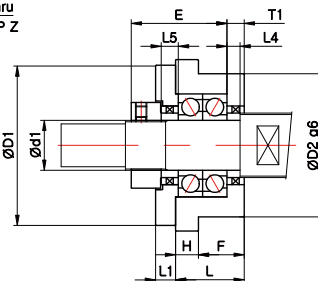
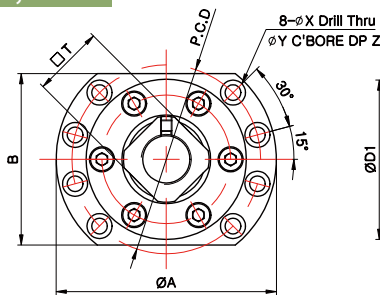


SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

FK25D, FK30D



FK35, FK40



Dimensions

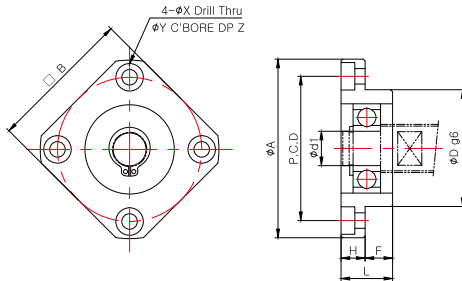
Model	Sizes (mm)																		Mass (g)
	Body																Spacer(collar)		
	d1	L	H	F	E	D1	D2	A	P.C.D	B	L1	T1	X	Y	Z	□T	L4	L5	
FK25D	25	42	15	27	52	80	80	122	100	92	12	10	11	18	11	35	10	10	2500
FK30D	30	45	15	30	59	96	90	138	116	106	14	11	11	18	11	40	11	11	3500
FK35	35	48	16	32	67	112	100	154	132	120	14	12	11	17.5	11	50	12	12	4080
FK40	40	61	18	43	76	126	120	176	150	128	18	16	14	20	13	50	15	15	6750

SUPPORT UNIT : FF SERIES



SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

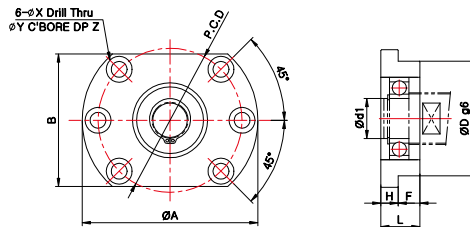
FF6 ~ FF30



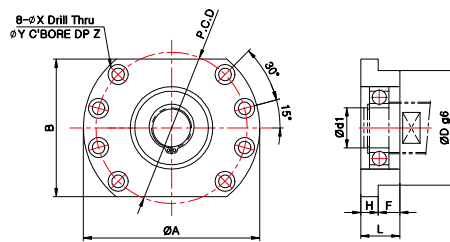
Dimensions

Model	Sizes (mm)											Mass (g)	Snap-ring	Bearing
	Body													
	d1	L	H	F	D	A	P.C.D	□B	X	Y	Z			
FF6/FF8	6	10	6	4	22	36	28	28	3.4	6.5	3	30	C6	606ZZ
FF10	8	12	7	5	28	43	35	35	3.4	6.5	4	60	C8	608ZZ
FF12	10	15	7	8	34	52	42	42	4.5	8	4	100	C10	6000ZZ
FF15	15	17	9	8	40	63	50	52	5.5	9.5	5.5	140	C15	6002ZZ
FF17	17	20	11	9	50	77	62	61	6.6	11	6.5	290	C17	6203ZZ
FF20	20	20	11	9	57	85	70	68	6.6	11	6.5	380	C20	6204ZZ
FF25	25	24	14	10	63	98	80	79	9	14	8.5	590	C25	6205ZZ
FF30	30	27	18	9	75	117	95	93	11	17.5	11	930	C30	6206ZZ

FF25D, FF30D



FF35, FF40



Dimensions

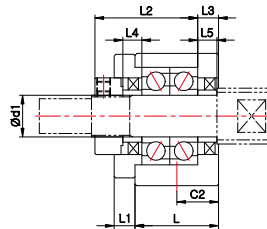
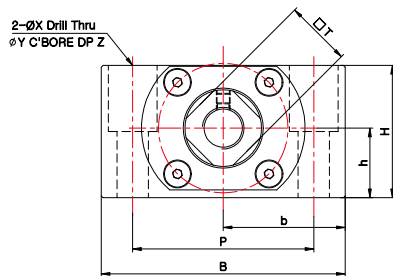
Model	Sizes (mm)											Mass (g)	Snap-ring	Bearing
	Body													
	d1	L	H	F	D	A	P.C.D	□B	X	Y	Z			
FF25D	25	30	15	15	80	122	100	92	11	18	11	1400	C25	6205ZZ
FF30D	30	32	15	17	90	138	116	106	11	18	11	1800	C30	6206ZZ
FF35	35	34	15	19	100	154	132	120	11	17.5	11	2050	C35	6207ZZ
FF40	40	36	18	18	120	176	150	128	14	20	13	3050	C40	6208ZZ

SUPPORT UNIT : CK/CF SERIES (Low-Centered Type)



SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

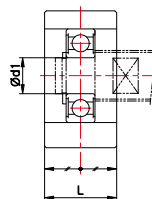
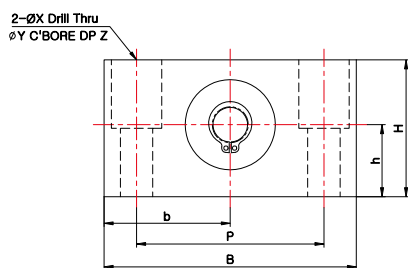
CK8~CK15



Dimensions

Model	Sizes (mm)																Mass (g)	
	Body															Spacer(collar)		
	d1	L	L1	L2	L3	B	H	b±0.02	h±0.02	P	C2	X	Y	Z	□T	L4		L5
CK8	8	21.5	4	26.5	3.5	62	31	31	15.5	46	11	9	14	18	14	6	6	260
CK10	10	24	6	29.5	6	70	38	35	20	52	12	9	14	19	16	5.5	5.5	430
CK12	12	24	6	29.5	6	70	38	35	20	52	12	9	14	19	19	5.5	5.5	430
CK15	15	25	6	38	5	80	42	40	22	60	12.5	11	17	23	22	10	10	540

CF8~CF15



Dimensions

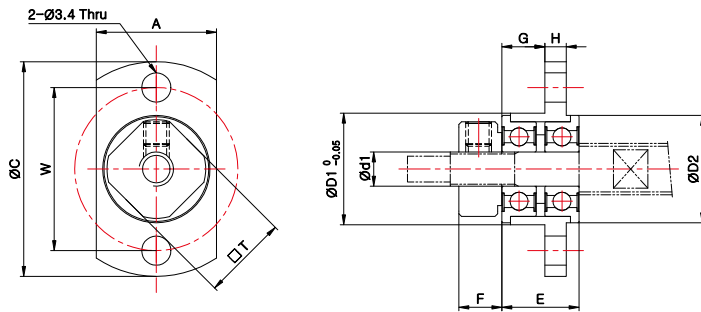
Model	Sizes (mm)										Mass (g)	Snap-ring	Bearing
	Body												
	d1	L	B	H	b±0.02	h±0.02	P	X	Y	Z			
CF8	6	16	62	31	31	15.5	46	9	14	18	165	C6	606ZZ
CF10	10	20	70	38	35	20	52	9	14	19	285	C10	6000ZZ
CF12	10	20	70	38	35	20	52	9	14	19	285	C10	6000ZZ
CF15	15	20	80	42	40	22	60	9	14	23	355	C15	6002ZZ

SUPPORT UNIT : WBK SERIES (Miniature Type)



SUPPORT UNIT FOR BALL SCREW (GENERAL LOAD)

WBK04, WBK06



※ Make sure the lock-nut is fastened fully due to frequent detachment of flange shaped miniature ball bearing.

※ Spacer(collar) are mounted on the body at release for the loss prevention.

Dimensions

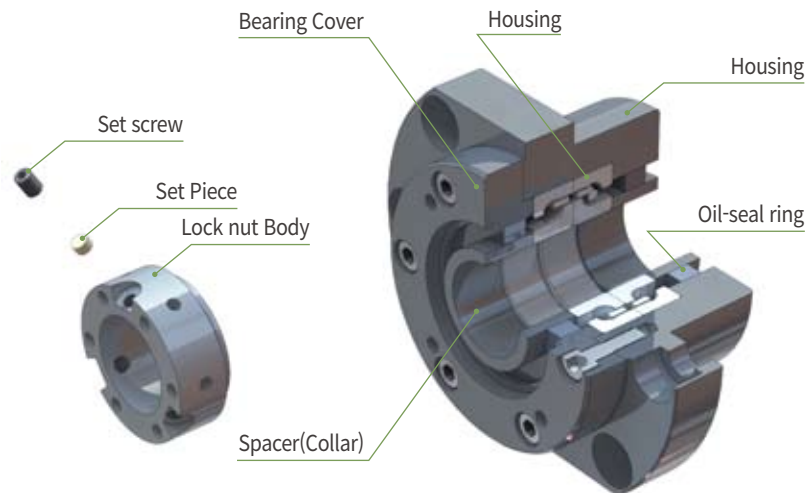
Model	Sizes (mm)												
	Body											Lock-nut M	Spacer(collar)
	d1	A	C	D1	D2	E	F	G	H	W	T		
WBK04	4	14	25	13	12.5	9	5	5	2.5	19	10	M4×0.5	Ø8×Ø4×1 - 1EA
WBK06	6	19	30	18	17	11	5	6.8	2.5	24	12	M6×0.75	Ø9.1×Ø6×1 - 1EA

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW (HIGH LOAD)

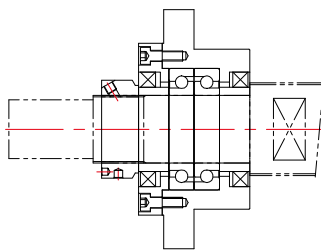
Support Unit For Ball Screw (High Load)

Structure

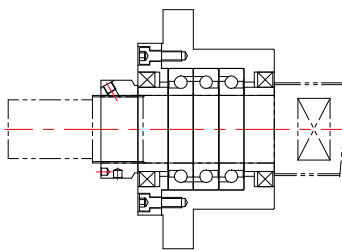


Bearing Combinations

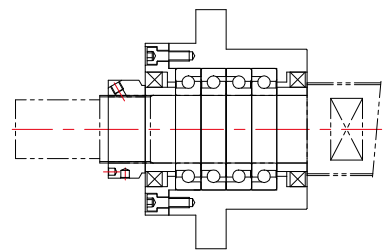
DF Combinations



DFD Combinations



DFF Combinations



How to Order

SWBK25

DFD

-

Model

① Bearing Combinations

② Surface Treatment

① Bearing Combinations	mark	combinations
	DF	Double-row
	DFD	Triple-row
	DFF	Four-row

② Surface Treatment	mark	Surface Treatment
	no mark	Black Oxide
	RA	Low temperature Black Chrome Plating (Raydent)

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW (HIGH LOAD)

Support Unit For Ball Screw (High Load)

List of Bearings

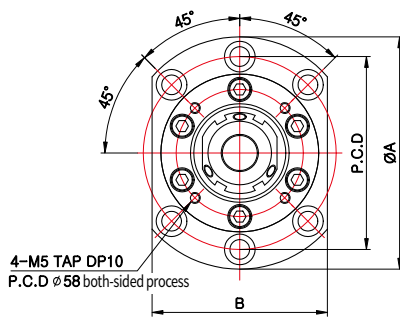
Model	Bearing Combinations	Bearing	Basic Dynamic Load (N)	Permissible Axial Load (N)	Preload (N)	Axial Rigidity N/ μ m	Starting Torque (N·cm)
SWBK17	DF	17TAC47C	23,000	26,600	1,450	630	14
SWBK17	DFD	17TAC47C	37,500	53,000	1,970	930	19
SWBK20	DF	20TAC47C	23,000	26,600	1,450	630	14
SWBK20	DFD	20TAC47C	37,500	53,000	1,970	930	19
SWBK25	DF	25TAC 62C	29,900	40,500	2,280	850	21
SWBK25	DFD	25TAC 62C	48,500	81,500	3,100	1,250	28
SWBK30	DF	30TAC 62C	30,500	43,000	2,400	890	23
SWBK30	DFD	30TAC 62C	50,000	86,000	3,260	1,310	30
SWBK35	DF	35TAC 72C	32,500	50,000	2,750	1,030	27
SWBK35	DFD	35TAC 72C	53,000	100,000	3,740	1,500	34
SWBK35	DFF	35TAC 72C	53,000	100,000	5,490	2,060	43
SWBK40	DF	40TAC 72C	33,500	52,000	2,860	1,080	28
SWBK40	DFD	40TAC 72C	54,000	104,000	3,900	1,590	36
SWBK40	DFF	40TAC 72C	54,000	104,000	5,730	2,150	46

SUPPORT UNIT : SWBK SERIES

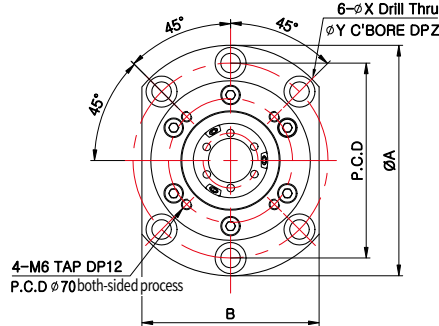


SUPPORT UNIT FOR BALL SCREW (HIGH LOAD)

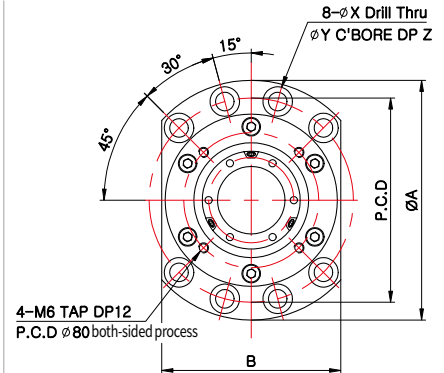
SWBK 17, SWBK 20



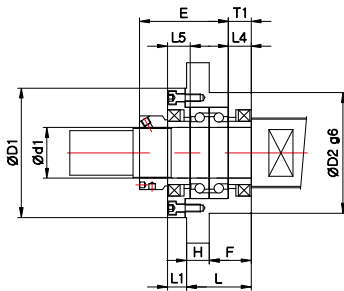
SWBK 25, SWBK 30



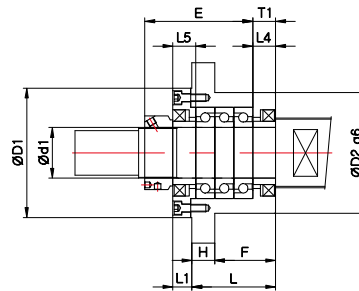
SWBK 35, SWBK 40



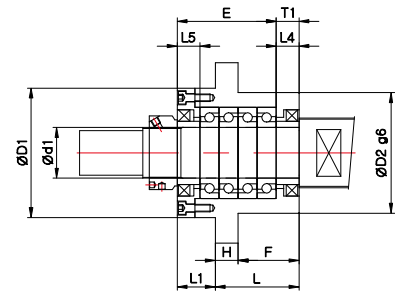
DF Combinations



DFD Combinations



DFF Combinations



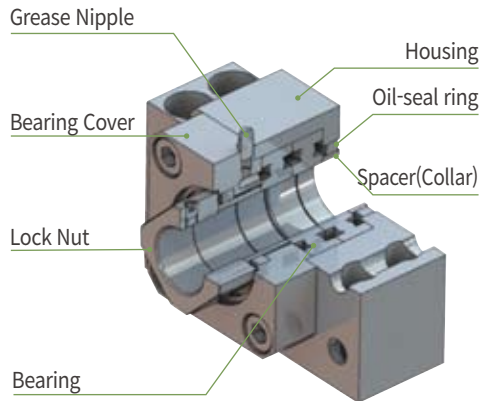
Dimensions

Model	Sizes (mm)																	Mass (g)
	Body															Spacer(collar)		
	d1	L	H	F	E	T1	D1	D2	A	P.C.D	B	L1	X	Y	Z	L4	L5	
SWBK17-DF	17	47	15	32	63	15	72	70	106	88	80	13	9	14	8.5	15	15	1900
SWBK17-DFD	17	62	15	47	78	15	72	70	106	88	80	13	9	14	8.5	15	15	2300
SWBK20-DF	20	47	15	32	63	15	72	70	106	88	80	13	9	14	8.5	15	15	1900
SWBK20-DFD	20	62	15	47	78	15	72	70	106	88	80	13	9	14	8.5	15	15	2250
SWBK25-DF	25	51	18	33	68	18	90	85	130	110	100	15	11	17.5	11	18	18	3100
SWBK25-DFD	25	66	18	48	83	18	90	85	130	110	100	15	11	17.5	11	18	18	3400
SWBK30-DF	30	51	18	33	68	18	90	85	130	110	100	15	11	17.5	11	18	18	3000
SWBK30-DFD	30	66	18	48	83	18	90	85	130	110	100	15	11	17.5	11	18	18	3300
SWBK35-DF	35	51	18	33	68	18	102	95	142	121	106	15	11	17.5	11	18	18	3400
SWBK35-DFD	35	66	18	48	83	18	102	95	142	121	106	15	11	17.5	11	18	18	4300
SWBK35-DFF	35	66	18	48	98	18	102	95	142	121	106	30	11	17.5	11	18	18	5000
SWBK40-DF	40	51	18	33	68	18	102	95	142	121	106	15	11	17.5	11	18	18	3600
SWBK40-DFD	40	66	18	48	83	18	102	95	142	121	106	15	11	17.5	11	18	18	4200
SWBK40-DFF	40	66	18	48	98	18	102	95	142	121	106	30	11	17.5	11	18	18	5700

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW (GREASE-INJECTION TYPE)

Structure



BK-G

FK-G

SWBK-G

- Advance design with a nipple being attached and a passage carved on the bearing cover for a easier grease refill
- Prevention of foreign material and leak of grease by the inner oil-seal rings
- Accompanied by a high accuracy lock-nut and collars(spacer)

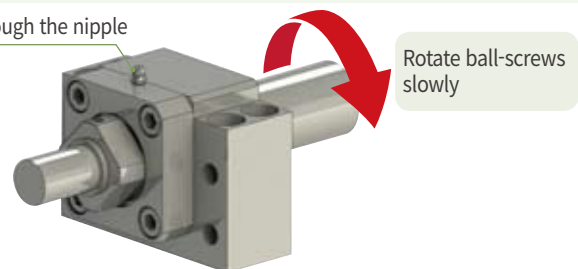
Features of BK-G, FK-G & SWBK-G Series

- ▶ **Easy and Simple Grease Injection** : This structure does not require the mounted Support unit to be detached from the ball screw and grease can be simply injected through the nipple on the body.
- ▶ **Enhanced Lubrication Performance & Reduced Bearing Friction** : In terms that it is possible to frequently refill grease, it helps to reduce friction/abrasion of bearing and eventually extends the lifespan.
- ▶ When a Support unit is mounted at a volatile circumstance or used with vertical drive motors, grease usually gets disappeared and lubrication of bearing doesn't run smoothly. Thus, this Grease injection-type Support Unit series lets you refill grease easily and solves this issue.

How To Inject(Refill) Grease

- While a Support Unit is mounted, you may inject grease through the nipple on the Support unit body, rotating the ball screw slowly.

Inject grease through the nipple



Rotate ball-screws slowly

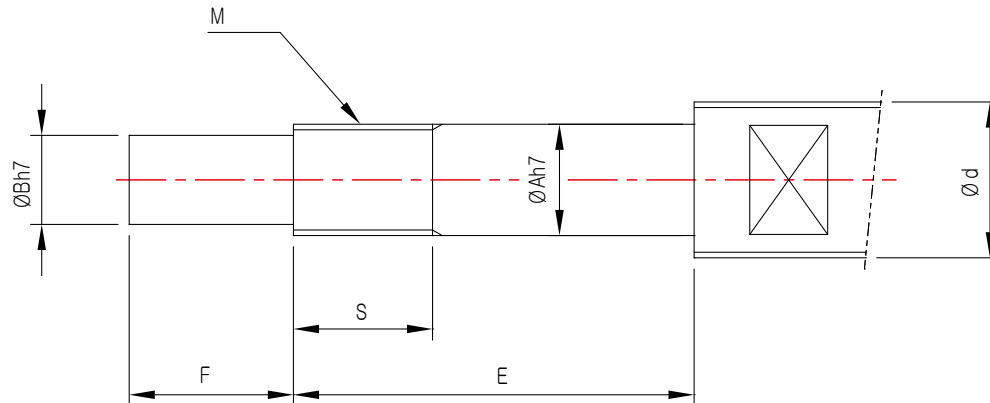
How to Order

				Model	
				Precision grade mark	Surface Treatment
① Precision grade mark	Mark	Bearing precision grade	Preload	② Surface Treatment	mark
	P5	P5	Medium		no mark
	C8	General	Medium		Low temperature Black Chrome Plating (Raydent)
	P0-C7	General	Light		

SUPPORT UNIT

SUPPORT UNIT FOR BALL SCREW (GREASE-INJECTION TYPE)

Recommended Shape Of Ball Screw Shaft-End (Fixed Side)



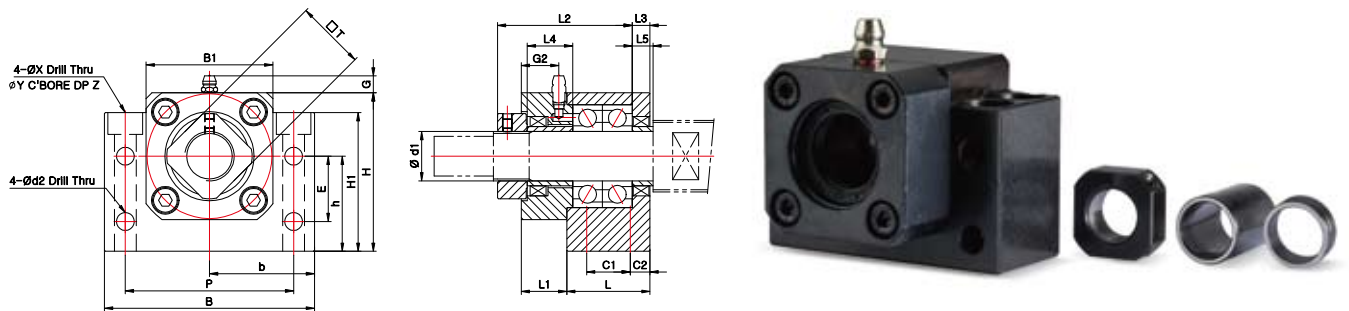
Dimensions(mm)											Lock-nut	
d	A	B	BK				FK				Model	Size (MxPitch)
			Model	E	F	S	Model	E	F	S		
Ø25 - Ø28	17	15	BK17-G	65	23	17	FK17-G	67	23	17	RN17	M17 x 1
	20	17	BK20-G	65	25	17	FK20-G	73	25	17	RN20	M20 x 1
Ø30 - Ø36	25	20	BK25-G	80	30	20	FK25-G	86	30	20	RN25	M25 x 1.5
Ø40	30	25	BK30-G	87	38	25	FK30-G	87	38	25	RN30	M30 x 1.5
Ø45	35	30	BK35-G	93	45	28	FK35-G	93	45	28	RN35	M35 x 1.5
Ø50 - Ø55	40	35	BK40-G	114	50	35	FK40-G	114	50	35	RN40	M40 x 1.5

Dimensions(mm)								Lock-nut	
d	A	B	SWBK				Model	Size (MxPitch)	
			Model	E	F	S			
Ø25 - Ø28	17	15	SWBK17-G	DF	93	23	22	HLRN17	M17 x 1
				DFD	108				
	20	17	SWBK20-G	DF	93	25	24	HLRN20	M20 x 1
				DFD	108				
Ø30 - Ø36	25	20	SWBK25-G	DF	98	30	25	HLRN25	M25 x 1.5
				DFD	113				
Ø40	30	25	SWBK30-G	DF	98	38	25	HLRN30	M30 x 1.5
				DFD	113				
Ø45	35	30	SWBK35-G	DF	101	45	27	HLRN35	M35 x 1.5
				DFD	116				
				DFF	131				
Ø50 - Ø55	40	35	SWBK40-G	DF	106	50	32	HLRN40	M40 x 1.5
				DFD	121				
				DFF	136				

SUPPORT UNIT : BK-G SERIES

SUPPORT UNIT FOR BALL SCREW (GREASE-INJECTION TYPE / GENERAL LOAD)

BK17-G ~ BK40-G



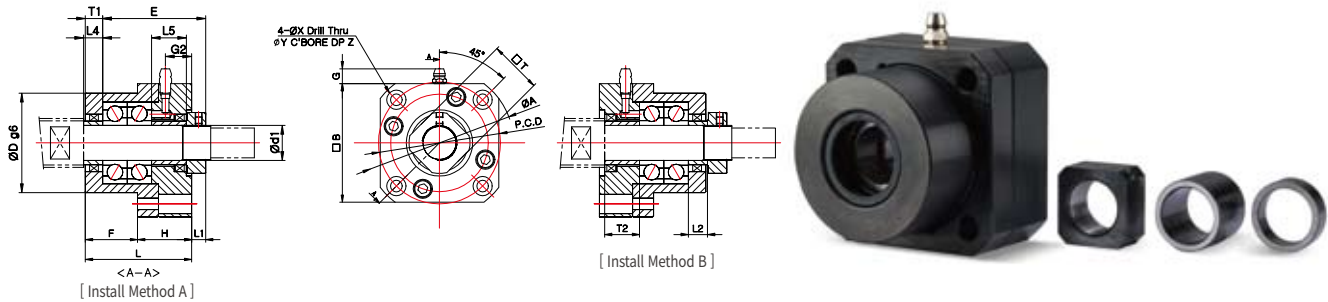
Dimensions

Model	Sizes (mm)																								Mass (g)
	Body																						Spacer(collar)		
	d1	L	L1	L2	L3	B	H	b±0.02	h±0.02	B1	H1	E	P	C1	C2	d2	X	Y	Z	□T	G	G2	L4	L5	
BK17-G	17	35	18	56	7	86	64	43	39	50	55	28	68	19	8	6.6	9	14	8.5	24	8.5	14	19	7	1500
BK20-G	20	35	20	55	8	88	60	44	34	52	50	22	70	19	8	6.6	9	14	8.5	30	8.5	16	20	8	1400
BK25-G	25	42	23	68	9	106	80	53	48	64	70	33	85	22	10	9	11	17.5	11	35	8.5	19	23	9	2600
BK30-G	30	45	21.5	74.5	9	128	89	64	51	76	78	33	102	23	11	11	14	20	13	40	8.5	17.5	22.5	9	3600
BK35-G	35	50	21	77	12	140	96	70	52	88	79	35	114	26	12	11	14	20	13	50	8.5	17	22	12	4800
BK40-G	40	61	27	92.5	15	160	110	80	60	100	90	37	130	33	14	14	18	26	17.5	50	8.5	23	31.5	15	7400

SUPPORT UNIT : FK-G SERIES

SUPPORT UNIT FOR BALL SCREW (GREASE-INJECTION TYPE / GENERAL LOAD)

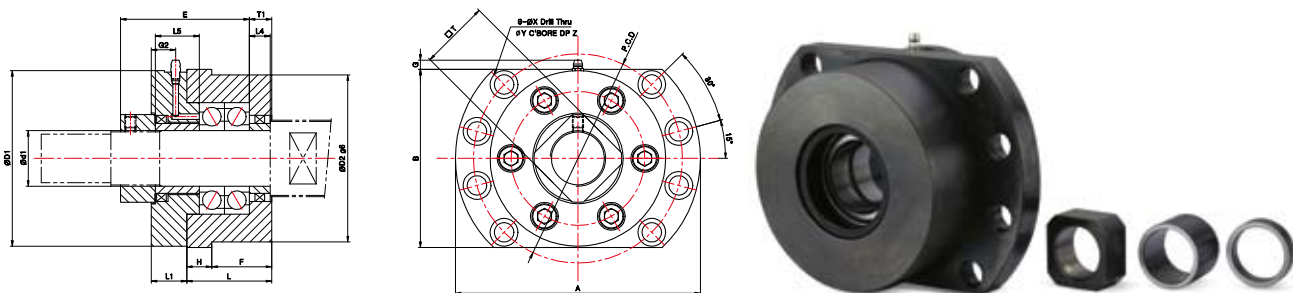
FK17-G ~ FK30-G



Dimensions

Model	Sizes (mm)																				Mass (g)	
	Body																		Spacer(collar)			
	d1	L	H	F	E	D	A	P.C.D	□B	Install Method A		Install Method B		X	Y	Z	□T	G	G2	L4		L5
										L1	T1	L2	T2									
FK17-G	17	55	32	23	56	50	77	62	61	10	9	13	12	6.6	11	20	24	8.5	16	9	19	1100
FK20-G	20	61	31	30	59	57	85	70	68	8	10	12	14	6.6	11	19	30	8.5	15	11	20	1400
FK25-G	25	65	35	30	68	63	98	80	79	13	10	20	17	9	15	21	35	8.5	17	15	23	1800
FK30-G	30	69.5	37.5	32	74.5	75	117	95	93	17	12	17	18	11	17.5	22.5	40	8.5	18.5	9	22.5	2700

FK35-G ~ FK40-G



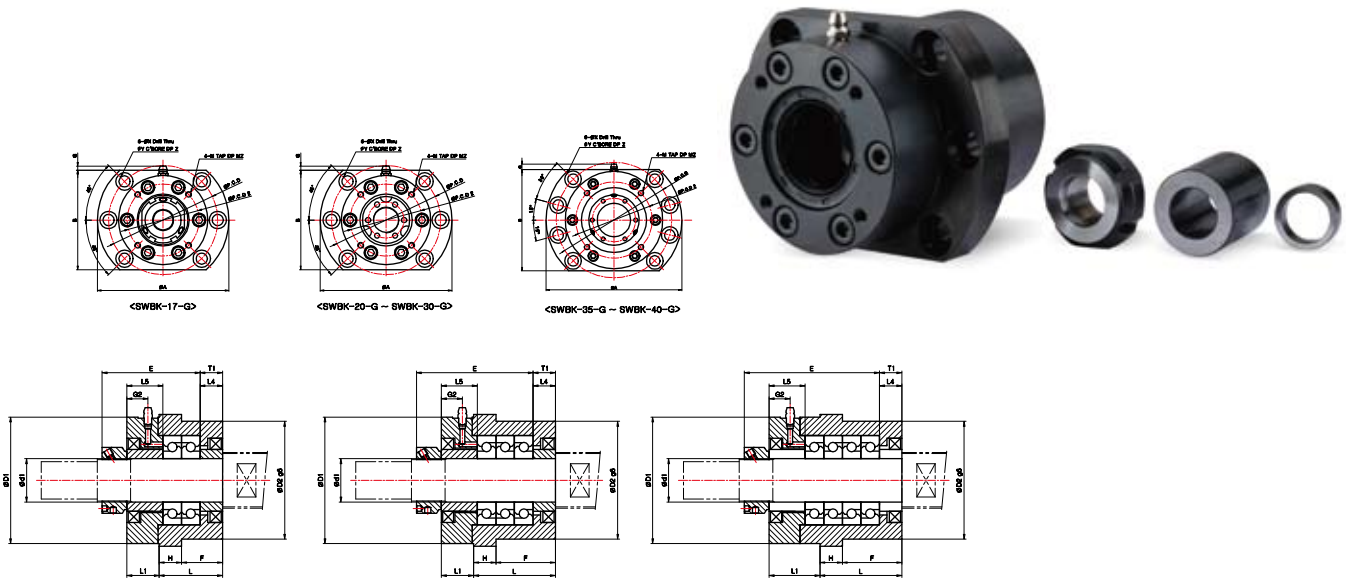
Dimensions

Model	Sizes (mm)																				Mass (g)
	Body																		Spacer(collar)		
	d1	L	H	F	E	D1	D2	A	P.C.D	B	L1	T1	X	Y	Z	□T	G	G2	L4	L5	
FK35-G	35	48	16	32	77	112	100	154	132	120	24	12	11	17.5	11	50	3.5	16	12	22	4700
FK40-G	40	61	18	43	92.5	126	120	176	150	128	25.5	16	14	20	13	50	6.5	17.5	15	31.5	7300

SUPPORT UNIT : SWBK-G SERIES

SUPPORT UNIT FOR BALL SCREW (GREASE-INJECTION TYPE / HIGH LOAD)

SWBK17-G ~ SWBK40-G



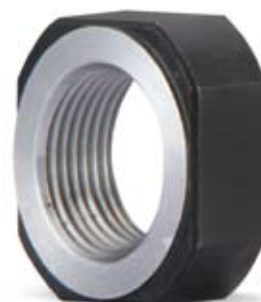
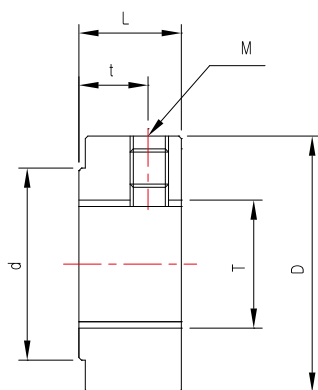
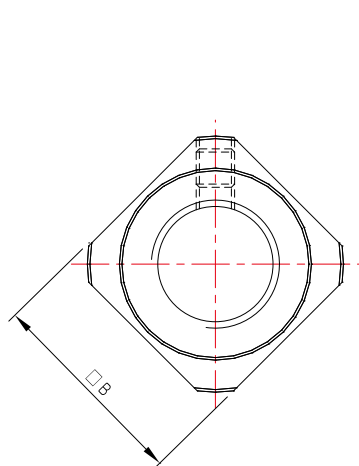
Dimensions

Model	Sizes (mm)																							Mass (g)
	Body																				Spacer(collar)			
	d1	L	H	F	E	T1	D1	D2	A	P.C.D	P.C.D 2	B	L1	X	Y	Z	M	MZ	G	G2	L4	L5		
SWBK17-G-DF	17	47	15	32	76	15	72	70	106	88	58	80	26	9	14	8.5	M5	10	3.5	17	15	28	2300	
SWBK17-G-DFD	17	62	15	47	91	15	72	70	106	88	58	80	26	9	14	8.5	M5	10	3.5	17	15	28	2700	
SWBK20-G-DF	20	47	15	32	76	15	72	70	106	88	58	80	26	9	14	8.5	M5	10	3.5	17	15	28	2300	
SWBK20-G-DFD	20	62	15	47	91	15	72	70	106	88	58	80	26	9	14	8.5	M5	10	3.5	17	15	28	2700	
SWBK25-G-DF	25	51	18	33	78	18	90	85	130	110	70	100	25	11	17.5	11	M6	12	2.5	16	18	28	3700	
SWBK25-G-DFD	25	66	18	48	93	18	90	85	130	110	70	100	25	11	17.5	11	M6	12	2.5	16	18	28	4300	
SWBK30-G-DF	30	51	18	33	78	18	90	85	130	110	70	100	25	11	17.5	11	M6	12	2.5	16	18	28	3600	
SWBK30-G-DFD	30	66	18	48	93	18	90	85	130	110	70	100	25	11	17.5	11	M6	12	2.5	16	18	28	4100	
SWBK35-G-DF	35	51	18	33	79	18	102	95	142	121	80	106	26	11	17.5	11	M6	12	5.5	17	18	29	4300	
SWBK35-G-DFD	35	66	18	48	94	18	102	95	142	121	80	106	26	11	17.5	11	M6	12	5.5	17	18	29	5000	
SWBK35-G-DFF	35	66	18	48	109	18	102	95	142	121	80	106	41	11	17.5	11	M6	12	5.5	17	18	29	5800	
SWBK40-G-DF	40	51	18	33	81	18	102	95	142	121	80	106	26	11	17.5	11	M6	12	5.5	17	18	29	5000	
SWBK40-G-DFD	40	66	18	48	96	18	102	95	142	121	80	106	26	11	17.5	11	M6	12	5.5	17	18	29	6000	
SWBK40-G-DFF	40	66	18	48	111	18	102	95	142	121	80	106	41	11	17.5	11	M6	12	5.5	17	18	29	7200	

LOCK-NUT : RN SERIES



LOCK-NUT (GENERAL LOAD)



Dimensions

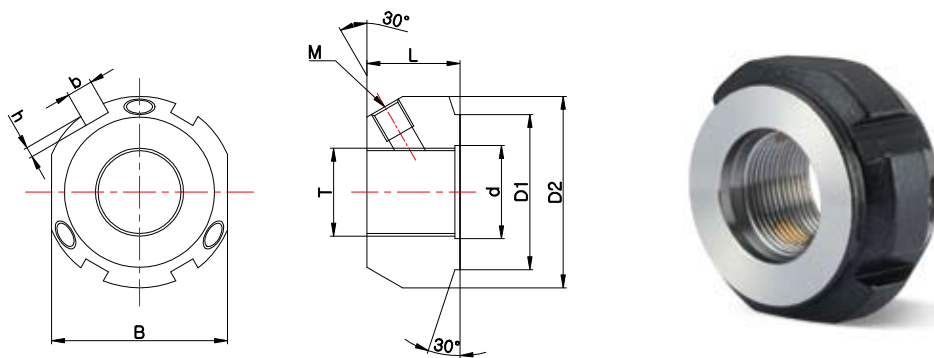
Model	Sizes (mm)							Fastening Torque (N.m)
	T	M	D	d	L	t	□B	
RN4	M4×0.5	M3×0.5	11	8.5	5	2.7	10	1.6
RN5	M5×0.5	M3×0.5	13	9	5	2.7	11	2
RN6	M6×0.75	M3×0.5	14.5	10	5	2.7	12	2.5
RN8	M8×1	M3×0.5	17	13	6.5	4	14	5
RN8 (0.75P)	M8×0.75	M3×0.5	17	13	6.5	4	14	5
RN10	M10×1	M4×0.7	20	15	8	5.5	16	9.5
RN10 (0.75P)	M10×0.75	M4×0.7	20	15	8	5.5	16	9.5
RN12	M12×1	M4×0.7	22	17	8	5.5	19	14
RN15	M15×1	M4×0.7	25	21	8	4.5	22	24
RN17	M17×1	M4×0.7	30	25	13	9	24	35
RN20	M20×1	M4×0.7	35	26	11	7	30	48
RN25	M25×1.5	M5×0.8	43	33	15	10	35	86
RN30	M30×1.5	M6×1	48	39	20	14	40	128
RN35	M35×1.5	M8×1.25	60	46	21	14	50	192
RN40	M40×1.5	M8×1.25	63	51	25	18	50	256

LOCK-NUT : HLRN SERIES

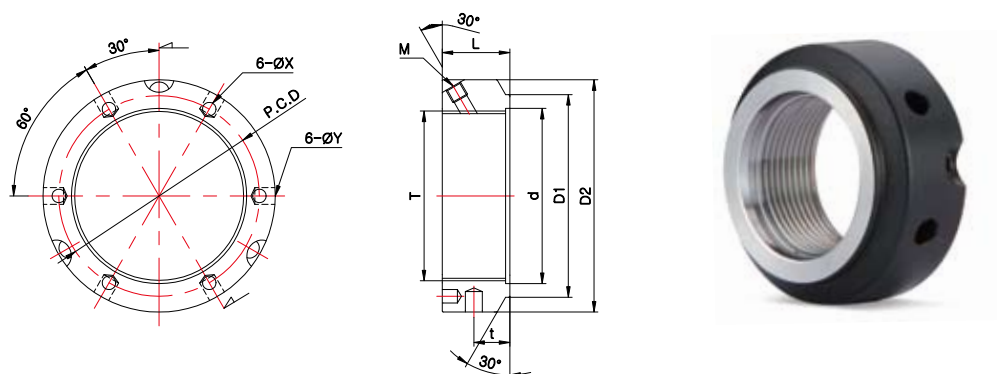


LOCK-NUT (HIGH LOAD)

HLRN17



HLRN20 ~ HLRN40



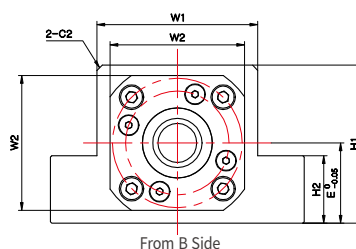
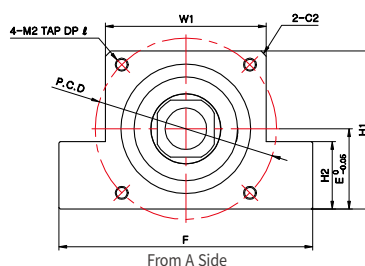
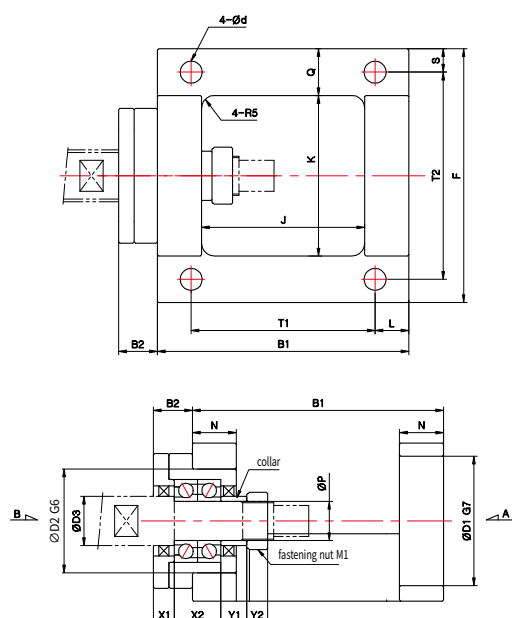
Dimensions

Model	Sizes (mm)													Fastening Torque (N.m)
	T	M	d	D1	D2	t	L	X	Y	P.C.D	b	h	B	
HLRN17	M17x1.0	M6x6	18	30	37	-	18	-	-	-	5	2.5	30	41
HLRN20	M20x1.0	M6x6	21	30	38	10	18	4.3	4	29				45
HLRN25	M25x1.5	M6x6	26	35	42	11	20	4.3	4	32.5				87
HLRN30	M30x1.5	M6x6	31	40	48	11	20	4.3	5	40.5				105
HLRN35	M35x1.5	M6x6	36	47	53	11	20	4.3	5	45.5				145
HLRN40	M40x1.5	M6x6	41	52	58	12	22	4.3	5	50.5				160

JOINT UNIT : SJU SERIES



JOINT UNIT (SUPPORT UNIT MOUNTED TYPE)



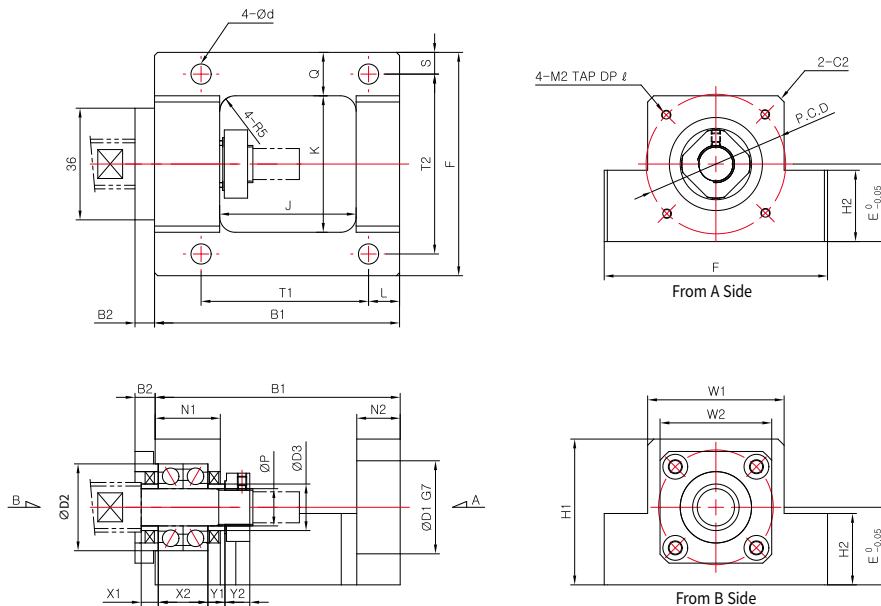
Dimensions

Model	Sizes (mm)																										Mounted Support Unit Model			
	P	B1	B2	D1	D2	D3	E	F	H1	H2	J	K	L	N	Q	S	T1	T2	W1	W2	X1	X2	Y1	Y2	P.C.D	M1		M2	d	l
SJU-8A	8	67	9	30	28	12	21	64	41	19	43	40	10	12	12	6	47	52	40	35	5	14	5.5	6.5	45	RN8 (M8)	M3	5.5	8	FK8
SJU-8B																									46		M4		10	
SJU-10A	10	74	10	30	34	14	25	70	46	23	46	42	10	14	14	7	54	56	42	42	5.5	16	5.5	8	45	RN10 (M10)	M3	6.5	8	FK10
SJU-10B																									46		M4		10	
SJU-12A	12	74	10	30	36	15	25	72	47	23	46	44	10	14	14	7	54	58	44	44	5.5	16	5.5	8	45	RN12 (M12)	M3	6.5	8	FK12
SJU-12B																									46		M4		10	
SJU-15	15	97	15	50	40	20	31	98	61	26	63	62	13	17	18	9	71	80	62	52	8	18	10	8	70	RN15 (M15)	M5	8.5	13	FK15

JOINT UNIT : SBJU SERIES



JOINT UNIT (GENERAL TYPE)



Dimensions

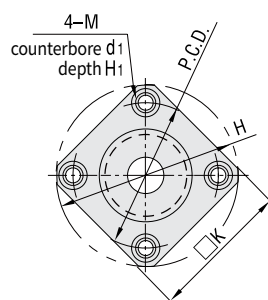
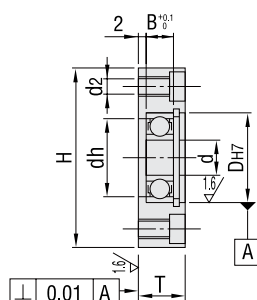
Model	Sizes (mm)																													
	P	B1	B2	D1	D2	D3	E	F	H1	H2	J	K	L	N1	N2	Q	S	T1	T2	W1	W2	X1	X2	Y1	Y2	P.C.D	M1	M2	d	l
SBJU-8A	8	73	6.5	30	24 (22)	12	21	64	41	19	42	40	10	19	12	12	6	47	52	40	34	7.5	14	5.5	6.5	45	RN8 (M8)	M3	5.5	8
SBJU-8B																										46		M4		
SBJU-10A	10	79	6.5	30	26	14	25	70	46	23	44	42	10	21	14	14	7	54	56	42	36	5.5	16	5.5	8	45	RN10 (M10)	M3	6.5	8
SBJU-10B																										46		M4		
SBJU-12A	12	79	6.5	30	28	15	25	72	47	23	44	44	10	21	14	14	7	54	58	44	36	5.5	16	5.5	8	45	RN12 (M12)	M3	6.5	8
SBJU-12B																										46		M4		
SBJU-15	15	105	6.5	50	32	20	31	98	61	26	65	62	13	23	17	18	9	71	80	62	40	10	18	10	8	70	RN15 (M15)	M5	8.5	13

BEARING UNIT



BEARING UNIT

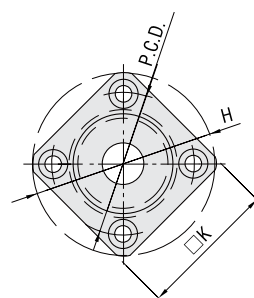
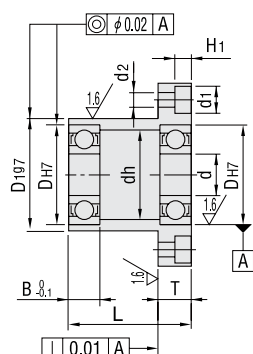
SBS Series



Dimensions

Model	Sizes (mm)												Bearing
	d	D	B	H	□K	T	dh	P.C.D.	M	d2	d1	H1	
SBS-8	8	22	7	45	36	12	18	35	5	4.3	8	4.4	608ZZ
SBS-10	10	26	8	50	39	13	22	40	5	4.3	8	4.4	6000ZZ
SBS-12	12	28	8	52	40	13	24	42	5	4.3	8	4.4	6001ZZ
SBS-15	15	32	9	60	46	14	28	48	6	5.2	9.5	5.4	6002ZZ
SBS-17	17	40	12	72	54	18	34	60	6	5.2	9.5	5.4	6203ZZ
SBS-20	20	42	12	77	59	18	36	64	8	6.8	11	6.5	6004ZZ
SBS-25	25	52	15	94	72	22	45	78	10	8.5	14	8.6	6205ZZ
SBS-30	30	62	16	104	79	23	55	88	10	8.5	14	8.6	6206ZZ

SBD Series



Dimensions

Model	Sizes (mm)													Bearing
	d	D	D1	B	L	H	□K	T	dh	P.C.D.	d2	d1	H1	
SBD-8	8	22	27	7	25	45	36	8	18	35	4.3	8	4.4	608ZZ
SBD-10	10	26	32	8	30	50	39	8	22	40	4.3	8	4.4	6000ZZ
SBD-12	12	28	34	8	30	52	40	8	24	42	4.3	8	4.4	6001ZZ
SBD-15	15	32	38	9	35	60	46	10	28	48	5.2	9.5	5.4	6002ZZ
SBD-17	17	40	48	12	45	72	54	10	34	60	5.2	9.5	5.4	6203ZZ
SBD-20	20	42	50	12	45	77	59	11	36	64	6.8	11	6.5	6004ZZ
SBD-25	25	52	60	15	45	94	72	13	45	78	8.5	14	8.6	6205ZZ
SBD-30	30	62	70	16	50	104	79	13	55	88	8.5	14	8.6	6206ZZ

SPM

(Sung-il Powder Metallurgy)

Powder Metallurgy is a term covering a wide range of ways in which materials or components are made from metal powders. PM processes can avoid, or greatly reduce, the need to use metal removal processes, thereby drastically reducing yield losses in manufacture and often resulting in lower costs.

Product

SPM-Procedures	190p
SPM-Features	191p
SPM-Example Applications	192~193p





SPM-PROCEDURES

POWDER METALLURGY

SELECTING



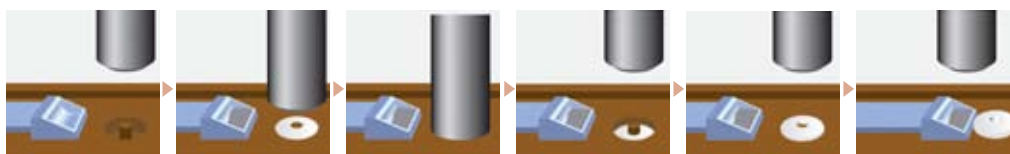
Select a type among Steel, Stainless steel, Copper powders according to mechanical properties of the final product.

MIXING



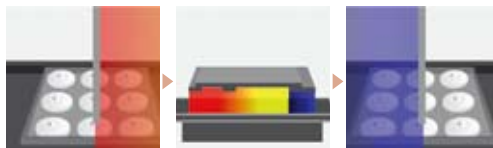
Mix sub-materials with a suggested range of ratios in order to obtain the certain mechanical properties.

COMPACTING



Compact the mixed metal powders with a certain pressure into the mold.

SINTERING



Sinter the compressed/compacted products at lower temperature than melting points so as to produce a product with the mechanical properties by diffusion and combination of metal powder particles.

SIZING



Compact again the output from the SINTERING step so as to increase the dimensional accuracy.

POST PROCESSING



INSPECTION

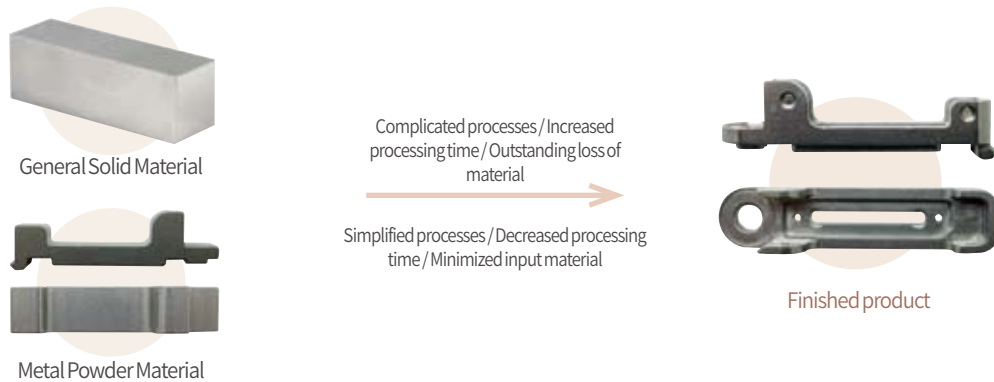
Implement an inspection to confirm whether the final output complies with customer's requirements. (material, shape, dimension, etc.)

SPM-FEATURES

POWDER METALLURGY

Reduction of manufacturing cost

Minimized process steps & Decreasing loss of raw material.



Available to make a part including tiny pores

Oil-less bearing / filters containing tiny pore can be manufactured.



Enhancement on mechanical properties

SPM helps to enhance mechanical properties i.e. strength, stiffness, abrasion-resistance etc. through various heat treatment.

Wide options of raw material

SPM has a wide options to select input raw material available. Moreover, alloy manufacturing is also available.

Even quality

SPM allows to keep high dimensional accuracy.

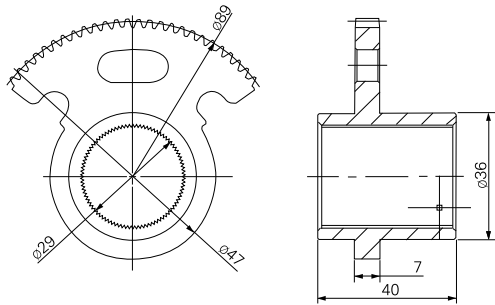
Mass production

SPM is ideal for mass production.

SPM-EXAMPLE APPLICATIONS

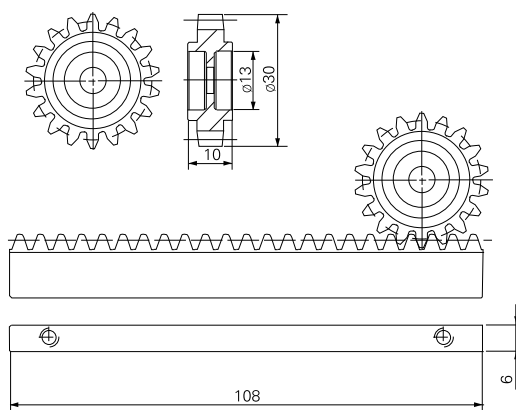
POWDER METALLURGY

Gear



Material	Fe(iron) alloy powder
Mass	164 g
Density	7.0 g/cm ³
Purpose	Air-conditioner parts (i.e. duct damper)

Rack & Pinion Gear

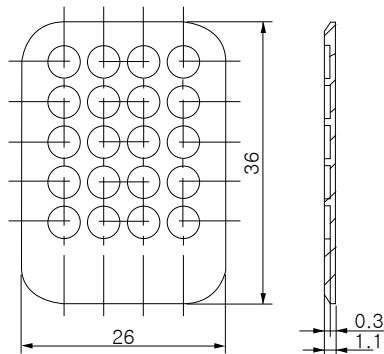


Material	STS 304
Mass	Rack : 47 g, Pinion 19 g
Density	6.8 g/cm ³
Purpose	Linear motion in F.A. equipment

SPM-EXAMPLE APPLICATIONS

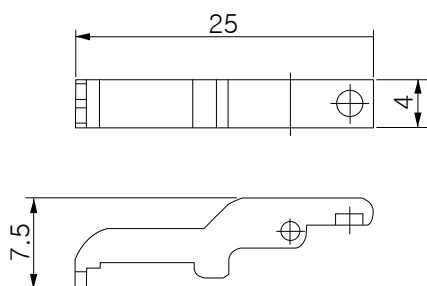
POWDER METALLURGY

Industrial Part I



Material	Fe(Iron) alloy powder
Mass	4 g
Density	6.8 g/cm ³
Purpose	An extremely thin part of only 1.1mm thickness (Electric/electronic industry) made without a processing procedure

Industrial Part II



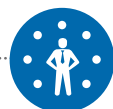
Material	Fe(Iron) alloy powder
Mass	2.1 g
Density	6.8 g/cm ³
Purpose	Complicated shaped part (for automation industry) made without a processing procedure



Customer Satisfaction



Speed



Ownership



Innovation



Sales Office

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Sub-Factory

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