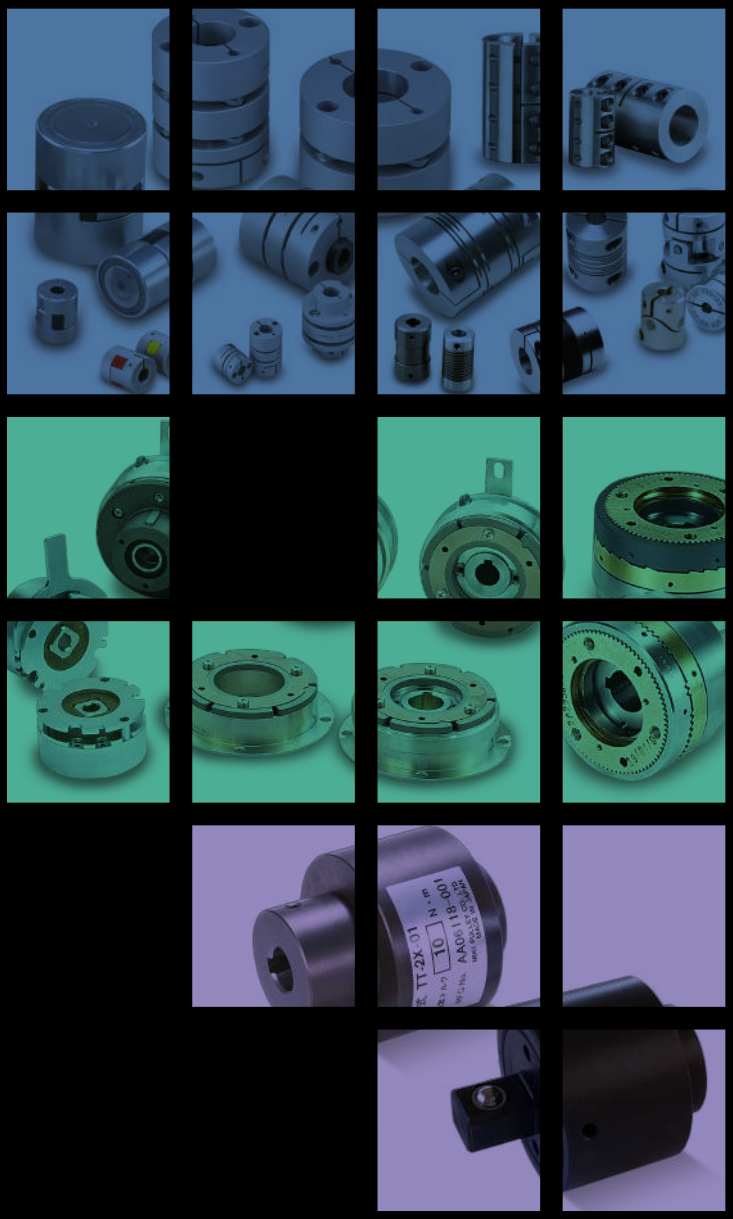

COUPLINGS

ELECTROMAGNETIC CLUTCHES & BRAKES

TORQUE LIMITERS

MIKI PULLEY

CONTENTS

COUPLINGS

CONTENTS

Coupling Models

SERIES: SERVOFLEX

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SFC(DA2)

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SFS(W)

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SFF(SS)

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ASK

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STK

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KSK

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SERIES

Metal Couplings

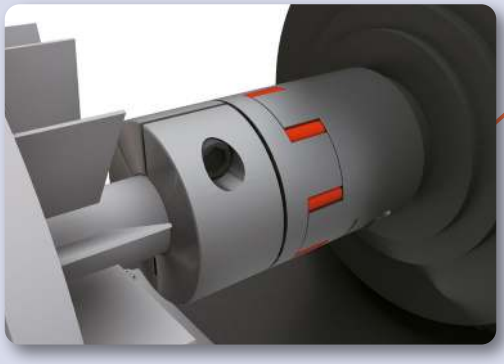
- Metal Disc Couplings SERVOFLEX
- Metal Coil Spring Couplings BAUMANNFLEX
- Cardan Couplings PARAFLEX
- Sliced Couplings ASK
- Rigid Couplings STK

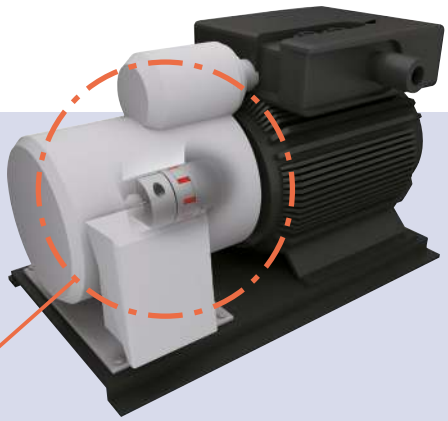
Rubber and Plastic Couplings

- Jaw Couplings MIKI PULLEY STARFLEX
- Jaw Couplings SPRFLEX
- Dual Rubber Couplings STEPFLEX
- Oldham Couplings KSK

Applications

Product model ALS(R)
Employed device Vacuum Pump

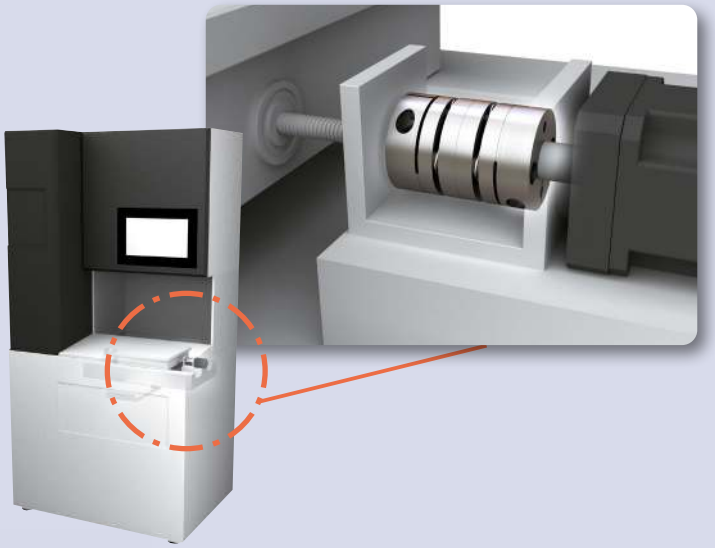


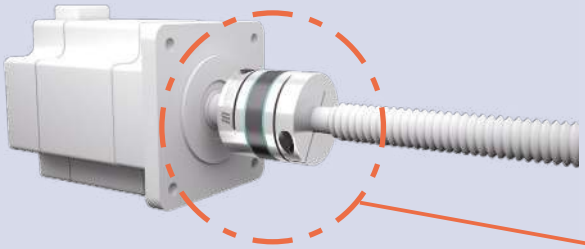


MIKI PULLEY STARFLEX coupling for connecting the drive unit.
Simple structure and easy maintenance.

Product model SFC
Employed device Dicing Saw

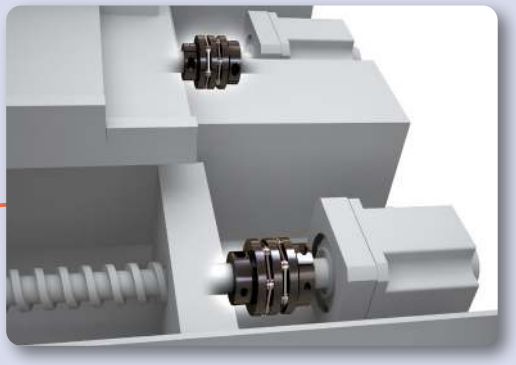
SERVOFLEX for connecting the servomotor and ball screw. It is used for ultra-precision machining of semiconductor wafers.





The high damping performance STEPFLEX coupling is used to connect the stepper motor and the ball screw.

Product model STF
Employed device General-purpose Feed Shaft



Product model SFF
Employed device CNC Lathe

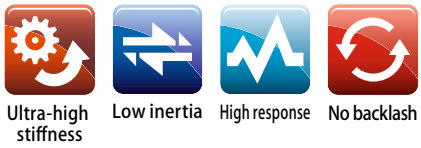
Ultra-high stiffness coupling SFF model for connecting the servomotor and feed shaft. The rated torque is higher than the conventional models, and the coupling size and the moment of inertia can be reduced.

SERVOFLEX coupling for the head of a chip mounter.

Product model SFC
Employed device Chip Mounter

Metal Disc Couplings

SERVOFLEX



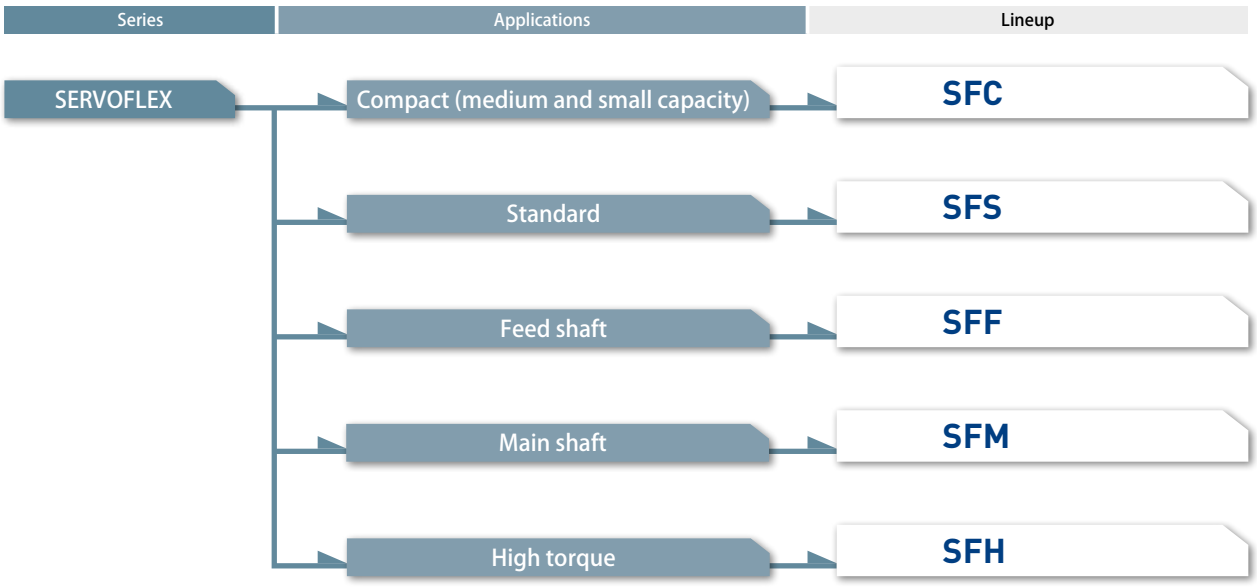
Max. rated torque [N·m]	8000
Bore ranges [mm]	ϕ 3 ～ 115
Operating temperature [°C]	− 30 ～ 120(100)
Drive	Servomotor/stepper motor
Applications	Machine tool / semiconductor manufacturing equipment / printing press / packing machine

High-stiffness and Low-inertia Servomotor Couplings

RoHS

Miki Pully metal disc couplings are designed for high-speed, high-precision and ultra-precise control of servomotor connection positioning. They achieve high stiffness, high torque, low inertia, high response speed and in the same time they are flexible enough to cover all shaft connection misalignments. Due to the fact of being backlash free, rotations are transferred directly without any delay. Miki Pulley offers various models with special characteristics as single or double element and a wide range of connections.

Available Models



Model Selection

Model type	Rated torque [N・m]	High stiffness	Low inertia	Mountability	Mounting accuracy	High-speed rotation	Material	Operating temperature [°C]
SFC	0.25 ～ 250	◎	●	●	◎	◎	Aluminum alloy	-30 ～ 100
SFS	20 ～ 800	◎	◎	△	○	○	Steel	-30 ～ 120
SFF	8 ～ 1000	●	●	◎	●	◎	Steel	-30 ～ 120
SFM	60 ～ 1000	●	◎	◎	●	●	Steel	-30 ～ 120
SFH	1000 ～ 8000	●	◎	△	○	○	Steel	-30 ～ 120

(Rated torque scale: 0.1, 1, 10, 100, 1000, 10000)

• Symbols in the table indicate four levels of adaptability in order of ●◎○△ with ● showing the highest level of adaptability and △ showing the lowest level. (Adaptability high ←●◎○△→ low)

Product Lineup

SFC

RoHS

High stiffness | Ultra-low inertia | High response | Easy to remove | Wide range of options | No backlash

Applications: NC lathe, machining center, chip mounter, actuator, SCARA robot, semiconductor manufacturing equipment

Max. rated torque	[N·m]	250
Bore ranges	[mm]	ϕ3 ~ 45

High Stiffness and Ultra-low Inertia

Small- and medium-capacity model, which is made of a high-strength aluminum alloy and whose outer hub diameter is linked to the shaft diameter to achieve a ultra-low inertia ideal for high-speed rotation. Three different shapes are available depending on the combination of bore diameters you use.

TYPE A TYPE B TYPE C

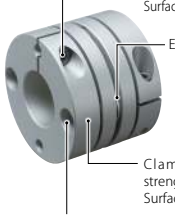
Simple and Reliable Connection

A single clamping method is used for connection to the shaft. The clamping hub is shock and vibration proof, enabling reliable connection and helping to substantially reduce mounting time. A special jig is used for centering to achieve an extremely high concentricity.

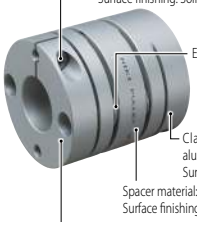
Wide Variety of Options

A wide variety of options such as a tapered shaft, length-specified special order, and keyway milling application are available. You can combine options to meet your desired specifications.

SFC(SA2)



SFC(DA2)



SFC(SA2/DA2)BC

*1 For surface processing of the clamping bolts , black coating is applied only for #002.
*2 The collar material in the marked area is S45C in sizes #080 to #100, and the surface finishing is trivalent chrome treatment.
*3 The bolt surface finishing in the marked area is anti-rust coating in sizes #080 to #100.

SFS

RoHS

High stiffness | Low inertia | Wide range of variations | Length-specified | Metal-plateable | No backlash

Applications: Machine tool, printing press, packing machine, coater/coating machine

Max. rated torque	[N·m]	800
Bore ranges	[mm]	ϕ8 ~ 60

Wide Variations

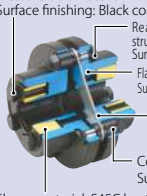
SERVOFLEX standard model. 18 types with different numbers of elements, distances between shafts, shaft connection methods, etc. are available. You can select the electroless nickel plating for the pilot bore and key/set screw.

Parts Delivery

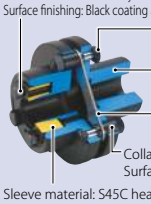
You can order the parts of the coupling to be delivered instead of an assembled coupling, so you can use this coupling in a design in which the assembled coupling could not be mounted. You can also order an assembled coupling to be delivered or combine different types of hubs.

SFS(S)

SFS(S)□M-□M

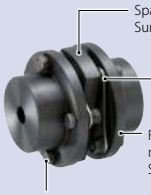


SFS(S)□M-□C



SFS(S-C)

SFS(W)



SFS(G)

SFF

RoHS

Ultra-high stiffness | Ultra-low inertia | High torque | Highly accurate mounting | No backlash

Applications: NC lathe, machining center, chip mounter, electrical discharge machine

Max. rated torque	[N·m]	1000
Bore ranges	[mm]	ϕ 8 ~ 80

Ultra-high Stiffness and Ultra-low Inertia

Ultrahigh torsional stiffness, achieving 1.5 times the rated torque of the current model and low inertia.

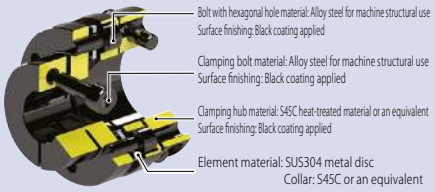
High-precision Clamping Connection

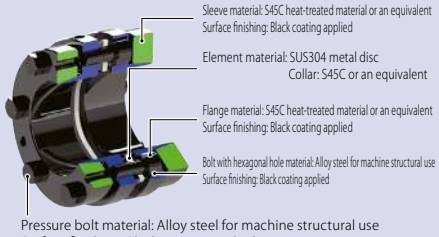
The number of mounting bolts has been reduced substantially. You can remarkably reduce mounting time.

Frictional Coupling for Large Diameters

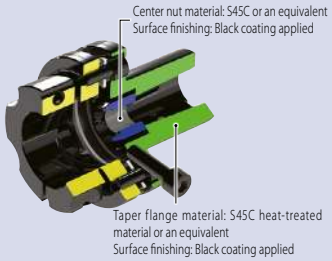
This model supports frictional coupling for larger-diameter shafts than the previous models.

SFF(SS)

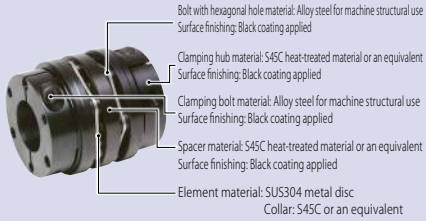


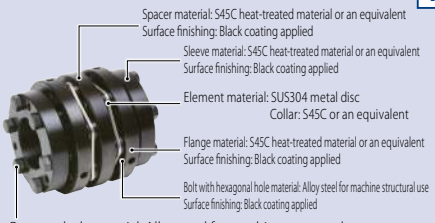


Tapered shaft



SFF(DS)





Flange-mounted

SFM

RoHS

Ultra-high stiffness | Ultra-low inertia | High torque | Highly accurate mounting | No backlash | High speed

Application: Machine tool main shaft

Max. rated torque	[N·m]	1000
Bore ranges	[mm]	ϕ 12 ~ 80

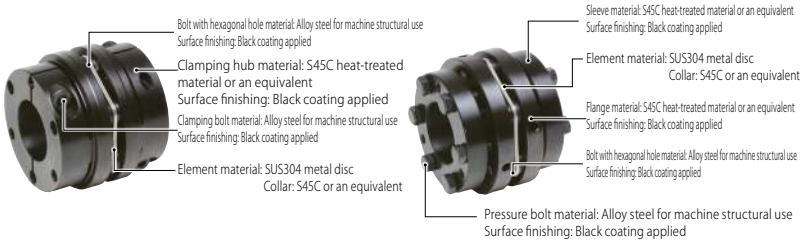
As Machine Tool Main Shaft

Hi-spec model for meeting the high-torque, low-inertia, and high-revolution demands of machine tool main shafts.

Max. Rotation Speed 24000 min^{-1}

High-speed design, balance corrected.

SFM(SS)



SFH

RoHS

High output response | Ultra-high stiffness | Low inertia | Length-specified | No backlash

Applications: Double column machining center, printing press, testing machinery, wind turbine generator

Max. rated torque	[N·m]	8000
Bore ranges	[mm]	ϕ 22 ~ 115

Max. Rated Torque 8000 N·m

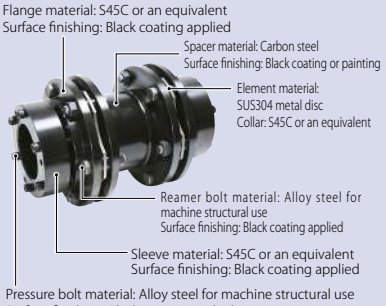
This model was developed to transmit a large torque, has an extremely high torsional stiffness, and enables precise shaft rotation and ultra-precise control.

Total Length Can Be Specified

The total length can be specified for a type that connects the middle of the element using a floating shaft.

SFH(S)

SFH(G)□K-□K



SFC(SA2) Types Single Element Type

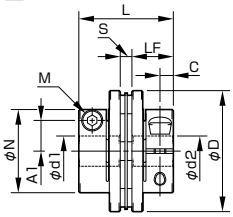
Specifications

Model	Shape type	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
			Parallel [mm]	Angular [°]	Axial [mm]					
SFC-002SA2	C	0.25	0.01	0.5	± 0.04	10000	190	34	0.06 × 10⁻⁶	0.003
SFC-005SA2	C	0.6	0.02	0.5	± 0.05	10000	500	140	0.26 × 10⁻⁶	0.007
SFC-010SA2	C	1	0.02	1	± 0.1	10000	1400	140	0.58 × 10⁻⁶	0.011
SFC-020SA2	C	2	0.02	1	± 0.15	10000	3700	64	2.39 × 10⁻⁶	0.025
SFC-025SA2	C	4	0.02	1	± 0.19	10000	5600	60	3.67 × 10⁻⁶	0.029
SFC-030SA2	A	5	0.02	1	± 0.2	10000	8000	64	4.07 × 10⁻⁶	0.034
	B								6.09 × 10⁻⁶	0.041
	C								8.20 × 10⁻⁶	0.049
SFC-035SA2	C	10	0.02	1	± 0.25	10000	18000	112	18.44 × 10⁻⁶	0.082
SFC-040SA2	A	12	0.02	1	± 0.3	10000	20000	80	16.71 × 10⁻⁶	0.077
	B								22.55 × 10⁻⁶	0.085
	C								29.25 × 10⁻⁶	0.100
SFC-050SA2	A	25	0.02	1	± 0.4	10000	32000	48	55.71 × 10⁻⁶	0.159
	B								76.26 × 10⁻⁶	0.177
	C								99.03 × 10⁻⁶	0.206
SFC-055SA2	C	40	0.02	1	± 0.42	10000	50000	43	188.0 × 10⁻⁶	0.314
SFC-060SA2	A	60	0.02	1	± 0.45	10000	70000	76.4	145.9 × 10⁻⁶	0.283
	B								205.0 × 10⁻⁶	0.326
	C								268.6 × 10⁻⁶	0.385
SFC-080SA2	C	100	0.02	1	± 0.55	10000	140000	128	710.6 × 10⁻⁶	0.708
SFC-090SA2	C	180	0.02	1	± 0.65	10000	100000	108	1236 × 10⁻⁶	0.946
SFC-100SA2	C	250	0.02	1	± 0.74	10000	120000	111	1891 × 10⁻⁶	1.202

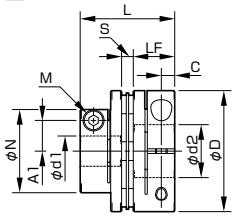
- The rated torque of the coupling may be limited for bore diameters.
- Torsional stiffness values given are measured values for the flexible element alone.
- Higher rpm possible with balancing.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions

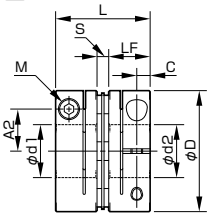
■TYPE A

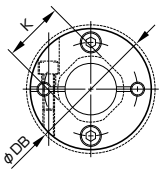


■TYPE B



■TYPE C





Model	Shape type	d1 [mm]		d2 [mm]		D [mm]	DB [mm]	N [mm]	L [mm]	LF [mm]	S [mm]	A1 [mm]	A2 [mm]	C [mm]	K [mm]	M Quantity – Nominal dia.	Tightening torque [N·m]
		Min.	Max.	Min.	Max.												
SFC-002SA2	C	3	5	3	5	12	12.4	—	12.35	5.9	0.55	—	3.7	1.9	5.6	1-M1.6	0.23 ~ 0.28
SFC-005SA2	C	3	6	3	6	16	—	—	16.7	7.85	1	—	4.8	2.5	6.5	1-M2	0.4 ~ 0.5
SFC-010SA2	C	3	8	3	8	19	—	—	19.35	9.15	1.05	—	5.8 (6)	3.15	8.5	1-M2.5 (M2)	1.0 ~ 1.1 (0.4 ~ 0.5)
SFC-020SA2	C	4	10	4	11	26	—	—	23.15	10.75	1.65	—	9.5	3.3	10.6	1-M2.5	1.0 ~ 1.1
SFC-025SA2	C	5	14	5	14	29	—	—	23.4	10.75	1.9	—	11	3.3	14.5	1-M2.5	1.0 ~ 1.1
SFC-030SA2	A	5	10	5	10	34	—	21.6	27.3	12.4	2.5	8	—	3.75	14.5	1-M3	1.5 ~ 1.9
	B	5	10	Over 10	16			21.6				8	12.5				
	C	Over 10	14	Over 10	16			—				—	12.5				
SFC-035SA2	C	6	16	6	19	39	—	—	34	15.5	3	—	14	4.5	17	1-M4	3.4 ~ 4.1
SFC-040SA2	A	8	15	8	15	44	—	29.6	34	15.5	3	11	—	4.5	19.5	1-M4	3.4 ~ 4.1
	B	8	15	Over 15	24			29.6				11	17				
	C	Over 15	19	Over 15	24			—				—	17				
SFC-050SA2	A	8	19	8	19	56	—	38	43.4	20.5	2.4	14.5	—	6	26	1-M5	7.0 ~ 8.5
	B	8	19	Over 19	30			38				14.5	22				
	C	Over 19	25	Over 19	30			—				—	22				
SFC-055SA2	C	10	30	10	30	63	—	—	50.6	24	2.6	—	23	7.75	31	1-M6	14 ~ 15
SFC-060SA2	A	11	24	11	24	68	—	46	53.6	25.2	3.2	17.5	—	7.75	31	1-M6	14 ~ 15
	B	11	24	Over 24	35			46				17.5	26.5				
	C	Over 24	30	Over 24	35			—				—	26.5				
SFC-080SA2	C	18	35	18	40	82	—	—	68	30	8	—	28	9	38	1-M8	27 ~ 30
SFC-090SA2	C	25	40	25	45	94	—	—	68.3	30	8.3	—	34	9	42	1-M8	27 ~ 30
SFC-100SA2	C	32	45	32	45	104	—	—	69.8	30	9.8	—	39	9	48	1-M8	27 ~ 30

- øDB = Interference radius of the screw head
- The figures in parentheses ( ) for the SFC-010 are the values when d1 or d2 is ø8 mm.

Standard Bore Diameter

Standard (option) bore diameter, d1/d2 [mm] and related rated torque [N·m]

Shaft tolerance			Nominal bore diameter	3	4	5	6	6.35	7	8	9	9.525	10	11	12	13	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45
h7 (h6 · g6)	B			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
j6 (Option)	J																				○		○	○		○							
k6 (Option)	K									○	○						○		○			○		○	○				○		○			
Supported bore diameter for each model	SFC-002SA2	d1		●	●	●																											
		d2		●	●	●																											
	SFC-005SA2	d1		●	●	●	●																										
		d2		●	●	●	●																										
	SFC-010SA2	d1		●	●	●	●	●	●	●																							
		d2		●	●	●	●	●	●	●																							
	SFC-020SA2	d1			●	●	●	●	●	●	●	●	●																				
		d2			●	●	●	●	●	●	●	●	●	●																			
	SFC-025SA2	d1				2.1	●	●	●	●	●	●	●	●	●	●	●	●															
		d2				2.1	●	●	●	●	●	●	●	●	●	●	●	●															
	SFC-030SA2	d1				2.8	3.4	●	●	●	●	●	●	●	●	●	●	●	●														
		d2				2.8	3.4	●	●	●	●	●	●	●	●	●	●	●	●														
	SFC-035SA2	d1					5	5	6.6	●	●	●	●	●	●	●	●	●	●														
		d2					5	5	6.6	●	●	●	●	●	●	●	●	●	●	●	●	●											
	SFC-040SA2	d1								9	●	●	●	●	●	●	●	●	●	●	●	●											
		d2								9	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
	SFC-050SA2	d1								18	20	22	22	●	●	●	●	●	●	●	●	●	●	●	●	●							
		d2								18	20	22	22	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
	SFC-055SA2	d1											31	34	36	38	●	●	●	●	●	●	●	●	●	●	●	●					
		d2											31	34	36	38	●	●	●	●	●	●	●	●	●	●	●	●					
	SFC-060SA2	d1												50	51	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
		d2												50	51	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	SFC-080SA2	d1																		●	●	●	●	●	●	●	●	●	●	●			
		d2																		●	●	●	●	●	●	●	●	●	●	●	●		
	SFC-090SA2	d1																							●	●	●	●	●	●	●		
		d2																							●	●	●	●	●	●	●	●	●
	SFC-100SA2	d1																										226	●	●	●	●	●
		d2																										226	●	●	●	●	●

- The shaft tolerance for standard bore diameter is h7 (h6 or g6): designation B. However, for a bore diameter of ø35, the shaft tolerance is $^{+0.010}_{-0.025}$.
- Shaft tolerances j6/k6: designations J/K are optional, and are only supported for bore diameters marked with ○.
- Bore diameters marked with ● or numbers are supported as the standard bore diameters. Please contact Miki Pulley regarding special arrangements which may be possible for other bore diameters.
- Bore diameters whose fields contain numbers are restricted in their rated torque by the holding power of the shaft connection component because the bore diameter is small. The numbers indicate the rated torque [N·m].

How to Place an Order

SFC-025SA2-10B-14K

- Size
- Type
  SA2: Single element Aluminum alloy hub
- Bore diameter d1 (Small diameter)
- Bore diameter d2 (Large diameter)
- Supported shaft tolerance
  B: h7(h6, g6) shaft
  J: j6 shaft (option)
  K: k6 shaft (option)

- For nominal bore diameter, select d1 (small diameter) – d2 (large diameter) in that order.
- If d1=d2 (same diameters), select B, J, and K in that order.

SFC(DA2) Types Double Element Type

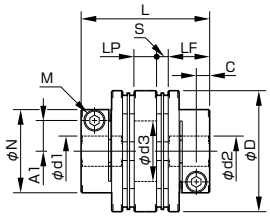
Specifications

Model	Shape type	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
			Parallel [mm]	Angular [°]	Axial [mm]					
SFC-002DA2	C	0.25	0.03	1	± 0.08	10000	95	17	0.07 × 10⁻⁶	0.004
SFC-005DA2	C	0.6	0.05	1	± 0.1	10000	250	70	0.37 × 10⁻⁶	0.010
SFC-010DA2	C	1	0.11	2	± 0.2	10000	700	70	0.80 × 10⁻⁶	0.015
SFC-020DA2	C	2	0.15	2	± 0.33	10000	1850	32	3.43 × 10⁻⁶	0.035
SFC-025DA2	C	4	0.16	2	± 0.38	10000	2800	30	5.26 × 10⁻⁶	0.040
SFC-030DA2	A	5	0.18	2	± 0.4	10000	4000	32	7.43 × 10⁻⁶	0.054
	B								9.45 × 10⁻⁶	0.060
	C								11.56 × 10⁻⁶	0.068
SFC-035DA2	C	10	0.24	2	± 0.5	10000	9000	56	26.93 × 10⁻⁶	0.121
SFC-040DA2	A	12	0.24	2	± 0.6	10000	10000	40	29.98 × 10⁻⁶	0.124
	B								35.82 × 10⁻⁶	0.131
	C								42.52 × 10⁻⁶	0.146
SFC-050DA2	A	25	0.28	2	± 0.8	10000	16000	24	98.34 × 10⁻⁶	0.250
	B								118.9 × 10⁻⁶	0.268
	C								141.7 × 10⁻⁶	0.298
SFC-055DA2	C	40	0.31	2	± 0.84	10000	25000	21.5	261.3 × 10⁻⁶	0.459
SFC-060DA2	A	60	0.34	2	± 0.9	10000	35000	38.2	256.6 × 10⁻⁶	0.447
	B								315.7 × 10⁻⁶	0.489
	C								379.3 × 10⁻⁶	0.549
SFC-080DA2	C	100	0.52	2	± 1.10	10000	70000	64	1039 × 10⁻⁶	1.037
SFC-090DA2	C	180	0.52	2	± 1.30	10000	50000	54	1798 × 10-6	1.369
SFC-100DA2	C	250	0.55	2	± 1.48	10000	60000	55.5	2754 × 10-6	1.739

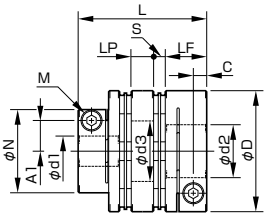
- The rated torque of the coupling may be limited for bore diameters.
- Torsional stiffness values given are measured values for the flexible element alone.
- Higher rpm possible with balancing.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions

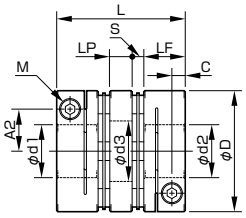
■TYPE A

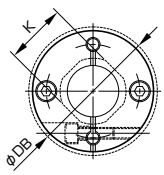


■TYPE B



■TYPE C





Model	Shape type	d1 [mm]		d2 [mm]		D [mm]	DB [mm]	N [mm]	L [mm]	LF [mm]	LP [mm]	S [mm]	A1 [mm]	A2 [mm]	C [mm]	d3 [mm]	K [mm]	M Quantity – Nominal dia.	Tightening torque [N·m]
		Min.	Max.	Min.	Max.														
SFC-002DA2	C	3	5	3	5	12	12.4	—	15.7	5.9	2.8	0.55	—	3.7	1.9	5.2	5.6	1-M1.6	0.23 ~ 0.28
SFC-005DA2	C	3	6	3	6	16	—	—	23.2	7.85	5.5	1	—	4.8	2.5	6.5	6.5	1-M2	0.4 ~ 0.5
SFC-010DA2	C	3	8	3	8	19	—	—	25.9	9.15	5.5	1.05	—	5.8 (6)	3.15	8.5	8.5	1-M2.5 (M2)	1.0 ~ 1.1 (0.4 ~ 0.5)
SFC-020DA2	C	4	10	4	11	26	—	—	32.3	10.75	7.5	1.65	—	9.5	3.3	10.6	10.6	1-M2.5	1.0 ~ 1.1
SFC-025DA2	C	5	14	5	14	29	—	—	32.8	10.75	7.5	1.9	—	11	3.3	15	14.5	1-M2.5	1.0 ~ 1.1
SFC-030DA2	A	5	10	5	10	34	—	21.6	37.8	12.4	8	2.5	8	—	3.75	15	14.5	1-M3	1.5 ~ 1.9
	B	5	10	Over 10	16			21.6					8	12.5					
	C	Over 10	14	Over 10	16			—					—	12.5					
SFC-035DA2	C	6	16	6	19	39	—	—	48	15.5	11	3	—	14	4.5	17	17	1-M4	3.4 ~ 4.1
SFC-040DA2	A	8	15	8	15	44	—	29.6	48	15.5	11	3	11	—	4.5	20	19.5	1-M4	3.4 ~ 4.1
	B	8	15	Over 15	24			29.6					11	17					
	C	Over 15	19	Over 15	24			—					—	17					
SFC-050DA2	A	8	19	8	19	56	—	38	59.8	20.5	14	2.4	14.5	—	6	26	26	1-M5	7.0 ~ 8.5
	B	8	19	Over 19	30			38					14.5	22					
	C	Over 19	25	Over 19	30			—					—	22					
SFC-055DA2	C	10	30	10	30	63	—	—	68.7	24	15.5	2.6	—	23	7.75	31	31	1-M6	14 ~ 15
SFC-060DA2	A	11	24	11	24	68	—	46	73.3	25.2	16.5	3.2	17.5	—	7.75	31	31	1-M6	14 ~ 15
	B	11	24	Over 24	35			46					17.5	26.5					
	C	Over 24	30	Over 24	35			—					—	26.5					
SFC-080DA2	C	18	35	18	40	82	—	—	98	30	22	8	—	28	9	40	38	1-M8	27 ~ 30
SFC-090DA2	C	25	40	25	45	94		—	98.6	30	22	8.3	—	34	9	47	42	1-M8	27 ~ 30
SFC-100DA2	C	32	45	32	45	104	—	—	101.6	30	22	9.8	—	39	9	50	48	1-M8	27 ~ 30

- øDB = Interference radius of the screw head
- The figures in parentheses ( ) for the SFC-010 are the values when d1 or d2 is ø8 mm.

Standard Bore Diameter

Standard (option) bore diameter, d1/d2 [mm] and related rated torque [N·m]

Nominal bore diameter			3	4	5	6	6.35	7	8	9	9.525	10	11	12	13	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45
Shaft tolerance	h7 (h6 · g6)	B	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	j6 (Option)	J																			○		○	○		○						
	k6 (Option)	K							○	○						○		○			○		○	○				○		○		
Supported bore diameter for each model	SFC-002DA2	d1	●	●	●																											
		d2	●	●	●																											
	SFC-005DA2	d1	●	●	●	●																										
		d2	●	●	●	●																										
	SFC-010DA2	d1	●	●	●	●	●	●	●																							
		d2	●	●	●	●	●	●	●																							
	SFC-020DA2	d1		●	●	●	●	●	●	●	●	●																				
		d2		●	●	●	●	●	●	●	●	●	●																			
	SFC-025DA2	d1			2.1	●	●	●	●	●	●	●	●	●	●	●																
		d2			2.1	●	●	●	●	●	●	●	●	●	●	●																
	SFC-030DA2	d1			2.8	3.4	●	●	●	●	●	●	●	●	●	●																
		d2			2.8	3.4	●	●	●	●	●	●	●	●	●	●	●	●														
	SFC-035DA2	d1				5	5	6.6	●	●	●	●	●	●	●	●	●	●														
		d2				5	5	6.6	●	●	●	●	●	●	●	●	●	●	●	●	●											
	SFC-040DA2	d1							9	●	●	●	●	●	●	●	●	●	●	●	●											
		d2							9	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
	SFC-050DA2	d1							18	20	22	22	●	●	●	●	●	●	●	●	●	●	●	●	●							
		d2							18	20	22	22	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
	SFC-055DA2	d1										31	34	36	38	●	●	●	●	●	●	●	●	●	●	●	●					
		d2										31	34	36	38	●	●	●	●	●	●	●	●	●	●	●	●					
	SFC-060DA2	d1											50	51	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
		d2											50	51	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
	SFC-080DA2	d1																		●	●	●	●	●	●	●	●	●	●			
		d2																		●	●	●	●	●	●	●	●	●	●	●		
	SFC-090DA2	d1																							●	●	●	●	●	●		
		d2																							●	●	●	●	●	●	●	●
	SFC-100DA2	d1																										226	●	●	●	●
		d2																										226	●	●	●	●

- The shaft tolerance for standard bore diameter is h7 (h6 or g6): designation B. However, for a bore diameter of ø35, the shaft tolerance is $^{+0.010}_{-0.025}$.
- Shaft tolerances j6/k6: designations J/K are optional, and are only supported for bore diameters marked with ○.
- Bore diameters marked with ● or numbers are supported as the standard bore diameters. Please contact Miki Pulley regarding special arrangements which may be possible for other bore diameters.
- Bore diameters whose fields contain numbers are restricted in their rated torque by the holding power of the shaft connection component because the bore diameter is small. The numbers indicate the rated torque [N·m].

How to Place an Order

SFC-025DA2-10B-14K

- Size
- Type
  DA2: Double element
  Aluminum alloy hub
- Bore diameter d1 (Small diameter)
- Bore diameter d2 (Large diameter)
- Supported shaft tolerance
  B: h7(h6, g6) shaft
  J: j6 shaft (option)
  K: k6 shaft (option)

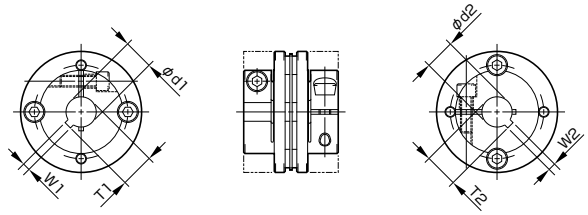
- For nominal bore diameter, select d1 (small diameter) – d2 (large diameter) in that order.
- If d1=d2 (same diameters), select B, J, and K in that order.

SFC

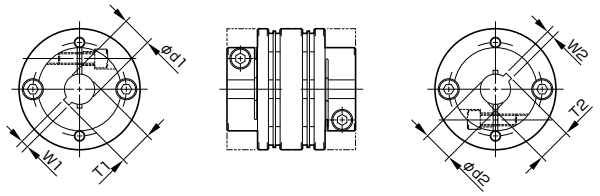
Options Keyway

Keyway standards

■SFC(SA2)



■SFC(DA2)



H9 keyway														JS9 keyway											
Nominal bore dia.				Bore dia. d1·d2 [mm]	Keyway width W1·W2 [mm]	Keyway height T1·T2 [mm]	Nominal bore dia.				Bore dia. d1·d2 [mm]	Keyway width W1·W2 [mm]	Keyway height T1·T2 [mm]	Nominal bore dia.				Bore dia. d1·d2 [mm]	Keyway width W1·W2 [mm]	Keyway height T1·T2 [mm]	Nominal bore dia.				Bore dia. d1·d2 [mm]	Keyway width W1·W2 [mm]	Keyway height T1·T2 [mm]
Shaft diameter	Shaft tolerance h7	j6	k6				Shaft diameter	Shaft tolerance h7	j6	k6				Shaft diameter	Shaft tolerance h7	j6	k6				Shaft diameter	Shaft tolerance h7	j6	k6			
8	BH	—	KH	8	3 $^{+0.025}_{0}$	9.4 $^{+0.3}_{0}$	20	BH	—	—	20	6 $^{+0.030}_{0}$	22.8 $^{+0.3}_{0}$	8	BJ	—	KJ	8	3 ± 0.0125	9.4 $^{+0.3}_{0}$	20	BJ	—	—	20	6 ± 0.0150	22.8 $^{+0.3}_{0}$
9	BH	—	KH	9	3 $^{+0.025}_{0}$	10.4 $^{+0.3}_{0}$	22	BH	JH	KH	22	6 $^{+0.030}_{0}$	24.8 $^{+0.3}_{0}$	9	BJ	—	KJ	9	3 ± 0.0125	10.4 $^{+0.3}_{0}$	22	BJ	JJ	KJ	22	6 ± 0.0150	24.8 $^{+0.3}_{0}$
10	BH	—	—	10	3 $^{+0.025}_{0}$	11.4 $^{+0.3}_{0}$	24	BH	JH	KH	24	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	10	BJ	—	—	10	3 ± 0.0125	11.4 $^{+0.3}_{0}$	24	BJ	JJ	KJ	24	8 ± 0.0180	27.3 $^{+0.3}_{0}$
11	BH	—	—	11	4 $^{+0.030}_{0}$	12.8 $^{+0.3}_{0}$	25	BH	—	—	25	8 $^{+0.036}_{0}$	28.3 $^{+0.3}_{0}$	11	BJ	—	—	11	4 ± 0.0150	12.8 $^{+0.3}_{0}$	25	BJ	—	—	25	8 ± 0.0180	28.3 $^{+0.3}_{0}$
12	BH	—	—	12	4 $^{+0.030}_{0}$	13.8 $^{+0.3}_{0}$	28	BH	JH	—	28	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	12	BJ	—	—	12	4 ± 0.0150	13.8 $^{+0.3}_{0}$	28	BJ	JJ	—	28	8 ± 0.0180	31.3 $^{+0.3}_{0}$
13	BH	—	—	13	5 $^{+0.030}_{0}$	15.3 $^{+0.3}_{0}$	30	BH	—	—	30	8 $^{+0.036}_{0}$	33.3 $^{+0.3}_{0}$	13	BJ	—	—	13	5 ± 0.0150	15.3 $^{+0.3}_{0}$	30	BJ	—	—	30	8 ± 0.0180	33.3 $^{+0.3}_{0}$
14	BH	—	KH	14	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	32	BH	—	KH	32	10 $^{+0.036}_{0}$	35.3 $^{+0.3}_{0}$	14	BJ	—	KJ	14	5 ± 0.0150	16.3 $^{+0.3}_{0}$	32	BJ	—	KJ	32	10 ± 0.0180	35.3 $^{+0.3}_{0}$
15	BH	—		15	5 $^{+0.030}_{0}$	17.3 $^{+0.3}_{0}$	35	BH	—	—	35	10 $^{+0.036}_{0}$	38.3 $^{+0.3}_{0}$	15	BJ	—	—	15	5 ± 0.0150	17.3 $^{+0.3}_{0}$	35	BJ	—	—	35	10 ± 0.0180	38.3 $^{+0.3}_{0}$
16	BH	—	KH	16	5 $^{+0.030}_{0}$	18.3 $^{+0.3}_{0}$	38	BH	—	KH	38	10 $^{+0.036}_{0}$	41.3 $^{+0.3}_{0}$	16	BJ	—	KJ	16	5 ± 0.0150	18.3 $^{+0.3}_{0}$	38	BJ	—	KJ	38	10 ± 0.0180	41.3 $^{+0.3}_{0}$
17	BH	—	—	17	5 $^{+0.030}_{0}$	19.3 $^{+0.3}_{0}$	40	BH	—	—	40	12 $^{+0.043}_{0}$	43.3 $^{+0.3}_{0}$	17	BJ	—	—	17	5 ± 0.0150	19.3 $^{+0.3}_{0}$	40	BJ	—	—	40	12 ± 0.0215	43.3 $^{+0.3}_{0}$
18	BH	—	—	18	6 $^{+0.030}_{0}$	20.8 $^{+0.3}_{0}$	42	BH	—	—	42	12 $^{+0.043}_{0}$	45.3 $^{+0.3}_{0}$	18	BJ	—	—	18	6 ± 0.0150	20.8 $^{+0.3}_{0}$	42	BJ	—	—	42	12 ± 0.0215	45.3 $^{+0.3}_{0}$
19	BH	JH	KH	19	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	45	BH	—	—	45	14 $^{+0.043}_{0}$	48.8 $^{+0.3}_{0}$	19	BJ	JJ	KJ	19	6 ± 0.0150	21.8 $^{+0.3}_{0}$	45	BJ	—	—	45	14 ± 0.0215	48.8 $^{+0.3}_{0}$

• We can also handle standards not listed above. Please contact Miki Pulley.

Standard Bore Diameter

Standard (option) bore diameter, d1/d2 [mm] and related rated torque [N·m]																											
Nominal bore diameter			8	9	10	11	12	13	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45
Shaft tolerance	h7 (h6 · g6)	B	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	j6 (Option)	J												○		○	○		○							
	k6 (Option)	K	○	○					○		○			○		○	○				○		○			
Supported bore diameter for each model	SFC-025DA2	d1	●	●	●	●	●	●	●																	
		d2	●	●	●	●	●	●	●																	
	SFC-030DA2	d1	●	●	●	●	●	●	●																	
		d2	●	●	●	●	●	●	●	●	●															
	SFC-035DA2	d1	●	●	●	●	●	●	●	●	●															
		d2	●	●	●	●	●	●	●	●	●	●	●	●												
	SFC-040DA2	d1	9	●	●	●	●	●	●	●	●	●	●	●												
		d2	9	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
	SFC-050DA2	d1	18	20	22	●	●	●	●	●	●	●	●	●	●	●	●	●								
		d2	18	20	22	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
	SFC-055DA2	d1			31	34	36	38	●	●	●	●	●	●	●	●	●	●	●	●						
		d2			31	34	36	38	●	●	●	●	●	●	●	●	●	●	●	●						
	SFC-060DA2	d1				50	51	●	●	●	●	●	●	●	●	●	●	●	●	●						
		d2				50	51	●	●	●	●	●	●	●	●	●	●	●	●	●						
	SFC-080DA2	d1											●	●	●	●	●	●	●	●	●	●				
		d2											●	●	●	●	●	●	●	●	●	●	●	●		
	SFC-090DA2	d1																●	●	●	●	●	●	●		
		d2																●	●	●	●	●	●	●	●	●
	SFC-100DA2	d1																			226	●	●	●	●	●
		d2																			226	●	●	●	●	●

• The shaft tolerance for standard bore diameter is h7 (h6 or g6): designation B. However, for a bore diameter of ø35, the shaft tolerance is $^{+0.010}_{-0.025}$.
• Shaft tolerances j6/k6: designations J/K are optional, and are only supported for bore diameters marked with ○.
• Bore diameters marked with ● or numbers are supported as the standard bore diameters. Please contact Miki Pulley regarding special arrangements which may be possible for other bore diameters.
• Bore diameters whose fields contain numbers are restricted in their rated torque by the holding power of the shaft connection component because the bore diameter is small. The numbers indicate the rated torque [N·m].

How to Place an Order

SFC-060SA2-12BH-14KJ

- Size
- Type
  SA2: Single element
  DA2: Double element
- Bore diameter d1 (Small diameter)
- Bore diameter d2 (Large diameter)
- Affixing method
  KJ: k6 shaft + JS9 keyway
- Affixing method
  BH: h7 (h6, g6) shaft + H9 keyway

• For nominal bore diameter, select d1 (small diameter) – d2 (large diameter) in that order.
• If d1=d2 (same diameters), select B, J, and K in that order.
B • J • K • BH • BJ • JH • JJ • KH • KJ

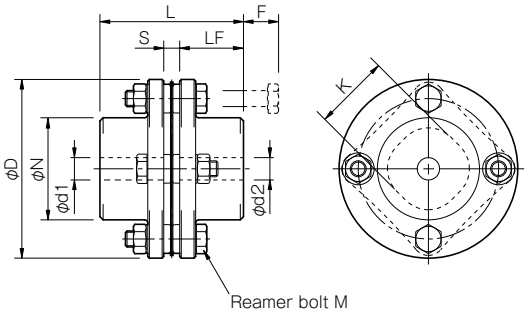
SFS(S) Types Single Element Type

Specifications

Model	Rated torque [N·m]	Misalignment		Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Angular [°]	Axial [mm]					
SFS-05S	20	1	±0.6	25000	16000	43	0.11×10^{-3}	0.30
SFS-06S	40	1	±0.8	20000	29000	45	0.30×10^{-3}	0.50
SFS-08S	80	1	±1.0	17000	83000	60	0.87×10^{-3}	1.00
SFS-09S	180	1	±1.2	15000	170000	122	1.60×10^{-3}	1.40
SFS-10S	250	1	±1.4	13000	250000	160	2.60×10^{-3}	2.10
SFS-12S	450	1	±1.6	11000	430000	197	6.50×10^{-3}	3.40
SFS-14S	800	1	±1.8	9500	780000	313	9.90×10^{-3}	4.90

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2			D	N	L	LF	S	F	K	M
	Pilot bore	Min.	Max.								
SFS-05S	7	8	20	56	32	45	20	5	11	24	4-M5 × 22
SFS-06S	7	8	25	68	40	56	25	6	10	30	4-M6 × 25
SFS-08S	10	11	35	82	54	66	30	6	11	38	4-M6 × 29
SFS-09S	10	11	38	94	58	68	30	8	21	42	4-M8 × 36
SFS-10S	15	16	42	104	68	80	35	10	16	48	4-M8 × 36
SFS-12S	18	19	50	126	78	91	40	11	23	54	4-M10 × 45
SFS-14S	20	22	60	144	88	102	45	12	31	61	4-M12 × 54

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																												
	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	56	60
SFS-05S	●	●	●	●	●	●	●	●	●	●	●	●																
SFS-06S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●													
SFS-08S				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFS-09S				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SFS-10S								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
SFS-12S											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SFS-14S													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

How to Place an Order

SFS-10S-25H-30H

- SFS: Size
- 10S: Type: S, Single element
- 25H: Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
  - Bore specifications
    - Blank: Compliant with the old JIS standards (class 2) E9
    - H: Compliant with JIS standards H9
    - J: Compliant with JIS standards JS9
    - P: Compliant with JIS standards P9
    - N: Compliant with motor standards
- 30H: Max. bore diameter: d2 (Large diameter)

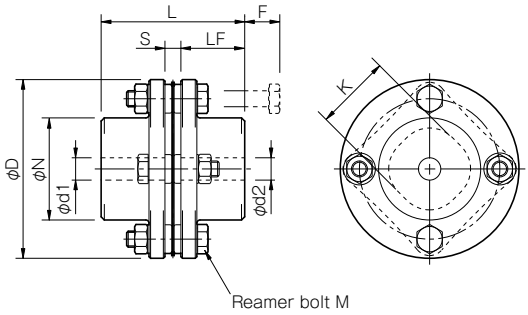
SFS(S-C) Types Single Element Type/Electroless Nickel Plating Specification

Specifications

Model	Rated torque [N·m]	Misalignment		Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Angular [°]	Axial [mm]					
SFS-05S-C	15	1	±0.6	25000	16000	43	0.11×10^{-3}	0.30
SFS-06S-C	30	1	±0.8	20000	29000	45	0.30×10^{-3}	0.50
SFS-08S-C	60	1	±1.0	17000	83000	60	0.87×10^{-3}	1.00
SFS-09S-C	135	1	±1.2	15000	170000	122	1.60×10^{-3}	1.40
SFS-10S-C	190	1	±1.4	13000	250000	160	2.60×10^{-3}	2.10
SFS-12S-C	340	1	±1.6	11000	430000	197	6.50×10^{-3}	3.40
SFS-14S-C	600	1	±1.8	9500	780000	313	9.90×10^{-3}	4.90

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2		D	N	L	LF	S	F	K	M
	Min.	Max.								
SFS-05S-C	8	20	56	32	45	20	5	11	24	4-M5 × 22
SFS-06S-C	8	25	68	40	56	25	6	10	30	4-M6 × 25
SFS-08S-C	11	35	82	54	66	30	6	11	38	4-M6 × 29
SFS-09S-C	11	38	94	58	68	30	8	21	42	4-M8 × 36
SFS-10S-C	16	42	104	68	80	35	10	16	48	4-M8 × 36
SFS-12S-C	19	50	126	78	91	40	11	23	54	4-M10 × 45
SFS-14S-C	22	60	144	88	102	45	12	31	61	4-M12 × 54

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																												
	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	56	60
SFS-05S-C	●	●	●	●	●	●	●	●	●	●	●	●																
SFS-06S-C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●													
SFS-08S-C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFS-09S-C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SFS-10S-C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
SFS-12S-C											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SFS-14S-C													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

How to Place an Order

SFS-10S-C-25H-30H

- Size: 10
- Type: S — Single element
- Surface finishing: -C: Electroless nickel plating
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
- Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - P: Compliant with JIS standards P9
  - N: Compliant with motor standards

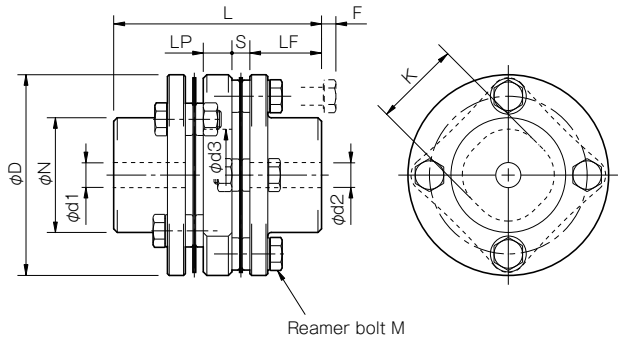
SFS(W) Types Double Element Type

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFS-05W	20	0.2	2	±1.2	10000	8000	21	0.14×10^{-3}	0.40
SFS-06W	40	0.3	2	±1.6	8000	14000	22	0.41×10^{-3}	0.70
SFS-08W	80	0.3	2	±2.0	6800	41000	30	1.10×10^{-3}	1.30
SFS-09W	180	0.5	2	±2.4	6000	85000	61	2.20×10^{-3}	2.10
SFS-10W	250	0.5	2	±2.8	5200	125000	80	3.60×10^{-3}	2.80
SFS-12W	450	0.6	2	±3.2	4400	215000	98	9.20×10^{-3}	4.90
SFS-14W	800	0.7	2	±3.6	3800	390000	156	15.00×10^{-3}	7.10

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2			D	N	L	LF	LP	S	F	d3	K	M
	Pilot bore	Min.	Max.										
SFS-05W	7	8	20	56	32	58	20	8	5	4	20	24	8-M5 × 15
SFS-06W	7	8	25	68	40	74	25	12	6	3	24	30	8-M6 × 18
SFS-08W	10	11	35	82	54	84	30	12	6	2	28	38	8-M6 × 20
SFS-09W	10	11	38	94	58	98	30	22	8	12	32	42	8-M8 × 27
SFS-10W	15	16	42	104	68	110	35	20	10	7	34	48	8-M8 × 27
SFS-12W	18	19	50	126	78	127	40	25	11	10	40	54	8-M10 × 32
SFS-14W	20	22	60	144	88	144	45	30	12	15	46	61	8-M12 × 38

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																												
	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	56	60
SFS-05W	●	●	●	●	●	●	●	●	●	●	●	●																
SFS-06W	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●													
SFS-08W				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFS-09W				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SFS-10W								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
SFS-12W											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SFS-14W													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

How to Place an Order

SFS-10W-25H-30H

- 10: Size
- W: Type: W Double element
- 25H: Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
  - Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - P: Compliant with JIS standards P9
  - N: Compliant with motor standards
- 30H: Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
  - Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - P: Compliant with JIS standards P9
  - N: Compliant with motor standards

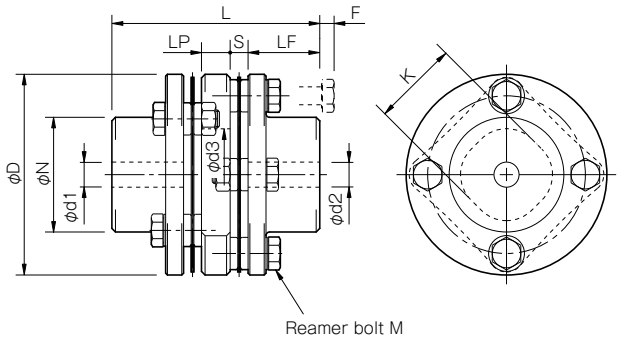
SFS(W-C) Types Double Element Type/Electroless Nickel Plating Specification

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFS-05W-C	15	0.2	2	±1.2	10000	8000	21	0.14×10^{-3}	0.40
SFS-06W-C	30	0.3	2	±1.6	8000	14000	22	0.41×10^{-3}	0.70
SFS-08W-C	60	0.3	2	±2.0	6800	41000	30	1.10×10^{-3}	1.30
SFS-09W-C	135	0.5	2	±2.4	6000	85000	61	2.20×10^{-3}	2.10
SFS-10W-C	190	0.5	2	±2.8	5200	125000	80	3.60×10^{-3}	2.80
SFS-12W-C	340	0.6	2	±3.2	4400	215000	98	9.20×10^{-3}	4.90
SFS-14W-C	600	0.7	2	±3.6	3800	390000	156	15.00×10^{-3}	7.10

- Higher rpm possible with balancing.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2		D	N	L	LF	LP	S	F	d3	K	M
	Min.	Max.										
SFS-05W-C	8	20	56	32	58	20	8	5	4	20	24	8-M5 × 15
SFS-06W-C	8	25	68	40	74	25	12	6	3	24	30	8-M6 × 18
SFS-08W-C	11	35	82	54	84	30	12	6	2	28	38	8-M6 × 20
SFS-09W-C	11	38	94	58	98	30	22	8	12	32	42	8-M8 × 27
SFS-10W-C	16	42	104	68	110	35	20	10	7	34	48	8-M8 × 27
SFS-12W-C	19	50	126	78	127	40	25	11	10	40	54	8-M10 × 32
SFS-14W-C	22	60	144	88	144	45	30	12	15	46	61	8-M12 × 38

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																												
	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	56	60
SFS-05W-C	●	●	●	●	●	●	●	●	●	●	●	●																
SFS-06W-C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●													
SFS-08W-C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFS-09W-C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SFS-10W-C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
SFS-12W-C											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SFS-14W-C													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

How to Place an Order

SFS-10W-C-25H-30H

- Size
- Type: W Double element
- Surface finishing -C: Electroless nickel plating
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
- Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - P: Compliant with JIS standards P9
  - N: Compliant with motor standards

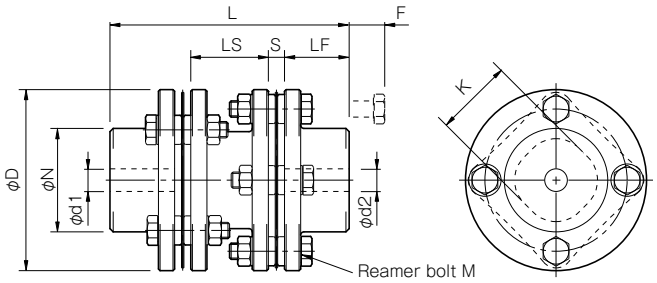
SFS(G) Types Floating Shaft Type

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFS-05G	20	0.5	2	±1.2	20000	8000	21	0.20×10^{-3}	0.50
SFS-06G	40	0.5	2	±1.6	16000	14000	22	0.55×10^{-3}	0.90
SFS-08G	80	0.5	2	±2.0	13000	41000	30	1.50×10^{-3}	1.70
SFS-09G	180	0.6	2	±2.4	12000	85000	61	2.90×10^{-3}	2.40
SFS-10G	250	0.6	2	±2.8	10000	125000	80	4.60×10^{-3}	3.30
SFS-12G	450	0.8	2	±3.2	8000	215000	98	11.80×10^{-3}	5.80
SFS-14G	800	0.9	2	±3.6	7000	390000	156	21.20×10^{-3}	8.60

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2			D	N	L	LF	LS	S	F	K	M
	Pilot bore	Min.	Max.									
SFS-05G	7	8	20	56	32	74	20	24	5	11	24	8-M5 × 22
SFS-06G	7	8	25	68	40	86	25	24	6	10	30	8-M6 × 25
SFS-08G	10	11	35	82	54	98	30	26	6	11	38	8-M6 × 29
SFS-09G	10	11	38	94	58	106	30	30	8	21	42	8-M8 × 36
SFS-10G	15	16	42	104	68	120	35	30	10	16	48	8-M8 × 36
SFS-12G	18	19	50	126	78	140	40	38	11	23	54	8-M10 × 45
SFS-14G	20	22	60	144	88	160	45	46	12	31	61	8-M12 × 54

• Further dimensions for LS possible on request.

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																											
	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	56	60
SFS-05G	●	●	●	●	●	●	●	●	●	●	●	●																
SFS-06G	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●													
SFS-08G				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFS-09G				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SFS-10G								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
SFS-12G											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SFS-14G													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

How to Place an Order

SFS-10G-25H-30H LS=500

- Size
- Type: G — Double element Floating shaft
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
  - Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - P: Compliant with JIS standards P9
  - N: Compliant with motor standards
- Spacer length
  - Blank: Standard spacers

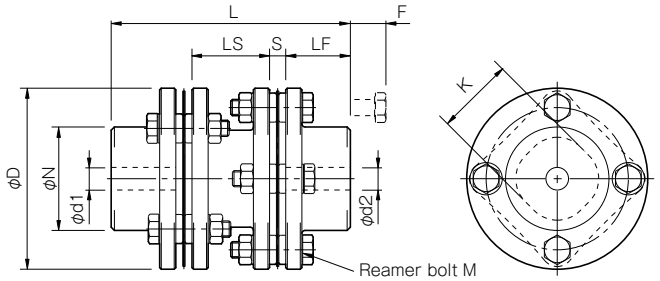
SFS(G-C) Types Floating Shaft Type/Electroless Nickel Plating Specification

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFS-05G-C	15	0.5	2	±1.2	20000	8000	21	0.20×10^{-3}	0.50
SFS-06G-C	30	0.5	2	±1.6	16000	14000	22	0.55×10^{-3}	0.90
SFS-08G-C	60	0.5	2	±2.0	13000	41000	30	1.50×10^{-3}	1.70
SFS-09G-C	135	0.6	2	±2.4	12000	85000	61	2.90×10^{-3}	2.40
SFS-10G-C	190	0.6	2	±2.8	10000	125000	80	4.60×10^{-3}	3.30
SFS-12G-C	340	0.8	2	±3.2	8000	215000	98	11.80×10^{-3}	5.80
SFS-14G-C	600	0.9	2	±3.6	7000	390000	156	21.20×10^{-3}	8.60

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2		D	N	L	LF	LS	S	F	K	M
	Min.	Max.									
SFS-05G-C	8	20	56	32	74	20	24	5	11	24	8-M5 × 22
SFS-06G-C	8	25	68	40	86	25	24	6	10	30	8-M6 × 25
SFS-08G-C	11	35	82	54	98	30	26	6	11	38	8-M6 × 29
SFS-09G-C	11	38	94	58	106	30	30	8	21	42	8-M8 × 36
SFS-10G-C	16	42	104	68	120	35	30	10	16	48	8-M8 × 36
SFS-12G-C	19	50	126	78	140	40	38	11	23	54	8-M10 × 45
SFS-14G-C	22	60	144	88	160	45	46	12	31	61	8-M12 × 54

• Further dimensions for LS possible on request.
• Please note that when the LS dimension exceeds 100 mm with the electroless nickel plating option (SFS- □ G-C), the insertion length of the shaft cannot exceed the LS dimension.

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																													
	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	56	60
SFS-05G-C	●	●	●	●	●	●	●	●	●	●	●	●																
SFS-06G-C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●													
SFS-08G-C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFS-09G-C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SFS-10G-C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
SFS-12G-C											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
SFS-14G-C													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

How to Place an Order

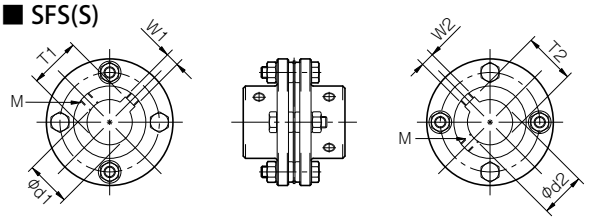
SFS-10G-C-25H-30H LS=500

- Size
- Type: G — Double element Floating shaft
- Surface finishing: -C: Electroless nickel plating
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
- Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - P: Compliant with JIS standards P9
  - N: Compliant with motor standards
- Spacer length
  - Blank: Standard spacers

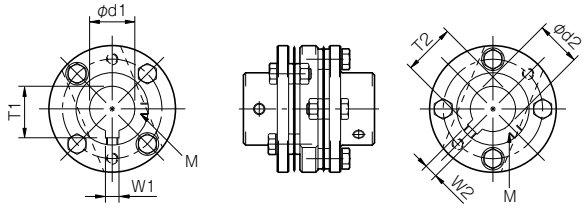
SFS Models

Standard Hole-Drillings

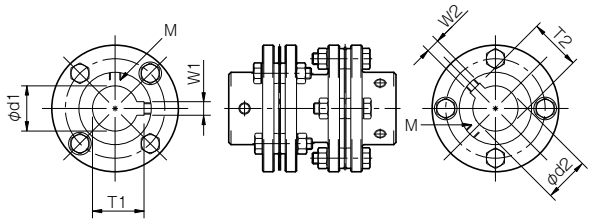
■ SFS(S)



■ SFS(W)



■ SFS(G)



Unit [mm]

Models compliant with the old JIS standard (class 2) JIS B 1301 1959						Models compliant with the new JIS standard (H9) JIS B 1301 1996						Models compliant with the new JIS standard (JS9) JIS B 1301 1996						Models compliant with the new JIS standard (P9) JIS B 1301 1996					
Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]		Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]		Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]		Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	
	Tolerance H7, H8	Tolerance E9	—	—			Tolerance H7, H8	Tolerance H9	—	—			Tolerance H7, H8	Tolerance JS9	—	—			Tolerance H7, H8	Tolerance P9	—	—	
8	8 $^{+0.022}_{0}$	—	—	2-M4	8H	8 $^{+0.022}_{0}$	3 $^{+0.025}_{0}$	9.4 $^{+0.3}_{0}$	2-M4	8J	8 $^{+0.022}_{0}$	3 ±0.0125	9.4 $^{+0.3}_{0}$	2-M4	8P	8 $^{+0.022}_{0}$	3 $^{-0.006}_{-0.031}$	9.4 $^{+0.3}_{0}$	2-M4
9	9 $^{+0.022}_{0}$	—	—	2-M4	9H	9 $^{+0.022}_{0}$	3 $^{+0.025}_{0}$	10.4 $^{+0.3}_{0}$	2-M4	9J	9 $^{+0.022}_{0}$	3 ±0.0125	10.4 $^{+0.3}_{0}$	2-M4	9P	9 $^{+0.022}_{0}$	3 $^{-0.006}_{-0.031}$	10.4 $^{+0.3}_{0}$	2-M4
10	10 $^{+0.022}_{0}$	—	—	2-M4	10H	10 $^{+0.022}_{0}$	3 $^{+0.025}_{0}$	11.4 $^{+0.3}_{0}$	2-M4	10J	10 $^{+0.022}_{0}$	3 ±0.0125	11.4 $^{+0.3}_{0}$	2-M4	10P	10 $^{+0.022}_{0}$	3 $^{-0.006}_{-0.031}$	11.4 $^{+0.3}_{0}$	2-M4
11	11 $^{+0.018}_{0}$	—	—	2-M4	11H	11 $^{+0.018}_{0}$	4 $^{+0.030}_{0}$	12.8 $^{+0.3}_{0}$	2-M4	11J	11 $^{+0.018}_{0}$	4 ±0.0150	12.8 $^{+0.3}_{0}$	2-M4	11P	11 $^{+0.018}_{0}$	4 $^{-0.012}_{-0.042}$	12.8 $^{+0.3}_{0}$	2-M4
12	12 $^{+0.018}_{0}$	4 $^{+0.050}_{+0.020}$	13.5 $^{+0.3}_{0}$	2-M4	12H	12 $^{+0.018}_{0}$	4 $^{+0.030}_{0}$	13.8 $^{+0.3}_{0}$	2-M4	12J	12 $^{+0.018}_{0}$	4 ±0.0150	13.8 $^{+0.3}_{0}$	2-M4	12P	12 $^{+0.018}_{0}$	4 $^{-0.012}_{-0.042}$	13.8 $^{+0.3}_{0}$	2-M4
14	14 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	16.0 $^{+0.3}_{0}$	2-M4	14H	14 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4	14J	14 $^{+0.018}_{0}$	5 ±0.0150	16.3 $^{+0.3}_{0}$	2-M4	14P	14 $^{+0.018}_{0}$	5 $^{-0.012}_{-0.042}$	16.3 $^{+0.3}_{0}$	2-M4
15	15 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	17.0 $^{+0.3}_{0}$	2-M4	15H	15 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	17.3 $^{+0.3}_{0}$	2-M4	15J	15 $^{+0.018}_{0}$	5 ±0.0150	17.3 $^{+0.3}_{0}$	2-M4	15P	15 $^{+0.018}_{0}$	5 $^{-0.012}_{-0.042}$	17.3 $^{+0.3}_{0}$	2-M4
16	16 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	18.0 $^{+0.3}_{0}$	2-M4	16H	16 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	18.3 $^{+0.3}_{0}$	2-M4	16J	16 $^{+0.018}_{0}$	5 ±0.0150	18.3 $^{+0.3}_{0}$	2-M4	16P	16 $^{+0.018}_{0}$	5 $^{-0.012}_{-0.042}$	18.3 $^{+0.3}_{0}$	2-M4
17	17 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	19.0 $^{+0.3}_{0}$	2-M4	17H	17 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	19.3 $^{+0.3}_{0}$	2-M4	17J	17 $^{+0.018}_{0}$	5 ±0.0150	19.3 $^{+0.3}_{0}$	2-M4	17P	17 $^{+0.018}_{0}$	5 $^{-0.012}_{-0.042}$	19.3 $^{+0.3}_{0}$	2-M4
18	18 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	20.0 $^{+0.3}_{0}$	2-M4	18H	18 $^{+0.018}_{0}$	6 $^{+0.030}_{0}$	20.8 $^{+0.3}_{0}$	2-M5	18J	18 $^{+0.018}_{0}$	6 ±0.0150	20.8 $^{+0.3}_{0}$	2-M5	18P	18 $^{+0.018}_{0}$	6 $^{-0.012}_{-0.042}$	20.8 $^{+0.3}_{0}$	2-M5
19	19 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	21.0 $^{+0.3}_{0}$	2-M4	19H	19 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5	19J	19 $^{+0.021}_{0}$	6 ±0.0150	21.8 $^{+0.3}_{0}$	2-M5	19P	19 $^{+0.021}_{0}$	6 $^{-0.012}_{-0.042}$	21.8 $^{+0.3}_{0}$	2-M5
20	20 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	22.0 $^{+0.3}_{0}$	2-M4	20H	20 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	22.8 $^{+0.3}_{0}$	2-M5	20J	20 $^{+0.021}_{0}$	6 ±0.0150	22.8 $^{+0.3}_{0}$	2-M5	20P	20 $^{+0.021}_{0}$	6 $^{-0.012}_{-0.042}$	22.8 $^{+0.3}_{0}$	2-M5
22	22 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	25.0 $^{+0.3}_{0}$	2-M6	22H	22 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	24.8 $^{+0.3}_{0}$	2-M5	22J	22 $^{+0.021}_{0}$	6 ±0.0150	24.8 $^{+0.3}_{0}$	2-M5	22P	22 $^{+0.021}_{0}$	6 $^{-0.012}_{-0.042}$	24.8 $^{+0.3}_{0}$	2-M5
24	24 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	27.0 $^{+0.3}_{0}$	2-M6	24H	24 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6	24J	24 $^{+0.021}_{0}$	8 ±0.0180	27.3 $^{+0.3}_{0}$	2-M6	24P	24 $^{+0.021}_{0}$	8 $^{-0.015}_{-0.051}$	27.3 $^{+0.3}_{0}$	2-M6
25	25 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	28.0 $^{+0.3}_{0}$	2-M6	25H	25 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	28.3 $^{+0.3}_{0}$	2-M6	25J	25 $^{+0.021}_{0}$	8 ±0.0180	28.3 $^{+0.3}_{0}$	2-M6	25P	25 $^{+0.021}_{0}$	8 $^{-0.015}_{-0.051}$	28.3 $^{+0.3}_{0}$	2-M6
28	28 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	31.0 $^{+0.3}_{0}$	2-M6	28H	28 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6	28J	28 $^{+0.021}_{0}$	8 ±0.0180	31.3 $^{+0.3}_{0}$	2-M6	28P	28 $^{+0.021}_{0}$	8 $^{-0.015}_{-0.051}$	31.3 $^{+0.3}_{0}$	2-M6
30	30 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	33.0 $^{+0.3}_{0}$	2-M6	30H	30 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	33.3 $^{+0.3}_{0}$	2-M6	30J	30 $^{+0.021}_{0}$	8 ±0.0180	33.3 $^{+0.3}_{0}$	2-M6	30P	30 $^{+0.021}_{0}$	8 $^{-0.015}_{-0.051}$	33.3 $^{+0.3}_{0}$	2-M6
32	32 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	35.5 $^{+0.3}_{0}$	2-M8	32H	32 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	35.3 $^{+0.3}_{0}$	2-M8	32J	32 $^{+0.025}_{0}$	10 ±0.0180	35.3 $^{+0.3}_{0}$	2-M8	32P	32 $^{+0.025}_{0}$	10 $^{-0.015}_{-0.051}$	35.3 $^{+0.3}_{0}$	2-M8
35	35 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	38.5 $^{+0.3}_{0}$	2-M8	35H	35 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	38.3 $^{+0.3}_{0}$	2-M8	35J	35 $^{+0.025}_{0}$	10 ±0.0180	38.3 $^{+0.3}_{0}$	2-M8	35P	35 $^{+0.025}_{0}$	10 $^{-0.015}_{-0.051}$	38.3 $^{+0.3}_{0}$	2-M8
38	38 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	41.5 $^{+0.3}_{0}$	2-M8	38H	38 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	41.3 $^{+0.3}_{0}$	2-M8	38J	38 $^{+0.025}_{0}$	10 ±0.0180	41.3 $^{+0.3}_{0}$	2-M8	38P	38 $^{+0.025}_{0}$	10 $^{-0.015}_{-0.051}$	41.3 $^{+0.3}_{0}$	2-M8
40	40 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	43.5 $^{+0.3}_{0}$	2-M8	40H	40 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	43.3 $^{+0.3}_{0}$	2-M8	40J	40 $^{+0.025}_{0}$	12 ±0.0215	43.3 $^{+0.3}_{0}$	2-M8	40P	40 $^{+0.025}_{0}$	12 $^{-0.018}_{-0.061}$	43.3 $^{+0.3}_{0}$	2-M8
42	42 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	45.5 $^{+0.3}_{0}$	2-M8	42H	42 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	45.3 $^{+0.3}_{0}$	2-M8	42J	42 $^{+0.025}_{0}$	12 ±0.0215	45.3 $^{+0.3}_{0}$	2-M8	42P	42 $^{+0.025}_{0}$	12 $^{-0.018}_{-0.061}$	45.3 $^{+0.3}_{0}$	2-M8
45	45 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	48.5 $^{+0.3}_{0}$	2-M8	45H	45 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	48.8 $^{+0.3}_{0}$	2-M10	45J	45 $^{+0.025}_{0}$	14 ±0.0215	48.8 $^{+0.3}_{0}$	2-M10	45P	45 $^{+0.025}_{0}$	14 $^{-0.018}_{-0.061}$	48.8 $^{+0.3}_{0}$	2-M10
48	48 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	51.5 $^{+0.3}_{0}$	2-M8	48H	48 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	51.8 $^{+0.3}_{0}$	2-M10	48J	48 $^{+0.025}_{0}$	14 ±0.0215	51.8 $^{+0.3}_{0}$	2-M10	48P	48 $^{+0.025}_{0}$	14 $^{-0.018}_{-0.061}$	51.8 $^{+0.3}_{0}$	2-M10
50	50 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	53.5 $^{+0.3}_{0}$	2-M8	50H	50 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	53.8 $^{+0.3}_{0}$	2-M10	50J	50 $^{+0.025}_{0}$	14 ±0.0215	53.8 $^{+0.3}_{0}$	2-M10	50P	50 $^{+0.025}_{0}$	14 $^{-0.018}_{-0.061}$	53.8 $^{+0.3}_{0}$	2-M10
55	55 $^{+0.030}_{0}$	15 $^{+0.075}_{+0.032}$	60.0 $^{+0.3}_{0}$	2-M10	55H	55 $^{+0.030}_{0}$	16 $^{+0.043}_{0}$	59.3 $^{+0.3}_{0}$	2-M10	55J	55 $^{+0.030}_{0}$	16 ±0.0215	59.3 $^{+0.3}_{0}$	2-M10	55P	55 $^{+0.030}_{0}$	16 $^{-0.018}_{-0.061}$	59.3 $^{+0.3}_{0}$	2-M10
56	56 $^{+0.030}_{0}$	15 $^{+0.075}_{+0.032}$	61.0 $^{+0.3}_{0}$	2-M10	56H	56 $^{+0.030}_{0}$	16 $^{+0.043}_{0}$	60.3 $^{+0.3}_{0}$	2-M10	56J	56 $^{+0.030}_{0}$	16 ±0.0215	60.3 $^{+0.3}_{0}$	2-M10	56P	56 $^{+0.030}_{0}$	16 $^{-0.018}_{-0.061}$	60.3 $^{+0.3}_{0}$	2-M10
60	60 $^{+0.030}_{0}$	15 $^{+0.075}_{+0.032}$	65.0 $^{+0.3}_{0}$	2-M10	60H	60 $^{+0.030}_{0}$	18 $^{+0.043}_{0}$	64.4 $^{+0.3}_{0}$	2-M10	60J	60 $^{+0.030}_{0}$	18 ±0.0215	64.4 $^{+0.3}_{0}$	2-M10	60P	60 $^{+0.030}_{0}$	18 $^{-0.018}_{-0.061}$	64.4 $^{+0.3}_{0}$	2-M10

Models compliant with the motor standard JIS C 4210 2001				
Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]
	Tolerance G7, F7	Tolerance H9	—	—
14N	14 $^{+0.024}_{+0.006}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4
19N	19 $^{+0.028}_{+0.007}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5
24N	24 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6
28N	28 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6
38N	38 $^{+0.050}_{+0.025}$	10 $^{+0.036}_{0}$	41.3 $^{+0.3}_{0}$	2-M8
42N	42 $^{+0.050}_{+0.025}$	12 $^{+0.043}_{0}$	45.3 $^{+0.3}_{0}$	2-M8
48N	48 $^{+0.050}_{+0.025}$	14 $^{+0.043}_{0}$	51.8 $^{+0.3}_{0}$	2-M10
55N	55 $^{+0.060}_{+0.030}$	16 $^{+0.043}_{0}$	59.3 $^{+0.3}_{0}$	2-M10
60N	60 $^{+0.060}_{+0.030}$	18 $^{+0.043}_{0}$	64.4 $^{+0.3}_{0}$	2-M10

Set Screw Position

Model	Position of set screw [mm]
SFS-05	7
SFS-06	9
SFS-08	10
SFS-09	10
SFS-10	12
SFS-12	12
SFS-14	15

NOTE

- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision.
- Set screws are included with the product.
- Contact Miki Pulley regarding technical documents for standard dimensions for bore drilling other than those given here.

SFS Models

Options Frictional coupling hub

The hub contains a frictional coupling element enabling more accurate installation.

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFS-06S-□M-□M	40	–	1	±0.8	5000	29000	45	0.30×10⁻³	0.70
SFS-08S-□M-□M	80	–	1	±1.0	5000	83000	60	0.93×10⁻³	1.30
SFS-09S-□M-□M	180	–	1	±1.2	5000	170000	122	1.80×10⁻³	1.80
SFS-10S-□M-□M	250	–	1	±1.4	5000	250000	160	2.70×10⁻³	2.30
SFS-12S-□M-□M	450	–	1	±1.6	5000	430000	197	6.80×10⁻³	4.10
SFS-14S-□M-□M	580	–	1	±1.8	5000	780000	313	14.01×10⁻³	6.40

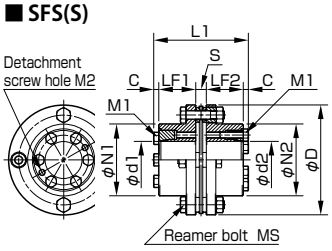
Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFS-06W-□M-□M	40	0.3	1 (On one side)	±1.6	5000	14000	22	0.41×10⁻³	0.90
SFS-08W-□M-□M	80	0.3	1 (On one side)	±2.0	5000	41000	30	1.16×10⁻³	1.60
SFS-09W-□M-□M	180	0.5	1 (On one side)	±2.4	5000	85000	61	2.40×10⁻³	2.50
SFS-10W-□M-□M	250	0.5	1 (On one side)	±2.8	5000	125000	80	3.70×10⁻³	3.00
SFS-12W-□M-□M	450	0.6	1 (On one side)	±3.2	4400	215000	98	9.50×10⁻³	5.60
SFS-14W-□M-□M	580	0.7	1 (On one side)	±3.6	3800	390000	156	19.11×10⁻³	8.60

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFS-06G-□M-□M	40	0.5	1 (On one side)	±1.6	5000	14000	22	0.55×10⁻³	1.10
SFS-08G-□M-□M	80	0.5	1 (On one side)	±2.0	5000	41000	30	1.56×10⁻³	2.00
SFS-09G-□M-□M	180	0.6	1 (On one side)	±2.4	5000	85000	61	3.10×10⁻³	2.80
SFS-10G-□M-□M	250	0.6	1 (On one side)	±2.8	5000	125000	80	4.70×10⁻³	3.50
SFS-12G-□M-□M	450	0.8	1 (On one side)	±3.2	5000	215000	98	12.10×10⁻³	6.50
SFS-14G-□M-□M	580	0.9	1 (On one side)	±3.6	5000	390000	156	25.31×10⁻³	10.10

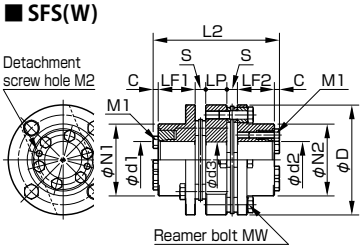
• Check the Standard Bore Diameters as there may be limitations on the rated torque caused by the holding power of the coupling shaft section.
• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions

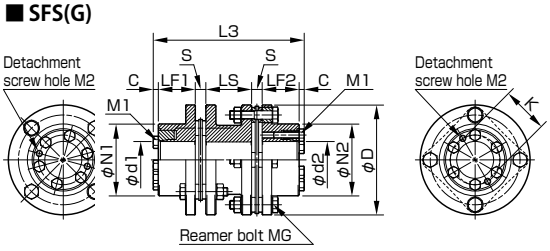
■ SFS(S)



■ SFS(W)



■ SFS(G)



Unit [mm]

Model	d 1	d 2	D	N1	N2	L1	L2	L3	LF1	LF2	LP	LS	S	C	d3	K	MS	MW	MG	M1	M2
SFS-06	12·14·15	12·14·15	68	40	40	65.6	83.6	95.6	25	25	12	24	6	4.8	24	30	4-M6×25	8-M6×18	8-M6×25	4-M5	2-M5
SFS-08	15·16·17·18·19·20·22	15·16·17·18·19·20·22	82	54	54	75.6	93.6	107.6	30	30	12	26	6	4.8	28	38	4-M6×29	8-M6×20	8-M6×29	4-M6	2-M6
	25·28	25·28	94	58	58	77.6	107.6	115.6	30	30	22	30	8	4.8	32	42	4-M8×36	8-M8×27	8-M8×36	6-M6	2-M6
SFS-09	25·28	30·32·35	94	58	58	85.6	115.6	123.6	30	38	22	30	8	4.8	32	42	4-M8×36	8-M8×27	8-M8×36	6-M6	2-M6
	30·32·35	30·32·35	94	68	68	93.6	123.6	131.6	38	38	22	30	8	4.8	32	42	4-M8×36	8-M8×27	8-M8×36	6-M6	2-M6
SFS-10	25·28·30·32·35	25·28·30·32·35	104	68	68	89.6	119.6	129.6	35	35	20	30	10	4.8	34	48	4-M8×36	8-M8×27	8-M8×36	6-M6	2-M6
SFS-12	30·32·35	30·32·35	126	78	78	101.6	137.6	150.6	40	40	25	38	11	5.3	40	54	4-M10×45	8-M10×32	8-M10×45	4-M8	2-M8
SFS-14	35	35	144	88	88	112.6	154.6	170.6	45	45	30	46	12	5.3	46	61	4-M12×54	8-M12×38	8-M12×54	6-M8	2-M8

• Further dimensions for LS possible on request.

Standard Bore Diameter

SFS-06		Standard bore diameter d2 [mm]												
		12M	14M	15M	16M	17M	18M	19M	20M	22M	25M	28M	30M	32M	35M
Standard bore diameter d1 [mm]	12M	●	●	●											
	14M		●	●											
	15M			●											

SFS-08		Standard bore diameter d2 [mm]												
		12M	14M	15M	16M	17M	18M	19M	20M	22M	25M	28M	30M	32M	35M
Standard bore diameter d1 [mm]	15M			●	●	●	●	●	●	●					
	16M				●	●	●	●	●	●					
	17M					●	●	●	●	●					
	18M						●	●	●	●					
	19M							●	●	●					
	20M								●	●					
	22M									●					

SFS-09		Standard bore diameter d2 [mm]												
		12M	14M	15M	16M	17M	18M	19M	20M	22M	25M	28M	30M	32M	35M
Standard bore diameter d1 [mm]	25M										●	●	●	●	●
	28M											●	●	●	●
	30M												●	●	●
	32M													●	●
	35M														●

SFS-10		Standard bore diameter d2 [mm]												
		12M	14M	15M	16M	17M	18M	19M	20M	22M	25M	28M	30M	32M	35M
Standard bore diameter d1 [mm]	25M										●	●	●	●	●
	28M											●	●	●	●
	30M												●	●	●
	32M													●	●
	35M														●

SFS-12		Standard bore diameter d2 [mm]												
		12M	14M	15M	16M	17M	18M	19M	20M	22M	25M	28M	30M	32M	35M
Standard bore diameter d1 [mm]	30M												380	380	380
	32M													400	400
	35M														●

SFS-14		Standard bore diameter d2 [mm]												
		12M	14M	15M	16M	17M	18M	19M	20M	22M	25M	28M	30M	32M	35M
Standard bore diameter d1 [mm]	35M														●

- Bore diameters marked with ● or numbers are supported as the standard bore diameters. Contact Miki Pulley regarding special arrangements which may be possible for other bore diameters.
- Bore diameters whose fields contain numbers are restricted in their rated torque by the holding power of the shaft connection component because the bore diameter is small. The numbers indicate the rated torque [N•m].
- Where a bore diameter is not given above and is small, please check first; model may be restricted in its rated torque.
- The recommended processing tolerance for paired mounting shafts is the h7 (h6 or g6) class. However, for a bore diameter of ø35, the shaft tolerance is $^{+0.010}_{-0.025}$.

How to Place an Order

SFS-10G-25M-30M LS=500

- Size
- Types
  - S: Single element
  - W: Double element
  - G: Floating shaft
- Bore diameter d1 (Small diameter)
- Bore diameter d2 (Large diameter)
- Affixing method
  - M: Conical clamp hub
- Spacer length (only for type G)
  - Blank: Standard spacers.

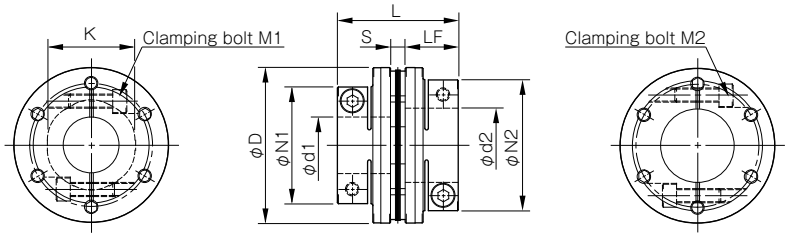
SFF(SS) Types Single Element Type/Clamping

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFF-040SS-☐B-☐B-8N	8	0.02	1	± 0.2	18000	15000	174	0.03×10^{-3}	0.17
SFF-040SS-☐B-☐B-12N	12	0.02	1	± 0.2	18000	15000	174	0.03×10^{-3}	0.17
SFF-050SS-☐B-☐B-25N	25	0.02	1	± 0.3	18000	32000	145	0.10×10^{-3}	0.36
SFF-060SS-☐B-☐B-60N	60	0.02	1	± 0.3	18000	104000	399	0.22×10^{-3}	0.52
SFF-060SS-☐B-☐B-80N	80	0.02	1	± 0.3	18000	104000	399	0.23×10^{-3}	0.49
SFF-070SS-☐B-☐B-90N	90	0.02	1	± 0.5	18000	240000	484	0.40×10^{-3}	0.72
SFF-070SS-☐B-☐B-100N	100	0.02	1	± 0.5	18000	240000	484	0.42×10^{-3}	0.67
SFF-080SS-☐B-☐B-150N	150	0.02	1	± 0.5	17000	120000	96	0.79×10^{-3}	1.04
SFF-080SS-☐B-☐B-200N	200	0.02	1	± 0.5	17000	310000	546	1.25×10^{-3}	1.40
SFF-090SS-☐B-☐B-250N	250	0.02	1	± 0.6	15000	520000	321	1.54×10^{-3}	1.62
SFF-090SS-☐B-☐B-300N	300	0.02	1	± 0.6	15000	520000	321	1.58×10^{-3}	1.53
SFF-100SS-☐B-☐B-450N	450	0.02	1	± 0.65	13000	740000	540	3.27×10^{-3}	2.53
SFF-120SS-☐B-☐B-600N	600	0.02	1	± 0.8	11000	970000	360	6.90×10^{-3}	3.78

- Higher rpm possible with balancing.
- Torsional stiffness values given are measured values for the flexible element alone.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1・N2 [mm]	LF [mm]	S [mm]	K [mm]	M1・M2 Qty – Nominal dia.	M1・M2 Tightening torque [N·m]
SFF-040SS-☐B-☐B-8N	8・9・9.525	8・9・9.525・10・11・12・14・15・16	38	38.9	33	17.5	3.9	17	2-M4	3.4
SFF-040SS-☐B-☐B-12N	10・11・12・14・15・16	10・11・12・14・15・16	38	38.9	33	17.5	3.9	17	2-M4	3.4
SFF-050SS-☐B-☐B-25N	10・11・12・14・15・16・17・18・19	10・11・12・14・15・16・17・18・19	48	48.4	42	21.5	5.4	20	2-M5	7
SFF-060SS-☐B-☐B-60N	12・14・15・16・17・18・19	12・14・15・16・17・18・19・20・22	58	53.4	44	24	5.4	32	2-M6	14
	—	24・25・28			48				2-M5	7
	—	30			52					
SFF-060SS-☐B-☐B-80N	20・22	20・22	58	53.4	44	24	5.4	32	2-M6	14
	24・25・28	24・25・28			48				2-M5	7
	30	30			52					
SFF-070SS-☐B-☐B-90N	18・19	18・19・20・22・24・25	68	55.9	47	25	5.9	38	2-M6	14
	—	28・30・32・35			56					
SFF-070SS-☐B-☐B-100N	20・22・24・25	20・22・24・25	68	55.9	47	25	5.9	38	2-M6	14
	28・30・32・35	28・30・32・35			56					
SFF-080SS-☐B-☐B-150N	22・24・25	22・24・25	78	68.3	53	30	8.3	37	2-M8	34
	28・30・32・35	28・30・32・35			56				2-M6	14
SFF-080SS-☐B-☐B-200N	22・24・25	22・24・25	78	67.7	53	30	7.7	42	2-M8	34
	28・30・32・35	28・30・32・35			70					
	38	38			74					
SFF-090SS-☐B-☐B-250N	25・28	25・28・30・32	88	68.3	66	30	8.3	50	2-M8	34
	—	35・38・40・42			74					
SFF-090SS-☐B-☐B-300N	30・32	30・32	88	68.3	66	30	8.3	50	2-M8	34
	35・38・40・42	35・38・40・42			74					
SFF-100SS-☐B-☐B-450N	32・35・38・40・42・45・48	32・35・38・40・42・45・48	98	90.2	84	40	10.2	56	2-M10	68
SFF-120SS-☐B-☐B-600N	32・35・38・40・42・45	32・35・38・40・42・45	118	90.2	84	40	10.2	68	2-M10	68
	48・50・55	48・50・55			100					

Standard Bore Diameter

Model	Nominal diameter	Standard bore diameter d1 • d2 [mm]																									
		8	9	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55
SFF-040SS-☐B-☐B-8N	d1	●	●	●																							
	d2	●	●	●	●	●	●	●	●	●																	
SFF-040SS-☐B-☐B-12N	d1				●	●	●	●	●	●																	
	d2				●	●	●	●	●	●																	
SFF-050SS-☐B-☐B-25N	d1				●	●	●	●	●	●	●	●	●														
	d2				●	●	●	●	●	●	●	●	●														
SFF-060SS-☐B-☐B-60N	d1						●	●	●	●	●	●	●														
	d2						●	●	●	●	●	●	●	●	●	●	●	●	●								
SFF-060SS-☐B-☐B-80N	d1													●	●	●	●	●	●								
	d2													●	●	●	●	●	●								
SFF-070SS-☐B-☐B-90N	d1											●	●														
	d2											●	●	●	●	●	●	●	●	●	●						
SFF-070SS-☐B-☐B-100N	d1													●	●	●	●	●	●	●	●						
	d2													●	●	●	●	●	●	●	●						
SFF-080SS-☐B-☐B-150N	d1														●	●	●	●	●	●	●						
	d2														●	●	●	●	●	●	●						
SFF-080SS-☐B-☐B-200N	d1														●	●	●	●	●	●	●	●					
	d2														●	●	●	●	●	●	●	●					
SFF-090SS-☐B-☐B-250N	d1																●	●									
	d2																●	●	●	●	●	●	●	●			
SFF-090SS-☐B-☐B-300N	d1																		●	●	●	●	●	●			
	d2																		●	●	●	●	●	●			
SFF-100SS-☐B-☐B-450N	d1																			●	●	●	●	●	●	●	
	d2																			●	●	●	●	●	●	●	
SFF-120SS-☐B-☐B-600N	d1																			●	●	●	●	●	●	●	●
	d2																			●	●	●	●	●	●	●	●

How to Place an Order

SFF-080SS-25BK-30BK-200N

- Size / Type: S: Single element
- Material: S: Steel
- Bore dia. d1 (Small dia.)
- Bore dia. d2 (Large dia.)
- Nominal rated torque (Refer to the specifications)
- Countershaft tolerance: Blank: h7, K: k6, M: m6, J: j6, S: $35^{+0.010}_{0}$
- Affixing method: B: Clamp
- Tapered shaft option: specify CN for d2 nominal diameter.

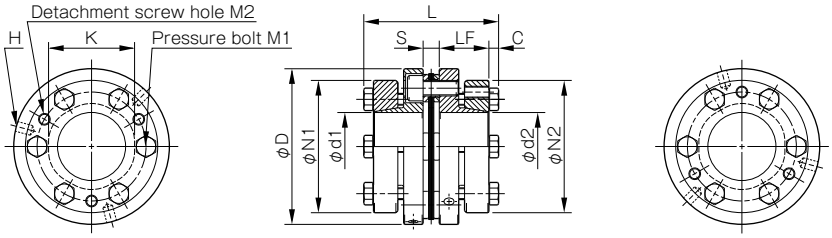
SFF(SS) Types Single Element Type/Conical Clamp Hub

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFF-070SS-☐K-☐K-100N	100	0.2	1	± 0.5	18000	240000	484	0.66 × 10⁻³	0.92
SFF-080SS-☐K-☐K-150N	150	0.2	1	± 0.5	17000	120000	96	1.21 × 10⁻³	1.03
SFF-080SS-☐K-☐K-200N	200	0.2	1	± 0.5	17000	310000	546	1.11 × 10⁻³	1.26
SFF-090SS-☐K-☐K-300N	300	0.2	1	± 0.6	15000	520000	321	1.75 × 10⁻³	1.48
SFF-100SS-☐K-☐K-450N	450	0.2	1	± 0.65	13000	740000	540	2.56 × 10⁻³	1.87
SFF-120SS-☐K-☐K-600N	600	0.2	1	± 0.8	11000	970000	360	5.33 × 10⁻³	2.50
SFF-140SS-☐K-☐K-800N	800	0.2	1	± 1.0	10000	1400000	360	10.28 × 10⁻³	4.66
SFF-140SS-☐K-☐K-1000N	1000	0.2	1	± 1.0	10000	1400000	360	14.70 × 10⁻³	5.01

- Higher rpm possible with balancing.
- Torsional stiffness values given are measured values for the flexible element alone.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1 • N2 [mm]	LF [mm]	S [mm]	C [mm]	K [mm]	H [mm]	M1 Qty – Nominal dia.	M1 Tightening torque [N·m]	M2 Qty – Nominal dia.
SFF-070SS-☐K-☐K-100N	18 • 19	18 • 19	68	62.9	53	23.5	5.9	5	38	3-5.1	6-M6	10	3-M6
	20 • 22 • 24 • 25	20 • 22 • 24 • 25			58								
	28 • 30	28 • 30			63								
	32 • 35	32 • 35			68								
SFF-080SS-☐K-☐K-150N	22 • 24 • 25	22 • 24 • 25	78	69.3	58	25.5	8.3	5	37	4-5.1	4-M6	10	2-M6
	28 • 30	28 • 30			63								
	32 • 35	32 • 35			68								
	–	38			73								
SFF-080SS-☐K-☐K-200N	22 • 24 • 25	22 • 24 • 25	78	68.7	58	25.5	7.7	5	42	3-5.1	6-M6	10	3-M6
	28 • 30	28 • 30			63								
	32 • 35	32 • 35			68								
	38	38			73								
SFF-090SS-☐K-☐K-300N	28 • 30	28 • 30	88	69.3	63	25.5	8.3	5	50	3-6.8	6-M6	10	3-M6
	32 • 35	32 • 35			68								
	38 • 40 • 42	38 • 40 • 42			73								
	45	45			78								
	48	48			83								
SFF-100SS-☐K-☐K-450N	32 • 35	32 • 35	98	75.2	68	27.5	10.2	5	56	3-6.8	6-M6	10	3-M6
	38 • 40 • 42	38 • 40 • 42			73								
	45	45			78								
	48 • 50	48 • 50			83								
SFF-120SS-☐K-☐K-600N	35	35	118	75.2	68	27.5	10.2	5	68	3-6.8	6-M6	10	3-M6
	38 • 40 • 42	38 • 40 • 42			73								
	45	45			78								
	48 • 50 • 52	48 • 50 • 52			83								
	55	55			88								
	60 • 62 • 65	60 • 62 • 65			98								
	–	70			108								
SFF-140SS-☐K-☐K-800N	35 • 38	35 • 38	138	94.6	83	36.5	10.6	5.5	78	3-8.6	6-M8	24	3-M8
	40 • 42 • 45	40 • 42 • 45			88								
	–	48 • 50 • 52			98								
	–	55 • 60			108								
	–	62 • 65 • 70			118								
	–	75 • 80			128								
SFF-140SS-☐K-☐K-1000N	48 • 50 • 52	48 • 50 • 52	138	94.6	98	36.5	10.6	5.5	78	3-8.6	6-M8	24	3-M8
	55 • 60	55 • 60			108								
	62 • 65 • 70	62 • 65 • 70			118								
	75	75 • 80			128								

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																								
	Nominal diameter	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	52	55	60	62	65	70	75	80
SFF-070SS-☐K-☐K-100N	d1	●	●	●	●	●	●	●	●	●	●														
	d2	●	●	●	●	●	●	●	●	●	●														
SFF-080SS-☐K-☐K-150N	d1				●	●	●	●	●	●	●														
	d2				●	●	●	●	●	●	●	●													
SFF-080SS-☐K-☐K-200N	d1				●	●	●	●	●	●	●	●													
	d2				●	●	●	●	●	●	●	●													
SFF-090SS-☐K-☐K-300N	d1							●	●	●	●	●	●	●	●	●									
	d2							●	●	●	●	●	●	●	●	●									
SFF-100SS-☐K-☐K-450N	d1									●	●	●	●	●	●	●	●								
	d2									●	●	●	●	●	●	●	●								
SFF-120SS-☐K-☐K-600N	d1										●	●	●	●	●	●	●	●	●	●	●	●			
	d2										●	●	●	●	●	●	●	●	●	●	●	●	●		
SFF-140SS-☐K-☐K-800N	d1										●	●	●	●	●										
	d2										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SFF-140SS-☐K-☐K-1000N	d1															●	●	●	●	●	●	●	●	●	
	d2															●	●	●	●	●	●	●	●	●	●

How to Place an Order

SFF-080SS-25KK-30KK-200N

- Size
- Type
  S: Single element
- Material
  S: Steel
- Bore dia. d1 (Small dia.)
- Bore dia. d2 (Large dia.)
- Affixing method
  K: Conical clamp hub
- Countershaft tolerance
  Blank: h7, K: k6, M: m6, J: j6, S: $35^{+0.010}_{0}$
- Nominal rated torque
  (Refer to the specifications)

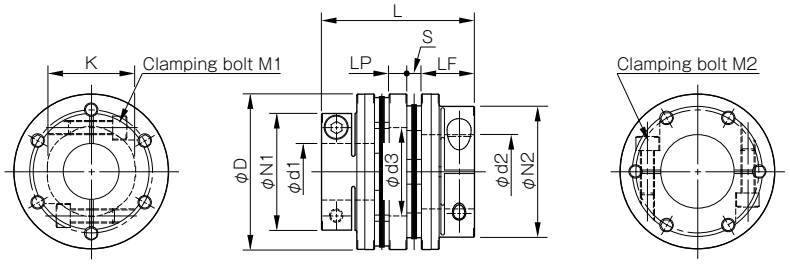
SFF(DS) Types Double Element Type/Clamping

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFF-040DS-☐B-☐B-8N	8	0.10	2	± 0.4	14000	7500	87	0.04×10^{-3}	0.22
SFF-040DS-☐B-☐B-12N	12	0.10	2	± 0.4	14000	7500	87	0.04×10^{-3}	0.22
SFF-050DS-☐B-☐B-25N	25	0.20	2	± 0.6	14000	16000	72.5	0.13×10^{-3}	0.46
SFF-060DS-☐B-☐B-60N	60	0.20	2	± 0.6	14000	52000	199.5	0.28×10^{-3}	0.64
SFF-060DS-☐B-☐B-80N	80	0.20	2	± 0.6	14000	52000	199.5	0.29×10^{-3}	0.61
SFF-070DS-☐B-☐B-90N	90	0.25	2	± 1.0	14000	120000	242	0.53×10^{-3}	0.90
SFF-070DS-☐B-☐B-100N	100	0.25	2	± 1.0	14000	120000	242	0.55×10^{-3}	0.85
SFF-080DS-☐B-☐B-150N	150	0.32	2	± 1.0	13000	60000	48	1.10×10^{-3}	1.37
SFF-080DS-☐B-☐B-200N	200	0.31	2	± 1.0	13000	155000	273	1.50×10^{-3}	1.72
SFF-090DS-☐B-☐B-250N	250	0.32	2	± 1.2	12000	260000	160.5	2.03×10^{-3}	2.02
SFF-090DS-☐B-☐B-300N	300	0.32	2	± 1.2	12000	260000	160.5	2.10×10^{-3}	1.92
SFF-100DS-☐B-☐B-450N	450	0.38	2	± 1.3	10000	370000	270	4.18×10^{-3}	3.12
SFF-120DS-☐B-☐B-600N	600	0.38	2	± 1.6	9000	485000	180	8.87×10^{-3}	4.60

- Higher rpm possible with balancing.
- Torsional stiffness values given are measured values for the flexible element alone.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1・N2 [mm]	LF [mm]	LP [mm]	S [mm]	d3 [mm]	K [mm]	M1・M2 Qty – Nominal dia.	M1・M2 Tightening torque [N·m]
SFF-040DS-☐B-☐B-8N	8・9・9.525	8・9・9.525・10・11・12・14・15・16	38	48.8	33	17.5	6	3.9	17	17	2-M4	3.4
SFF-040DS-☐B-☐B-12N	10・11・12・14・15・16	10・11・12・14・15・16	38	48.8	33	17.5	6	3.9	17	17	2-M4	3.4
SFF-050DS-☐B-☐B-25N	10・11・12・14・15・16・17・18・19	10・11・12・14・15・16・17・18・19	48	60.8	42	21.5	7	5.4	20	20	2-M5	7
SFF-060DS-☐B-☐B-60N	12・14・15・16・17・18・19	12・14・15・16・17・18・19・20・22	58	65.8	44	24	7	5.4	31	32	2-M6	14
	—	24・25・28			48						2-M5	7
	—	30			52							
SFF-060DS-☐B-☐B-80N	20・22	20・22	58	65.8	44	24	7	5.4	31	32	2-M6	14
	24・25・28	24・25・28			48						2-M5	7
	30	30			52							
SFF-070DS-☐B-☐B-90N	18・19	18・19・20・22・24・25	68	69.8	47	25	8	5.9	37	38	2-M6	14
	—	28・30・32・35			56							
SFF-070DS-☐B-☐B-100N	20・22・24・25	20・22・24・25	68	69.8	47	25	8	5.9	37	38	2-M6	14
	28・30・32・35	28・30・32・35			56							
SFF-080DS-☐B-☐B-150N	22・24・25	22・24・25	78	86.6	53	30	10	8.3	40	37	2-M8	34
	28・30・32・35	28・30・32・35			56						2-M6	14
SFF-080DS-☐B-☐B-200N	22・24・25	22・24・25	78	85.4	53	30	10	7.7	40	42	2-M8	34
	28・30・32・35	28・30・32・35			70							
	38	38			74							
SFF-090DS-☐B-☐B-250N	25・28	25・28・30・32	88	86.6	66	30	10	8.3	50	50	2-M8	34
	—	35・38・40・42			74							
SFF-090DS-☐B-☐B-300N	30・32	30・32	88	86.6	66	30	10	8.3	50	50	2-M8	34
	35・38・40・42	35・38・40・42			74							
SFF-100DS-☐B-☐B-450N	32・35・38・40・42・45・48	32・35・38・40・42・45・48	98	112.4	84	40	12	10.2	52	56	2-M10	68
SFF-120DS-☐B-☐B-600N	32・35・38・40・42・45	32・35・38・40・42・45	118	112.4	84	40	12	10.2	72	68	2-M10	68
	48・50・55	48・50・55			100							

Standard Bore Diameter

Model	Nominal diameter	Standard bore diameter d1 • d2 [mm]																										
		8	9	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55
SFF-040DS-☐B-☐B-8N	d1	●	●	●																								
	d2	●	●	●	●	●	●	●	●	●																		
SFF-040DS-☐B-☐B-12N	d1				●	●	●	●	●	●																		
	d2				●	●	●	●	●	●																		
SFF-050DS-☐B-☐B-25N	d1				●	●	●	●	●	●	●	●	●															
	d2				●	●	●	●	●	●	●	●	●															
SFF-060DS-☐B-☐B-60N	d1						●	●	●	●	●	●	●															
	d2						●	●	●	●	●	●	●	●	●	●	●	●	●									
SFF-060DS-☐B-☐B-80N	d1													●	●	●	●	●	●									
	d2													●	●	●	●	●	●									
SFF-070DS-☐B-☐B-90N	d1											●	●															
	d2											●	●	●	●	●	●	●	●	●	●							
SFF-070DS-☐B-☐B-100N	d1													●	●	●	●	●	●	●	●							
	d2													●	●	●	●	●	●	●	●							
SFF-080DS-☐B-☐B-150N	d1														●	●	●	●	●	●	●							
	d2														●	●	●	●	●	●	●							
SFF-080DS-☐B-☐B-200N	d1														●	●	●	●	●	●	●	●						
	d2														●	●	●	●	●	●	●	●						
SFF-090DS-☐B-☐B-250N	d1																●	●										
	d2																●	●	●	●	●	●	●	●				
SFF-090DS-☐B-☐B-300N	d1																		●	●	●	●	●	●				
	d2																		●	●	●	●	●	●				
SFF-100DS-☐B-☐B-450N	d1																			●	●	●	●	●	●	●		
	d2																			●	●	●	●	●	●	●		
SFF-120DS-☐B-☐B-600N	d1																			●	●	●	●	●	●	●	●	●
	d2																			●	●	●	●	●	●	●	●	●

How to Place an Order

SFF-080DS-25BK-30BK-200N

- Size
- Type
  D: Double element
- Material
  S: Steel
- Bore dia. d1 (Small dia.)
- Bore dia. d2 (Large dia.)
- Nominal rated torque
  (Refer to the specifications)
- Countershaft tolerance
  Blank: h7, K: k6, M: m6, J: j6, S: $35^{+0.010}_{0}$
- Affixing method
  B: Clamp

・Tapered shaft option: specify CN for d2 nominal diameter.

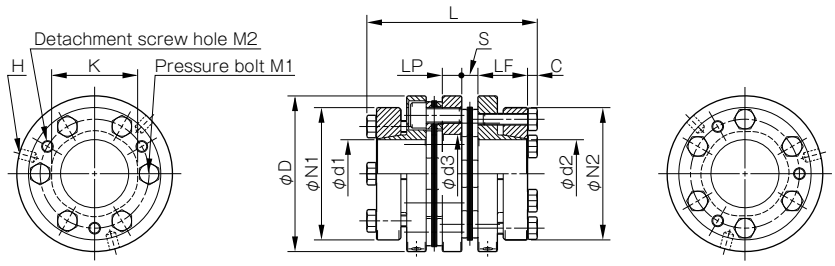
SFF(DS) Types Double Element Type/Conical Clamp Hub

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFF-070DS-☐K-☐K-100N	100	0.25	2	± 1.0	14000	120000	242	0.80×10^{-3}	1.10
SFF-080DS-☐K-☐K-150N	150	0.32	2	± 1.0	13000	60000	48	1.36×10^{-3}	1.56
SFF-080DS-☐K-☐K-200N	200	0.31	2	± 1.0	13000	155000	273	1.42×10^{-3}	1.60
SFF-090DS-☐K-☐K-300N	300	0.32	2	± 1.2	12000	260000	160.5	2.24×10^{-3}	1.87
SFF-100DS-☐K-☐K-450N	450	0.38	2	± 1.3	10000	370000	270	3.51×10^{-3}	2.49
SFF-120DS-☐K-☐K-600N	600	0.38	2	± 1.6	9000	485000	180	7.17×10^{-3}	3.29
SFF-140DS-☐K-☐K-800N	800	0.44	2	± 2.0	8000	700000	180	14.68×10^{-3}	6.05
SFF-140DS-☐K-☐K-1000N	1000	0.44	2	± 2.0	8000	700000	180	19.11×10^{-3}	6.39

- Higher rpm possible with balancing.
- Torsional stiffness values given are measured values for the flexible element alone.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1・N2 [mm]	LF [mm]	LP [mm]	S [mm]	C [mm]	d3 [mm]	K [mm]	H [mm]	M1 Qty – Nominal dia.	M1・M2 Tightening torque [N·m]	M2 Qty – Nominal dia.
SFF-070DS-☐K-☐K-100N	18・19	18・19	68	76.8	53	23.5	8	5.9	5	37	38	3-5.1	6-M6	10	3-M6
	20・22・24・25	20・22・24・25			58										
	28・30	28・30			63										
	32・35	32・35			68										
SFF-080DS-☐K-☐K-150N	22・24・25	22・24・25	78	87.6	58	25.5	10	8.3	5	40	37	4-5.1	4-M6	10	2-M6
	28・30	28・30			63										
	32・35	32・35			68										
	–	38			73										
SFF-080DS-☐K-☐K-200N	22・24・25	22・24・25	78	86.4	58	25.5	10	7.7	5	40	42	3-5.1	6-M6	10	3-M6
	28・30	28・30			63										
	32・35	32・35			68										
	38	38			73										
SFF-090DS-☐K-☐K-300N	28・30	28・30	88	87.6	63	25.5	10	8.3	5	50	50	3-6.8	6-M6	10	3-M6
	32・35	32・35			68										
	38・40・42	38・40・42			73										
	45	45			78										
	48	48			83										
SFF-100DS-☐K-☐K-450N	32・35	32・35	98	97.4	68	27.5	12	10.2	5	52	56	3-6.8	6-M6	10	3-M6
	38・40・42	38・40・42			73										
	45	45			78										
	48・50	48・50			83										
SFF-120DS-☐K-☐K-600N	35	35	118	97.4	68	27.5	12	10.2	5	72	68	3-6.8	6-M6	10	3-M6
	38・40・42	38・40・42			73										
	45	45			78										
	48・50・52	48・50・52			83										
	55	55			88										
	60・62・65	60・62・65			98										
	–	70			108										
SFF-140DS-☐K-☐K-800N	35・38	35・38	138	120.2	83	36.5	15	10.6	5.5	80	78	3-8.6	6-M8	24	3-M8
	40・42・45	40・42・45			88										
	–	48・50・52			98										
	–	55・60			108										
	–	62・65・70			118										
	–	75・80			128										
SFF-140DS-☐K-☐K-1000N	48・50・52	48・50・52	138	120.2	98	36.5	15	10.6	5.5	80	78	3-8.6	6-M8	24	3-M8
	55・60	55・60			108										
	62・65・70	62・65・70			118										
	75	75・80			128										

Standard Bore Diameter

Model	Nominal diameter	Standard bore diameter d1 • d2 [mm]																							
		18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	52	55	60	62	65	70	75	80
SFF-070DS-☐K-☐K-100N	d1	●	●	●	●	●	●	●	●	●	●														
	d2	●	●	●	●	●	●	●	●	●	●														
SFF-080DS-☐K-☐K-150N	d1				●	●	●	●	●	●	●														
	d2				●	●	●	●	●	●	●	●													
SFF-080DS-☐K-☐K-200N	d1				●	●	●	●	●	●	●	●													
	d2				●	●	●	●	●	●	●	●													
SFF-090DS-☐K-☐K-300N	d1							●	●	●	●	●	●	●	●	●									
	d2							●	●	●	●	●	●	●	●	●									
SFF-100DS-☐K-☐K-450N	d1									●	●	●	●	●	●	●	●								
	d2									●	●	●	●	●	●	●	●								
SFF-120DS-☐K-☐K-600N	d1										●	●	●	●	●	●	●	●	●	●	●	●			
	d2										●	●	●	●	●	●	●	●	●	●	●	●	●		
SFF-140DS-☐K-☐K-800N	d1										●	●	●	●	●										
	d2										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SFF-140DS-☐K-☐K-1000N	d1															●	●	●	●	●	●	●	●	●	
	d2															●	●	●	●	●	●	●	●	●	●

How to Place an Order

SFF-080DS-25KK-30KK-200N

- Size
- Type
  D: Double element
- Material
  S: Steel
- Bore dia. d1
  (Small dia.)
- Bore dia. d2
  (Large dia.)
- Affixing method
  K: Conical clamp hub
- Countershaft tolerance
  Blank: h7, K: k6, M: m6, J: j6, S: $35^{+0.010}_{0}$
- Nominal rated torque
  (Refer to the specifications)

Options Flange-Mounted

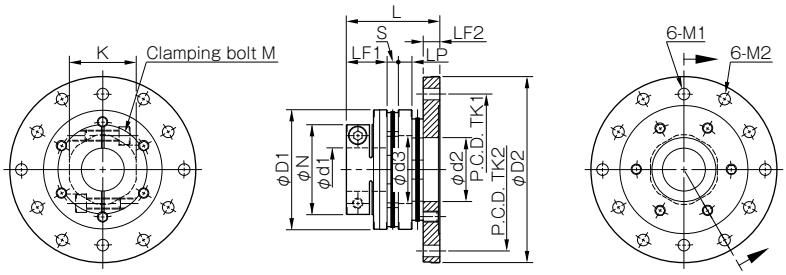
One of the hubs is flange-shaped, allowing mounting on a DD motor, speed reducer, etc.

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFF-070DS-☐B-105D-100N	100	0.25	2	± 1.0	1000	120000	242	1.20×10^{-3}	1.08
SFF-080DS-☐B-166D-200N	200	0.31	2	± 1.0	1000	155000	273	8.35×10^{-3}	3.11
SFF-090DS-☐B-166D-300N	300	0.32	2	± 1.2	1000	260000	160.5	8.69×10^{-3}	3.18
SFF-100DS-☐B-166D-450N	450	0.38	2	± 1.3	1000	370000	270	10.01×10^{-3}	3.91
SFF-120DS-☐B-166D-600N	600	0.38	2	± 1.6	1000	485000	180	12.66×10^{-3}	4.57

• Max. rotation speed does not take into account dynamic balance.
• Torsional stiffness values given are measured values for the element alone.
• The moment of inertia and mass are measured when d1 is the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D1 [mm]	D2 [mm]	L [mm]	N [mm]	LF1 [mm]	LF2 [mm]	LP [mm]	S [mm]	d3 [mm]	K [mm]	M1 [mm]	TK1 [mm]	M2 [mm]	TK2 [mm]	M Qty – Nominal dia.	M Tightening torque [N·m]
SFF-070DS-☐B-105D-100N	28 ~ 35	36	68	105	54.4	56	25	10	8	5.9	37	38	6.4	86	6.4	92	2-M6	14
SFF-080DS-☐B-166D-200N	28 ~ 38	39	78	166	68.9	70(74)	30	13.5	10	7.7	40	42	6.4	150	8.6	150	2-M8	34
SFF-090DS-☐B-166D-300N	35 ~ 42	49	88	166	70.1	74	30	13.5	10	8.3	50	50	6.4	150	8.6	150	2-M8	34
SFF-100DS-☐B-166D-450N	32 ~ 48	51	98	166	85.9	84	40	13.5	12	10.2	52	56	6.4	150	8.6	150	2-M10	68
SFF-120DS-☐B-166D-600N	48 ~ 55	67	118	166	85.9	100	40	13.5	12	10.2	72	68	6.4	150	8.6	150	2-M10	68

• The figure in parentheses ( ) for the SFF-080DS is the value when d1 is ø38 mm.
• Special arrangements may be possible for mounting holes at the flange end regarding bore diameter, number, and pitch. Check if arrangements are possible.

Standard Bore Diameter

Model	Standard Bore Diameter d1 [mm]										
	28	30	32	35	38	40	42	45	48	50	55
SFF-070DS-☐B-105D-100N	●	●	●	●							
SFF-080DS-☐B-166D-200N	●	●	●	●	●						
SFF-090DS-☐B-166D-300N				●	●	●	●				
SFF-100DS-☐B-166D-450N			●	●	●	●	●	●	●		
SFF-120DS-☐B-166D-600N									●	●	●

How to Place an Order

SFF-080DS-38BK-166D-200N

- Size / Types: D: Double element
- Material: S: Steel
- Bore dia. d1
- Countershaft tolerance: Blank: h7, K: k6, M: m6, J: j6, S: $35^{+0.010}_{0}$
- Affixing method: B: Clamp
- [D2] D: D: Flange-mounted · Select [D2] D after d1.
- Nominal rated torque (Refer to the specifications)

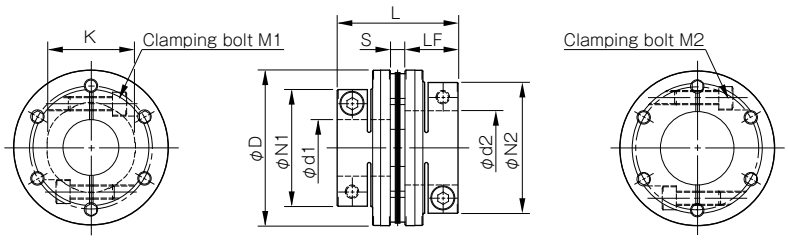
SFM Models Clamping

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFM-060SS-□B□B-60N	60	0.02	1	± 0.3	24000	104000	399	0.22 × 10⁻³	0.52
SFM-060SS-□B□B-80N	80	0.02	1	± 0.3	24000	104000	399	0.23 × 10⁻³	0.49
SFM-070SS-□B□B-90N	90	0.02	1	± 0.5	24000	240000	484	0.40 × 10⁻³	0.72
SFM-070SS-□B□B-100N	100	0.02	1	± 0.5	24000	240000	484	0.42 × 10⁻³	0.67
SFM-080SS-□B□B-150N	150	0.02	1	± 0.5	24000	120000	96	0.79 × 10⁻³	1.04
SFM-080SS-□B□B-200N	200	0.02	1	± 0.5	24000	310000	546	1.25 × 10⁻³	1.40
SFM-090SS-□B□B-250N	250	0.02	1	± 0.6	24000	520000	321	1.54 × 10⁻³	1.62
SFM-090SS-□B□B-300N	300	0.02	1	± 0.6	24000	520000	321	1.58 × 10⁻³	1.53
SFM-100SS-□B□B-450N	450	0.02	1	± 0.65	20000	740000	540	3.27 × 10⁻³	2.53
SFM-120SS-□B□B-600N	600	0.02	1	± 0.8	20000	970000	360	6.90 × 10⁻³	3.78

• Torsional stiffness values given are measured values for the flexible element alone.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1 • N2 [mm]	LF [mm]	S [mm]	K [mm]	M1 • M2 Qty – Nominal dia.	M1 • M2 Tightening torque [N·m]
SFM-060SS-□B□B-60N	12 • 14 • 15 • 16 • 17 • 18 • 19	12 • 14 • 15 • 16 • 17 • 18 • 19 • 20 • 22	58	53.4	44	24	5.4	32	2-M6	14
	—	24 • 25 • 28			48				2-M5	7
	—	30			52					
SFM-060SS-□B□B-80N	20 • 22	20 • 22	58	53.4	44	24	5.4	32	2-M6	14
	24 • 25 • 28	24 • 25 • 28			48				2-M5	7
	30	30			52					
SFM-070SS-□B□B-90N	18 • 19	18 • 19 • 20 • 22 • 24 • 25	68	55.9	47	25	5.9	38	2-M6	14
	—	28 • 30 • 32 • 35			56					
SFM-070SS-□B□B-100N	20 • 22 • 24 • 25	20 • 22 • 24 • 25	68	55.9	47	25	5.9	38	2-M6	14
	28 • 30 • 32 • 35	28 • 30 • 32 • 35			56					
SFM-080SS-□B□B-150N	22 • 24 • 25	22 • 24 • 25	78	68.3	53	30	8.3	37	2-M8	34
	28 • 30 • 32 • 35	28 • 30 • 32 • 35			56				2-M6	14
SFM-080SS-□B□B-200N	22 • 24 • 25	22 • 24 • 25	78	67.7	53	30	7.7	42	2-M8	34
	28 • 30 • 32 • 35	28 • 30 • 32 • 35			70					
	38	38			74					
SFM-090SS-□B□B-250N	25 • 28	25 • 28 • 30 • 32	88	68.3	66	30	8.3	50	2-M8	34
	—	35 • 38 • 40 • 42			74					
SFM-090SS-□B□B-300N	30 • 32	30 • 32	88	68.3	66	30	8.3	50	2-M8	34
	35 • 38 • 40 • 42	35 • 38 • 40 • 42			74					
SFM-100SS-□B□B-450N	32 • 35 • 38 • 40 • 42 • 45 • 48	32 • 35 • 38 • 40 • 42 • 45 • 48	98	90.2	84	40	10.2	56	2-M10	68
SFM-120SS-□B□B-600N	32 • 35 • 38 • 40 • 42 • 45	32 • 35 • 38 • 40 • 42 • 45	118	90.2	84	40	10.2	68	2-M10	68
	48 • 50 • 55	48 • 50 • 55			100					

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																					
	Nominal diameter	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55
SFM-060SS-☐B-☐B-60N	d1	●	●	●	●	●	●	●															
	d2	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFM-060SS-☐B-☐B-80N	d1								●	●	●	●	●	●									
	d2								●	●	●	●	●	●									
SFM-070SS-☐B-☐B-90N	d1						●	●															
	d2						●	●	●	●	●	●	●	●	●	●							
SFM-070SS-☐B-☐B-100N	d1								●	●	●	●	●	●	●	●							
	d2								●	●	●	●	●	●	●	●							
SFM-080SS-☐B-☐B-150N	d1									●	●	●	●	●	●	●							
	d2									●	●	●	●	●	●	●							
SFM-080SS-☐B-☐B-200N	d1									●	●	●	●	●	●	●	●						
	d2									●	●	●	●	●	●	●	●						
SFM-090SS-☐B-☐B-250N	d1											●	●										
	d2											●	●	●	●	●	●	●	●				
SFM-090SS-☐B-☐B-300N	d1													●	●	●	●	●	●				
	d2													●	●	●	●	●	●				
SFM-100SS-☐B-☐B-450N	d1														●	●	●	●	●	●	●		
	d2														●	●	●	●	●	●	●		
SFM-120SS-☐B-☐B-600N	d1														●	●	●	●	●	●	●	●	●
	d2														●	●	●	●	●	●	●	●	●

Balance correction

Model (size)	Balance classification	Supported rotational speed [min^{-1}]				
		10000 or less	15000 or less	18000 or less	20000 or less	24000 or less
SFM-060SS	G6.3 • G2.5	●	●	●	●	●
SFM-070SS	G6.3 • G2.5	●	●	●	●	●
SFM-080SS	G6.3 • G2.5	●	●	●	●	●
SFM-090SS	G6.3 • G2.5	●	●	●	●	●
SFM-100SS	G6.3 • G2.5	●	●	●	●	
SFM-120SS	G6.3 • G2.5	●	●	●	●	

How to Place an Order

SFM-080SS-25BK-30BK-200N-G2.5/24000

- Size
- Type
  S : Single element
- Material
  S : Steel
- Bore dia. d1 (Small dia.)
- Bore dia. d2 (Large dia.)
- Affixing method
  B: Clamp
- Countershaft tolerance
  Blank: h7, K: k6, M: m6, J: j6, S: $35^{+0.010}_{0}$
- Nominal rated torque
  (see specifications table)
- Balance classification
  G6.3, G2.5
- Supported rotational speed
  10000 or less
  15000 or less
  18000 or less
  20000 or less
  24000 or less

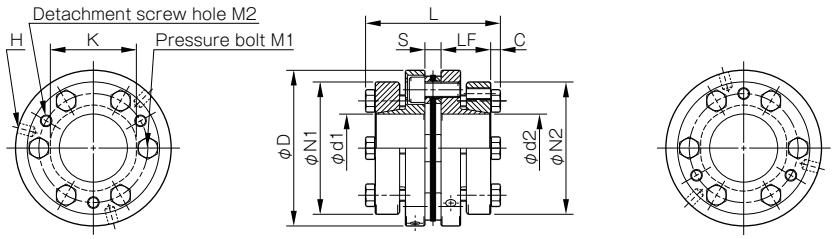
SFM Models Conical Clamp Hub

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFM-070SS-☐K-☐K-100N	100	0.02	1	± 0.5	24000	240000	484	0.66 × 10⁻³	0.92
SFM-080SS-☐K-☐K-150N	150	0.02	1	± 0.5	24000	120000	96	1.21 × 10⁻³	1.03
SFM-080SS-☐K-☐K-200N	200	0.02	1	± 0.5	24000	310000	546	1.11 × 10⁻³	1.26
SFM-090SS-☐K-☐K-300N	300	0.02	1	± 0.6	24000	520000	321	1.75 × 10⁻³	1.48
SFM-100SS-☐K-☐K-450N	450	0.02	1	± 0.65	20000	740000	540	2.56 × 10⁻³	1.87
SFM-120SS-☐K-☐K-600N	600	0.02	1	± 0.8	20000	970000	360	5.33 × 10⁻³	2.50
SFM-140SS-☐K-☐K-800N	800	0.02	1	± 1.0	20000	1400000	360	10.28 × 10⁻³	4.66
SFM-140SS-☐K-☐K-1000N	1000	0.02	1	± 1.0	20000	1400000	360	14.70 × 10⁻³	5.01

• Torsional stiffness values given are measured values for the flexible element alone.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1・N2 [mm]	LF [mm]	S [mm]	C [mm]	K [mm]	H [mm]	M1 Qty – Nominal dia.	M1 Tightening torque [N·m]	M2 Qty – Nominal dia.
SFF-070SS-☐K-☐K-100N	18・19	18・19	68	62.9	53	23.5	5.9	5	38	3-5.1	6-M6	10	3-M6
	20・22・24・25	20・22・24・25			58								
	28・30	28・30			63								
	32・35	32・35			68								
SFF-080SS-☐K-☐K-150N	22・24・25	22・24・25	78	69.3	58	25.5	8.3	5	37	4-5.1	4-M6	10	2-M6
	28・30	28・30			63								
	32・35	32・35			68								
	–	38			73								
SFF-080SS-☐K-☐K-200N	22・24・25	22・24・25	78	68.7	58	25.5	7.7	5	42	3-5.1	6-M6	10	3-M6
	28・30	28・30			63								
	32・35	32・35			68								
	38	38			73								
SFF-090SS-☐K-☐K-300N	28・30	28・30	88	69.3	63	25.5	8.3	5	50	3-6.8	6-M6	10	3-M6
	32・35	32・35			68								
	38・40・42	38・40・42			73								
	45	45			78								
	48	48			83								
SFF-100SS-☐K-☐K-450N	32・35	32・35	98	75.2	68	27.5	10.2	5	56	3-6.8	6-M6	10	3-M6
	38・40・42	38・40・42			73								
	45	45			78								
	48・50	48・50			83								
SFF-120SS-☐K-☐K-600N	35	35	118	75.2	68	27.5	10.2	5	68	3-6.8	6-M6	10	3-M6
	38・40・42	38・40・42			73								
	45	45			78								
	48・50・52	48・50・52			83								
	55	55			88								
	60・62・65	60・62・65			98								
	–	70			108								
SFF-140SS-☐K-☐K-800N	35・38	35・38	138	94.6	83	36.5	10.6	5.5	78	3-8.6	6-M8	24	3-M8
	40・42・45	40・42・45			88								
	–	48・50・52			98								
	–	55・60			108								
	–	62・65・70			118								
	–	75・80			128								
SFF-140SS-☐K-☐K-1000N	48・50・52	48・50・52	138	94.6	98	36.5	10.6	5.5	78	3-8.6	6-M8	24	3-M8
	55・60	55・60			108								
	62・65・70	62・65・70			118								
	75	75・80			128								

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																							
	Nominal diameter	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	62	65	70	75	80
SFM-070SS- ☐ K- ☐ K-100N	d1	●	●	●	●	●	●	●	●	●	●													
	d2	●	●	●	●	●	●	●	●	●	●													
SFM-080SS- ☐ K- ☐ K-150N	d1				●	●	●	●	●	●	●													
	d2				●	●	●	●	●	●	●	●												
SFM-080SS- ☐ K- ☐ K-200N	d1				●	●	●	●	●	●	●	●												
	d2				●	●	●	●	●	●	●	●												
SFM-090SS- ☐ K- ☐ K-300N	d1							●	●	●	●	●	●	●	●	●								
	d2							●	●	●	●	●	●	●	●	●								
SFM-100SS- ☐ K- ☐ K-450N	d1									●	●	●	●	●	●	●	●							
	d2									●	●	●	●	●	●	●	●							
SFM-120SS- ☐ K- ☐ K-600N	d1										●	●	●	●	●	●	●	●	●	●	●			
	d2										●	●	●	●	●	●	●	●	●	●	●	●		
SFM-140SS- ☐ K- ☐ K-800N	d1										●	●	●	●	●									
	d2										●	●	●	●	●	●	●	●	●	●	●	●	●	●
SFM-140SS- ☐ K- ☐ K-1000N	d1															●	●	●	●	●	●	●	●	
	d2															●	●	●	●	●	●	●	●	●

Balance correction

Model (size)	Balance classification	Supported rotational speed [min^{-1}]				
		10000 or less	15000 or less	18000 or less	20000 or less	24000 or less
SFM-070SS	G6.3 • G2.5	●	●	●	●	●
SFM-080SS	G6.3 • G2.5	●	●	●	●	●
SFM-090SS	G6.3 • G2.5	●	●	●	●	●
SFM-100SS	G6.3 • G2.5	●	●	●	●	
SFM-120SS	G6.3 • G2.5	●	●	●	●	
SFM-140SS	G6.3 • G2.5	●	●	●	●	

How to Place an Order

SFM-080SS-25KK-30KK-200N-G2.5/24000

- Size
- Type
  S: Single element
- Material
  S: Steel
- Bore dia. d1 (Small dia.)
- Bore dia. d2 (Large dia.)
- Affixing method
  K: Conical clamp hub
- Countershaft tolerance
  Blank: h7, K: k6, M: m6, J: j6, S: $35^{+0.010}_{0}$
- Supported rotational speed
  10000 or less
  15000 or less
  18000 or less
  20000 or less
  24000 or less
- Balance classification
  G6.3, G2.5
- Nominal rated torque
  (see specifications table)

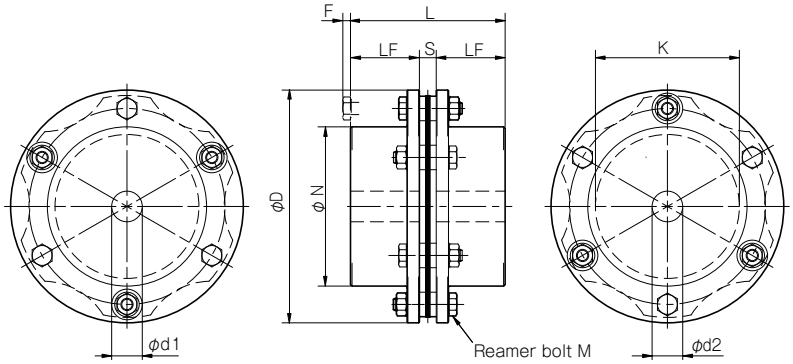
SFH(S) Types Single Element Type

Specification (SFH-□S) Pilot Bore/Key or Set Screw

Model	Rated torque [N·m]	Misalignment		Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Angular [°]	Axial [mm]					
SFH-150S	1000	1	±0.4	5900	1500000	244	12.60×10^{-3}	4.71
SFH-170S	1300	1	±0.5	5100	2840000	224	26.88×10^{-3}	7.52
SFH-190S	2000	1	±0.5	4700	3400000	244	43.82×10^{-3}	10.57
SFH-210S	4000	1	±0.55	4300	4680000	508	68.48×10^{-3}	13.78
SFH-220S	5000	1	±0.6	4000	5940000	448	102.53×10^{-3}	18.25
SFH-260S	8000	1	±0.7	3400	10780000	612	233.86×10^{-3}	29.66

• Max. rotation speed does not take into account dynamic balance.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions (SFH-□S) Pilot Bore/Key or Set Screw



Unit [mm]

Model	d1・d2			D	N	L	LF	S	F	K	M
	Pilot bore	Min.	Max.								
SFH-150S	20	22	70	152	104	101	45	11	5	94	6-M8 × 36
SFH-170S	25	28	80	178	118	124	55	14	6	108	6-M10 × 45
SFH-190S	30	32	85	190	126	145	65	15	10	116	6-M12 × 54
SFH-210S	35	38	90	210	130	165	75	15	8	124	6-M16 × 60
SFH-220S	45	48	100	225	144	200	90	20	-2	132	6-M16 × 60
SFH-260S	50	55	115	262	166	223	100	23	11	150	6-M20 × 80

How to Place an Order

SFH-150S-38H-38H

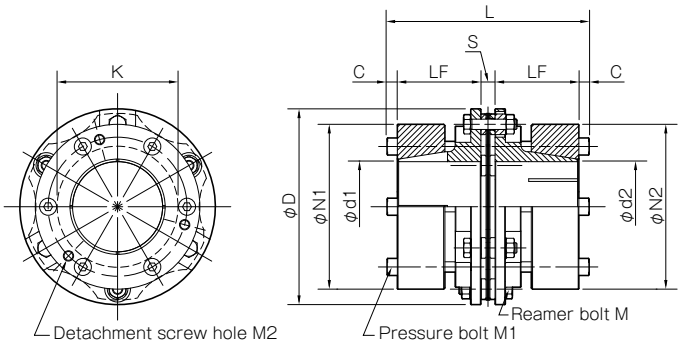
- 150: Size
- S: Type: S, Single element
- 38H: Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
  - Bore specifications
    - Blank: Compliant with the old JIS standards (class 2) E9
    - H: Compliant with JIS standards H9
    - N: Compliant with motor standards

Specification (SFH-□S-□K-□K) Conical Clamp Hub

Model	Rated torque [N·m]	Misalignment		Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Angular [°]	Axial [mm]					
SFH-150S-□K-□K	1000	1	± 0.4	5900	1500000	244	25.14 × 10^{-3}	8.95
SFH-170S-□K-□K	1300	1	± 0.5	5100	2840000	224	47.90 × 10^{-3}	12.53
SFH-190S-□K-□K	2000	1	± 0.5	4700	3400000	244	60.40 × 10^{-3}	14.21
SFH-210S-□K-□K	4000	1	± 0.55	4300	4680000	508	80.50 × 10^{-3}	16.12

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions (SFH-□S-□K-□K) Conical Clamp Hub



Unit [mm]

Model	D	L	d1 / d2	N1, N2	LF	S	C	K	M	M1	M2
SFH-150S-□K-□K	152	157	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70	108 128	65	11	8	94	6-M8 × 36	6-M8 × 60	3-M8
SFH-170S-□K-□K	178	160	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70 75 • 80	108 128 148	65	14	8	108	6-M10 × 45	6-M8 × 60	3-M8
SFH-190S-□K-□K	190	175	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70 75 • 80 • 85	108 128 148	70	15	10	116	6-M12 × 54	6-M10 × 65	3-M10
SFH-210S-□K-□K	210	181	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70 75 • 80 • 85 • 90	108 128 148	73	15	10	124	6-M16 × 60	6-M10 × 65	3-M10

Standard Bore Diameter

Model	Standard bore diameter d1, d2 [mm]														
	38	40	42	45	48	50	55	56	60	65	70	78	80	85	90
SFH-150S-□K-□K	●	●	●	●	●	●	●	●	●	●	●				
SFH-170S-□K-□K	1100	1200	1250	●	●	●	●	●	●	●	●	●	●		
SFH-190S-□K-□K	1800	1900	●	●	●	●	●	●	●	●	●	●	●	●	
SFH-210S-□K-□K	1800	1900	2000	2150	2300	2400	2600	2650	2850	3100	3350	3600	3800	●	●

• The bore diameters marked with ● or numbers indicate a standard bore diameter and the respective torque.
• Bore diameters whose fields contain numbers are restricted in their rated torque by the holding power of the shaft connection component because the bore diameter is small. The numbers indicate the rated torque value [N·m].

How to Place an Order

SFH-150S-38KK-42KK

- Size / Type S: Single element
- Bore dia. d1 (Small dia.)
- Affixing method K: Conical clamp hub
- Bore dia. d2 (Large dia.)
- Countershaft tolerance Blank: h7 (h6 or g6) K: k6 M: m6 J: j6

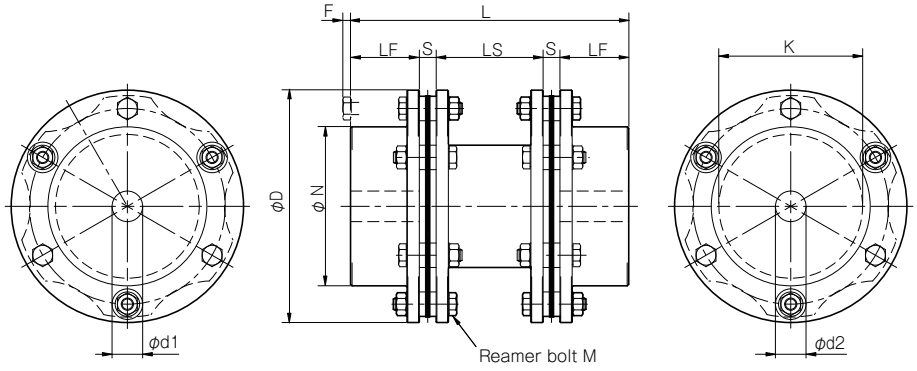
SFH(G) Types Double Element Type

Specification (SFH-□G) Pilot Bore/Key or Set Screw

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFH-150G	1000	1.4	2	± 0.8	5900	750000	122	21.87×10^{-3}	8.72
SFH-170G	1300	1.6	2	± 1.0	5100	1420000	112	51.07×10^{-3}	13.94
SFH-190G	2000	2	2	± 1.0	4700	1700000	122	81.58×10^{-3}	19.51
SFH-210G	4000	2.1	2	± 1.1	4300	2340000	254	125.50×10^{-3}	24.26
SFH-220G	5000	2.3	2	± 1.2	4000	2970000	224	176.91×10^{-3}	30.27
SFH-260G	8000	2.9	2	± 1.4	3400	5390000	306	433.47×10^{-3}	53.11

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions (SFH-□G) Pilot Bore/Key or Set Screw



Unit [mm]

Model	d1 • d2			D	N	L	LF	LS	S	F	K	M
	Pilot bore	Min.	Max.									
SFH-150G	20	22	70	152	104	182	45	70	11	5	94	12-M8 × 36
SFH-170G	25	28	80	178	118	218	55	80	14	6	108	12-M10 × 45
SFH-190G	30	32	85	190	126	260	65	100	15	10	116	12-M12 × 54
SFH-210G	35	38	90	210	130	290	75	110	15	8	124	12-M16 × 60
SFH-220G	45	48	100	225	144	335	90	115	20	-2	132	12-M16 × 60
SFH-260G	50	55	115	262	166	391	100	145	23	11	150	12-M20 × 80

• Further dimensions for LS possible on request.

How to Place an Order

SFH-150G-38H-38H LS=500

- Size
- Type: G Double element
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  Blank: Pilot bore
- Bore specifications
  Blank: Compliant with the old JIS standards (class 2) E9
  H: Compliant with JIS standards H9
  N: Compliant with motor standards
- Spacer length

Maximum LS Dimension When Used Vertically

Model	LS [mm]
SFH-150G	1100
SFH-170G	800
SFH-190G	900
SFH-210G	2000
SFH-220G	1900
SFH-260G	2500

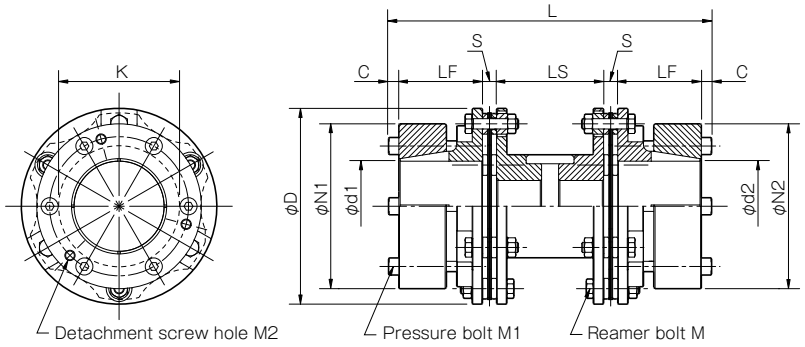
• When considering vertical use and the LS dimension is greater than that in the above table, contact Miki Pulley.

Specification (SFH-☐G-☐K-☐K) Conical Clamp Hub

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min⁻¹]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFH-150G-☐K-☐K	1000	1.4	2	± 0.8	5900	750000	122	31.41 × 10⁻³	12.96
SFH-170G-☐K-☐K	1300	1.6	2	± 1.0	5100	1420000	112	72.09 × 10⁻³	18.95
SFH-190G-☐K-☐K	2000	2.0	2	± 1.0	4700	1700000	122	98.15 × 10⁻³	23.14
SFH-210G-☐K-☐K	4000	2.1	2	± 1.1	4300	2340000	254	137.53 × 10⁻³	26.61

- Higher rpm possible with balancing.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions (SFH-☐G-☐K-☐K) Conical Clamp Hub



Unit [mm]

Model	D	L	d1 • d2	N1 • N2	LF	LS	S	C	K	M	M1	M2
SFH-150G-☐K-☐K	152	238	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70	108 128	65	70	11	8	94	12-M8 × 36	6-M8 × 60	3-M8
SFH-170G-☐K-☐K	178	254	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70 75 • 80	108 128 148	65	80	14	8	108	12-M10 × 45	6-M8 × 60	3-M8
SFH-190G-☐K-☐K	190	290	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70 75 • 80 • 85	108 128 148	70	100	15	10	116	12-M12 × 54	6-M10 × 65	3-M10
SFH-210G-☐K-☐K	210	306	38 • 40 • 42 • 45 • 48 • 50 55 • 56 • 60 • 65 • 70 75 • 80 • 85 • 90	108 128 148	73	110	15	10	124	12-M16 × 60	6-M10 × 65	3-M10

- Further dimensions for LS possible on request.

Standard Bore Diameter

Model	Standard bore diameter d1, d2 [mm]														
	38	40	42	45	48	50	55	56	60	65	70	78	80	85	90
SFH-150G-☐K-☐K	●	●	●	●	●	●	●	●	●	●	●				
SFH-170G-☐K-☐K	1100	1200	1250	●	●	●	●	●	●	●	●	●	●		
SFH-190G-☐K-☐K	1800	1900	●	●	●	●	●	●	●	●	●	●	●	●	
SFH-210G-☐K-☐K	1800	1900	2000	2150	2300	2400	2600	2650	2850	3100	3350	3600	3800	●	●

- The bore diameters marked with ● or numbers indicate a standard bore diameter and the respective torque.
- Bore diameters whose fields contain numbers are restricted in their rated torque by the holding power of the shaft connection component because the bore diameter is small. The numbers indicate the rated torque value [N·m].

How to Place an Order

SFH-150G-38KK-42KK LS=500

- Size
- Type: G Double element
- Bore dia. d1 (Small dia.)
- Bore dia. d2 (Large dia.)
- Affixing method K: Conical clamp hub
- Countershaft tolerance Blank: h7 (h6 or g6) K: k6 M: m6 J: j6
- Spacer length

Maximum LS Dimension When Used Vertically

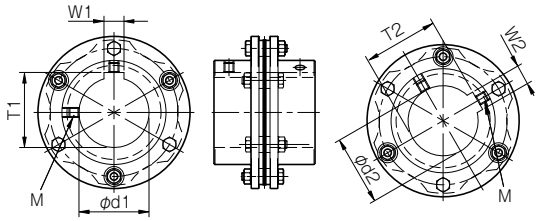
Model	LS [mm]
SFH-150G-☐K-☐K	1100
SFH-170G-☐K-☐K	800
SFH-190G-☐K-☐K	900
SFH-210G-☐K-☐K	2000

- When considering vertical use and the LS dimension isgreater than that in the above table, consult Miki Pulley.

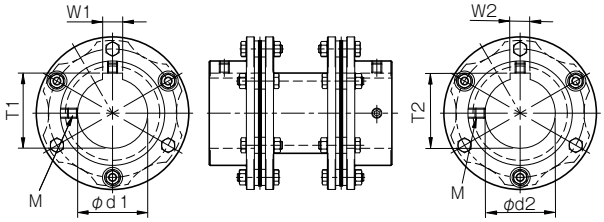
SFH Models

Standard Hole-Drillings

■ SFH(S)



■ SFH(G)



Unit [mm]

Models compliant with the old JIS standard (class 2) JIS B 1301 1959					Models compliant with the new JIS standard (H9) JIS B 1301 1996					Models compliant with the motor standard JIS C 4210 2001				
Nominal bore diameter	Bore diameter [d1 • d2] Tolerance H7	Keyway width [W1 • W2] Tolerance E9	Keyway height [T1 • T2] —	Set screw hole [M] —	Nominal bore diameter	Bore diameter [d1 • d2] Tolerance H7	Keyway width [W1 • W2] Tolerance H9	Keyway height [T1 • T2] —	Set screw hole [M] —	Nominal bore diameter	Bore diameter [d1 • d2] Tolerance G7, F7	Keyway width [W1 • W2] Tolerance H9	Keyway height [T1 • T2] —	Set screw hole [M] —
22	22 +0.021 0	7 +0.061 +0.025	25.0 +0.3 0	2-M6	22H	22 +0.021 0	6 +0.030 0	24.8 +0.3 0	2-M5	—	—	—	—	—
24	24 +0.021 0	7 +0.061 +0.025	27.0 +0.3 0	2-M6	24H	24 +0.021 0	8 +0.036 0	27.3 +0.3 0	2-M6	24N	24 +0.028 +0.007	8 +0.036 0	27.3 +0.3 0	2-M6
25	25 +0.021 0	7 +0.061 +0.025	28.0 +0.3 0	2-M6	25H	25 +0.021 0	8 +0.036 0	28.3 +0.3 0	2-M6	—	—	—	—	—
28	28 +0.021 0	7 +0.061 +0.025	31.0 +0.3 0	2-M6	28H	28 +0.021 0	8 +0.036 0	31.3 +0.3 0	2-M6	28N	28 +0.028 +0.007	8 +0.036 0	31.3 +0.3 0	2-M6
30	30 +0.021 0	7 +0.061 +0.025	33.0 +0.3 0	2-M6	30H	30 +0.021 0	8 +0.036 0	33.3 +0.3 0	2-M6	—	—	—	—	—
32	32 +0.025 0	10 +0.061 +0.025	35.5 +0.3 0	2-M8	32H	32 +0.025 0	10 +0.036 0	35.3 +0.3 0	2-M8	—	—	—	—	—
35	35 +0.025 0	10 +0.061 +0.025	38.5 +0.3 0	2-M8	35H	35 +0.025 0	10 +0.036 0	38.3 +0.3 0	2-M8	—	—	—	—	—
38	38 +0.025 0	10 +0.061 +0.025	41.5 +0.3 0	2-M8	38H	38 +0.025 0	10 +0.036 0	41.3 +0.3 0	2-M8	38N	38 +0.050 +0.025	10 +0.036 0	41.3 +0.3 0	2-M8
40	40 +0.025 0	10 +0.061 +0.025	43.5 +0.3 0	2-M8	40H	40 +0.025 0	12 +0.043 0	43.3 +0.3 0	2-M8	—	—	—	—	—
42	42 +0.025 0	12 +0.075 +0.032	45.5 +0.3 0	2-M8	42H	42 +0.025 0	12 +0.043 0	45.3 +0.3 0	2-M8	42N	42 +0.050 +0.025	12 +0.043 0	45.3 +0.3 0	2-M8
45	45 +0.025 0	12 +0.075 +0.032	48.5 +0.3 0	2-M8	45H	45 +0.025 0	14 +0.043 0	48.8 +0.3 0	2-M10	—	—	—	—	—
48	48 +0.025 0	12 +0.075 +0.032	51.5 +0.3 0	2-M8	48H	48 +0.025 0	14 +0.043 0	51.8 +0.3 0	2-M10	48N	48 +0.050 +0.025	14 +0.043 0	51.8 +0.3 0	2-M10
50	50 +0.025 0	12 +0.075 +0.032	53.5 +0.3 0	2-M8	50H	50 +0.025 0	14 +0.043 0	53.8 +0.3 0	2-M10	—	—	—	—	—
55	55 +0.030 0	15 +0.075 +0.032	60.0 +0.3 0	2-M10	55H	55 +0.030 0	16 +0.043 0	59.3 +0.3 0	2-M10	55N	55 +0.060 +0.030	16 +0.043 0	59.3 +0.3 0	2-M10
56	56 +0.030 0	15 +0.075 +0.032	61.0 +0.3 0	2-M10	56H	56 +0.030 0	16 +0.043 0	60.3 +0.3 0	2-M10	—	—	—	—	—
60	60 +0.030 0	15 +0.075 +0.032	65.0 +0.3 0	2-M10	60H	60 +0.030 0	18 +0.043 0	64.4 +0.3 0	2-M10	60N	60 +0.060 +0.030	18 +0.043 0	64.4 +0.3 0	2-M10
65	65 +0.030 0	18 +0.075 +0.032	71.0 +0.3 0	2-M10	65H	65 +0.030 0	18 +0.043 0	69.4 +0.3 0	2-M10	65N	65 +0.060 +0.030	18 +0.043 0	69.4 +0.3 0	2-M10
70	70 +0.030 0	18 +0.075 +0.032	76.0 +0.3 0	2-M10	70H	70 +0.030 0	20 +0.052 0	74.9 +0.5 0	2-M10	—	—	—	—	—
75	75 +0.030 0	20 +0.095 +0.040	81.0 +0.5 0	2-M10	75H	75 +0.030 0	20 +0.052 0	79.9 +0.5 0	2-M10	75N	75 +0.060 +0.030	20 +0.052 0	79.9 +0.5 0	2-M10
80	80 +0.030 0	20 +0.095 +0.040	86.0 +0.5 0	2-M10	80H	80 +0.030 0	22 +0.052 0	85.4 +0.5 0	2-M12	—	—	—	—	—
85	85 +0.035 0	24 +0.095 +0.040	93.0 +0.5 0	2-M12	85H	85 +0.035 0	22 +0.052 0	90.4 +0.5 0	2-M12	85N	85 +0.071 +0.036	22 +0.052 0	90.4 +0.5 0	2-M12
90	90 +0.035 0	24 +0.095 +0.040	98.0 +0.5 0	2-M12	90H	90 +0.035 0	25 +0.052 0	95.4 +0.5 0	2-M12	—	—	—	—	—
95	95 +0.035 0	24 +0.095 +0.040	103.0 +0.5 0	2-M12	95H	95 +0.035 0	25 +0.052 0	100.4 +0.5 0	2-M12	95N	95 +0.071 +0.036	25 +0.052 0	100.4 +0.5 0	2-M12
100	100 +0.035 0	28 +0.095 +0.040	109.0 +0.5 0	2-M12	100H	100 +0.035 0	28 +0.052 0	106.4 +0.5 0	2-M12	—	—	—	—	—
115	115 +0.035 0	32 +0.112 +0.050	125.0 +0.5 0	2-M12	115H	115 +0.035 0	32 +0.062 0	122.4 +0.5 0	2-M12	—	—	—	—	—

Set Screw Position

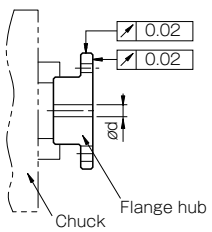
Model	Position of set screw [mm]
SFH-150	15
SFH-170	20
SFH-190	25
SFH-210	30
SFH-220	35
SFH-260	40

NOTE

- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision.
- Set screws are included with the product.
- Contact Miki Pulley regarding technical documentation for standard dimensions for bore processing other than those given here.

Centering and Finishing when Drilling Bores in Flange Hubs

SFH models are delivered in component form. When processing bore diameters in pilot-bore products in particular, adjust the chuck so that runout of each flange hub is no more than the precision of the figure at right, and then finish the inner diameter.



COUPLINGS

Metal Coil Spring Couplings

BAUMANNFLEX

Max. nominal torque [N·m]	220
Pilot bore/added work ranges [mm]	ϕ 3 ~ 35
Operating temperature [°C]	BAUMANN MINI FLEX: -40 to 120, BAUMANNFLEX: -30 to 100
Backlash	Insignificant
Drive	Induction motor
Applications	Vacuum equipment, medical equipment, printing machinery

High flexibility

High torque

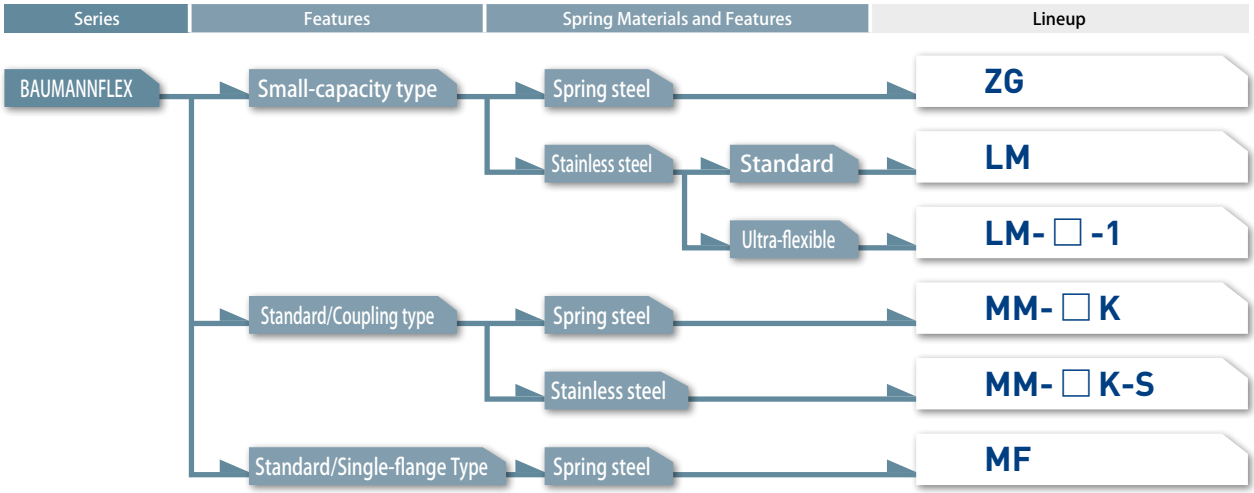
Stainless steel

Metal Coil Spring Couplings with Excellent Flexibility

RoHS

Coil Spring Couplings are unique products as they are combining excellent flexibility, compact size and high torque transmission possibility. Due to the wide range of hub connections they are easy to implement in several built-in situations. Another advantage is the choice of aluminum or stainless steel versions, which make them be used in many industry sectors.

Available Models

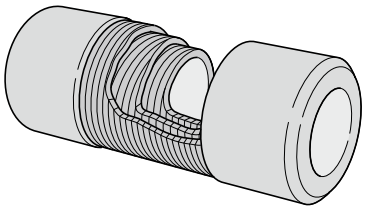


Main Features

Allows angular deflection up to 14°

ZG • LM

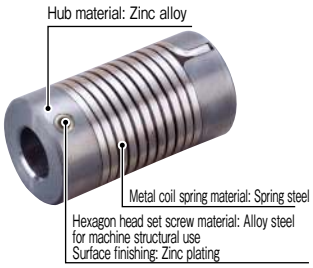
Three-layer coil makes it compact with high torque



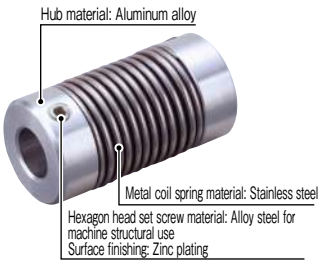
MM • MF

Structure and Materials

■ BAUMANN MINI FLEX ZG



■ BAUMANN MINI FLEX LM



■ BAUMANNFLEX MM(K)

■ BAUMANNFLEX MM(K-S)

■ BAUMANNFLEX MF(K)

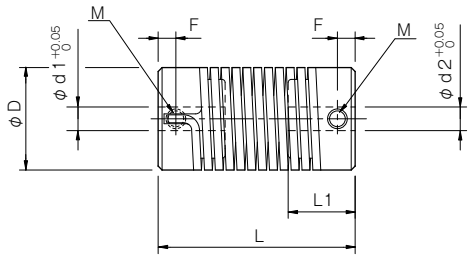
ZG Models

Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [$kg·m^2$]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
ZG-6	0.15	0.3	0.5	5	± 0.5	3000	0.17	1.95×10^{-7}	0.020
ZG-8	0.5	1.0	1.0	8	± 1.0	3000	0.48	1.02×10^{-6}	0.070
ZG-14	1.5	3.0	1.2	8	± 1.0	3000	1.70	1.15×10^{-5}	0.130

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2			D	L	L1	F	M
	Pilot bore	Min.	Max.					
ZG-6	2	3	6	12	25	9	2.4	M3
ZG-8	3	4	8	16	35	12.5	3.5	M4
ZG-14	6	7	14	26	50	17	4.5	M5

• The set screw in d1 and d2 are not alligned.

Standard Bore Diameter

Model	Standard bore diamenter d1, d2														
	3	4	5	6	6.35	7	8	9	9.5	9.525	10	11	12	12.7	14
ZG-6	●	●	●	●											
ZG-8		●	●	●	●	●	●								
ZG-14						●	●	●	●	●	●	●	●	●	●

• Keyway possible on request.

How to Place an Order

ZG-14 10-14

- Size
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
- Blank: Pilot bore

LM Models

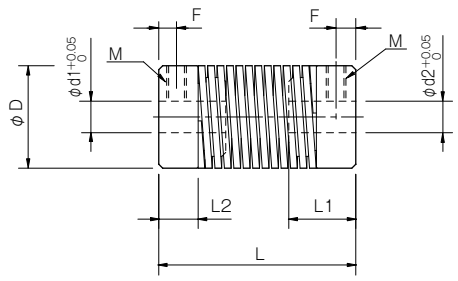
Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
LM-6	0.5	1.0	1.0	8	± 1.0	6000	0.77	5.10×10^{-7}	0.020
LM-6-1	0.5	1.0	3.0	14	± 1.5	6000	0.40	7.65×10^{-7}	0.030
LM-9	1.0	2.0	2.5	8	± 1.0	6000	1.55	2.55×10^{-6}	0.050
LM-9-1	1.0	2.0	4.0	14	± 1.5	6000	0.80	3.06×10^{-6}	0.060
LM-14	2.0	4.0	3.0	8	± 1.0	6000	3.10	7.65×10^{-6}	0.090
LM-14-1	2.0	4.0	4.5	14	± 1.5	6000	1.60	9.44×10^{-6}	0.110

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions

Unit [mm]



Model	d1 • d2			D	L	L1	L2	F	M
	Pilot bore	Min.	Max.						
LM-6	4	5	6	14	35	12	6.5	3.5	M4
LM-6-1	4	5	6	14	50	12	6.5	3.5	M4
LM-9	5	6	9	20	40	14	7.5	4	M4
LM-9-1	5	6	9	20	60	14	7.5	4	M4
LM-14	8	9	14	26	50	17	10	5	M5
LM-14-1	8	9	14	26	70	17	10	5	M5

• The left and right tap positions are not correlated as shown in the drawing.

Standard Bore Diameter

Model	Standard bore diamenter d1, d2												
	5	6	6.35	7	8	9	9.5	9.525	10	11	12	12.7	14
LM-6 (-1)	●	●											
LM-9 (-1)		●	●	●	●	●							
LM-14 (-1)						●	●	●	●	●	●	●	●

• Further bore diameters and keyways possible on request.

How to Place an Order

LM-14-1 12-12

- Size: Total length — Blank: Standard part; 1: Long type
- Bore diameter: d1 (Small diameter) – d2 (Large diameter) — Blank: Pilot bore

MM Models

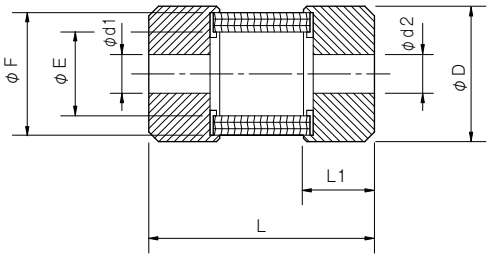
Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
MM-6K	2.5	5	0.3	3	± 0.6	20000	143	7.65×10^{-7}	0.03
MM-8K	5	10	0.3	3	± 0.8	15000	286.5	4.08×10^{-6}	0.07
MM-12K	10	20	0.4	3	± 1.0	12000	573	1.43×10^{-5}	0.14
MM-14K	10	20	0.5	3	± 1.0	10000	573	2.47×10^{-5}	0.15
MM-16K	20	40	0.6	3	± 1.2	9000	1146	6.12×10^{-5}	0.30
MM-19K	20	40	0.7	3	± 1.2	8000	1146	8.42×10^{-5}	0.32
MM-20K	40	80	0.7	3	± 1.6	7000	2292	1.99×10^{-4}	0.70
MM-24K	40	80	0.9	3	± 1.6	7000	2292	2.63×10^{-4}	0.75
MM-25K	90	180	0.9	3	± 2.0	6000	3438	5.66×10^{-4}	1.25
MM-28K	90	180	1.0	3	± 2.0	6000	2865	5.77×10^{-4}	1.35
MM-30K	150	300	1.1	3	± 2.5	5000	4297.5	1.39×10^{-4}	2.10
MM-35K	220	440	1.2	3	± 3.2	4500	6303	3.01×10^{-4}	3.50

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
MM-6K-S	2.5	5	0.3	3	± 0.6	20000	143	7.65×10^{-7}	0.03
MM-8K-S	5	10	0.3	3	± 0.8	15000	286.5	4.08×10^{-6}	0.07
MM-12K-S	10	20	0.4	3	± 1.0	12000	573	1.43×10^{-5}	0.14
MM-16K-S	20	40	0.6	3	± 1.2	9000	1146	6.12×10^{-5}	0.30
MM-20K-S	40	80	0.7	3	± 1.6	7000	2292	1.99×10^{-4}	0.70
MM-25K-S	90	180	0.9	3	± 2.0	6000	3438	5.66×10^{-4}	1.25

- Higher rpm possible with balancing.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2			D	L	L1	E	F
	Pilot bore	Min.	Max.					
MM-6K	2.5	3	8	16	20	6	11	15.5
MM-8K	3.5	4	8	21	35	11	13	19
MM-12K	5.5	6	12	26	50	16.5	16.5	24
MM-14K	5.5	7	14	30	50	16.5	20.5	28
MM-16K	5.5	10	16	35	65	22	22.4	32
MM-19K	5.5	10	19	38	65	22	26.4	36
MM-20K	5.5	10	20	45	80	27	28	40
MM-24K	5.5	14	24	48	80	27	33	45
MM-25K	5.5	14	25	55	100	33.5	35	50
MM-28K	5.5	14	28	55	100	33.5	37	52
MM-30K	5.5	16	30	65	125	40	40.8	60
MM-35K	5.5	20	35	75	150	48	46	70

Model	d1 • d2			D	L	L1	E	F
	Pilot bore	Min.	Max.					
MM-6K-S	2.5	3	8	17	25	9	11	15.5
MM-8K-S	3.5	4	8	21	35	11	13	19
MM-12K-S	5.5	6	12	26	50	16.5	16.5	24
MM-16K-S	5.5	10	16	35	65	22	22.4	32
MM-20K-S	5.5	10	20	45	80	27	28	40
MM-25K-S	5.5	14	25	55	100	33.5	35	50

How to Place an Order

MM-16K-S 12H-14N

- Size
- Materials
  - Blank: Carbon steel and spring steel
  - -S: Stainless steel
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
- Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - N: Compliant with motor standards

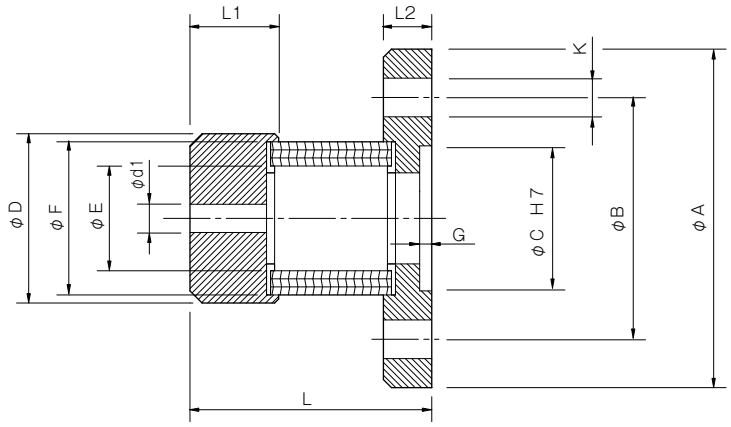
MF Models

Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
MF-8K	5	10	0.3	3	± 0.8	15000	286.5	1.66×10^{-5}	0.1
MF-12K	10	20	0.4	3	± 1.0	12000	573	3.32×10^{-5}	0.16
MF-16K	20	40	0.6	3	± 1.2	9000	1146	9.18×10^{-5}	0.31
MF-20K	40	80	0.7	3	± 1.6	7000	2292	2.12×10^{-4}	0.5
MF-25K	90	180	0.9	3	± 2.0	6000	3438	5.33×10^{-4}	0.9
MF-30K	150	300	1.1	3	± 2.5	5000	4297.5	1.35×10^{-3}	1.7
MF-35K	220	440	1.2	3	± 3.2	4500	6303	2.86×10^{-3}	2.8

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2			D	L	L1	L2	A	B	C	E	F	G	K
	Pilot bore	Min.	Max.											
MF-8K	3.5	4	8	21	30	11	6	42	30	18	13	19	1.5	3-ø 4.8
MF-12K	5.5	6	12	26	40	16.5	6	48	37	22	16.5	24	1.5	3-ø 4.8
MF-16K	5.5	10	16	35	50	22	6.5	58	47	30	22.4	32	1.5	4-ø 4.8
MF-20K	5.5	12	20	45	60	27	7	65	52	35	28	40	1.5	4-ø 4.8
MF-25K	5.5	14	25	55	75	33.5	8.5	75	62	42	35	50	1.5	6-ø 5.8
MF-30K	5.5	16	30	65	95	40	10	90	74.5	47	40.8	60	2.5	4-ø 7.0
MF-35K	5.5	20	35	75	115	48	13	100	84	57	46	70	2.5	6-ø 47.0

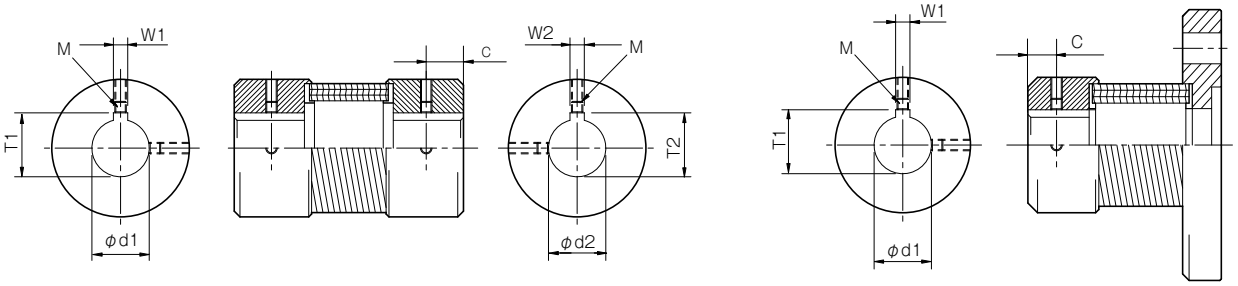
How to Place an Order

MF-16K 12H
- 12H: Bore diameter: d1, Blank: Pilot bore
- 16K: Size

Bore specifications
Blank: Compliant with the old JIS standards (class 2) E9
H: Compliant with JIS standards H9
J: Compliant with JIS standards JS9
N: Compliant with motor standards

MM/MF Models

Standard Hole-Drillings



Unit [mm]

Models compliant with the old JIS standard (class 2) JIS B 1301 1959					Models compliant with the new JIS standard (H9) JIS B 1301 1996					Models compliant with the new JIS standard (JS9) JIS B 1301 1996					Models compliant with the motor standard JIS C 4210 2001				
Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]
	Tolerance H7, H8	Tolerance E9	—	—		Tolerance H7	Tolerance H9	—	—		Tolerance H7	Tolerance JS9	—	—		Tolerance G7	Tolerance H9	—	—
4	4 $^{+0.018}_{0}$	—	—	2-M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	5 $^{+0.018}_{0}$	—	—	2-M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	6 $^{+0.018}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6.35	6.35 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	7 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	8 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	9 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9.5	9.5 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9.525	9.525 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	10 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	11 $^{+0.018}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	12 $^{+0.018}_{0}$	4 $^{+0.050}_{+0.020}$	13.5 $^{+0.3}_{0}$	2-M4	12H	12 $^{+0.018}_{0}$	4 $^{+0.030}_{0}$	13.8 $^{+0.3}_{0}$	2-M4	12J	12 $^{+0.018}_{0}$	4 $^{\pm}_{0.0150}$	13.8 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
14	14 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	16.0 $^{+0.3}_{0}$	2-M4	14H	14 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4	14J	14 $^{+0.018}_{0}$	5 $^{\pm}_{0.0150}$	16.3 $^{+0.3}_{0}$	2-M4	14N	14 $^{+0.024}_{+0.006}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4
15	15 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	17.0 $^{+0.3}_{0}$	2-M4	15H	15 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	17.3 $^{+0.3}_{0}$	2-M4	15J	15 $^{+0.018}_{0}$	5 $^{\pm}_{0.0150}$	17.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
16	16 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	18.0 $^{+0.3}_{0}$	2-M4	16H	16 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	18.3 $^{+0.3}_{0}$	2-M4	16J	16 $^{+0.018}_{0}$	5 $^{\pm}_{0.0150}$	18.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
17	17 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	19.0 $^{+0.3}_{0}$	2-M4	17H	17 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	19.3 $^{+0.3}_{0}$	2-M4	17J	17 $^{+0.018}_{0}$	5 $^{\pm}_{0.0150}$	19.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
18	18 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	20.0 $^{+0.3}_{0}$	2-M4	18H	18 $^{+0.018}_{0}$	6 $^{+0.030}_{0}$	20.8 $^{+0.3}_{0}$	2-M5	18J	18 $^{+0.018}_{0}$	6 $^{\pm}_{0.0150}$	20.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
19	19 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	21.0 $^{+0.3}_{0}$	2-M4	19H	19 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5	19J	19 $^{+0.021}_{0}$	6 $^{\pm}_{0.0150}$	21.8 $^{+0.3}_{0}$	2-M5	19N	19 $^{+0.028}_{+0.007}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5
20	20 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	22.0 $^{+0.3}_{0}$	2-M4	20H	20 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	22.8 $^{+0.3}_{0}$	2-M5	20J	20 $^{+0.021}_{0}$	6 $^{\pm}_{0.0150}$	22.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
22	22 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	25.0 $^{+0.3}_{0}$	2-M6	22H	22 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	24.8 $^{+0.3}_{0}$	2-M5	22J	22 $^{+0.021}_{0}$	6 $^{\pm}_{0.0150}$	24.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
24	24 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	27.0 $^{+0.3}_{0}$	2-M6	24H	24 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6	24J	24 $^{+0.021}_{0}$	8 $^{\pm}_{0.0180}$	27.3 $^{+0.3}_{0}$	2-M6	24N	24 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6
25	25 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	28.0 $^{+0.3}_{0}$	2-M6	25H	25 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	28.3 $^{+0.3}_{0}$	2-M6	25J	25 $^{+0.021}_{0}$	8 $^{\pm}_{0.0180}$	28.3 $^{+0.3}_{0}$	2-M6	—	—	—	—	—
28	28 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	31.0 $^{+0.3}_{0}$	2-M6	28H	28 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6	28J	28 $^{+0.021}_{0}$	8 $^{\pm}_{0.0180}$	31.3 $^{+0.3}_{0}$	2-M6	28N	28 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6
30	30 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	33.0 $^{+0.3}_{0}$	2-M6	30H	30 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	33.3 $^{+0.3}_{0}$	2-M6	30J	30 $^{+0.021}_{0}$	8 $^{\pm}_{0.0180}$	33.3 $^{+0.3}_{0}$	2-M6	—	—	—	—	—
32	32 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	35.5 $^{+0.3}_{0}$	2-M8	32H	32 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	35.3 $^{+0.3}_{0}$	2-M8	32J	32 $^{+0.025}_{0}$	10 $^{\pm}_{0.0180}$	35.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—
35	35 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	38.5 $^{+0.3}_{0}$	2-M8	35H	35 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	38.3 $^{+0.3}_{0}$	2-M8	35J	35 $^{+0.025}_{0}$	10 $^{\pm}_{0.0180}$	38.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—

Set Screw position

Coupling size	Position of set screw C [mm]
6	3
8	5
12 • 14	7
16 • 19 • 20 • 24	10
25 • 28 • 30 • 35	15

NOTE

- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision.
- The set screws are included with the product.
- Contact Miki Pulley regarding technical documents for standard dimensions for bore drilling other than those given here.

Cardan Couplings

PARAFLEX

High stiffness | High flexibility | High damping | Easy to mount and remove

Max. nominal torque [N·m]	25
Bore ranges [mm]	ϕ3 ~ 22
Operating temperature [°C]	−30 ~ 100
Backlash	Extremely small size
Driver	Servomotor, stepper motor, induction motor
Application	Chip mounters, electric discharge machines, automated teller machines, winders

Cardan Couplings That Keep Shaft Reaction Force from Mounting Misalignment Extremely Low

Pin/bushing style couplings that use aluminum alloy as their primary material. This system makes shaft reaction force due to mounting misalignment extremely small. There is also a damping effect from sliding at the friction surface between the pin and dry metal.

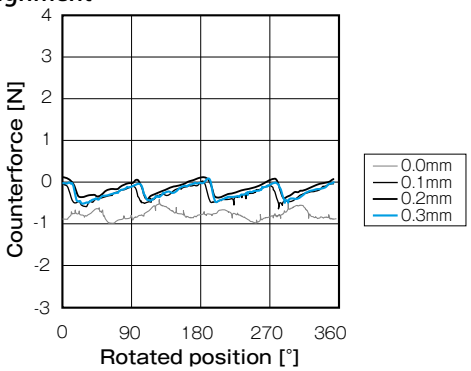
RoHS

Main Features

Friction Damping Effect of Pin and Metal Bushing

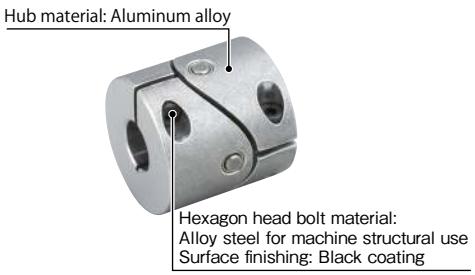
Counterforce from Parallel Misalignment and Angular Deflection is Extremely Small

■ CPU-36-A: Counterforce due to parallel misalignment



Structure and Materials

■ CPE



■ CPU

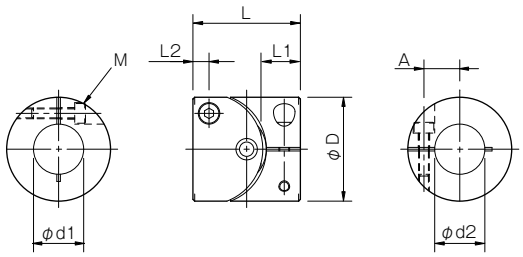
CPE Models

Specifications

Model	Torque		Misalignment		Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]				
CPE-19	0.7	1.4	0.2	1	6000	500	0.69×10^{-6}	0.015
CPE-29	2	4	0.2	1	6000	700	5.80×10^{-6}	0.050
CPE-39	5	10	0.2	1	6000	1900	18.50×10^{-6}	0.080

- Torques for CPE-19 are values when the bore diameter is at least equal to 4 mm.
- Higher rpm possible with balancing.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2		D	L	L1	L2	M	A
	Min.	Max.						
CPE-19	3	8	19	19.4	6	2.75	M2.5	6
CPE-29	6	14	29	30	9.5	4.5	M3	10
CPE-39	8	20	39	40	12.5	6	M4	14

- Insert the shaft to at least the dimension L1. (Note that the shaft cannot go all the way through.)
- The recommended processing tolerance for paired mounting shafts is the h7 class.

Standard Bore Diameter

Model	Standard bore diamenter d1, d2 [mm]																
	3	4	5	6	6.35	7	8	9.525	10	11	12	14	15	16	18	19	20
CPE-19	○	●	●	●	●	●	●										
CPE-29				●	●	●	●	●	●	●	●	●					
CPE-39							●	●	●	●	●	●	●	●	●	●	●

- Torque on the CPE-19 with a bore diameter of 3 mm is limited by holding force in the shaft coupling component, so nominal torque is 0.4 N·m and maximum torque is 0.8 N·m.
- Special bore diameters are possible at extra charge.

How to Place an Order

CPE-19-6B-6B

Size

Bore diameter: d1 (Small diameter) – d2 (Large diameter)
B: Clamping hub

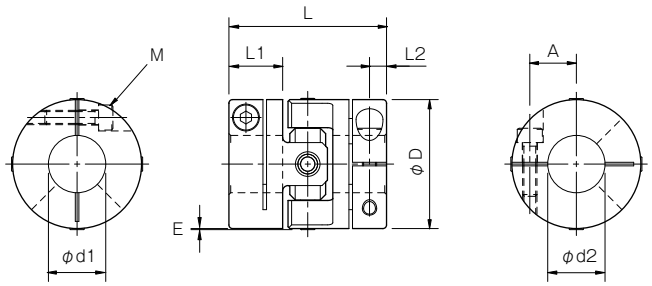
CPU Models

Specifications

Model	Rated torque [N·m]	Misalignment		Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]				
CPU-26-A	2.2	0.3	4	4000	600	3.57×10^{-6}	0.04
CPU-36-A	10	0.4	4	3500	1350	1.64×10^{-5}	0.09
CPU-46-A	25	0.5	4	3000	1650	5.33×10^{-5}	0.19

• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Unit [mm]

Model	d1 • d2		D	E	L	L1	L2	M	A
	Min.	Max.							
CPU-26-A	6	12	26	0.3	36	12	4	M3	9
CPU-36-A	8	18	36	0.3	44	15	4.75	M4	13
CPU-46-A	10	22	46	0.3	54	18	6.5	M5	16

• Insert the shaft to at least the dimension L1. (Note that the shaft cannot go all the way through.)
• The recommended processing tolerance for paired mounting shafts is the h7 class.

Standard Bore Diameter

Model	Standard Bore Diameter d1, d2 [mm]															
	6	6.35	7	8	9	9.525	10	11	12	14	15	16	18	19	20	21
CPU-26-A	●	●	●	●	●	●	●	●	●							
CPU-36-A				●	●	●	●	●	●	●	●	●	●			
CPU-46-A							●	●	●	●	●	●	●	●	●	●

• Special bore diameters are possible at extra charge.

How to Place an Order

CPU-36-A-12B-12B

- Size
- Type A: Aluminum type
- Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  B: Clamping hub

Sliced Couplings
ASK

High stiffness | Wide range of variations | Highly accurate mounting | No backlash | High speed

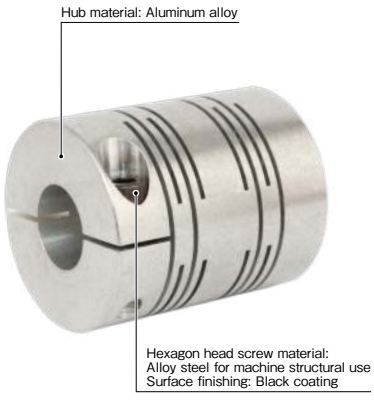
Max. rated torque [N·m]	200
Bore ranges [mm]	ϕ 3 ~ 55
Operating temperature [°C]	−20 ~ 120
Drive	Servomotor, induction motor
Applications	Machine tool / semiconductor manufacturing equipment / printing press / packing machine

High Speed Sliced Couplings with Zero Backlash

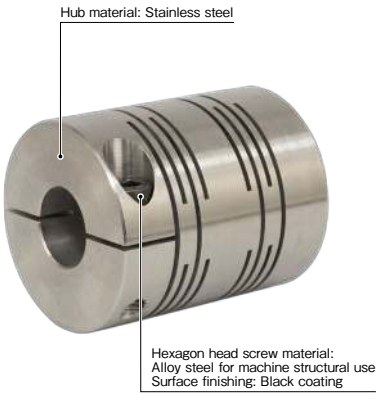
The ASK sliced coupling is a flexible shaft coupling, designed to equalise all kind of misalignment in a shaft to shaft connection. Due to its unique slit structure and material possibilities, it can handle high rotation speeds as well high temperature ranges.

Structure and Materials

■ ASK Aluminum



■ ASK Stainless steel



■ ASK Steel

ASK Models

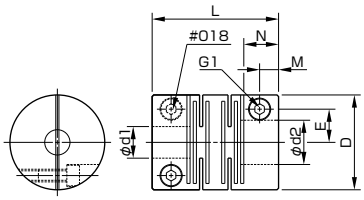
Specifications (aluminum alloy – BB & BBH)

Model	Type		Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	BB [Clamping hub]	BBH [Removable clamping hub]	Rated [N·m]	Maximum [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
ASK 018	●	—	1	2	0.15	0.5	0.2	11500	103	0.45×10^{-6}	0.008
ASK 020	●	—	1.5	3	0.1	1	0.1	11500	407	1.05×10^{-6}	0.017
ASK 022	●	—	1	2	0.15	1	0.1	11500	690	1.15×10^{-6}	0.019
ASK 025	●	—	3	6	0.1	1	0.1	10000	533	2.39×10^{-6}	0.024
ASK 030	●	●	4	8	0.1	0.85	0.1	8000	868	6.80×10^{-6}	0.049
ASK 040	●	●	9	18	0.15	0.85	0.1	7500	3767	27.9×10^{-6}	0.110
ASK 050	●	●	15	30	0.15	0.7	0.1	7000	7196	89.7×10^{-6}	0.210
ASK 060	●	●	32	65	0.15	0.7	0.15	6000	12750	253.7×10^{-6}	0.420
ASK 070	●	●	60	120	0.1	0.33	0.1	5000	66768	506.6×10^{-6}	0.648
ASK 080	●	●	85	170	0.1	0.33	0.1	4000	78189	962.4×10^{-6}	0.858
ASK 100	●	●	150	300	0.1	0.33	0.1	3500	278893	2826×10^{-6}	1.632

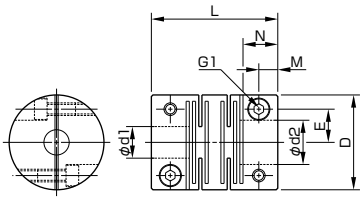
Specifications (steel – BB / stainless steel – BB & BBH)

Model	Type		Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	BB [Clamping hub]	BBH [Removable clamping hub]	Rated [N·m]	Maximum [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
ASK 020	●	—	5	10	0.1	0.5	0.1	11500	1189	2.88×10^{-6}	0.046
ASK 025	●	—	7	14	0.1	1	0.1	10000	1558	6.48×10^{-6}	0.064
ASK 030	●	●	9	18	0.1	0.85	0.1	8000	2530	18.6×10^{-6}	0.134
ASK 040	●	●	15	30	0.15	0.85	0.1	7500	11008	75.8×10^{-6}	0.300
ASK 050	●	●	30	60	0.15	0.5	0.1	7000	20995	246×10^{-6}	0.577
ASK 060	●	●	55	110	0.15	0.5	0.1	6000	37165	694×10^{-6}	1.150
ASK 070	●	●	95	190	0.1	0.3	0.06	5000	196024	1380×10^{-6}	1.753
ASK 080	●	●	120	240	0.06	0.3	0.06	4000	229524	2620×10^{-6}	2.330
ASK 100	●	●	200	400	0.06	0.3	0.06	3500	821288	7680×10^{-6}	4.423

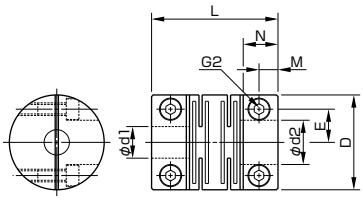
Dimensions



ASK 018 - 060 BB



ASK 070 - 100 BB



ASK BBH

Unit [mm]

Model	d1 • d2			D	L	M	N	E	G1 Qty – Nominal diameter	G2 Qty – Nominal diameter	Tightening torque of screws [N·m]
	Pilot bore	Min.	Max.								
ASK 018	2.5	3	6	18	17	2.5	5	5.5	2-M2.5	—	1.0
ASK 020	2.5	3	8	20	28	4	8	6.5	2-M2.5	—	1.0
ASK 022	2.5	3	10	22	20	2.75	5.5	7.2	2-M2.5	—	1.0
ASK 025	3.5	5	12	25	28	4	8	9	2-M3	—	1.5
ASK 030	5.5	6	15	30	40	5.5	11	10.5	2-M4	4-M4	3.4
ASK 040	5.5	6	20	40	48	5.5	11	14	2-M5	4-M5	7.0
ASK 050	8.5	9	26	50	65	9.5	19	18.5	2-M6	4-M6	14
ASK 060	9.5	10	30	60	80	12.5	25	21	2-M8	4-M8	27
ASK 070	14.5	15	38	70	95	12.5	25	25	4-M8	4-M8	27
ASK 080	22	24	42	80	100	12.5	25	29	4-M8	4-M8	27
ASK 100	27.5	30	55	100	118	15	30	37	4-M10	4-M10	54

• Standard bore tolerance H7, further tolerances possible on request.
• Keyway possible on request.

How to Place an Order

ASK 030 BB 10H7/12H7 AL

- Size: 030
- Type: BB
  - AA: Set screw (only available for size 018)
  - BB: Clamping hub
  - BBH: Removable clamping hub (only available in Aluminum or stainless steel)
- Bore diameter d1/d2: 10H7/12H7
- Material: AL
  - AL: Aluminum alloy
  - VA: Stainless steel
  - ST: Steel

Rigid Couplings
STK

High stiffness　High torque　No backlash

Max. rated torque [N·m]	1900
Bore ranges [mm]	ϕ 6 ～ 50
Operating temperature [°C]	− 40 ～ 175
Drive	Servomotor, induction motor
Applications	Machine tool / semiconductor manufacturing equipment / printing press / packing machine

Riged Couplings for High Torque and Zero Backlash

With exactly aligned shafts, an offset compensation is not necessary, here the rigid coupling or shell coupling is the right solution. This type of coupling is characterized by highest torques and particularly high torsional rigidity. Another plus is the ease of installation.

Structure and Materials

■ STK Sliced

■ STK Split

STK Models

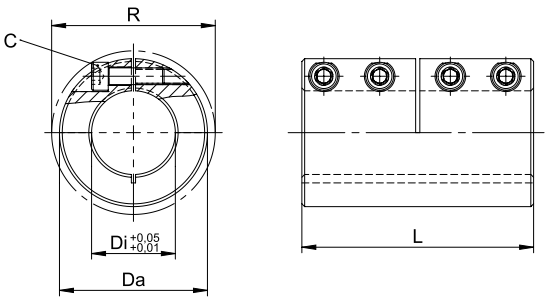
Specifications

Model	Max. torque [N·m]			Tightening torque of screws [N·m]		Mass [kg]
	Steel [ST] Sliced/Split	Stainless steel [VA] Sliced [one-piece]	Stainless steel [VA] Split [two-piece]	Steel [ST]	Stainless steel [VA]	
STK-6	30	12	12	2.1	1.2	0.054
STK-8	50	16	18	2.1	1.2	0.110
STK-10	100	25	30	5.1	2.9	0.200
STK-12	105	32	36	5.1	2.9	0.200
STK-14	180	42	67	10.0	5.7	0.300
STK-15	190	50	72	10.0	5.7	0.300
STK-16	200	60	77	10.0	5.7	0.300
STK-17	210	70	79	10.0	5.7	0.300
STK-19	300	90	130	17.5	10.0	0.550
STK-20	350	100	137	17.5	10.0	0.550
STK-25	400	110	171	17.5	10.0	0.670
STK-30	475	150	206	17.5	10.0	0.980
STK-35	1100	330	438	42.0	24.0	1.900
STK-40	1300	400	445	42.0	24.0	2.900
STK-50	2200	690	1000	83.0	48.0	3.600
STK-60	3000	840	1100	83.0	48.0	5.500
STK-70	4000	1500	1600	145.0	82.0	12.800
STK-80	5000	1800	1900	145.0	82.0	17.000

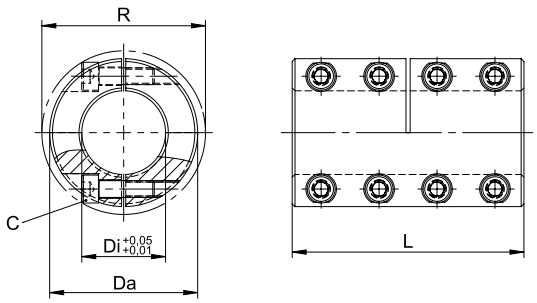
• Max. torque values will only be achieved due proper use (Material and dimensional accuracy of the shaft (recommendation h9), free of grease etc.).
• Maximum rpm is depending on material and size.

Dimensions

■ STK Sliced



■ STK Split



Unit [mm]

Model	Di	Da	L	R	C Sliced [one-piece]	C Split [two-piece]
STK-6	6	18	30	20.0	4-M3	8-M3
STK-8	8	24	35	24.5	4-M3	8-M3
STK-10	10	29	45	32.0	4-M4	8-M4
STK-12	12	29	45	32.0	4-M4	8-M4
STK-14	14	34	50	39.5	4-M5	8-M5
STK-15	15	34	50	39.5	4-M5	8-M5
STK-16	16	34	50	39.5	4-M5	8-M5
STK-17	17	34	50	39.5	4-M5	8-M5
STK-19	19	42	65	47.5	4-M6	8-M6
STK-20	20	42	65	47.5	4-M6	8-M6
STK-25	25	45	75	51.0	4-M6	8-M6
STK-30	30	53	83	58.0	4-M6	8-M6
STK-35	35	67	95	72.0	4-M8	8-M8
STK-40*	40	77	108	77.5	4-M8	8-M8
STK-50*	50	85	124	91.0	4-M10	8-M10
STK-60*	60	100	150	102.0	4-M10	8-M10
STK-70*	70	122	220	—	4-M12	8-M12
STK-80*	80	140	220	—	4-M12	8-M12

*For sliced couplings with these sizes, the slit is on the outside.

How to Place an Order

STK-20-GS-ST-N

- Size/Bore diameter
- Type: GS: Sliced, GT: Split
- Material: VA: Stainless steel, ST: Steel
- Option: Blank: No keyway, N: With keyway

Jaw Couplings
STARFLEX

High damping | High flexibility | High torque | Easy to mount and remove | Wide range of variations

Applications	Machine tools, hydraulic equipment, pumps, fans, conveyors, textile machinery
Drive	Servomotor, stepper motor, induction motor

General-purpose Coupling of Simple Construction

Motive power is transmitted by a polyurethane elastomer that has the elasticity of rubber. As well as providing excellent absorption of vibrations and shock, these couplings transmit more than double the torque of older jaw couplings. The product range includes three types of hubs, two element hardnesses and two types of fit. This ensures the optimum combination for your transmission torque, response and misalignment. And the ability to combine different hubs means they can be used in a wide range of applications.

RoHS

Various Types of Combinations

The line-up includes three types of hubs: pilot-bore products that allow free bore drilling, key/set screw types that enable high transmission torque, and clamp types that are easy to mount and remove.

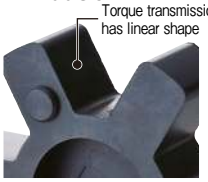
No backlash

The R and Y types have no backlash and yet can absorb shock and vibration.

Reduced Counterforce

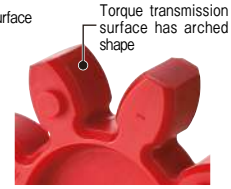
Optimal design of the element shape reduces mounting error counterforce to not damage the shaft.

■ Shaped like older models



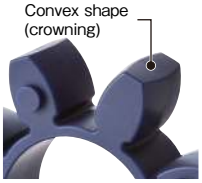
The shape of the torque transmission surface is linear.

■ ALS(Y/R) types



The shape of the torque transmission surface is arced. Combined with an undercut to reduce mounting error reaction force.

■ ALS(B) types



It is also made more flexible by its crowning shape and by removing material from the inner diameter.

Available Models

There are three STARFLEX models. Each has a different type of element.

ALS(R)

These are JIS A tight-fit, high-torque, high-response models that have a shore hardness of 97.

ALS(Y)

These are JIS A tight-fit models that have a shore hardness of 90 and are equipped with a good balance of torque transmission performance, flexibility, and responsiveness.

ALS(B)

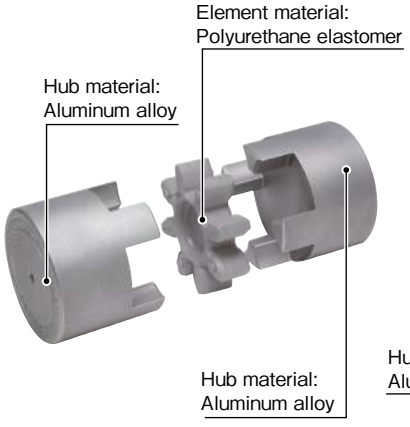
These are JIS A loose-fit, high-torque, flexible models that have a shore hardness of 97.

Model Selection

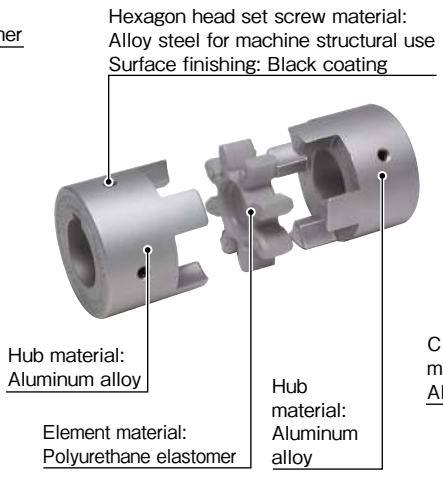
Model/Type	Nominal torque [N·m]	Hub material	Shore hardness (Element) JIS A	Element fit	Transmission torque	Flexibility	No-backlash	Operating temperature [°C]
ALS(R)	2 ～ 525	Aluminum alloy	97	Tight fit (pre-compressed construction)	◎	○	○	−30 ～ 80
ALS(Y)	1.2 ～ 310	Aluminum alloy	90	Tight fit (pre-compressed construction)	○	○	○	−30 ～ 80
ALS(B)	12.5 ～ 525	Aluminum alloy	97	Loose fit	◎	◎	—	−30 ～ 80

Structure and Materials

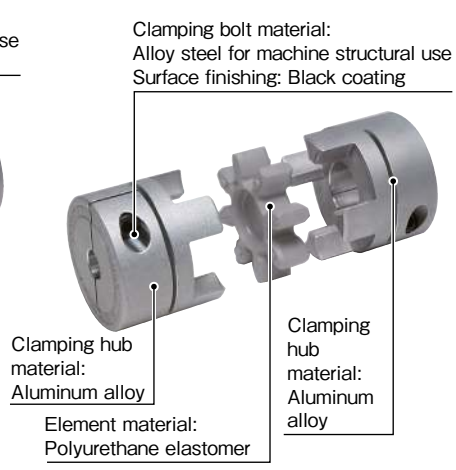
■ Pilot Bore



■ Key/Set Screw Type



■ Clamp Type



ALS(R/Y/B) Types Key/Set Screw Type

Specifications (Red element 97 Shore A)

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Radial stiffness [N/mm]	Moment of inertia [$kg·m^2$]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]					
ALS-014-R	2	4	0.10	1	0 ~ +0.6	34100	21	380	1.91×10^{-7}	0.007
ALS-020-R	5	10	0.10	1	0 ~ +0.8	23800	43	400	1.08×10^{-6}	0.018
ALS-030-R	12.5	25	0.10	1	0 ~ +1.0	15900	136	650	6.25×10^{-6}	0.047
ALS-040-R	17	34	0.10	1	0 ~ +1.2	11900	1550	1700	3.87×10^{-5}	0.15
ALS-055-R	60	120	0.10	1	0 ~ +1.4	8700	2000	1350	1.66×10^{-4}	0.35
ALS-065-R	160	320	0.10	1	0 ~ +1.5	7400	3100	1400	3.57×10^{-4}	0.51
ALS-080-R	325	650	0.10	1	0 ~ +1.8	6000	6000	1710	1.06×10^{-3}	1.01
ALS-095-R	450	900	0.10	1	-0.5 ~ +2.0	5000	10000	4200	2.24×10^{-3}	1.50
ALS-105-R	525	1050	0.15	1	-0.9 ~ +2.0	4500	12000	5000	3.72×10^{-3}	2.05

- Higher rpm possible with balancing.
- Stiffness values given are from measurements taken at 20 ℃.
- The moment of inertia and mass are specified for the maximum bore diameter.

Specifications (Yellow element 90 Shore A)

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Radial stiffness [N/mm]	Moment of inertia [$kg·m^2$]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]					
ALS-014-Y	1.2	2.4	0.10	1	0 ~ +0.6	34100	12	200	1.91×10^{-7}	0.007
ALS-020-Y	3	6	0.15	1	0 ~ +0.8	23800	24	210	1.08×10^{-6}	0.018
ALS-030-Y	7.5	15	0.15	1	0 ~ +1.0	15900	73	330	6.25×10^{-6}	0.047
ALS-040-Y	10	20	0.10	1	0 ~ +1.2	11900	760	940	3.87×10^{-5}	0.15
ALS-055-Y	35	70	0.15	1	0 ~ +1.4	8700	1400	1160	1.66×10^{-4}	0.35
ALS-065-Y	95	190	0.15	1	0 ~ +1.5	7400	2100	1200	3.57×10^{-4}	0.51
ALS-080-Y	190	380	0.15	1	0 ~ +1.8	6000	4000	1430	1.06×10^{-3}	1.01
ALS-095-Y	265	530	0.15	1	-0.5 ~ +2.0	5000	6000	2400	2.24×10^{-3}	1.50
ALS-105-Y	310	620	0.20	1	-0.9 ~ +2.0	4500	7000	4000	3.72×10^{-3}	2.05

- Higher rpm possible with balancing.
- Stiffness values given are from measurements taken at 20 ℃.
- The moment of inertia and mass are specified for the maximum bore diameter.

Specifications (Blue element 97 Shore A)

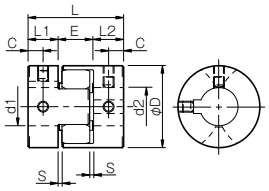
Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Radial stiffness [N/mm]	Moment of inertia [$kg·m^2$]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]					
ALS-030-B	12.5	25	0.17	1	-0.2 ~ +1.0	15900	90	460	6.13×10^{-6}	0.045
ALS-040-B	17	34	0.20	1	-0.5 ~ +1.2	11900	400	640	3.86×10^{-5}	0.15
ALS-055-B	60	120	0.22	1	-0.2 ~ +1.4	8700	1150	400	1.66×10^{-4}	0.35
ALS-065-B	160	320	0.25	1	-0.6 ~ +1.5	7400	2000	800	3.57×10^{-4}	0.51
ALS-080-B	325	650	0.28	1	-0.9 ~ +1.8	6000	4550	600	1.06×10^{-3}	1.01
ALS-095-B	450	900	0.32	1	-0.5 ~ +2.0	5000	12000	800	2.22×10^{-3}	1.48
ALS-105-B	525	1050	0.36	1	-0.9 ~ +2.0	4500	15000	2000	3.70×10^{-3}	2.02

- Higher rpm possible with balancing.
- Stiffness values given are from measurements taken at 20 ℃.
- The moment of inertia and mass are specified for the maximum bore diameter.

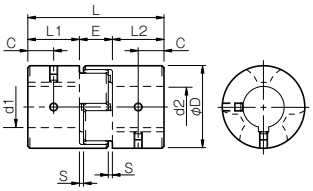
ALS(R/Y/B) Types Key/Set Screw Type

Dimensions

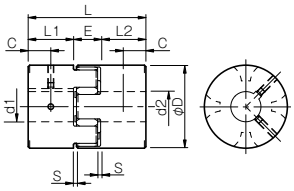
■ALS-014 to 030



■ALS-040



■ALS-055 to 105



Unit [mm]

Model	d1 • d2		D	L	L1 • L2	E	S	C
	Min.	Max.						
ALS-014-R/Y	3	6.5	14	22	7	8	1	3.5
ALS-020-R/Y	4	9.6	20	30	10	10	1	5
ALS-030-R/Y/B	6	14	30	35	11	13	1.5	5.5
ALS-040-R/Y/B	8	22	40	66	25	16	2	12.5
ALS-055-R/Y/B	10	28	55	78	30	18	2	15
ALS-065-R/Y/B	14	38	65	90	35	20	2.5	17.5
ALS-080-R/Y/B	19	45	80	114	45	24	3	22.5
ALS-095-R/Y/B	19	55	95	126	50	26	3	25
ALS-105-R/Y/B	19	60	105	140	56	28	3.5	28

Standard Bore Diameter

Modell	Standard bore diameter d1, d2 [mm]																																
	3	4	5	6	6.35	7	8	9	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	56	60
ALS-014-R/Y	●	●	●	●	●																														
ALS-020-R/Y		●	●	●	●	●	●	●	●																										
ALS-030-R/Y/B				●	●	●	●	●	●	●	●	●	●																						
ALS-040-R/Y/B							●	●	●	●	●	●	●	●	●	●	●	●	●	●															
ALS-055-R/Y/B										●	●	●	●	●	●	●	●	●	●	●	●	●	●												
ALS-065-R/Y/B													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
ALS-080-R/Y/B																		●	●	●	●	●	●	●	●	●	●	●	●	●					
ALS-095-R/Y/B																		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
ALS-105-R/Y/B																		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

• The bore diameters marked with ● are supported as standard bore diameter.
• ø11 and below have no keyway; ø12 and above can be processed for old JIS standards, new JIS standards, and new standard motors.

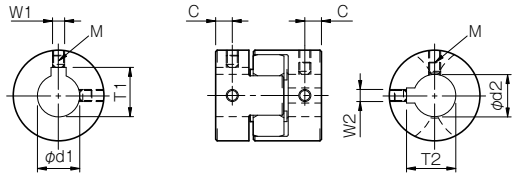
How to Place an Order

ALS-055-R-24N-28H

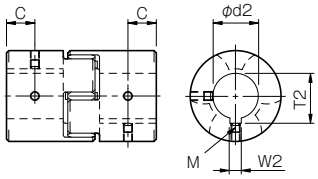
- ALS: Size
- R: Element type
  - R: Hardness, 97; JIS A; Tight-fit type
  - Y: Hardness, 90; JIS A; Tight-fit type
  - B: Hardness, 97; JIS A; Loose-fit type
- 24N: Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
  - Bore specifications
    - Blank: Compliant with the old JIS standards (class 2) E9
    - H: Compliant with JIS standards H9
    - J: Compliant with JIS standards JS9
    - N: Compliant with motor standards
- 28H: Bore diameter: d1 (Small diameter) – d2 (Large diameter)
  - Blank: Pilot bore
  - Bore specifications
    - Blank: Compliant with the old JIS standards (class 2) E9
    - H: Compliant with JIS standards H9
    - J: Compliant with JIS standards JS9
    - N: Compliant with motor standards

Standard Hole-Drillings

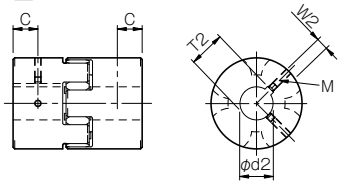
■ALS-014 to 030



■ALS-040



■ALS-055 to105



Models compliant with the old JIS standard (class 2) JIS B 1301 1959					Models compliant with the new JIS standard (H9) JIS B 1301 1996					Models compliant with the new JIS standard (JS9) JIS B 1301 1996					Models compliant with the motor standard JIS C 4210 2001				
Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]
	Tolerance H7, H8	Tolerance E9	—	—		Tolerance H7	Tolerance H9	—	—		Tolerance H7	Tolerance JS9	—	—		Tolerance G7, F7	Tolerance H9	—	—
3	3 $^{+0.018}_{0}$	—	—	1-M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	4 $^{+0.018}_{0}$	—	—	2-M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	5 $^{+0.018}_{0}$	—	—	2-M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	6 $^{+0.018}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6.35	6.35 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	7 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	8 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	9 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9.525	9.525 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	10 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	11 $^{+0.018}_{0}$	—	—	2-M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	12 $^{+0.018}_{0}$	4 $^{+0.050}_{+0.020}$	13.5 $^{+0.3}_{0}$	2-M4	12H	12 $^{+0.018}_{0}$	4 $^{+0.030}_{0}$	13.8 $^{+0.3}_{0}$	2-M4	12J	12 $^{+0.018}_{0}$	4 ±0.0150	13.8 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
14	14 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	16.0 $^{+0.3}_{0}$	2-M4	14H	14 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4	14J	14 $^{+0.018}_{0}$	5 ±0.0150	16.3 $^{+0.3}_{0}$	2-M4	14N	14 $^{+0.024}_{+0.006}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4
15	15 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	17.0 $^{+0.3}_{0}$	2-M4	15H	15 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	17.3 $^{+0.3}_{0}$	2-M4	15J	15 $^{+0.018}_{0}$	5 ±0.0150	17.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
16	16 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	18.0 $^{+0.3}_{0}$	2-M4	16H	16 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	18.3 $^{+0.3}_{0}$	2-M4	16J	16 $^{+0.018}_{0}$	5 ±0.0150	18.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
17	17 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	19.0 $^{+0.3}_{0}$	2-M4	17H	17 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	19.3 $^{+0.3}_{0}$	2-M4	17J	17 $^{+0.018}_{0}$	5 ±0.0150	19.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
18	18 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	20.0 $^{+0.3}_{0}$	2-M4	18H	18 $^{+0.018}_{0}$	6 $^{+0.030}_{0}$	20.8 $^{+0.3}_{0}$	2-M5	18J	18 $^{+0.018}_{0}$	6 ±0.0150	20.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
19	19 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	21.0 $^{+0.3}_{0}$	2-M4	19H	19 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5	19J	19 $^{+0.021}_{0}$	6 ±0.0150	21.8 $^{+0.3}_{0}$	2-M5	19N	19 $^{+0.028}_{+0.007}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5
20	20 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	22.0 $^{+0.3}_{0}$	2-M4	20H	20 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	22.8 $^{+0.3}_{0}$	2-M5	20J	20 $^{+0.021}_{0}$	6 ±0.0150	22.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
22	22 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	25.0 $^{+0.3}_{0}$	2-M6	22H	22 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	24.8 $^{+0.3}_{0}$	2-M5	22J	22 $^{+0.021}_{0}$	6 ±0.0150	24.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
24	24 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	27.0 $^{+0.3}_{0}$	2-M6	24H	24 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6	24J	24 $^{+0.021}_{0}$	8 ±0.0180	27.3 $^{+0.3}_{0}$	2-M6	24N	24 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6
25	25 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	28.0 $^{+0.3}_{0}$	2-M6	25H	25 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	28.3 $^{+0.3}_{0}$	2-M6	25J	25 $^{+0.021}_{0}$	8 ±0.0180	28.3 $^{+0.3}_{0}$	2-M6	—	—	—	—	—
28	28 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	31.0 $^{+0.3}_{0}$	2-M6	28H	28 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6	28J	28 $^{+0.021}_{0}$	8 ±0.0180	31.3 $^{+0.3}_{0}$	2-M6	28N	28 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6
30	30 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	33.0 $^{+0.3}_{0}$	2-M6	30H	30 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	33.3 $^{+0.3}_{0}$	2-M6	30J	30 $^{+0.021}_{0}$	8 ±0.0180	33.3 $^{+0.3}_{0}$	2-M6	—	—	—	—	—
32	32 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	35.5 $^{+0.3}_{0}$	2-M8	32H	32 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	35.3 $^{+0.3}_{0}$	2-M8	32J	32 $^{+0.025}_{0}$	10 ±0.0180	35.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—
35	35 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	38.5 $^{+0.3}_{0}$	2-M8	35H	35 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	38.3 $^{+0.3}_{0}$	2-M8	35J	35 $^{+0.025}_{0}$	10 ±0.0180	38.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—
38	38 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	41.5 $^{+0.3}_{0}$	2-M8	38H	38 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	41.3 $^{+0.3}_{0}$	2-M8	38J	38 $^{+0.025}_{0}$	10 ±0.0180	41.3 $^{+0.3}_{0}$	2-M8	38N	38 $^{+0.050}_{+0.025}$	10 $^{+0.036}_{0}$	41.3 $^{+0.3}_{0}$	2-M8
40	40 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	43.5 $^{+0.3}_{0}$	2-M8	40H	40 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	43.3 $^{+0.3}_{0}$	2-M8	40J	40 $^{+0.025}_{0}$	12 ±0.0215	43.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—
42	42 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	45.5 $^{+0.3}_{0}$	2-M8	42H	42 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	45.3 $^{+0.3}_{0}$	2-M8	42J	42 $^{+0.025}_{0}$	12 ±0.0215	45.3 $^{+0.3}_{0}$	2-M8	42N	42 $^{+0.050}_{+0.025}$	12 $^{+0.043}_{0}$	45.3 $^{+0.3}_{0}$	2-M8
45	45 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	48.5 $^{+0.3}_{0}$	2-M8	45H	45 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	48.8 $^{+0.3}_{0}$	2-M10	45J	45 $^{+0.025}_{0}$	14 ±0.0215	48.8 $^{+0.3}_{0}$	2-M10	—	—	—	—	—
48	48 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	51.5 $^{+0.3}_{0}$	2-M8	48H	48 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	51.8 $^{+0.3}_{0}$	2-M10	48J	48 $^{+0.025}_{0}$	14 ±0.0215	51.8 $^{+0.3}_{0}$	2-M10	48N	48 $^{+0.050}_{+0.025}$	14 $^{+0.043}_{0}$	51.8 $^{+0.3}_{0}$	2-M10
50	50 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	53.5 $^{+0.3}_{0}$	2-M8	50H	50 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	53.8 $^{+0.3}_{0}$	2-M10	50J	50 $^{+0.025}_{0}$	14 ±0.0215	53.8 $^{+0.3}_{0}$	2-M10	—	—	—	—	—
55	55 $^{+0.030}_{0}$	15 $^{+0.075}_{+0.032}$	60.0 $^{+0.3}_{0}$	2-M10	55H	55 $^{+0.030}_{0}$	16 $^{+0.043}_{0}$	59.3 $^{+0.3}_{0}$	2-M10	55J	55 $^{+0.030}_{0}$	16 ±0.0215	59.3 $^{+0.3}_{0}$	2-M10	55N	55 $^{+0.060}_{+0.030}$	16 $^{+0.043}_{0}$	59.3 $^{+0.3}_{0}$	2-M10
56	56 $^{+0.030}_{0}$	15 $^{+0.075}_{+0.032}$	61.0 $^{+0.3}_{0}$	2-M10	56H	56 $^{+0.030}_{0}$	16 $^{+0.043}_{0}$	60.3 $^{+0.3}_{0}$	2-M10	56J	56 $^{+0.030}_{0}$	16 ±0.0215	60.3 $^{+0.3}_{0}$	2-M10	—	—	—	—	—
60	60 $^{+0.030}_{0}$	15 $^{+0.075}_{+0.032}$	65.0 $^{+0.3}_{0}$	2-M10	60H	60 $^{+0.030}_{0}$	18 $^{+0.043}_{0}$	64.4 $^{+0.3}_{0}$	2-M10	60J	60 $^{+0.030}_{0}$	18 ±0.0215	64.4 $^{+0.3}_{0}$	2-M10	60N	60 $^{+0.060}_{+0.030}$	18 $^{+0.043}_{0}$	64.4 $^{+0.3}_{0}$	2-M10

Distance from Set Screw Edge

Model	Position of set screw C [mm]
ALS-014	3.5
ALS-020	5
ALS-030	5.5
ALS-040	12.5
ALS-055	15
ALS-065	17.5
ALS-080	22.5
ALS-095	25
ALS-105	28

NOTE

- For ALS-014, set screw size is M3.
- Set screws are included with the product.
- Contact Miki Pulley if you require standards other than those shown above.

ALS(R) Types Clamp Type

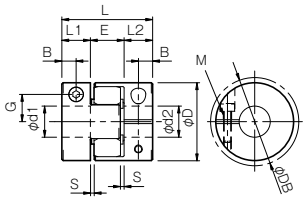
Specifications (Red element 97 Shore A)

Model	Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Radial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
	Parallel [mm]	Angular [°]	Axial [mm]					
ALS-014-R-□B-□B	0.10	1	0 ~ +0.6	10000	21	380	1.98×10^{-7}	0.007
ALS-020-R-□B-□B	0.10	1	0 ~ +0.8	10000	43	400	1.09×10^{-6}	0.019
ALS-030-R-□B-□B	0.10	1	0 ~ +1.0	10000	136	650	6.19×10^{-6}	0.045
ALS-040-R-□B-□B	0.10	1	0 ~ +1.2	10000	1550	1700	4.01×10^{-5}	0.16
ALS-055-R-□B-□B	0.10	1	0 ~ +1.4	7000	2000	1350	1.63×10^{-4}	0.34
ALS-065-R-□B-□B	0.10	1	0 ~ +1.5	5900	3100	1400	3.69×10^{-4}	0.54
ALS-080-R-□B-□B	0.10	1	0 ~ +1.8	4800	6000	1710	1.04×10^{-3}	1.00

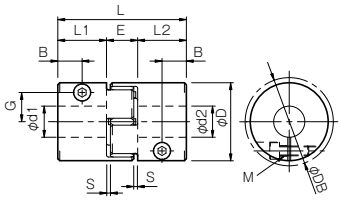
- Axial displacement is not allowed in the negative direction.
- Higher rpm possible with balancing.
- Stiffness values given are from measurements taken at 20 ℃.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions

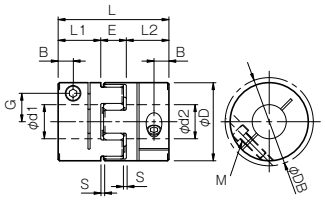
■ALS-014 to 030



■ALS-040



■ALS-055 to 080



Unit [mm]

Model	d1 • d2		D	DB	L	L1 • L2	E	S	B	G	M	Tightening torque [N·m]
	Min.	Max.										
ALS-014-R-□B-□B	3	6	14	16.1	22	7	8	1	3.5	4.8	1-M2	0.4
ALS-020-R-□B-□B	4	8	20	20	30	10	10	1	5	6.5	1-M2.5	1
ALS-030-R-□B-□B	6	14	30	30	35	11	13	1.5	5.5	10.5	1-M3	1.5
ALS-040-R-□B-□B	8	20	40	43.2	66	25	16	2	12.5	15	1-M5	7
ALS-055-R-□B-□B	10	28	55	55	78	30	18	2	10.5	20	1-M6	14
ALS-065-R-□B-□B	14	35	65	69.8	90	35	20	2.5	11.5	24.5	1-M8	30
ALS-080-R-□B-□B	19	45	80	80	114	45	24	3	11.5	30	1-M8	30

- øDB = Interference radius of the screw head

Standard Bore Diameter and Rated Transmission Torque

Modell	Standard bore diameter d1, d2 [mm] and rated transmission torque [N·m]																											
	3	4	5	6	6.35	7	8	9	9.525	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45
ALS-014-R	0.31	0.42	0.54	0.65																									
ALS-020-R		1.2	1.6	2.1	2.2	2.6	3.0																						
ALS-030-R				2.0	2.2	2.7	3.4	4.0	4.4	4.7	5.4	6.0	7.4																
ALS-040-R							8	12	14	16	19	23	31	34	34	34	34	34											
ALS-055-R										21	25	28	35	38	41	48	51	54	61	67	71	80							
ALS-065-R													40	44	47	54	58	61	68	75	79	89	96	103	114				
ALS-080-R																	53	59	72	84	90	108	121	133	151	170	182	194	212

- Bore diameters whose fields contain numbers are supported as the standard bore diameters.
- Bore diameters whose fields contain numbers are restricted in their rated transmission torque by the holding power of the shaft connection component. The numbers indicate the rated transmission torque value [N·m].
- The recommended processing tolerance for paired mounting shafts is the h7 class. However, for a shaft diameter of ø35, the tolerance is $^{+0.010}_{-0.025}$.
- Bore diameters between the minimum and maximums shown in the dimensions table are compatible, but bore diameters other than those shown in the above table require other arrangements. Contact Miki Pulley for details.

How to Place an Order

ALS-055-R-24B-28B

- ALS-055: Size
- R: Element type — R: Hardness, 97; JIS A; Tight-fit type
- 24B-28B: Bore specifications — B: Clamp type; Bore diameter: d1 (Small diameter) – d2 (Large diameter)

ALS(Y) Types Clamp Type

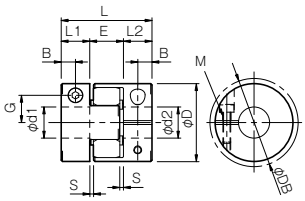
Specifications (Yellow element 90 Shore A)

Model	Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Radial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
	Parallel [mm]	Angular [°]	Axial [mm]					
ALS-014-Y-☐B-☐B	0.10	1	0 ~ +0.6	10000	12	200	1.98×10^{-7}	0.007
ALS-020-Y-☐B-☐B	0.15	1	0 ~ +0.8	10000	24	210	1.09×10^{-6}	0.019
ALS-030-Y-☐B-☐B	0.15	1	0 ~ +1.0	10000	73	330	6.19×10^{-6}	0.045
ALS-040-Y-☐B-☐B	0.10	1	0 ~ +1.2	10000	760	940	4.01×10^{-5}	0.16
ALS-055-Y-☐B-☐B	0.15	1	0 ~ +1.4	7000	1400	1160	1.63×10^{-4}	0.34
ALS-065-Y-☐B-☐B	0.15	1	0 ~ +1.5	5900	2100	1200	3.69×10^{-4}	0.54
ALS-080-Y-☐B-☐B	0.15	1	0 ~ +1.8	4800	4000	1430	1.04×10^{-3}	1.00

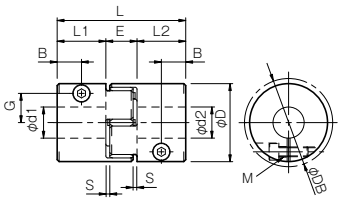
- Axial displacement is not allowed in the negative direction.
- Higher rpm possible with balancing.
- Stiffness values given are from measurements taken at 20 °C.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions

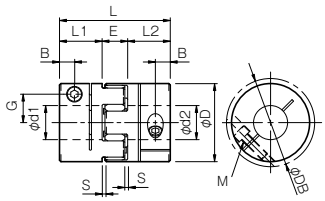
■ALS-014 to 030



■ALS-040



■ALS-055 to 080



Unit [mm]

Model	d1 • d2		D	DB	L	L1 • L2	E	S	B	G	M	Tightening torque [N·m]
	Min.	Max.										
ALS-014-Y-☐B-☐B	3	6	14	16.1	22	7	8	1	3.5	4.8	1-M2	0.4
ALS-020-Y-☐B-☐B	4	8	20	20	30	10	10	1	5	6.5	1-M2.5	1
ALS-030-Y-☐B-☐B	6	14	30	30	35	11	13	1.5	5.5	10.5	1-M3	1.5
ALS-040-Y-☐B-☐B	8	20	40	43.2	66	25	16	2	12.5	15	1-M5	7
ALS-055-Y-☐B-☐B	10	28	55	55	78	30	18	2	10.5	20	1-M6	14
ALS-065-Y-☐B-☐B	14	35	65	69.8	90	35	20	2.5	11.5	24.5	1-M8	30
ALS-080-Y-☐B-☐B	19	45	80	80	114	45	24	3	11.5	30	1-M8	30

- øDB = Interference radius of the screw head

Standard Bore Diameter and Rated Transmission Torque

Modell	Standard bore diameter d1, d2 [mm] and rated transmission torque [N·m]																												
	3	4	5	6	6.35	7	8	9	9.525	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45
ALS-014-Y	0.31	0.42	0.54	0.65																									
ALS-020-Y		1.2	1.6	2.1	2.2	2.6	3.0																						
ALS-030-Y				2.0	2.2	2.7	3.4	4	4.4	4.7	5.4	6.0	7.4																
ALS-040-Y							8	12	14	16	19	20	20	20	20	20	20	20											
ALS-055-Y										21	25	28	35	38	41	48	51	54	61	67	70	70							
ALS-065-Y													40	44	47	54	58	61	68	75	79	89	96	103	114				
ALS-080-Y																	53	59	72	84	90	108	121	133	151	170	182	194	212

- Bore diameters whose fields contain numbers are supported as the standard bore diameters.
- Bore diameters whose fields contain numbers are restricted in their rated transmission torque by the holding power of the shaft connection component. The numbers indicate the rated transmission torque value [N·m].
- The recommended processing tolerance for paired mounting shafts is the h7 class. However, for a shaft diameter of ø35, the tolerance is $^{+0.010}_{-0.025}$.
- Bore diameters between the minimum and maximums shown in the dimensions table are compatible, but bore diameters other than those shown in the above table require other arrangements. Contact Miki Pulley for details.

How to Place an Order

ALS-055-Y-24B-28B

- Size
- Element type: Y: Hardness, 90; JIS A; Tight-fit type
- Bore specifications: B: Clamp type
- Bore diameter: d1 (Small diameter) - d2 (Large diameter)

ALS(B) Types Clamp Type

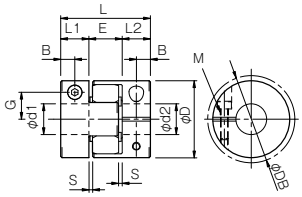
Specifications (Blue element 97 Shore A)

Model	Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Radial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
	Parallel [mm]	Angular [°]	Axial [mm]					
ALS-030-B-□B-□B	0.17	1	-0.2 ~ +1.0	10000	90	460	6.07×10^{-6}	0.043
ALS-040-B-□B-□B	0.20	1	-0.5 ~ +1.2	10000	400	640	4.00×10^{-5}	0.16
ALS-055-B-□B-□B	0.22	1	-0.2 ~ +1.4	7000	1150	400	1.63×10^{-4}	0.34
ALS-065-B-□B-□B	0.25	1	-0.6 ~ +1.5	5900	2000	800	3.69×10^{-4}	0.54
ALS-080-B-□B-□B	0.28	1	-0.9 ~ +1.8	4800	4550	600	1.04×10^{-3}	1.00

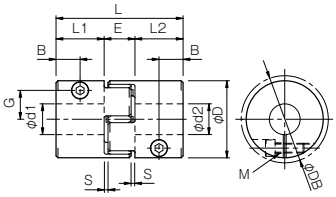
- Higher rpm possible with balancing.
- Stiffness values given are from measurements taken at 20 ℃.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions

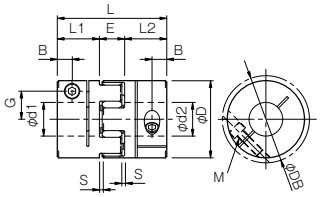
■ALS-030



■ALS-040



■ALS-055 to 080



Unit [mm]

Model	d1 • d2		D	DB	L	L1 • L2	E	S	B	G	M	Tightening torque [N·m]
	Min.	Max.										
ALS-030-B-□B-□B	6	14	30	30	35	11	13	1.5	5.5	10.5	1-M3	1.5
ALS-040-B-□B-□B	8	20	40	43.2	66	25	16	2	12.5	15	1-M5	7
ALS-055-B-□B-□B	10	28	55	55	78	30	18	2	10.5	20	1-M6	14
ALS-065-B-□B-□B	14	35	65	69.8	90	35	20	2.5	11.5	24.5	1-M8	30
ALS-080-B-□B-□B	19	45	80	80	114	45	24	3	11.5	30	1-M8	30

- øDB = Interference radius of the screw head

Standard Bore Diameter and Rated Transmission Torque

Modell	Standard bore diameter d1, d2 [mm] and rated transmission torque [N·m]																								
	6	6.35	7	8	9	9.525	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45
ALS-030-B	2.0	2.2	2.7	3.4	4.0	4.4	4.7	5.4	6.0	7.4																
ALS-040-B				8	12	14	16	19	23	31	34	34	34	34	34											
ALS-055-B							21	25	28	35	38	41	48	51	54	61	67	71	80							
ALS-065-B										40	44	47	54	58	61	68	75	79	89	96	103	114				
ALS-080-B														53	59	72	84	90	108	121	133	151	170	182	194	212

- Bore diameters whose fields contain numbers are supported as the standard bore diameters.
- Bore diameters whose fields contain numbers are restricted in their rated transmission torque by the holding power of the shaft connection component. The numbers indicate the rated transmission torque value [N·m].
- The recommended processing tolerance for paired mounting shafts is the h7 class. However, for a shaft diameter of ø35, the tolerance is $^{+0.010}_{-0.025}$.
- Bore diameters between the minimum and maximums shown in the dimensions table are compatible, but bore diameters other than those shown in the above table require other arrangements. Contact Miki Pulley for details.

How to Place an Order

ALS-055-B-24B-28B

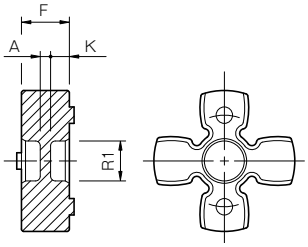
- Size
- Element type
  B: Hardness, 97; JIS A; Loose-fit type
- Bore specifications
  B: Clamp type
- Bore diameter: d1 (Small diameter) - d2 (Large diameter)

ALS Elements

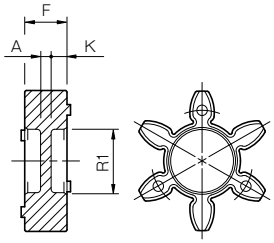
Dimensions

ALS(R/Y)

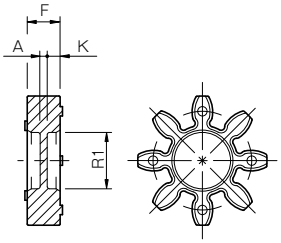
■ALS-014 to 030-R/Y



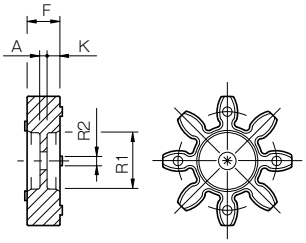
■ALS-040-R/Y



■ALS-055 to 065-R/Y



■ALS-080 to105-R/Y



Unit [mm]

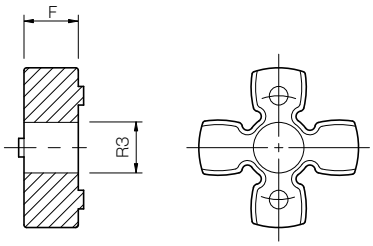
Model	F	R1	R2	K	A
ALS-014-□-EL	6.2	3.5	—	2.5	1.2
ALS-020-□-EL	8.2	6.2	—	3.4	1.4
ALS-030-□-EL	10.2	8.5	—	4	2.2
ALS-040-□-EL	12	18	—	4.5	3
ALS-055-□-EL	14	24	—	5.5	3
ALS-065-□-EL	15	30	—	5.5	4
ALS-080-□-EL	18	37	15	7	4
ALS-095-□-EL	20	43	20	8	4
ALS-105-□-EL	21	50	20	8.5	4

How to Place an Order

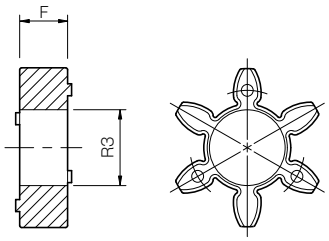
ALS-055-R-EL
- 055: Size
- R: Element type
  - R: Hardness, 97; JIS A; Tight-fit type
  - Y: Hardness, 90; JIS A; Tight-fit type
- EL: Element only

ALS(B)

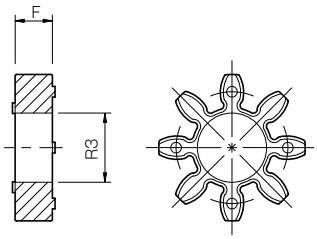
■ALS-030-B



■ALS-040-B



■ALS-055 to 105-B



Unit [mm]

Model	F	R3
ALS-030-B-EL	10.2	10.5
ALS-040-B-EL	12	18.5
ALS-055-B-EL	14	27.5
ALS-065-B-EL	15	32
ALS-080-B-EL	18	41
ALS-095-B-EL	20	47
ALS-105-B-EL	21	50

How to Place an Order

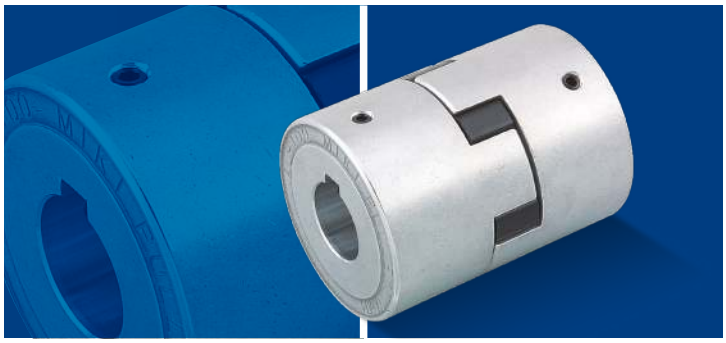
ALS-055-B-EL
- 055: Size
- B: Element type
  - B: Hardness, 97; JIS A; Loose-fit type
- EL: Element only

Jaw Couplings

SPRFLEX

Max. nominal torque [N·m]	50
Pilot bore/added work ranges [mm]	ϕ 4 ~ 48
Operating temperature [°C]	− 20 ~ 80
Backlash	Yes
Drive	Induction motor
Applications	Pumps, fans, textile machinery

Jaw Couplings that Use Rubber as Buffer Material

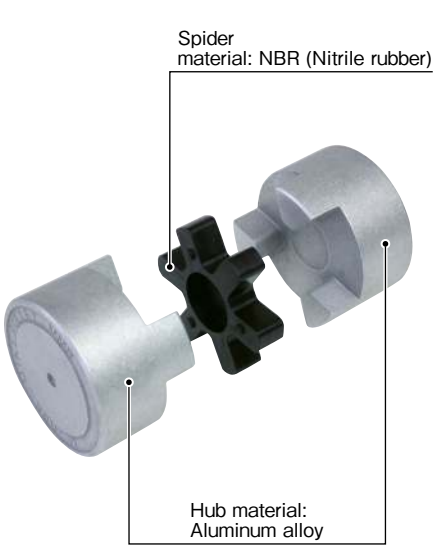


These jaw couplings have simpler designs that sandwich a buffer material (spider) between two hubs. The hub is lightweight, being made of aluminum alloy. Input and output can be coupled or separated easily by simply moving the coupling in the axial.

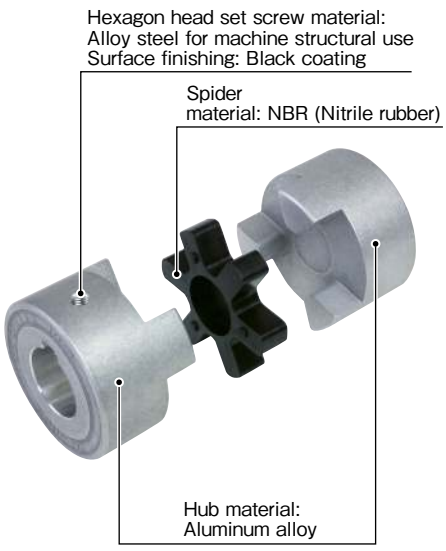
RoHS

Structure and Materials

■ Pilot bore



■ Key/set screw types



■ Spider (rubber buffer)

AL Models

Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]			
AL-035	0.5	1.5	0.1	0.5	+0.3	18000	0.38×10^{-6}	0.01
AL-050	1.5	4.5	0.2	1.0	± 0.5	12000	5.10×10^{-6}	0.06
AL-070	3	9	0.2	1.0	± 0.5	9000	1.79×10^{-5}	0.12
AL-075	5	15	0.2	1.0	± 0.5	7000	5.36×10^{-5}	0.21
AL-090	8	24	0.3	1.0	± 0.5	6000	1.15×10^{-4}	0.31
AL-095	10	30	0.3	1.0	± 0.5	6000	1.40×10^{-4}	0.36
AL-100	25	75	0.3	1.0	± 0.7	5000	4.34×10^{-4}	0.78
AL-110	50	150	0.3	1.0	± 0.7	4000	1.43×10^{-3}	1.56

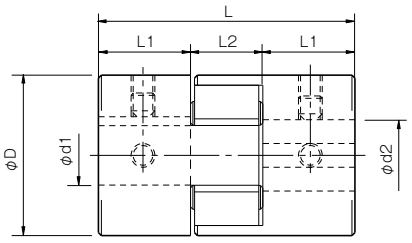
• Higher rpm possible with balancing.
• The moment of inertia and mass are specified for the pilot bore.

Dimensions (Couplings)

Unit [mm]

Model	d1 • d2		D	L	L1	L2
	Min.	Max.				
AL-035	4	8	16.1	20.5	6.5	7.5*1
AL-050	6	16	27	43.2	15.5	12.2
AL-070	6	20	35	49.2	18.5	12.2
AL-075	7	26	45	54.4	21.0	12.4
AL-090	9	28	54	55.0	21.0	13.0
AL-095	9	28	55	61.0	24.0	13.0
AL-100	11	36	66	88.0	35.0	18.0
AL-110	11	48	85	110.0	44.0	22.0

• Minimums and maximums for d1 and d2 are values at the Miki Pulley standard hole-drillings.
• The value marked *1 leaves a 1 mm space for the thickness of the spider body.

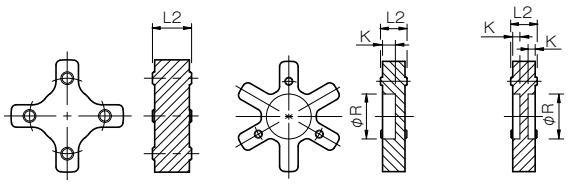


Dimensions (Spider)

Unit [mm]

Couplings model	Spider model	L2	R	K
AL-035	L-035	6.5	—	—
AL-050	L-050	12.2	—	—
AL-070	L-070	12.2	—	—
AL-075	L-075	12.4	20	6.0
AL-090	L-090/095	13.0	22	6.3
AL-095	L-090/095	13.0	22	6.3
AL-100	L-100	18.0	26	6.0
AL-110	L-110	22.0	30	6.0

■ L-035 - 070 ■ L-075 - 095 ■ L-100 - 110



How to Place an Order

Pilot Bore

AL-050

Size

Key/Set Screw Types

AL-050 12H-14N

Size

Bore diameter: d1 (Small diameter) - d2 (Large diameter)
Bore specifications
Blank: Compliant with the old JIS standards (class 2)
H: Compliant with JIS standards
N: Compliant with motor standards

Spiders

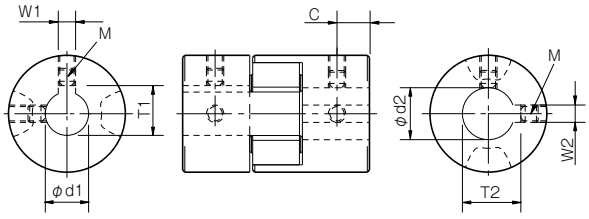
L-075

Size

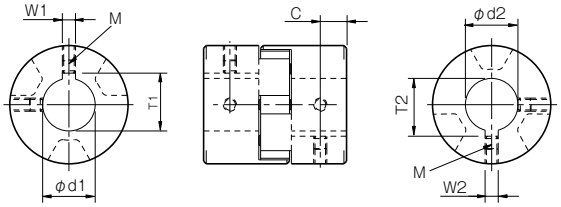
AL Models

Standard Hole-Drillings

■ AL-035 to 070



■ AL-075 to 110



Unit [mm]

Models compliant with the old JIS standard (class 2) JIS B 1301 1959					Models compliant with the new JIS standard (H9) JIS B 1301 1996					Models compliant with the motor standard JIS C 4210 2001				
Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]	Nominal bore diameter	Bore diameter [d1 • d2]	Keyway width [W1 • W2]	Keyway height [T1 • T2]	Set screw hole [M]
	Tolerance H7, H8	Tolerance E9	—	—		Tolerance H7	Tolerance H9	—	—		Tolerance G7, F7	Tolerance H9	—	—
6	6 $^{+0.018}_{0}$	—	—	2-M4	6H	6 $^{+0.018}_{0}$	—	—	2-M4	—	—	—	—	—
7	7 $^{+0.022}_{0}$	—	—	2-M4	7H	7 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—
8	8 $^{+0.022}_{0}$	—	—	2-M4	8H	8 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—
9	9 $^{+0.022}_{0}$	—	—	2-M4	9H	9 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—
10	10 $^{+0.022}_{0}$	—	—	2-M4	10H	10 $^{+0.022}_{0}$	—	—	2-M4	—	—	—	—	—
11	11 $^{+0.018}_{0}$	—	—	2-M4	11H	11 $^{+0.018}_{0}$	—	—	2-M4	—	—	—	—	—
12	12 $^{+0.018}_{0}$	4 $^{+0.050}_{+0.020}$	13.5 $^{+0.3}_{0}$	2-M4	12H	12 $^{+0.018}_{0}$	4 $^{+0.030}_{0}$	13.8 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
14	14 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	16.0 $^{+0.3}_{0}$	2-M4	14H	14 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4	14N	14 $^{+0.024}_{+0.006}$	5 $^{+0.030}_{0}$	16.3 $^{+0.3}_{0}$	2-M4
15	15 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	17.0 $^{+0.3}_{0}$	2-M4	15H	15 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	17.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
16	16 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	18.0 $^{+0.3}_{0}$	2-M4	16H	16 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	18.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
17	17 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	19.0 $^{+0.3}_{0}$	2-M4	17H	17 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	19.3 $^{+0.3}_{0}$	2-M4	—	—	—	—	—
18	18 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	20.0 $^{+0.3}_{0}$	2-M4	18H	18 $^{+0.018}_{0}$	6 $^{+0.030}_{0}$	20.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
19	19 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	21.0 $^{+0.3}_{0}$	2-M4	19H	19 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5	19N	19 $^{+0.028}_{+0.007}$	6 $^{+0.030}_{0}$	21.8 $^{+0.3}_{0}$	2-M5
20	20 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	22.0 $^{+0.3}_{0}$	2-M4	20H	20 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	22.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
22	22 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	25.0 $^{+0.3}_{0}$	2-M6	22H	22 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	24.8 $^{+0.3}_{0}$	2-M5	—	—	—	—	—
24	24 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	27.0 $^{+0.3}_{0}$	2-M6	24H	24 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6	24N	24 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	27.3 $^{+0.3}_{0}$	2-M6
25	25 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	28.0 $^{+0.3}_{0}$	2-M6	25H	25 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	28.3 $^{+0.3}_{0}$	2-M6	—	—	—	—	—
28	28 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	31.0 $^{+0.3}_{0}$	2-M6	28H	28 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6	28N	28 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	31.3 $^{+0.3}_{0}$	2-M6
30	30 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	33.0 $^{+0.3}_{0}$	2-M6	30H	30 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	33.3 $^{+0.3}_{0}$	2-M6	—	—	—	—	—
32	32 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	35.5 $^{+0.3}_{0}$	2-M8	32H	32 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	35.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—
35	35 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	38.5 $^{+0.3}_{0}$	2-M8	35H	35 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	38.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—
38	38 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	41.5 $^{+0.3}_{0}$	2-M8	38H	38 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	41.3 $^{+0.3}_{0}$	2-M8	38N	38 $^{+0.050}_{+0.025}$	10 $^{+0.036}_{0}$	41.3 $^{+0.3}_{0}$	2-M8
40	40 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	43.5 $^{+0.3}_{0}$	2-M8	40H	40 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	43.3 $^{+0.3}_{0}$	2-M8	—	—	—	—	—
42	42 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	45.5 $^{+0.3}_{0}$	2-M8	42H	42 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	45.3 $^{+0.3}_{0}$	2-M8	42N	42 $^{+0.050}_{+0.025}$	12 $^{+0.043}_{0}$	45.3 $^{+0.3}_{0}$	2-M8
45	45 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	48.5 $^{+0.3}_{0}$	2-M8	45H	45 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	48.8 $^{+0.3}_{0}$	2-M10	—	—	—	—	—
48	48 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	51.5 $^{+0.3}_{0}$	2-M8	48H	48 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	51.8 $^{+0.3}_{0}$	2-M10	42N	48 $^{+0.050}_{+0.025}$	14 $^{+0.043}_{0}$	51.8 $^{+0.3}_{0}$	2-M10

Distance from Set Screw Edge

Model	Position of set screw C [mm]
AL-035	3.5
AL-050	7.5
AL-070	9
AL-075	10
AL-090	12
AL-095	12
AL-100	12
AL-110	15

NOTE

- For AL-035, tolerance is $^{+0.05}_{0}$ regardless of the bore diameter, and set screw size is M3.
- Set screws are included with the product.

Dual Rubber Couplings
STEPFLEX

No-backlash | High response | High flexibility | Easy to mount and remove | High damping

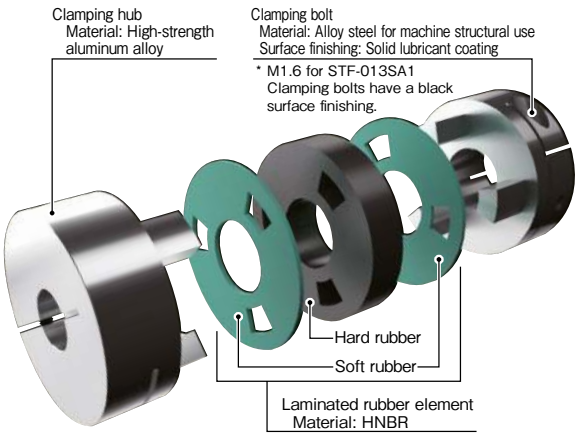
Max. nominal torque (N·m)	30
Bore ranges (mm)	ϕ 3 ~ 30
Operating temperature (°C)	−20 ~ 80
Driver	Servomotor, stepper motor
Application	Encoder, Semi conductor manufacturing equipment, Actuator

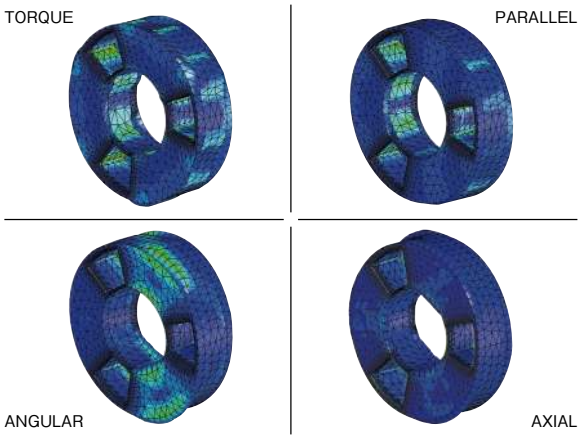
Couplings with High Damping Performance

RoHS

Our newly developed laminated rubber element achieves high damping and low reaction force. These couplings for servo and stepper motors boast high damping performance. Their unitized construction with HNBR in the power-transmitting elements provides a backlash-free design. They dampen vibration faster than flexible couplings that use metal in their elastic components. This suppresses the resonance phenomenon that can occur with stepper motors, enabling resonance to be avoided over a wide range of operating speeds. It also provides stable high-speed control.

Structure and Materials

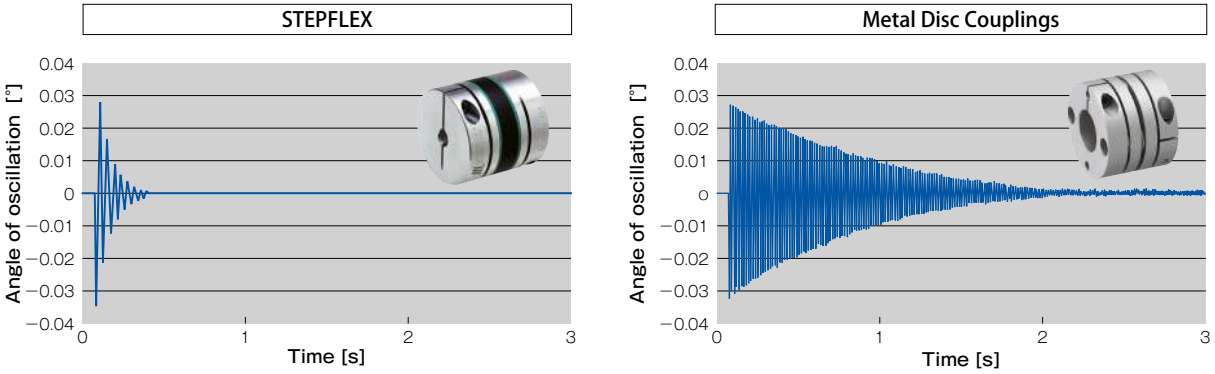




Main Features

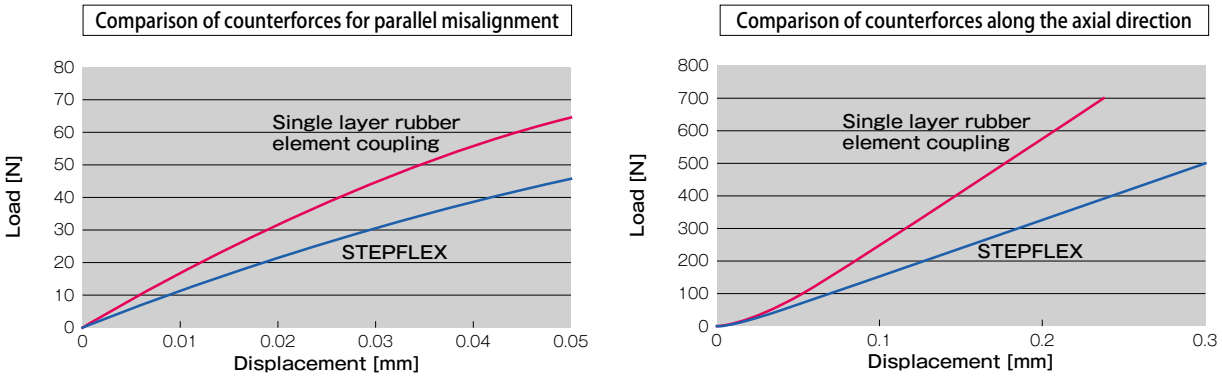
Excellent Damping Performance

The STEPFLEX laminated rubber element couplings provide better damping performance than standard metal disc couplings.



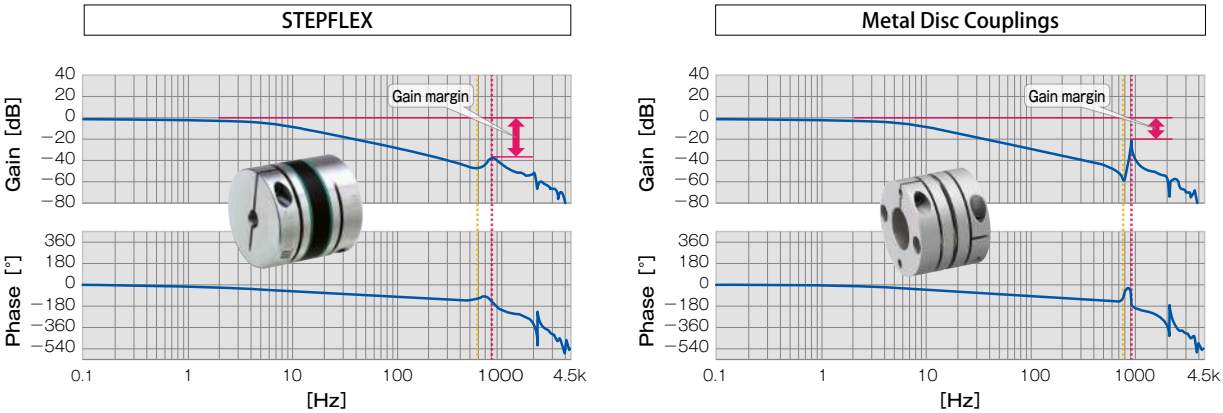
Shaft Counterforce Is Also Reduced

Use of a laminated rubber element with layers of varying hardnesses of rubber works to dramatically cut down on counterforces generated along the parallel and axial directions.



Enables Higher Gain

The damping effect can be seen clearly in the board chart, providing a bigger gain margin than metal plate-spring type couplings and helping to boost gain in the device.



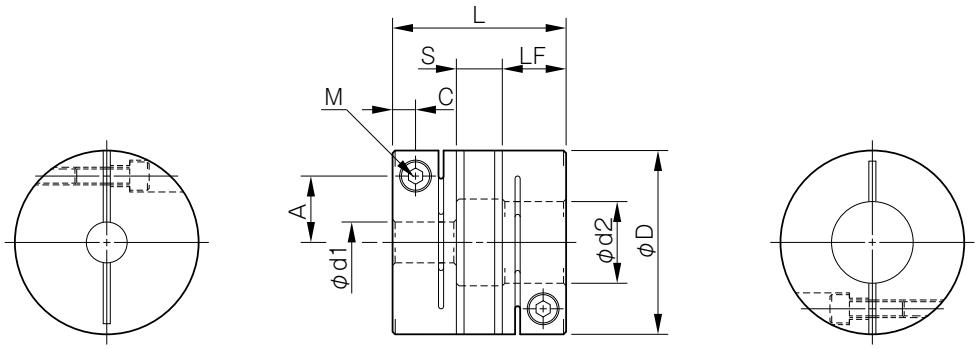
STF Models

Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
STF-013SA1	0.5	1	0.15	1.5	±0.2	10000	15	0.11×10^{-6}	0.004
STF-016SA1	1	2	0.15	1.5	±0.2	10000	27	0.31×10^{-6}	0.009
STF-019SA1	1.5	3	0.15	1.5	±0.2	10000	38	0.70×10^{-6}	0.013
STF-024SA1	2.5	5	0.15	1.5	±0.2	10000	127	1.89×10^{-6}	0.023
STF-029SA1	4	8	0.2	1.5	±0.3	10000	201	4.40×10^{-6}	0.034
STF-034SA1	6	12	0.2	1.5	±0.3	10000	371	9.77×10^{-6}	0.056
STF-039SA1	8.5	17	0.2	1.5	±0.3	10000	485	21.13×10^{-6}	0.091
STF-044SA1	15	30	0.2	1.5	±0.3	10000	996	37.30×10^{-6}	0.120
STF-056SA1	30	60	0.2	1.5	±0.3	10000	2075	125.5×10^{-6}	0.251

- Higher rpm possible with balancing.
- The static torsional stiffness values are analysis values for the element taken at a temperature of 20 °C at maximum bore diameter.
- The moment of inertia and mass are specified for the maximum bore diameter.

Dimensions



Model	d1 • d2 [mm]		D [mm]	L [mm]	LF [mm]	S [mm]	A [mm]	C [mm]	M Qty·Nominal diameter	Tightening torque [N·m]
	Min.	Max.								
STF-013SA1	3	5	13	18	6	6	3.9	2	1-M1.6	0.23 ~ 0.28
STF-016SA1	3	6	16	22	7.5	7	4.8	2.5	1-M2	0.4 ~ 0.5
STF-019SA1	3	8	19	25	9	7	5.8 (6)	3.15	1-M2.5 (M2)	1.0 ~ 1.1 (0.4 ~ 0.5)
STF-024SA1	5	10	24	27	9	9	8.7	3.15	1-M2.5	1.0 ~ 1.1
STF-029SA1	5	14	29	30	10	10	11	3.3	1-M2.5	1.0 ~ 1.1
STF-034SA1	5	16	34	34	12	10	12.5	3.75	1-M3	1.5 ~ 1.9
STF-039SA1	6	19	39	41	15.5	10	14	4.5	1-M4	3.4 ~ 4.1
STF-044SA1	8	24	44	48	15.5	17	17	4.5	1-M4	3.4 ~ 4.1
STF-056SA1	8	30	56	60	20.5	19	22	6	1-M5	7.0 ~ 8.5

- The figures in parentheses ( ) for the STF-019 are the values when d1 or d2 is ø8 mm.
- The recess in the internal diameter of the element is equal to dimension d2 (large diameter) plus ø0.9 mm.
- The rated dimension tolerance for shafts is h7.

Standard Bore Diameter

Model	Standard bore diameter d1 • d2 [mm]																								
	3	4	5	6	6.35	7	8	9	9.525	10	11	12	13	14	15	16	17	18	19	20	22	24	25	28	30
STF-013SA1	●	●	●																						
STF-016SA1	●	●	●	●																					
STF-019SA1	●	●	●	●	●	●	●																		
STF-024SA1			●	●	●	●	●	●	●	●															
STF-029SA1			●	●	●	●	●	●	●	●	●	●	●	●											
STF-034SA1			●	●	●	●	●	●	●	●	●	●	●	●	●	●									
STF-039SA1				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
STF-044SA1							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
STF-056SA1							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Max. Torque for the Shaft Diameter

Model	Standard bore diameter [mm] and max. torque for the shaft diameter [N·m]																							
	3	4	5	6	6.35	7	8	9	9.525	10	11	12	13	14	15	16	17	18	19	20	22	24	25	28	30
STF-013SA1	0.10	0.25	0.40																						
STF-016SA1	0.5	0.6	0.7	0.8																					
STF-019SA1	0.8	1.2	1.6	1.9	1.9	2.3	0.8																		
STF-024SA1			1.6	2.1	2.1	2.6	3.3	4.0	4.0	4.7															
STF-029SA1			1.8	2.2	2.2	2.7	3.4	4.1	4.1	4.8	5.5	6.3	7.8	8.0											
STF-034SA1			2.7	3.0	3.0	3.3	4.0	4.8	4.8	5.6	6.5	7.8	9.0	10.7	12.0	12.0									
STF-039SA1				3.4	3.4	4.0	5.0	6.1	6.1	7.1	8.2	9.3	10.4	11.5	12.8	14.0	15.3	16.6	17.0						
STF-044SA1							6.0	8.3	8.3	9.8	11.3	12.8	14.3	16.0	17.3	18.8	20.3	21.8	23.5	24.8	27.8	30.0			
STF-056SA1							10.7	11.9	11.9	13.4	14.9	16.3	17.8	18.7	20.8	22.2	23.7	25.2	27.0	32.0	41.9	52.0	56.3	60.0	60.0

• Max. torque correlates with the smallest borediameter. However, please note type STF-019 with 8 mm bore (see table below).

STF-019SA1 standard bore diameter and max. torque

d1-d2	Max torque [N·m]	d1-d2	Max torque [N·m]	d1-d2	Max torque [N·m]	d1-d2	Max torque [N·m]	d1-d2	Max torque [N·m]	d1-d2	Max torque [N·m]	d1-d2	Max torque [N·m]
3B-3B	0.8	3B-4B	0.8	3B-5B	0.8	3B-6B	0.8	3B-6.35B	0.8	3B-7B	0.8	3B-8B	0.8
		4B-4B	1.2	4B-5B	1.2	4B-6B	1.2	4B-6.35B	1.2	4B-7B	1.2	4B-8B	0.8
				5B-5B	1.6	5B-6B	1.6	5B-6.35B	1.6	5B-7B	1.6	5B-8B	0.8
						6B-6B	1.9	6B-6.35B	1.9	6B-7B	1.9	6B-8B	0.8
								6.35B-6.35B	1.9	6.35B-7B	1.9	6.35B-8B	0.8
										7B-7B	2.3	7B-8B	0.8
												8B-8B	0.8

How to Place an Order

STF-029SA1-10B-14B

- Size
- Bore diameter: d1 (Small diameter)
- Bore diameter: d2 (Large diameter)
- Affixing Methods B: Clamp

Oldham Couplings

KSK

Max. rated torque [N·m]	7
Bore ranges [mm]	ϕ 3 ～ 16
Operating temperature [°C]	− 30 ～ 80
Drive	Servomotor, stepper motor
Applications	Positioning systems, conveyors, spindle drives, actuator drives, linear drives, distributed drives

Backlash free Couplings with High Torsional Stiffness

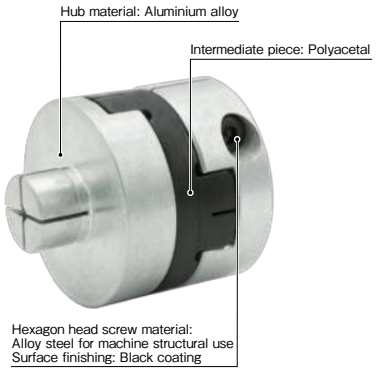
The Oldham coupling is the solution for installation situations where space is at a premium. This three-part plug-in coupling grew out of an idea to develop a backlash-free Oldham coupling. It is now an indispensable part of all servo and positioning drives. The KSK, which offers precision, a lightweight design and a high level of torsional stiffness, offers an alternative solution to elastomer couplings in the case of high-precision systems.

Structure and Materials

■ KSK AA Set screw

■ KSK BB Clamping hub

■ KSK BC Expanding shaft

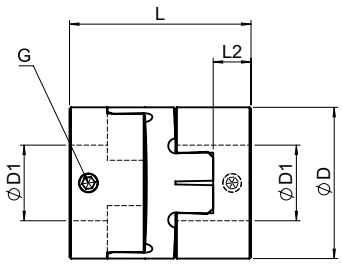


Specifications

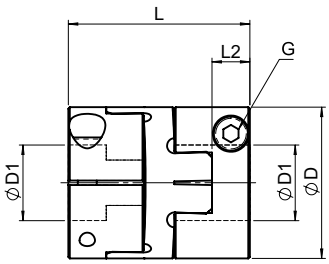
Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]				
KSK 2 AA	1.5	0.5	0.5	0.2	3000	33	0.028×10^{-6}	0.014
KSK 3 AA	3	0.5	0.5	0.3	3000	18	0.079×10^{-6}	0.025
KSK 4 AA	7	0.5	0.5	0.3	3000	91	0.184×10^{-6}	0.04
KSK 2 BB	1.5	0.5	0.5	0.2	3000	33	0.028×10^{-6}	0.014
KSK 3 BB	3	0.5	0.5	0.3	3000	18	0.079×10^{-6}	0.025
KSK 4 BB	7	0.5	0.5	0.3	3000	91	0.184×10^{-6}	0.04
KSK 2 BC	1.5	0.5	0.5	0.2	3000	33	0.028×10^{-6}	0.014
KSK 3 BC	3	0.5	0.5	0.3	3000	18	0.079×10^{-6}	0.025
KSK 4 BC	7	0.5	0.5	0.3	3000	91	0.184×10^{-6}	0.04

Dimensions

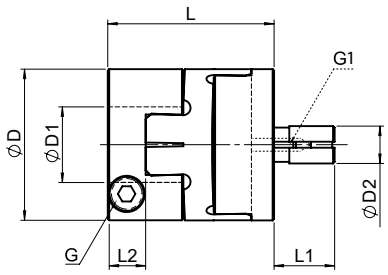
■ KSK-AA



■ KSK-BB



■ KSK-BC



Unit [mm]

Model	D1 Min.	D1 Max.	D2 Min.	D2 Max.	D	L	L1	L2	G	G1	Tightening torque of screws G [N·m]
KSK 2 AA	3	10	–	–	20	24	–	5	4-M3	–	0.3
KSK 3 AA	3	14	–	–	25	27.5	–	6	4-M3	–	0.3
KSK 4 AA	3	16	–	–	30	27	–	6	4-M3	–	0.3
KSK 2 BB	3	8	–	–	20	24	–	5	2-M2.5	–	0.2
KSK 3 BB	3	10	–	–	25	27.5	–	6	2-M3	–	0.3
KSK 4 BB	3	14	–	–	30	27	–	6	2-M3	–	0.3
KSK 2 BC	3	8	5	10	20	22	8	5	1-M2.5	1-M4	0.2
KSK 3 BC	3	10	6	14	25	25.5	8	6	1-M3	1-M4	0.3
KSK 4 BC	3	14	8	14	30	24	8	6	1-M3	1-M4	0.3

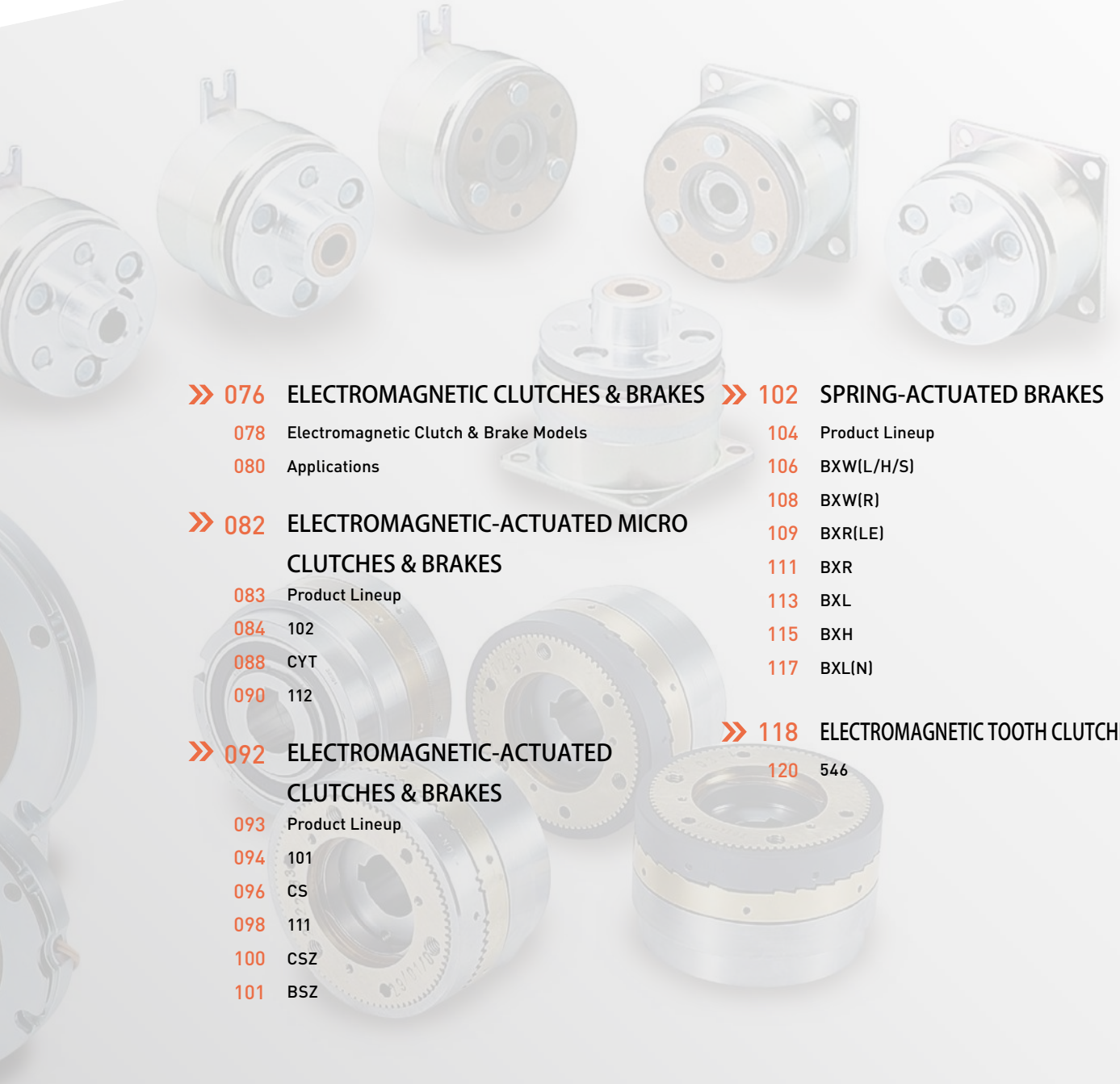
How to Place an Order

KSK 2 AA 9H7/9H7

- Size
- Type
  - AA: Set screw
  - BB: Clamping hub
  - BC: Expanding shaft
- Bore diameter d1/d2

CLUTCHES & BRAKES

CONTENTS



Electromagnetic Clutch & Brake Models

Series ELECTROMAGNETIC-ACTUATED MICRO CLUTCHES & BRAKES

Device Micro Clutches | Micro Brakes

Models 102 | CYT | 112

Type

13

» P.084

33

» P.086

33M

» P.088

13

» P.090

15

» P.085

35

» P.087

33B

» P.089

12

» P.081

11

» P.085

31

» P.087

11

» P.081

Series SPRING-ACTUATED BRAKES

Models

BXW(L/H/S)

» P.106

BXR(LE)

» P.109

BXL

» P.113

BXL(N)

» P.117

BXW(R)

» P.108

BXR

» P.111

BXH

» P.115

ELECTROMAGNETIC-ACTUATED CLUTCHES & BRAKES

Clutches

101
13G

» P.094

15G

» P.095

11G

» P.095

CS
33G

» P.096

35G

» P.097

31G

» P.097

CSZ
35

» P.100

Brakes

111
13G

» P.098

12G

» P.099

11G

» P.099

BSZ
12

» P.101

Series

ELECTROMAGNETIC TOOTH CLUTCHES

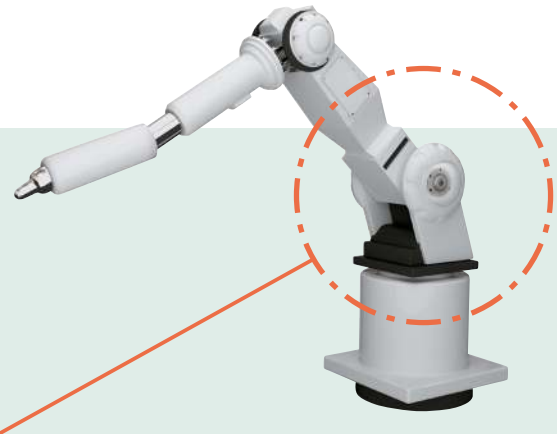
Models

546

» P.120

SERIES

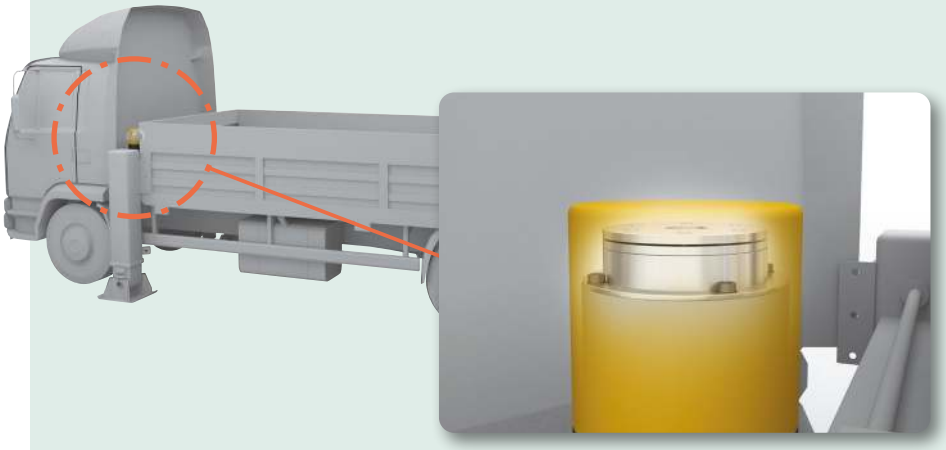
Applications



Product model BXR

Employed device Articulated Robot

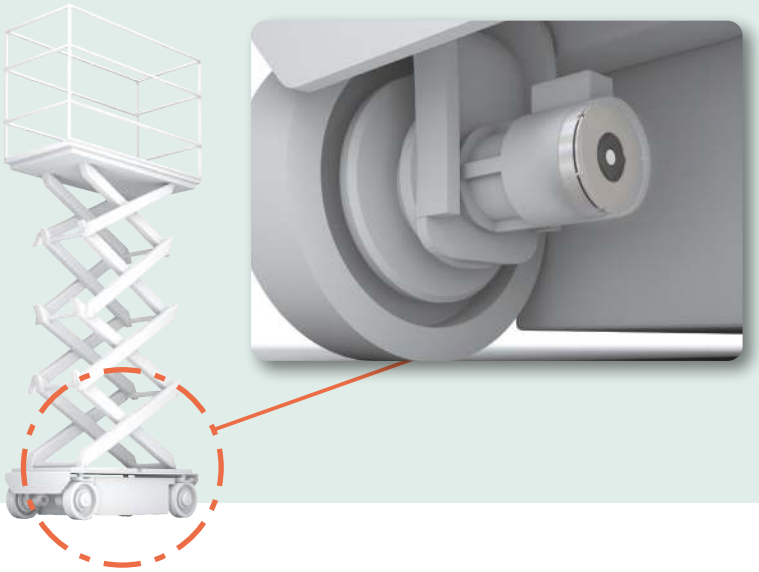
BXR spline type for holding arms.
Saves space with slim design and greatly reduces drag wear by using light rotor.



Product model 111

Employed device Special-purpose Vehicles

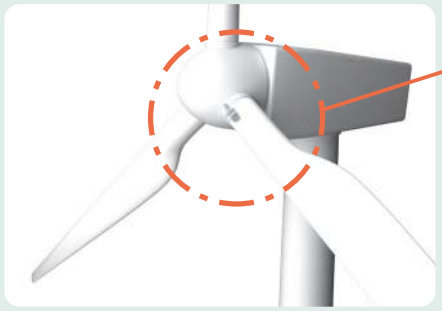
The Electromagnetic-actuated brake 111 model is used in the elevating device for the auxiliary leg.



Product model BXR

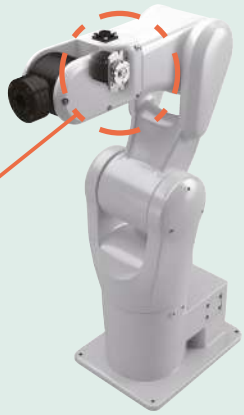
Employed device Aerial Vehicle

BXR model as the holding brake for drive motor. Slim design helps save space.



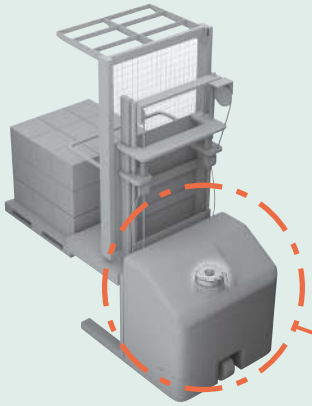
Product model BXW Large Size (Custom Product)
Employed device Wind Turbine Generator

Large BXW as the pitch drive device of a wind turbine generator.



Product model BXR(LE)
Employed device Vertically Articulated Robots

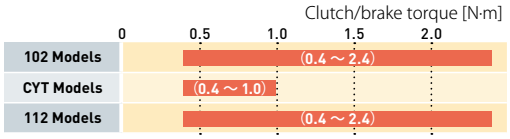
The BXR(LE) models owes its ultra-thin profile to a dedicated controller. Mounted on the output shaft, it is ideal for applications where space is limited. Its dedicated controller also saves energy.



Product model BXH
Employed device Forklifts

Spring-actuated brake BXH model for electric forklift. Compact, high torque design.

ELECTROMAGNETIC-ACTUATED MICRO CLUTCHES & BRAKES



Application	Automated teller machines, sorters, office equipment, weighing and packaging machinery, printing machinery, bookbinding machinery, optical equipment

Micro Clutches and Micro Brakes for Precise Control of Compact Precision Equipment

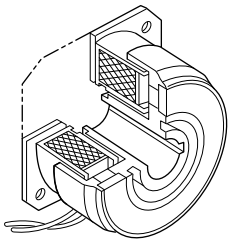
These micro clutches and micro brakes are ideal for compact precision equipment where fluctuations in torque and response must be avoided, such as office equipment, communication equipment and automobiles. In addition to the 102 (clutch) and 112 (brake) models, which share the same basic clutch/brake design, we also supply CYT models (clutches), which can be customized into a wide variety of types to suit the requirements of our customers.

RoHS

Product Lineup

102(13/15/11) Electromagnetic-actuated Micro Clutches – Flange-mounted Type

RoHS



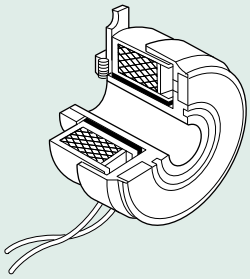
Flange-mounted type

Stator and rotor are combined and directly mounted on stationary parts, such as frames, and fixed in place. These are short in the axial direction and can use space near walls effectively. Select the armature according to the coupling type used (through-shaft, butt shaft, etc.).

Clutch torque	[N·m]	0.4～2.4
Operating temperature	[℃]	−10～+40
Backlash		Zero

102(33/35/31) Electromagnetic-actuated Micro Clutches – Bearing-mounted Type

RoHS



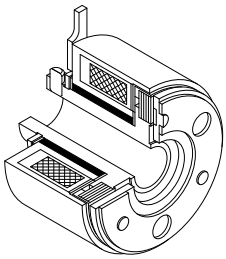
Bearing-mounted type

These integrate the stator and rotor, which are held to the stationary parts of the machine by a drive pin arm; the rotor is locked to the rotation shaft by a set screw. They are designed to be relatively easy to mount, reducing the processing work required for mounting. Select the armature according to the coupling type used (through-shaft, butt shaft, etc.).

Clutch torque	[N·m]	0.4～2.4
Operating temperature	[℃]	−10～+40
Backlash		Zero

CYT Electromagnetic-actuated Micro Clutches – Custom Type

RoHS

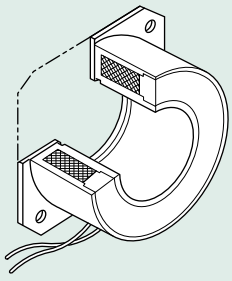


The CYT models are the basic building blocks for customized micro-clutches. The basic model is bearing mounted. Two types are available for different shaft rotation speeds: a dry metal type and a ball bearing type. Armature type-3 is standard, but many customizations are possible.

Clutch torque	[N·m]	0.4～1.0
Operating temperature	[℃]	−10～+40
Backlash		Zero

112 Electromagnetic-actuated Micro Brakes

RoHS



Brakes are used to brake and hold rotating bodies. The flange of the stator is locked securely to a strong stationary part. Select an armature that factors in the mounting space available.

Brake torque	[N·m]	0.4～2.4
Operating temperature	[℃]	−10～+40
Backlash		Zero

102(13/15/11) Types Electromagnetic Micro Clutches – Flange-mounted Type

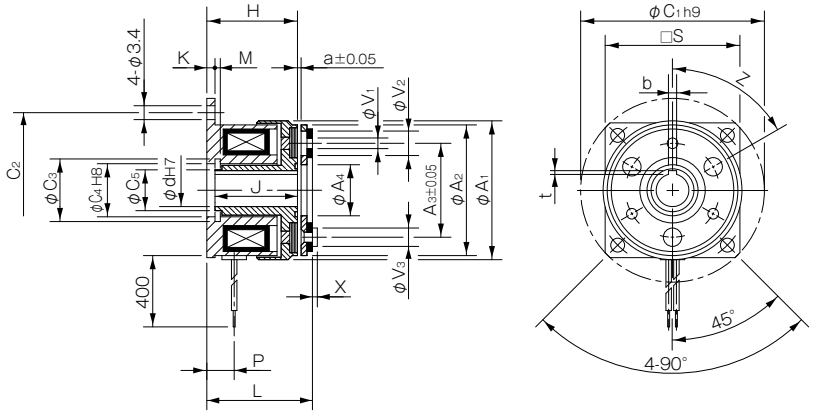
Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Rotating part moment of inertia J		Allowable engaging energy rate $E_{ea\ell}$ [J]	Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size		Armature [kg·m^2]	Rotor [kg·m^2]						
102-02-13										10000	6.75×10^{-7}							0.075
102-02-15	02	0.4	DC24	6	0.25	96	B	UL3398	AWG26	500	1.00×10^{-6}	2.45×10^{-6}	1500	2×10^6	0.009	0.019	0.017	0.081
102-02-11										10000	1.00×10^{-6}							0.079
102-03-13										10000	1.30×10^{-6}							0.096
102-03-15	03	0.6	DC24	6	0.25	96	B	UL3398	AWG26	500	1.95×10^{-6}	3.25×10^{-6}	2300	3×10^6	0.009	0.022	0.020	0.105
102-03-11										10000	1.95×10^{-6}							0.103
102-04-13										10000	4.38×10^{-6}							0.178
102-04-15	04	1.2	DC24	8	0.33	72	B	UL3398	AWG26	500	6.15×10^{-6}	1.41×10^{-5}	4500	6×10^6	0.011	0.028	0.030	0.195
102-04-11										10000	6.15×10^{-6}							0.191
102-05-13										10000	9.08×10^{-6}							0.310
102-05-15	05	2.4	DC24	10	0.42	58	B	UL3398	AWG22	500	1.38×10^{-5}	3.15×10^{-5}	9000	9×10^6	0.012	0.031	0.040	0.335
102-05-11										10000	1.38×10^{-5}							0.325

- The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.
- The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.
- Keep supply voltage fluctuation to within 10% of coil voltage. In case of use, the current feed may only be ≤ 80% of the operating time.

Dimensions (102-□-13)

(For direct mounting)



Unit [mm]

Size	d1 H7	Shaft bore dimensions			
		Models compliant with JIS standards		Models compliant with the old JIS standards	
		b P9	t	b E9	t
02	5	–	–	–	–
03	6	2 -0.006 -0.031	0.8 +0.3 0	–	–
04	8	2 -0.006 -0.031	0.8 +0.3 0	–	–
	10	3 -0.006 -0.031	1.2 +0.3 0	4 +0.050 +0.020	1.5 +0.5 0
05	10	3 -0.006 -0.031	1.2 +0.3 0	4 +0.050 +0.020	1.5 +0.5 0
	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0

Unit [mm]

Size	Radial directions dimensions														Axial directions dimensions							
	A_1	A_2	A_3	A_4	C_1	C_2	C_3	C_4	C_5	S	V_1	V_2	V_3	Z	H	J	K	L	P	M	a	X
02	31	28	19.5	10.7	39	33.5	11.4	11	8	–	2-2.1	2-5.3	2-3.7	4-90°	18	16.5	1.5	20.4	4.9	1.1	0.1	0.8
03	34	32	23	12.5	45	38	13.6	13	10	33	3-2.6	3-6	3-4.5	6-90°	22.2	20.2	2	24.5	6.7	1.3	0.15	1.2
04	43	40	30	18.5	54	47	20	19	15.5	41	3-3.1	3-6	3-5	6-90°	25.4	23.4	2	28.1	7.2	1.3	0.15	1.6
05	54	50	38	25.5	65	58	27.2	26	22	51	3-3.1	3-6.5	3-5.5	6-90°	28.1	26.1	2	31.3	8.2	1.5	0.2	1.5

- Size 02 is a rounded flange.
- The rotor of size 02 has no keyway. Lock it in place by press-fitting it onto the shaft.

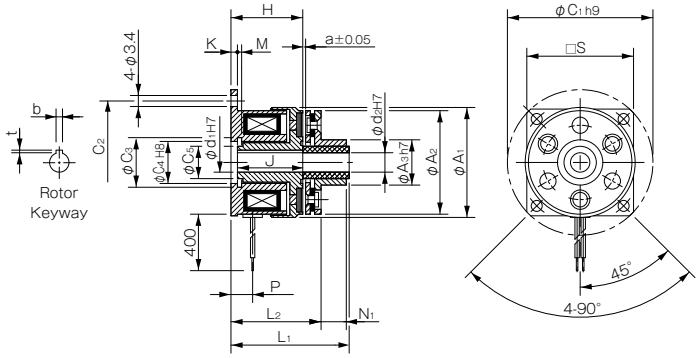
How to Place an Order

102-03-13 24V 6DIN

- Size — Rotor bore diameter (dimensional symbol d)
- Keyway standards — DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9

Dimensions (102-□-15)

(For through-shafts)



Unit [mm]

Size	Shaft bore dimensions							
	d1 H7	d2 H7	Models compliant with JIS standards				Models compliant with the old JIS standards	
			b P9		t		b E9	t
02	5	5	–		–		–	–
03	6	6	2	-0.006 -0.031	0.8	+0.3 0	–	–
04	8	8	2	-0.006 -0.031	0.8	+0.3 0	–	–
	10	10	3	-0.006 -0.031	1.2	+0.3 0	4	+0.050 +0.020	1.5	+0.5 0
05	10	10	3	-0.006 -0.031	1.2	+0.3 0	4	+0.050 +0.020	1.5	+0.5 0
	15	15	5	-0.012 -0.042	2	+0.5 0	5	+0.050 +0.020	2	+0.5 0

Unit [mm]

Size	Radial directions dimensions									Axial directions dimensions								
	A_1	A_2	A_3	C_1	C_2	C_3	C_4	C_5	S	H	J	K	L_1	L_2	M	P	N_1	a
02	31	28	13	39	33.5	11.4	11	8	–	18	16.5	1.5	27.7	22.4	1.1	4.9	4.8	0.1
03	34	32	14	45	38	13.6	13	10	33	22.2	20.2	2	34.5	26.5	1.3	6.7	7.8	0.15
04	43	40	18	54	47	20	19	15.5	41	25.4	23.4	2	40.2	30.8	1.3	7.2	9.1	0.15
05	54	50	28	65	58	27.2	26	22	51	28.1	26.1	2	43.3	34.3	1.5	8.2	8.8	0.2

• Size 02 is a rounded flange.
• The rotor of size 02 has no keyway. Lock it in place by press-fitting it onto the shaft.

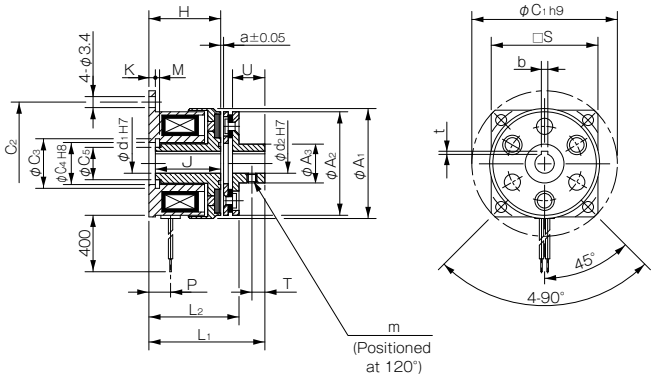
How to Place an Order

102-03-15 24V R6DIN A6

- 102-03-15: Size
- Rotor bore diameter (dimensional symbol d1)
- R6DIN: Keyway standards (DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9)
- A6: Armature bore diameter (dimensional symbol d2)

Dimensions (102-□-11)

(For butt shafts)



Unit [mm]

Size	Shaft bore dimensions							
	d1 H7	d2 H7	Models compliant with JIS standards				Models compliant with the old JIS standards	
			b P9		t		b E9	t
02	5	5	–		–		–	–
03	6	6	2	-0.006 -0.031	0.8	+0.3 0	–	–
04	8	8	2	-0.006 -0.031	0.8	+0.3 0	–	–
	10	10	3	-0.006 -0.031	1.2	+0.3 0	4	+0.050 +0.020	1.5	+0.5 0
05	10	10	3	-0.006 -0.031	1.2	+0.3 0	4	+0.050 +0.020	1.5	+0.5 0
	15	15	5	-0.012 -0.042	2	+0.5 0	5	+0.050 +0.020	2	+0.5 0

Unit [mm]

Size	Radial directions dimensions										Axial directions dimensions									
	A_1	A_2	A_3	C_1	C_2	C_3	C_4	C_5	S	m	H	J	K	L_1	L_2	M	P	U	T	a
02	31	28	9.5	39	33.5	11.4	11	8	–	M3	18	16.5	1.5	27.4	22.4	1.1	4.9	7	2.5	0.1
03	34	32	12	45	38	13.6	13	10	33	2-M3	22.2	20.2	2	34.5	26.5	1.3	6.7	10	4	0.15
04	43	40	17	54	47	20	19	15.5	41	2-M3	25.4	23.4	2	40.1	30.8	1.3	7.2	12	5	0.15
05	54	50	24	65	58	27.2	26	22	51	2-M4	28.1	26.1	2	43.3	34.3	1.5	8.2	12	5	0.2

• Size 02 is a rounded flange.
• The rotor of size 02 has no keyway. Lock it in place by press-fitting it onto the shaft.

How to Place an Order

102-03-11 24V R6DIN A6DIN

- 102-03-11: Size
- Rotor bore diameter (dimensional symbol d1)
- R6DIN: Keyway standards (DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9)
- A6DIN: Armature bore diameter (dimensional symbol d2)
- R6DIN: Keyway standards (DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9)

102(33/35/31) Types Electromagnetic Micro Clutches – Bearing-mounted Type

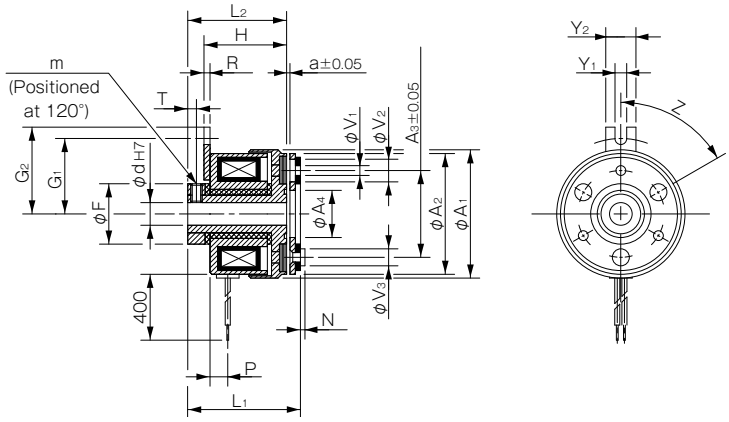
Specifications

Model	Size	Dynamic friction torque Td [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min⁻¹]	Rotating part moment of inertia J		Allowable engaging energy rate $E_{ea\ell}$ [J]	Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size		Armature [kg·m²]	Rotor [kg·m²]						
102-02-33											6.75×10^{-7}							0.076
102-02-35	02	0.4	DC24	6	0.25	96	B	UL3398	AWG26	500	1.00×10^{-6}	2.75×10^{-6}	1500	2×10^{6}	0.009	0.019	0.017	0.082
102-02-31											1.00×10^{-6}							0.080
102-03-33											1.30×10^{-6}							0.101
102-03-35	03	0.6	DC24	6	0.25	96	B	UL3398	AWG26	500	1.95×10^{-6}	4.08×10^{-6}	2300	3×10^{6}	0.009	0.022	0.020	0.110
102-03-31											1.95×10^{-6}							0.108
102-04-33											4.38×10^{-6}							0.183
102-04-35	04	1.2	DC24	8	0.33	72	B	UL3398	AWG26	500	6.15×10^{-6}	1.44×10^{-5}	4500	6×10^{6}	0.011	0.028	0.030	0.200
102-04-31											6.15×10^{-6}							0.196
102-05-33											9.08×10^{-6}							0.321
102-05-35	05	2.4	DC24	10	0.42	58	B	UL3398	AWG22	600	1.38×10^{-5}	2.90×10^{-5}	9000	9×10^{6}	0.012	0.031	0.040	0.346
102-05-31											1.38×10^{-5}							0.336

- The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.
- The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.
- Keep supply voltage fluctuation to within 10% of coil voltage. In case of use, the current feed may only be ≤ 80% of the operating time.

Dimensions (102- □ -33)

(For direct mounting)



Unit [mm]

Size	Shaft bore dimensions
	d H7
02	5
03	6
04	8
	10
05	10
	15

Unit [mm]

Size	Radial directions dimensions														Axial directions dimensions							
	A_1	A_2	A_3	A_4	F	V_1	V_2	V_3	G_1	G_2	Y_1	Y_2	Z	m	H	R	L_1	L_2	P	N	T	a
02	31	28	19.5	10.7	14	2-2.1	2-5.3	2-3.7	15.8	19.8	3.1	8	4-90°	2-M3	19.1	1.2	25.9	23.5	4.9	0.8	2.5	0.1
03	34	32	23	12.5	16	3-2.6	3-6	3-4.5	20	23	3.1	8	6-60°	2-M3	22	1.6	28.5	26.2	4.7	1.2	2.3	0.15
04	43	40	30	18.5	22	3-3.1	3-6	3-5	23	26	3.1	8	6-60°	2-M4	25.2	1.6	33.1	30.4	5.2	1.5	2.8	0.15
05	54	50	38	25.5	30	3-3.1	3-6.5	3-6	28	31	3.1	8	6-60°	2-M5	27.9	1.6	37.3	34.1	6.2	1.5	3.3	0.2

How to Place an Order

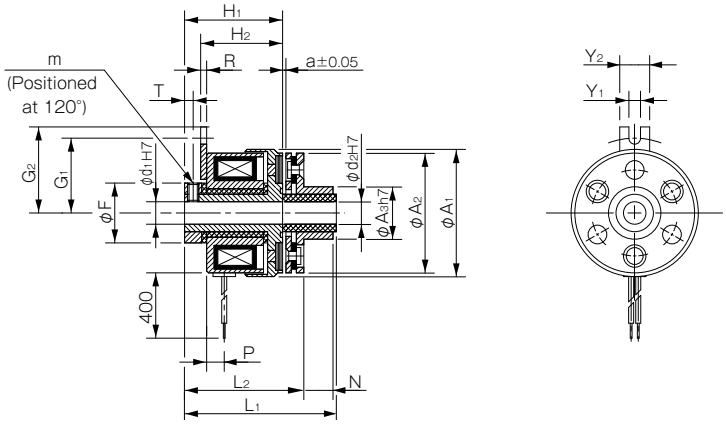
102-03-33 24V 6

Size

Rotor bore diameter (dimensional symbol d)

Dimensions (102-□-35)

(For through-shafts)



Unit [mm]

Size	Shaft bore dimensions	
	d1 H7	d2 H7
02	5	5
03	6	6
04	8	8
	10	10
05	10	10
	15	15

Unit [mm]

Size	Radial directions dimensions									Axial directions dimensions								
	A_1	A_2	A_3	F	G_1	G_2	Y_1	Y_2	m	H_1	H_2	R	L_1	L_2	P	N	T	a
02	31	28	13	14	15.8	20	3.1	8	2-M3	23.5	19.1	1.2	33	27.9	4.9	4.8	2.5	0.1
03	34	32	14	16	20	23	3.1	8	2-M3	26.2	22	1.6	38.5	30.5	4.7	7.8	2.3	0.15
04	43	40	18	22	23	26	3.1	8	2-M4	30.4	25.2	1.6	45.2	35.8	5.2	9.1	2.8	0.15
05	54	50	28	30	28	31	3.1	8	2-M5	34.1	27.9	1.6	49.3	40.3	6.2	8.8	3.3	0.2

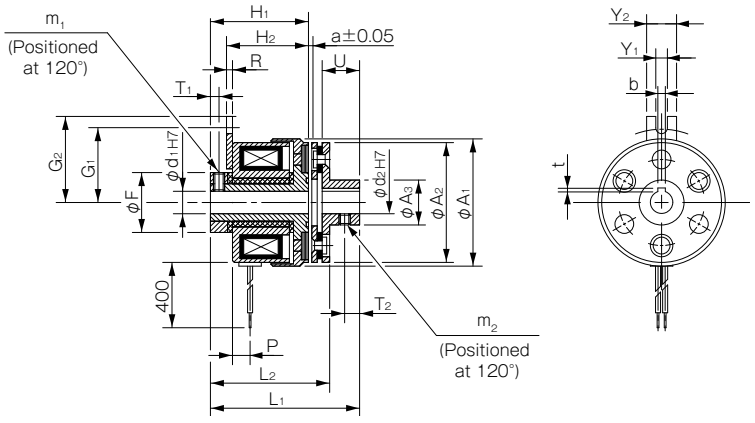
How to Place an Order

102-03-35 24V R6 A6

- Size: 03
- Armature bore diameter (dimensional symbol d2): A6
- Rotor bore diameter (dimensional symbol d1): R6

Dimensions (102-□-31)

(For butt shafts)



Unit [mm]

Size	Shaft bore dimensions									
	d1 H7	d2 H7	Models compliant with JIS standards				Models compliant with the old JIS standards			
			b P9		t		b E9		t	
02	5	5	–		–		–		–	
03	6	6	2	-0.006 -0.031	0.8	+0.3 0	–		–	
04	8	8	2	-0.006 -0.031	0.8	+0.3 0	–		–	
	10	10	3	-0.006 -0.031	1.2	+0.3 0	4	+0.050 +0.020	1.5	+0.5 0
05	10	10	3	-0.006 -0.031	1.2	+0.3 0	4	+0.050 +0.020	1.5	+0.5 0
	15	15	5	-0.012 -0.042	2	+0.5 0	5	+0.050 +0.020	2	+0.5 0

Unit [mm]

Size	Radial directions dimensions										Axial directions dimensions									
	A_1	A_2	A_3	F	G_1	G_2	Y_1	Y_2	m_1	m_2	H_1	H_2	R	L_1	L_2	P	U	T_1	T_2	a
02	31	28	9.5	14	15.8	20	3.1	8	2-M3	M3	23.5	19.1	1.2	32.9	27.9	4.9	7	2.5	2.5	0.1
03	34	32	12	16	20	23	3.1	8	2-M3	2-M3	26.2	22	1.6	38.5	30.5	4.7	10	2.3	4	0.15
04	43	40	17	22	23	26	3.1	8	2-M4	2-M3	30.4	25.2	1.6	45.1	35.8	5.2	12	2.8	5	0.15
05	54	50	24	30	28	31	3.1	8	2-M5	2-M4	34.1	27.9	1.6	49.3	40.3	6.2	12	3.3	5	0.2

How to Place an Order

102-03-31 24V R6 A6DIN

- Size: 03
- Rotor bore diameter (dimensional symbol d1): R6
- Armature bore diameter (dimensional symbol d2): A6
- Keyway standards: DIN
  - DIN: Compliant with JIS standards P9
  - JIS: Compliant with the old JIS standards (class 2) E9

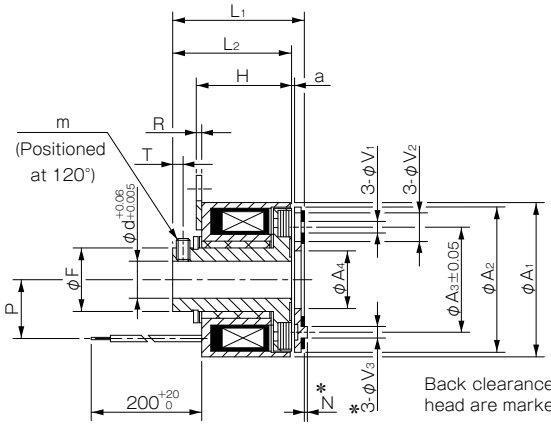
CYT Models Electromagnetic Micro Clutches – Bearing-mounted Type

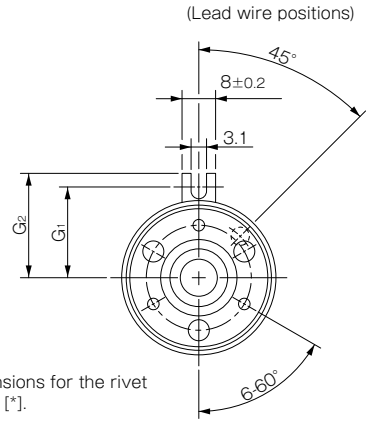
Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Rotating part moment of inertia		Allowable engaging energy E_{eal} [J]	Total work E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size		Armature [kg·m²]	Rotor [kg·m²]						
CYT-025-33B	025	0.4	DC24	4.5	0.188	128	B	UL3398	AWG26	3600	1.00×10^{-6}	1.43×10^{-6}	800	1.0×10^{6}	0.014	0.028	0.030	0.07
CYT-03-33B	03	0.5	DC24	5.5	0.23	105	B	UL3398	AWG26	3600	1.30×10^{-6}	1.85×10^{-6}	900	1.5×10^{6}	0.015	0.030	0.040	0.13
CYT-03-33M										500		1.90×10^{-6}						0.11
CYT-04-33B	04	1.0	DC24	5.9	0.25	98	B	UL3398	AWG26	3600	5.15×10^{-6}	1.00×10^{-5}	1900	2.0×10^{6}	0.030	0.040	0.0.40	0.26
CYT-04-33M										500		1.05×10^{-5}						0.23

- The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.
- The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.
- Keep supply voltage fluctuation to within 10% of coil voltage. In case of use, the current feed may only be ≤ 50% of the operating time.

Dimensions (CYT- □ -33M)





Back clearance dimensions for the rivet head are marked with [*].

Unit [mm]

Size	Radial direction dimensions												Axial direction dimensions							
	d	A_1	A_2	A_3	A_4	F	V_1	V_2	V_3	G_1	G_2	m	H	R	L_1	L_2	P	N	T	a
03	6 8	34	32	23	12.5	14	3-2.6	3-5.5	3-6	20	23	M3	21	1.2	28.6	26.2	13	3	2.3	0.2 $^{\pm}_{0.05}$
04	8 10	45	42	30	18.5	18	3-3.1	3-6	3-6	25	27.5	M4	25.3	1.2	35.1	35.1	17.5	3.5	3	0.2 $^{+0.05}_{-0.1}$

- Dimensional symbols N and V3 indicate the clearance dimensions for the rivet head.

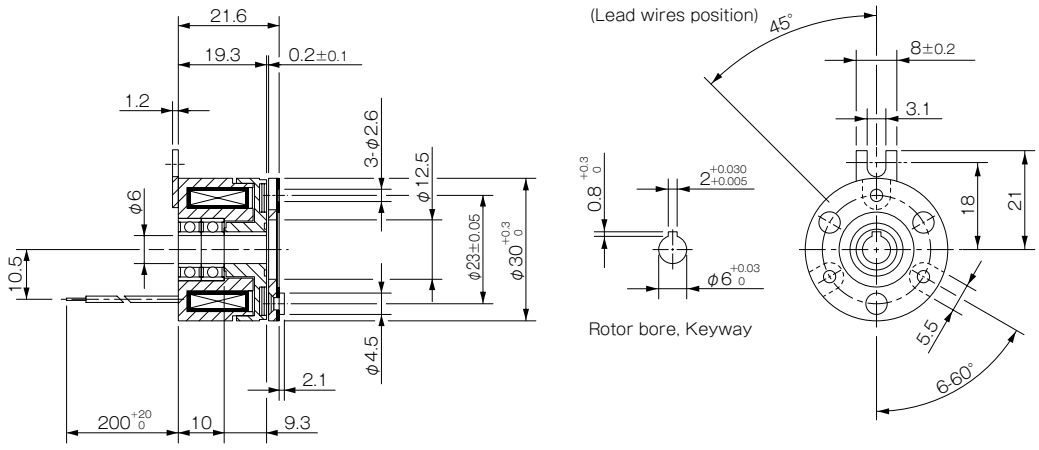
How to Place an Order

CYT-03-33M 24V 6

Size

Rotor bore diameter (dimensional symbol d)

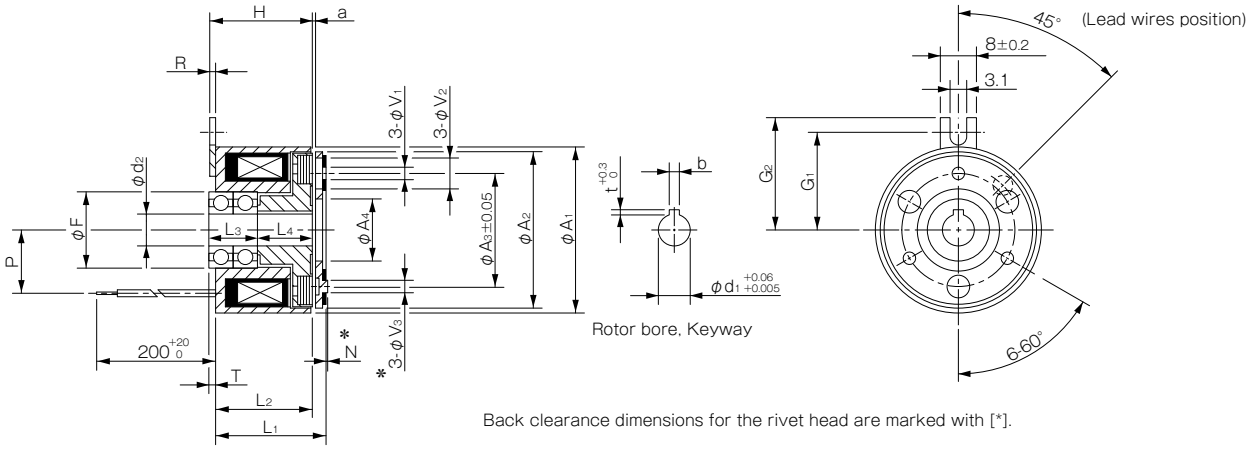
Dimensions (CYT-025-33B)



How to Place an Order

CYT-025-33B 24V 6

Dimensions (CYT-□-33B)



Back clearance dimensions for the rivet head are marked with [*].

Unit [mm]

Size	Nominal diameter	Radial direction dimensions										Axial direction dimensions										Shaft bore dimensions			
		A1	A2	A3	A4	F	V1	V2	V3	G1	G2	H	R	L1	L2	L3	L4	P	N	T	a	d2	d1	b	t
03	6	34	32	23	12.5	15	3-2.6	3-5.5	3-6	20	23	21	1.2	22.2	19.8	10	11.3	13	3	1.5	0.2 ±0.05	6	6	2 +0.030 −0.005	0.8 +0.3 0
	8	34	32	23	12.5	16	3-2.6	3-5.5	3-6	20	23	21	1.2	22.2	19.8	10	11.3	13	3	1.5	0.2 ±0.05	8	8	2 +0.030 −0.005	0.8 +0.3 0
04	8	45	42	30	18.5	19	3-3.1	3-6	3-6	25	28	25.3	1.2	26.8	24.1	12	13	17.5	3.5	0.9	0.2 +0.05 −0.1	8	8	2 +0.030 −0.005	0.8 +0.3 0
	10	45	42	30	18.5	19	3-3.1	3-6	3-6	25	28	25.3	1.2	26.8	24.1	14	11	17.5	3.5	0.9	0.2 +0.05 −0.1	10	10	3 +0.025 0	1.2 +0.3 0

• Dimensional symbols N and V3 indicate the clearance dimensions for the rivet head.

How to Place an Order

CYT-03-33B 24V 6

Size — Nominal diameter

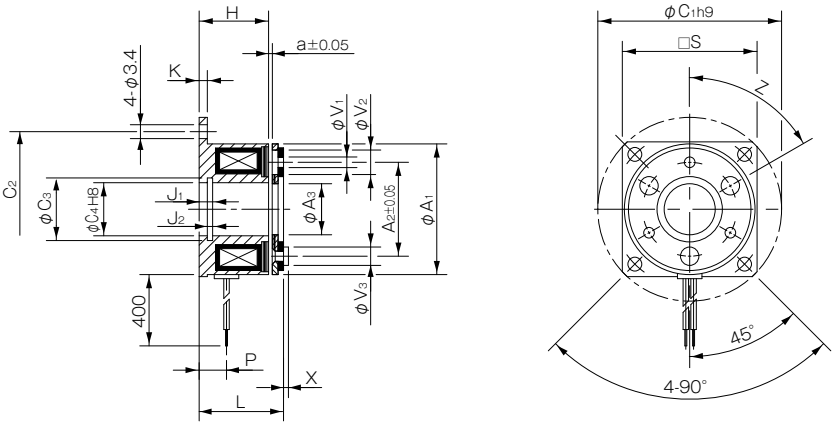
112 Models Electromagnetic Micro Brakes

Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Armature moment of inertia J [$kg·m^2$]	Allowable braking energy rate $E_{ba\ell}$ [J]	Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size								
112-02-13											6.75×10^{-7}						0.053
112-02-12	02	0.4	DC24	6	0.25	96	B	UL3398	AWG26	10000	1.00×10^{-6}	1500	2×10^6	0.004	0.010	0.010	0.057
112-02-11											1.00×10^{-6}						0.057
112-03-13											1.30×10^{-6}						0.072
112-03-12	03	0.6	DC24	6	0.25	96	B	UL3398	AWG26	10000	1.95×10^{-6}	2300	3×10^6	0.005	0.012	0.008	0.079
112-03-11											1.95×10^{-6}						0.079
112-04-13											4.38×10^{-6}						0.118
112-04-12	04	1.2	DC24	8	0.33	72	B	UL3398	AWG26	10000	6.15×10^{-6}	4500	6×10^6	0.007	0.016	0.010	0.131
112-04-11											6.15×10^{-6}						0.131
112-05-13											9.08×10^{-6}						0.200
112-05-12	05	2.4	DC24	10	0.42	58	B	UL3398	AWG22	10000	1.38×10^{-5}	9000	9×10^6	0.010	0.023	0.012	0.215
112-05-11											1.38×10^{-5}						0.215

- The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.
- The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.
- Keep supply voltage fluctuation within 10% of coil voltage. In case of use, the current feed may only be ≤ 80% of the operating time.

Dimensions (112-□-13)



Unit [mm]

Size	Radial directions dimensions												Axial directions dimensions							
	A_1	A_2	A_3	C_1	C_2	C_3	C_4	S	V_1	V_2	V_3	Z	H	K	J_1	J_2	L	P	X	a
02	28	19.5	10.5	39	33.5	11.4	11	–	2-2.1	2-5.3	2-3.7	4-90°	13.7	1.5	2.6	1.3	16.1	5	0.8	0.1
03	32	23	12.5	45	38	13.6	13	33	3-2.6	3-6	3-4.5	6-60°	17	2	3.3	1.3	19.3	6.7	1.2	0.15
04	40	30	18.5	54	47	20	19	41	3-3.1	3-6	3-5	6-60°	20	2	3.3	1.3	22.7	7.2	1.6	0.15
05	50	38	25.8	65	58	27.2	26	51	3-3.1	3-6.5	3-6	6-60°	22	2	3.5	1.5	25.2	8.2	1.6	0.2

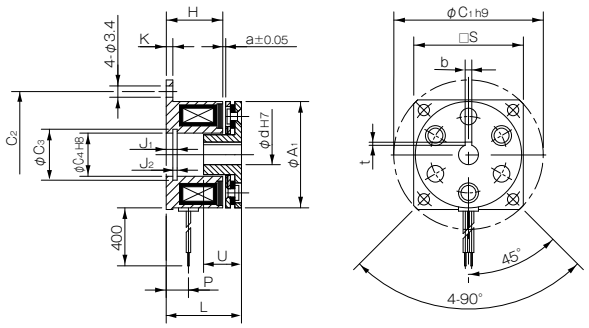
- Size 02 is a rounded flange.

How to Place an Order

112-03-13 24V

Size

Dimensions (112-□-12)



Unit [mm]

Size	Shaft bore dimensions				
	d H7	Models compliant with JIS standards		Models compliant with the old JIS standards	
		b P9	t	b E9	t
02	5	–	–	–	–
03	6	2 -0.006 -0.031	0.8 +0.3 0	–	–
04	8	2 -0.006 -0.031	0.8 +0.3 0	–	–
	10	3 -0.006 -0.031	1.2 +0.3 0	4 +0.050 +0.020	1.5 +0.5 0
05	10	3 -0.006 -0.031	1.2 +0.3 0	4 +0.050 +0.020	1.5 +0.5 0
	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0

Unit [mm]

Size	Radial directions dimensions						Axial directions dimensions							
	A_1	C_1	C_2	C_3	C_4	S	H	K	J_1	J_2	L	P	U	a
02	28	39	33.5	11.4	11	–	13.7	1.5	2.6	1.3	18.1	5	7	0.1
03	32	45	38	13.6	13	33	17	2	3.3	1.3	21.3	6.7	10	0.15
04	40	54	47	20	19	41	20	2	3.3	1.3	25.4	7.2	12	0.15
05	50	65	58	27.2	26	51	22	2	3.5	1.5	28.2	8.2	12	0.2

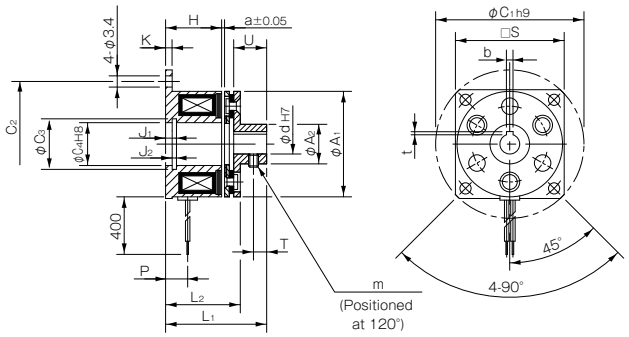
• Size 02 is a rounded flange.
• The armature hub of size 02 has no keyway. Lock it in place by press-fitting it onto the shaft.

How to Place an Order

112-03-12 24V 6DIN

- Size: 03
- Keyway standards: DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9
- Armature bore diameter (dimensional symbol d): 6DIN

Dimensions (112-□-11)



Unit [mm]

Size	Shaft bore dimensions				
	d H7	Models compliant with JIS standards		Models compliant with the old JIS standards	
		b P9	t	b E9	t
02	5	–	–	–	–
03	6	2 -0.006 -0.031	0.8 +0.3 0	–	–
04	8	2 -0.006 -0.031	0.8 +0.3 0	–	–
	10	3 -0.006 -0.031	1.2 +0.3 0	4 +0.050 +0.020	1.5 +0.5 0
05	10	3 -0.006 -0.031	1.2 +0.3 0	4 +0.050 +0.020	1.5 +0.5 0
	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0

Unit [mm]

Size	Radial directions dimensions								Axial directions dimensions									
	A_1	A_2	C_1	C_2	C_3	C_4	S	m	H	K	J_1	J_2	L_1	L	P	U	T	a
02	28	9.5	39	33.5	11.4	11	–	M2	13.7	1.5	2.6	1.3	23.1	18.1	5	7	2.5	0.1
03	32	12	45	38	13.6	13	33	2-M3	17	2	3.3	1.3	29.3	21.3	6.7	10	4	0.15
04	40	17	54	47	20	19	41	2-M3	20	2	3.3	1.3	34.7	25.4	7.2	12	5	0.15
05	50	24	65	58	27.2	26	51	2-M4	22	2	3.5	1.5	37.2	28.2	8.2	12	5	0.2

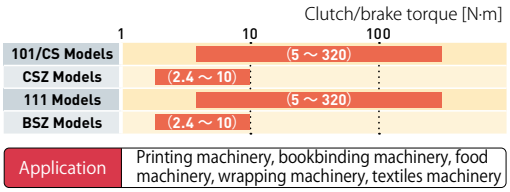
• Size 02 is a rounded flange.

How to Place an Order

112-03-11 24V 6DIN

- Size: 03
- Keyway standards: DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9
- Armature bore diameter (dimensional symbol d): 6DIN

ELECTROMAGNETIC-ACTUATED CLUTCHES & BRAKES

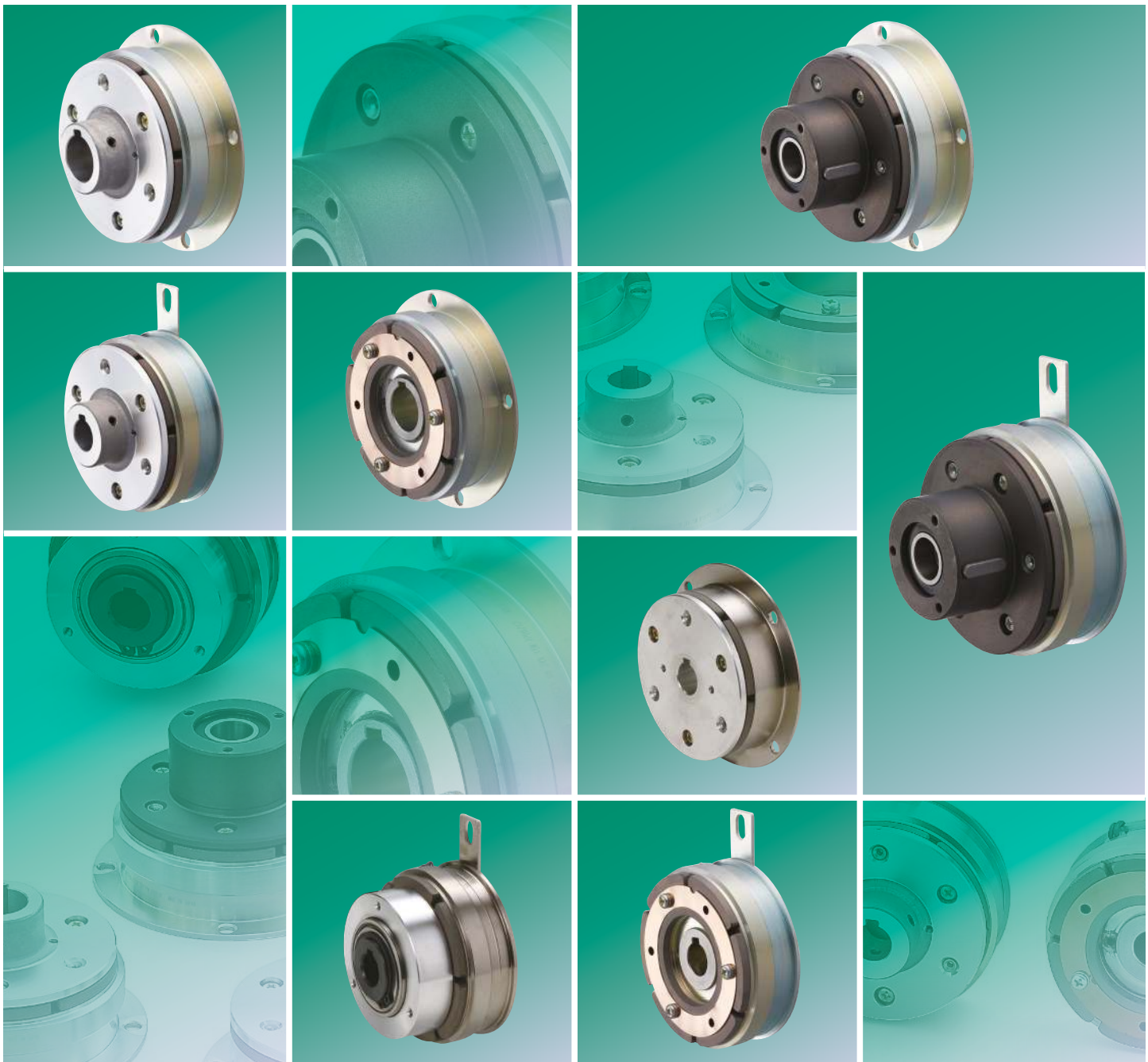


Application	Printing machinery, bookbinding machinery, food machinery, wrapping machinery, textiles machinery

Clutches and Brakes that Accurately Control a Variety of General Industrial Machinery

Clutches accurately connect and release power by being located between the driver and the load. Brakes are used to slow or stop load inertia and machinery and to hold things in stationary positions. Using these basic operations and combining clutches and brakes enable a variety of applications such as stepped speed-changing mechanisms, switching between forward and reverse operation, positioning/indexing, and inching. Part of their appeal is the simplicity of control and ease of maintenance.

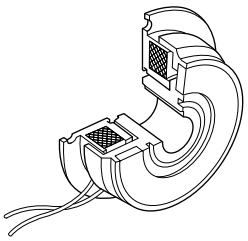
RoHS



Product Lineup

101 Electromagnetic-actuated Clutches – Flange-mounted Type

RoHS



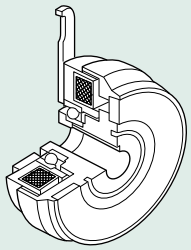
Flange-mounted type

Stator and rotor are combined and directly mounted on stationary parts, such as frames, and fixed in place. These are short in the axial direction and can make effective use of space near windows. Select the armature according to the coupling type used (through-shaft, butt shaft, etc.).

Clutch torque	[N·m]	5 ~ 320
Operating temperature	[℃]	−10 ~ +40
Backlash		Zero

CS Electromagnetic-actuated Clutches – Bearing-mounted Type

RoHS



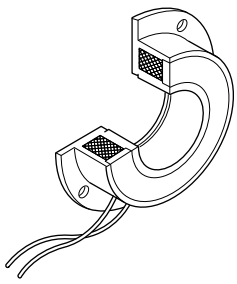
Bearing-mounted type

These integrate the stator and rotor, which are held to the stationary parts of the machine by a drive pin arm; the rotor is locked to the rotation shaft by a key. They are designed to be relatively easy to mount, reducing the processing work required for mounting.

Clutch torque	[N·m]	5 ~ 320
Operating temperature	[℃]	−10 ~ +40
Backlash		Zero

111 Electromagnetic-actuated Brakes

RoHS



Brakes are used to brake and hold rotating bodies. The flange of the stator is locked securely to a strong stationary part. Select an armature that factors in the mounting space available.

Brake torque	[N·m]	5 ~ 320
Operating temperature	[℃]	−10 ~ +40
Backlash		Zero

CSZ/BSZ Electromagnetic-actuated Clutches & Brakes – One-touch-mounted Type

RoHS

CSZ

BSZ

These models adjust the gap to the frictional surface that clutches and brakes require to operate and come pre-assembled. Clutches are simply placed on the shaft and brakes mounted on the flange surface. They do not require gap adjustment or adjustment of concentricity/parallel misalignment, greatly reducing installation work.

Clutch/brake torque	[N·m]	2.4 ~ 10
Operating temperature	[℃]	−10 ~ +40
Backlash		Zero

101 Models Electromagnetic Clutches – Flange-mounted Type

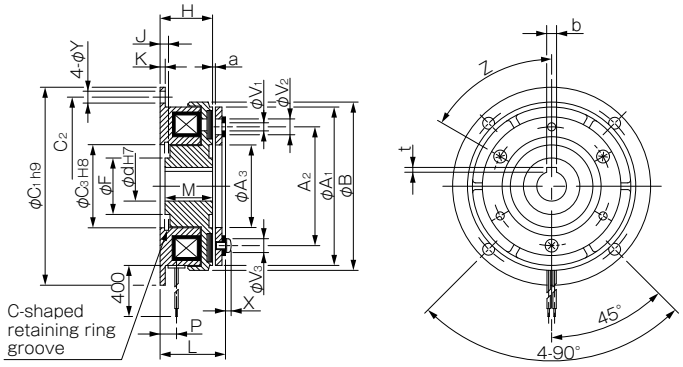
Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Static friction torque T_S [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Rotating part moment of inertia J		Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
				Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size		Rotor [kg·m^2]	Armature [kg·m^2]					
101-06-13G													4.23×10^{-5}					0.46
101-06-15G	06	5	5.5	DC24	11	0.46	52	B	UL3398	AWG22	8000	7.35×10^{-5}	1.05×10^{-4}	36×10^6	0.020	0.041	0.020	0.66
101-06-11G													6.03×10^{-5}					0.5
101-08-13G													1.18×10^{-4}					0.83
101-08-15G	08	10	11	DC24	15	0.63	38	B	UL3398	AWG18	6000	2.24×10^{-4}	3.00×10^{-4}	60×10^6	0.023	0.051	0.030	1.19
101-08-11G													1.71×10^{-4}					0.91
101-10-13G													4.78×10^{-4}					1.5
101-10-15G	10	20	22	DC24	20	0.83	29	B	UL3398	AWG18	5000	6.78×10^{-4}	9.45×10^{-4}	130×10^6	0.025	0.063	0.050	2.11
101-10-11G													6.63×10^{-4}					1.66
101-12-13G													1.31×10^{-3}					2.76
101-12-15G	12	40	45	DC24	25	1.04	23	B	UL3398	AWG18	4000	2.14×10^{-3}	2.75×10^{-3}	250×10^6	0.040	0.115	0.065	3.8
101-12-11G													1.81×10^{-3}					3.05
101-16-13G													4.80×10^{-3}					5.1
101-16-15G	16	80	90	DC24	35	1.46	16	B	UL3398	AWG18	3000	6.30×10^{-3}	9.05×10^{-3}	470×10^6	0.050	0.160	0.085	6.9
101-16-11G													6.35×10^{-3}					5.4
101-20-13G													1.37×10^{-2}					9.3
101-20-15G	20	160	175	DC24	45	1.88	13	B	UL3398	AWG16	2500	1.93×10^{-2}	2.65×10^{-2}	10×10^8	0.090	0.250	0.130	13
101-20-11G													1.90×10^{-2}					10.5
101-25-13G													3.58×10^{-2}					17
101-25-15G	25	320	350	DC24	60	2.5	9.6	B	UL3398	AWG16	2000	4.48×10^{-2}	7.45×10^{-2}	20×10^8	0.115	0.335	0.210	23.6
101-25-11G													4.83×10^{-2}					18.7

- The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.
- The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.

Dimensions (101-□-13G)

(For direct mounting)



Unit [mm]

Size	Shaft bore dimensions					
	d H7	Models compliant with JIS standards		Models compliant with the old JIS standards		
		b P9	t	b E9	t	
06	12	4 -0.012 -0.042	1.5 +0.5 0	4 +0.050 +0.020	1.5 +0.5 0	
	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0	
08	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0	
	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0	
10	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0	
	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0	
12	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0	
	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0	
16	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0	
	40	12 -0.018 -0.061	3 +0.5 0	10 +0.061 +0.025	3.5 +0.5 0	
20	40	12 -0.018 -0.061	3 +0.5 0	10 +0.061 +0.025	3.5 +0.5 0	
	50	14 -0.018 -0.061	3.5 +0.5 0	12 +0.075 +0.032	3.5 +0.5 0	
25	50	14 -0.018 -0.061	3.5 +0.5 0	12 +0.075 +0.032	3.5 +0.5 0	
	60	18 -0.018 -0.061	4 +0.5 0	15 +0.075 +0.032	5 +0.5 0	

Unit [mm]

Size	Radial direction dimensions													Axial direction dimensions							
	A_1	A_2	A_3	B	C_1	C_2	C_3	F	V_1	V_2	V_3	Y	Z	H	J	K	L	M	P	X	a
06	63	46	34.5	67.5	80	72	35	23	3-3.1	3-6.3	3-5.5	5	6-60°	24	3.5	2.1	28	22	7.3	2.5	0.2 ±0.05
08	80	60	41.5	85	100	90	42	28.5	3-4.1	3-8	3-7	6	6-60°	26.5	4.3	2.6	31	24	8.3	2.85	0.2 ±0.05
10	100	76	51.5	106	125	112	52	40	3-5.1	3-11	3-9	7	6-60°	30	5	3.1	36.1	27	9	3.3	0.2 ±0.05
12	125	95	61.5	133	150	137	62	45	3-6.1	3-12	3-11	7	6-60°	33.5	5.5	3.6	40.5	30	9.3	3.3	0.3 +0.05 −0.1
16	160	120	79.5	169	190	175	80	62	3-8.2	3-15	3-14	9.5	6-60°	37.5	6	4.1	46.5	34	11.7	3.5	0.3 +0.05 −0.1
20	200	158	99.5	212.3	230	215	100	77	3-10.2	3-18	3-16.2	9.5	6-60°	44	7	5.1	55.4	40	13.4	4.9	0.5 0 −0.2
25	250	210	124.5	264	290	270	125	100	4-12.2	4-22	4-20	11.5	8-45°	51	8	6.1	63.9	47	16	5.5	0.5 0 −0.2

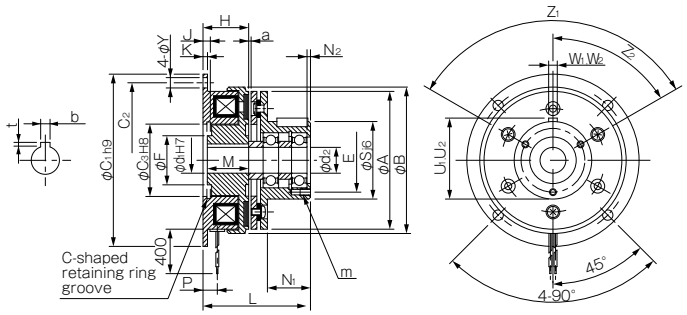
How to Place an Order

101-06-13G 24V 12DIN

- Size: 101-06-13G
- Keyway standards: DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9
- Rotor bore diameter (dimensional symbol d): 12DIN

Dimensions (101-□-15G)

(For through-shafts)



Unit [mm]

Size	Shaft bore dimensions					
	d1 H7	d2	Models compliant with JIS standards		Models compliant with the old JIS standards	
			b P9	t	b E9	t
06	12	12	4 $^{-0.012}_{-0.042}$	1.5 $^{+0.5}_{0}$	4 $^{+0.050}_{+0.020}$	1.5 $^{+0.5}_{0}$
08	15	15	5 $^{-0.012}_{-0.042}$	2 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
10	20	20	6 $^{-0.012}_{-0.042}$	2.5 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
12	25	25	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
16	30	30	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
20	40	40	12 $^{-0.018}_{-0.061}$	3 $^{+0.5}_{0}$	10 $^{+0.061}_{+0.025}$	3.5 $^{+0.5}_{0}$
25	50	50	14 $^{-0.018}_{-0.061}$	3.5 $^{+0.5}_{0}$	12 $^{+0.075}_{+0.032}$	3.5 $^{+0.5}_{0}$

Unit [mm]

Size	Radial direction dimensions											Axial direction dimensions											
	A1	B	C1	C2	C3	E	F	Y	S	Z1	Z2	H	J	K	L	M	N1	N2	P	U1	W1	U2	W2	a	m
06	63	67.5	80	72	35	33	23	5	38	3-120°	60°	24	3.5	2.1	51.5	22	20	2	7.3	39.5	4	39.5	4	0.2 ±0.05	3-M4 × 0.7, length: 4
08	80	85	100	90	42	37	28.5	6	45	3-120°	60°	26.5	4.3	2.6	60	24	25	2	8.3	47	5	47	5	0.2 ±0.05	3-M4 × 0.7, length: 6
10	100	106	125	112	52	47	40	7	55	4-90°	45°	30	5	3.1	71.1	27	30	3	9	57	5	57.5	6	0.2 ±0.05	4-M4 × 0.7, length: 8
12	125	133	150	137	62	52	45	7	64	4-90°	45°	33.5	5.5	3.6	86.5	30	40	2.2	9.3	67	7	67	8	0.3 $^{+0.05}_{-0.1}$	4-M4 × 0.7, length: 8
16	160	169	190	175	80	62	62	9.5	75	6-60°	30°	37.5	6	4.1	103.5	34	50	3	11.7	78	7	78	8	0.3 $^{+0.05}_{-0.1}$	6-M5 × 0.8, length: 8
20	200	212.3	230	215	100	74.5	77	9.5	90	4-90°	45°	44	7	5.1	124.4	40	60	5	13.4	93.5	10	93	10	0.5 $^{0}_{-0.2}$	4-M6 × 1, length: 12
25	250	264	290	270	125	101.5	100	11.5	115	8-45°	22.5°	51	8	6.1	144.9	47	70	6	16	118.5	12	118	12	0.5 $^{0}_{-0.2}$	8-M6 × 1, length: 12

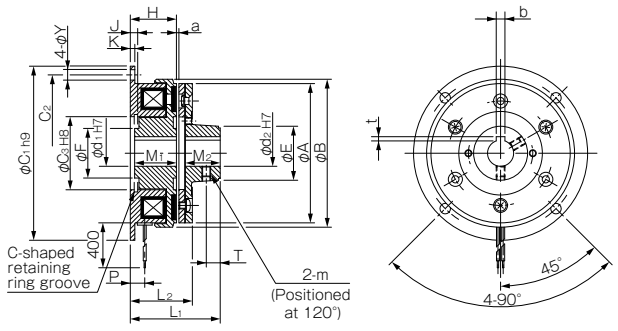
How to Place an Order

101-06-15G 24V R12DIN A12JIS

- 101-06-15G: Size
- 24V: Rotor bore diameter (dimensional symbol d1)
- R12DIN: Keyway standards DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9
- A12JIS: Armature bore diameter (dimensional symbol d2); Armature type-5 keyway standards; Dimensional symbol U2, W2: Compliant with JIS standards P9; Dimensional symbol U1, W1: Compliant with the old JIS standards (class 2) E9

Dimensions (101-□-11G)

(For butt shafts)



Unit [mm]

Size	Shaft bore dimensions					
	d1 H7	d2 H7	Models compliant with JIS standards		Models compliant with the old JIS standards	
			b P9	t	b E9	t
06	12	12	4 $^{-0.012}_{-0.042}$	1.5 $^{+0.5}_{0}$	4 $^{+0.050}_{+0.020}$	1.5 $^{+0.5}_{0}$
	15	15	5 $^{-0.012}_{-0.042}$	2 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
08	15	15	5 $^{-0.012}_{-0.042}$	2 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
	20	20	6 $^{-0.012}_{-0.042}$	2.5 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
10	20	20	6 $^{-0.012}_{-0.042}$	2.5 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
	25	25	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
12	25	25	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
	30	30	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
16	30	30	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
	40	40	12 $^{-0.018}_{-0.061}$	3 $^{+0.5}_{0}$	10 $^{+0.061}_{+0.025}$	3.5 $^{+0.5}_{0}$
20	40	40	12 $^{-0.018}_{-0.061}$	3 $^{+0.5}_{0}$	10 $^{+0.061}_{+0.025}$	3.5 $^{+0.5}_{0}$
	50	50	14 $^{-0.018}_{-0.061}$	3.5 $^{+0.5}_{0}$	12 $^{+0.075}_{+0.032}$	3.5 $^{+0.5}_{0}$
25	50	50	14 $^{-0.018}_{-0.061}$	3.5 $^{+0.5}_{0}$	12 $^{+0.075}_{+0.032}$	3.5 $^{+0.5}_{0}$
	60	60	18 $^{-0.018}_{-0.061}$	4 $^{+0.5}_{0}$	15 $^{+0.075}_{+0.032}$	5 $^{+0.5}_{0}$

Unit [mm]

Size	Radial direction dimensions									Axial direction dimensions									
	A1	B	C1	C2	C3	E	F	Y	m	H	J	K	L1	L2	M1	M2	P	T	a
06	63	67.5	80	72	35	26	23	5	M4	24	3.5	2.1	43	31.5	22	15	7.3	6	0.2 ±0.05
08	80	85	100	90	42	31	28.5	6	M5	26.5	4.3	2.6	51	35	24	20	8.3	8	0.2 ±0.05
10	100	106	125	112	52	41	40	7	M5	30	5	3.1	61.1	41.1	27	25	9	10	0.2 ±0.05
12	125	133	150	137	62	49	45	7	M6	33.5	5.5	3.6	70.5	46.5	30	30	9.3	12	0.3 $^{+0.05}_{-0.1}$
16	160	169	190	175	80	65	62	9.5	M8	37.5	6	4.1	84.5	53.5	34	38	11.7	15	0.3 $^{+0.05}_{-0.1}$
20	200	212.3	230	215	100	83	77	9.5	M8	44	7	5.1	100.4	64.4	40	45	13.4	18	0.5 $^{0}_{-0.2}$
25	250	264	290	270	125	105	100	11.5	M10	51	8	6.1	118	75	47	54	16	22	0.5 $^{0}_{-0.2}$

How to Place an Order

101-06-11G 24V R12DIN A12DIN

- 101-06-11G: Size
- 24V: Rotor bore diameter (dimensional symbol d1)
- R12DIN: Keyway standards DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9
- A12DIN: Armature bore diameter (dimensional symbol d2); Keyway standards DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9

CS Models Electromagnetic Clutches – Bearing-mounted Type

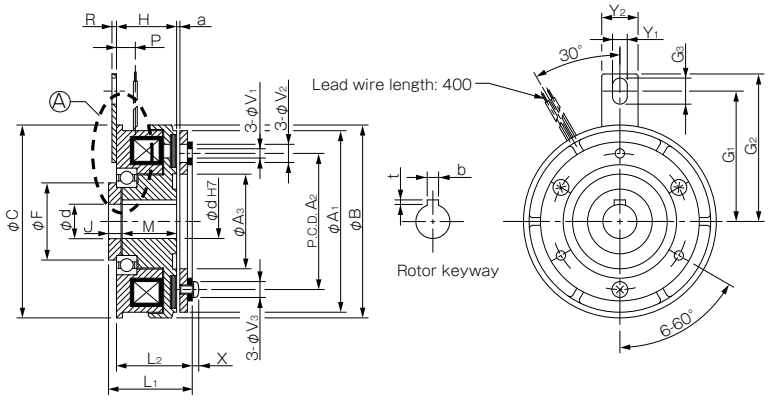
Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Static friction torque T_s [N·m]	Coil [at 20 ℃] Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]	Heat resistance class	Lead wire UL style	Lead wire Size	Max. rotation speed [min^{-1}]	Rotating part moment of inertia J Rotor [kg·m^2]	Rotating part moment of inertia J Armature [kg·m^2]	Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
CS-06-33G													4.23×10^{-5}					0.50
CS-06-35G	06	5	5.5	DC24	11	0.46	52	B	UL3398	AWG22	3000	7.35×10^{-5}	1.05×10^{-4}	36×10^6	0.020	0.041	0.020	0.70
CS-06-31G													6.03×10^{-5}					0.54
CS-08-33G													1.18×10^{-4}					0.87
CS-08-35G	08	10	11	DC24	15	0.63	38	B	UL3398	AWG18	3000	2.24×10^{-4}	3.00×10^{-4}	60×10^6	0.023	0.051	0.030	1.23
CS-08-31G													1.71×10^{-4}					0.95
CS-10-33G													4.78×10^{-4}					1.57
CS-10-35G	10	20	22	DC24	20	0.83	29	B	UL3398	AWG18	3000	6.78×10^{-4}	9.45×10^{-4}	130×10^6	0.025	0.063	0.050	2.18
CS-10-31G													6.63×10^{-4}					1.73
CS-12-33G													1.31×10^{-3}					2.89
CS-12-35G	12	40	45	DC24	25	1.04	23	B	UL3398	AWG18	2000	2.14×10^{-3}	2.75×10^{-3}	250×10^6	0.040	0.115	0.065	3.93
CS-12-31G													1.81×10^{-3}					3.18
CS-16-33G													4.80×10^{-3}					5.3
CS-16-35G	16	80	90	DC24	35	1.46	16	B	UL3398	AWG18	2000	6.30×10^{-3}	9.05×10^{-3}	470×10^6	0.050	0.160	0.085	7.1
CS-16-31G													6.35×10^{-3}					5.6
CS-20-33G	20	160	175	DC24	45	1.88	13	B	UL3398	AWG16	1500	1.93×10^{-2}	1.37×10^{-2}	10×10^8	0.090	0.250	0.130	9.8
CS-25-33G	25	320	350	DC24	72	3.00	8	B	UL3398	AWG16	1500	4.48×10^{-2}	3.58×10^{-2}	20×10^8	0.155	0.335	0.210	17.5

• The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.
• The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.

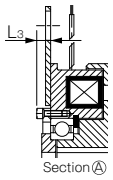
Dimensions (CS-□-33G)

(For direct mounting)



Unit [mm]

Size	Shaft bore dimensions d H7	Models compliant with JIS standards b P9	t	Models compliant with the old JIS standards b E9	t
06	12	4 $^{-0.012}_{-0.042}$	1.5 $^{+0.5}_{0}$	4 $^{+0.050}_{+0.020}$	1.5 $^{+0.5}_{0}$
08	15	5 $^{-0.012}_{-0.042}$	2 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
10	20	6 $^{-0.012}_{-0.042}$	2.5 $^{+0.5}_{0}$	5 $^{+0.050}_{+0.020}$	2 $^{+0.5}_{0}$
12	25	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
16	30	8 $^{-0.015}_{-0.051}$	3 $^{+0.5}_{0}$	7 $^{+0.061}_{+0.025}$	3 $^{+0.5}_{0}$
20	40	12 $^{-0.018}_{-0.061}$	3 $^{+0.5}_{0}$	10 $^{+0.061}_{+0.025}$	3.5 $^{+0.5}_{0}$
25	50	14 $^{-0.018}_{-0.061}$	3.5 $^{+0.5}_{0}$	12 $^{+0.075}_{+0.032}$	3.5 $^{+0.5}_{0}$



Size	L3
20	9
25	6

• On sizes 20 and 25, the head of the bolt for pressing down the bearing will stick out. See the above dimensions.

Unit [mm]

Size	Radial direction dimensions A1	A2	A3	B	C	F	G1	G2	G3	V1	V2	V3	Y1	Y2	Axial direction dimensions H	L1	L2	M	J	P	R	X	a
06	63	46	34.5	67.5	67.5	24	42.5	50	9.5	3-3.1	3-6.3	3-5.5	4.5	14	24	31	28	22	5	7.3	2	2.5	0.2 ±0.05
08	80	60	41.7	85	85	34	57.5	65	11.5	3-4.1	3-8	3-7	6.5	16	26.5	34.5	31	24	6	8.3	2	2.85	0.2 ±0.05
10	100	76	51.5	106	106	40	62.5	70	11.5	3-5.1	3-11	3-9	6.5	16	30	39.6	36.1	27	6.5	9	2	3.3	0.2 ±0.05
12	125	95	61.5	133	133	45	77.5	85	11.5	3-6.1	3-12	3-11	6.5	16	33.5	44.5	40.5	30	7.5	9.3	2	3.3	0.3 $^{+0.05}_{-0.1}$
16	160	120	79.5	169	169	58	100	112	18.5	3-8.2	3-15	3-14	8.5	25	37.5	50.5	46.5	34	7.5	11.7	3.2	3.5	0.3 $^{+0.05}_{-0.1}$
20	200	158	99.5	212.5	212	75	125	138	18.5	3-10.2	3-18	3-16.2	8.5	25	44	60.4	55.4	40	9	13.4	3	4.9	0.5 $^{0}_{-0.2}$
25	250	210	124.5	264	250	100	155	173	24	4-12.2	4-22	4-20	12	30	51	68.9	65.9	47	9	16	6	5.5	0.5 $^{0}_{-0.2}$

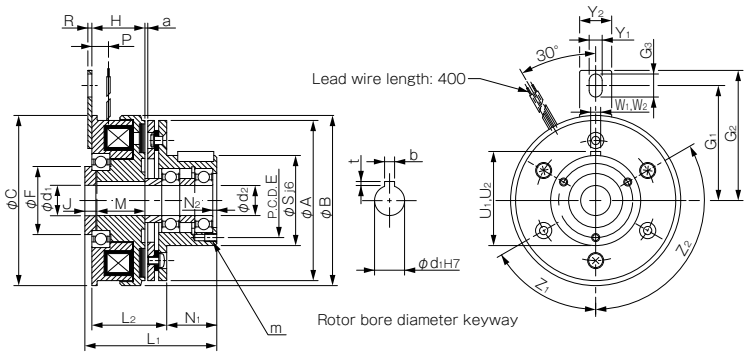
How to Place an Order

CS-06-33G 24V 12DIN

Size
Rotor bore diameter (dimensional symbol d)
Keyway standards DIN: Compliant with JIS standards P9
JIS: Compliant with the old JIS standards (class 2) E9

Dimensions (CS-□-35G)

(For through-shafts)



Unit [mm]

Size	Shaft bore dimensions					
	d1 H7	d2	Models compliant with JIS standards		Models compliant with the old JIS standards	
			b P9	t	b E9	t
06	12	12	4 -0.012 -0.042	1.5 +0.5 0	4 +0.050 +0.020	1.5 +0.5 0
08	15	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0
10	20	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0
12	25	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
16	30	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0

Unit [mm]

Size	Radial direction dimensions													Axial direction dimensions											
	A	B	C	E	F	G1	G2	G3	S	Y1	Y2	Z1	Z2	H	L1	L2	M	N1	N2	P	R	U1	W1	U2	W2	a	m
06	63	67.5	67.5	33	24	42.5	50	9.5	38	4.5	14	3-120°	0°	24	54.5	31.5	22	20	2	7.3	2	39.5	4	39.5	4	0.2 ±0.05	3-M4 × 0.7, length: 4
08	80	85	85	37	34	57.5	65	11.5	45	6.5	16	3-120°	0°	26.5	63.5	35	24	25	2	8.3	2	47	5	47	5	0.2 ±0.05	3-M4 × 0.7, length: 6
10	100	106	106	47	40	62.5	70	11.5	55	6.5	16	4-90°	45°	30	74.6	41.1	27	30	3	9	2	57	5	57.5	6	0.2 ±0.05	4-M4 × 0.7, length: 8
12	125	133	133	52	45	77.5	85	11.5	64	6.5	16	4-90°	45°	33.5	90.5	46.5	30	40	2.2	9.3	2	67	7	67	8	0.3 +0.05 −0.1	4-M4 × 0.7, length: 8
16	160	169	169	62	58	100	112	18.5	75	8.5	25	6-60°	30°	37.5	107.5	53.5	34	50	3	11.7	3.2	78	7	78	8	0.3 +0.05 −0.1	6-M5 × 0.8, length: 8

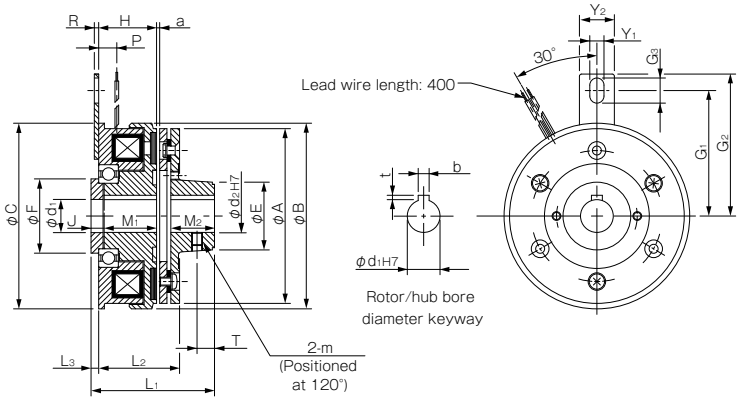
How to Place an Order

CS-06-35G 24V R12DIN A12JIS

- Size
- Rotor bore diameter (dimensional symbol)
- Keyway standards DIN: Compliant with JIS standards P9
  JIS: Compliant with the old JIS standards (class 2) E9
- Armature bore diameter (dimensional symbol d2)
- Armature type-5 keyway standards
  Dimensional symbol U2, W2: DIN: Compliant with JIS standards P9
  Dimensional symbol U1, W1: JIS: Compliant with the old JIS standards (class 2) E9

Dimensions (CS-□-31G)

(For butt shafts)



Unit [mm]

Size	Shaft bore dimensions					
	d1 H7	d2 H7	Models compliant with JIS standards		Models compliant with the old JIS standards	
			b P9	t	b E9	t
06	12	12	4 -0.012 -0.042	1.5 +0.5 0	4 +0.050 +0.020	1.5 +0.5 0
08	15	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0
10	20	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0
12	25	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
16	30	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0

Unit [mm]

Size	Radial direction dimensions											Axial direction dimensions									
	A1	B	C	E	F	G1	G2	G3	Y1	Y2	m	H	L1	L2	L3	M1	M2	J	P	R	T	a
06	63	67.5	67.5	26	24	42.5	50	9.5	4.5	14	M4	24	46	31.5	3	22	15	5	7.3	2	6	0.2 ±0.05
08	80	85	85	31	34	57.5	65	11.5	6.5	16	M5	26.5	54.5	35.	3.5	24	20	6	8.3	2	8	0.2 ±0.05
10	100	106	106	41	40	62.5	70	11.5	6.5	16	M5	30	64.6	41.1	3.5	27	25	6.5	9	2	10	0.2 ±0.05
12	125	133	133	49	45	77.5	85	11.5	6.5	16	M6	33.5	74.5	46.5	4	30	30	7.5	9.3	2	12	0.3 +0.05 −0.1
16	160	169	169	65	58	100	112	18.5	8.5	25	M8	37.5	88.5	53.5	4	34	38	7.5	11.7	3.2	15	0.3 +0.05 −0.1

How to Place an Order

CS-06-31G 24V R12DIN A12DIN

- Size
- Rotor bore diameter (dimensional symbol d1)
- Keyway standards DIN: Compliant with JIS standards P9
  JIS: Compliant with the old JIS standards (class 2) E9
- Armature bore diameter (dimensional symbol d2)
- Keyway standards DIN: Compliant with JIS standards E9
  JIS: Compliant with the old JIS standards (class 2) E9

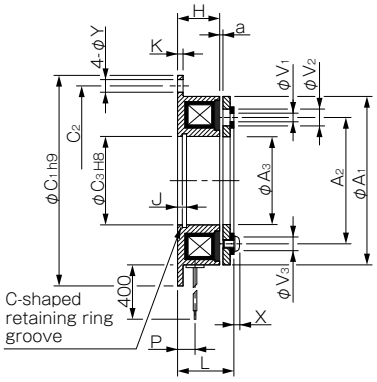
111 Models Electromagnetic Brakes

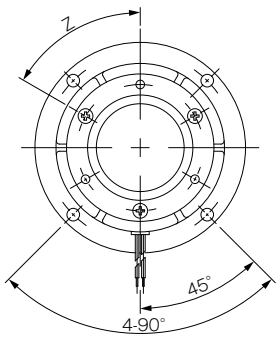
Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Static friction torque T_s [N·m]	Coil [at 20 °C]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Armature Moment of inertia J [kg·m^2]	Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
				Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size							
111-06-13G												4.23×10^{-5}					0.28
111-06-12G	06	5	5.5	DC24	11	0.46	52	B	UL3398	AWG22	8000	6.03×10^{-5}	36×10^6	0.015	0.033	0.015	0.32
111-06-11G												6.03×10^{-5}					0.32
111-08-13G												1.18×10^{-4}					0.5
111-08-12G	08	10	11	DC24	15	0.63	38	B	UL3398	AWG18	6000	1.71×10^{-4}	60×10^6	0.016	0.042	0.025	0.58
111-08-11G												1.71×10^{-4}					0.58
111-10-13G												4.78×10^{-4}					0.91
111-10-12G	10	20	22	DC24	20	0.83	29	B	UL3398	AWG18	5000	6.63×10^{-4}	130×10^6	0.018	0.056	0.030	1.07
111-10-11G												6.63×10^{-4}					1.07
111-12-13G												1.31×10^{-3}					1.68
111-12-12G	12	40	45	DC24	25	1.04	23	B	UL3398	AWG18	4000	1.81×10^{-3}	250×10^6	0.027	0.090	0.050	1.97
111-12-11G												1.81×10^{-3}					1.97
111-16-13G												4.80×10^{-3}					3.15
111-16-12G	16	80	90	DC24	35	1.46	16	B	UL3398	AWG18	3000	6.35×10^{-3}	470×10^6	0.035	0.127	0.055	3.45
111-16-11G												6.35×10^{-3}					3.45
111-20-13G												1.37×10^{-2}					5.9
111-20-12G	20	160	175	DC24	45	1.88	13	B	UL3398	AWG16	2500	1.90×10^{-2}	10×10^8	0.065	0.200	0.070	7.1
111-20-11G												1.90×10^{-2}					7.1
111-25-13G												3.58×10^{-2}					10.5
111-25-12G	25	320	350	DC24	60	2.5	9.6	B	UL3398	AWG16	2000	4.83×10^{-2}	20×10^8	0.085	0.275	0.125	12.2
111-25-11G												4.83×10^{-2}					12.2

• The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.
• The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.

Dimensions (111-□-13G)



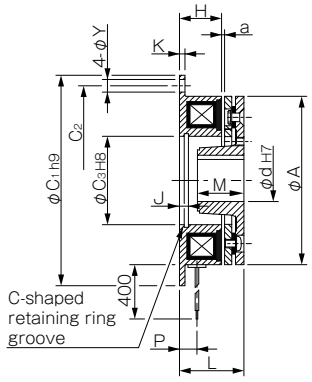


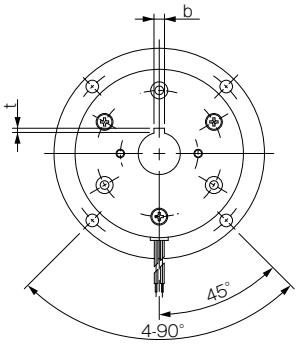
Size	Radial direction dimensions											Axial direction dimensions						
	A_1	A_2	A_3	C_1	C_2	C_3	V_1	V_2	V_3	Y	Z	H	J	K	L	P	X	a
06	63	46	34.5	80	72	35	3-3.1	3-6.3	3-5.5	5	6-60°	18	3.5	2.1	22	7.3	2.5	0.2 ±0.05
08	80	60	41.7	100	90	42	3-4.1	3-8	3-7	6	6-60°	20	4.3	2.6	24.5	8.3	2.85	0.2 ±0.05
10	100	76	51.5	125	112	52	3-5.1	3-11	3-9	7	6-60°	22	5	3.1	28.1	9	3.3	0.2 ±0.05
12	125	95	61.5	150	137	62	3-6.1	3-12	3-11	7	6-60°	24	5.5	3.6	31	9.3	3.3	0.3 $^{+0.05}_{-0.1}$
16	160	120	79.5	190	175	80	3-8.2	3-15	3-14	9.5	6-60°	26	6	4.1	35	11.7	3.5	0.3 $^{+0.05}_{-0.1}$
20	200	158	99.5	230	215	100	3-10.2	3-18	3-16.2	9.5	6-60°	30	7	5.1	41.5	13.4	4.9	0.5 $^{0}_{-0.2}$
25	250	210	124.5	290	270	125	4-12.2	4-22	4-20	11.5	8-45°	35	8	6.1	47.9	16	5.5	0.5 $^{0}_{-0.2}$

How to Place an Order

111-06-13G 24V
Size

Dimensions (111-□-12G)





Unit [mm]

Size	Shaft bore dimensions				
	d H7	Models compliant with JIS standards		Models compliant with the old JIS standards	
		b P9	t	b E9	t
06	12	4 -0.012 -0.042	1.5 +0.5 0	4 +0.050 +0.020	1.5 +0.5 0
	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0
08	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0
	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0
10	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0
	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
12	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
16	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
	40	12 -0.018 -0.061	3 +0.5 0	10 +0.061 +0.025	3.5 +0.5 0
20	40	12 -0.018 -0.061	3 +0.5 0	10 +0.061 +0.025	3.5 +0.5 0
	50	14 -0.018 -0.061	3.5 +0.5 0	12 +0.075 +0.032	3.5 +0.5 0
25	50	14 -0.018 -0.061	3.5 +0.5 0	12 +0.075 +0.032	3.5 +0.5 0
	60	18 -0.018 -0.061	4 +0.5 0	15 +0.075 +0.032	5 +0.5 0

Unit [mm]

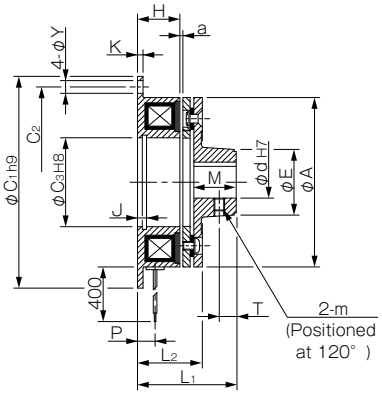
Size	Radial direction dimensions					Axial direction dimensions						
	A	C_1	C_2	C_3	Y	H	J	K	L	M	P	a
06	63	80	72	35	5	18	3.5	2.1	25.5	15	7.3	0.2 ±0.05
08	80	100	90	42	6	20	4.3	2.6	28.5	20	8.3	0.2 ±0.05
10	100	125	112	52	7	22	5	3.1	33.1	25	9	0.2 ±0.05
12	125	150	137	62	7	24	5.5	3.6	37	30	9.3	0.3 +0.05 −0.1
16	160	190	175	80	9.5	26	6	4.1	42	38	11.7	0.3 +0.05 −0.1
20	200	230	215	100	9.5	30	7	5.1	50.4	45	13.4	0.5 0 −0.2
25	250	290	270	125	11.5	35	8	6.1	58.9	54	16	0.5 0 −0.2

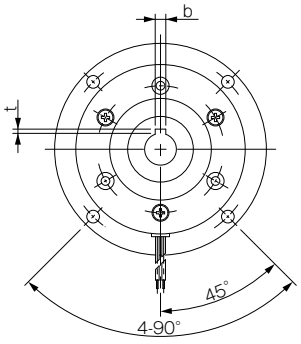
How to Place an Order

111-06-12G 24V 12DIN

- 06: Size
- 12: Armature bore diameter (dimensional symbol d)
- DIN: Keyway standards — DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9

Dimensions (111-□-11G)





Size	Shaft bore dimensions				
	d H7	Models compliant with JIS standards		Models compliant with the old JIS standards	
		b P9	t	b E9	t
06	12	4 -0.012 -0.042	1.5 +0.5 0	4 +0.050 +0.020	1.5 +0.5 0
	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0
08	15	5 -0.012 -0.042	2 +0.5 0	5 +0.050 +0.020	2 +0.5 0
	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0
10	20	6 -0.012 -0.042	2.5 +0.5 0	5 +0.050 +0.020	2 +0.5 0
	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
12	25	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
16	30	8 -0.015 -0.051	3 +0.5 0	7 +0.061 +0.025	3 +0.5 0
	40	12 -0.018 -0.061	3 +0.5 0	10 +0.061 +0.025	3.5 +0.5 0
20	40	12 -0.018 -0.061	3 +0.5 0	10 +0.061 +0.025	3.5 +0.5 0
	50	14 -0.018 -0.061	3.5 +0.5 0	12 +0.075 +0.032	3.5 +0.5 0
25	50	14 -0.018 -0.061	3.5 +0.5 0	12 +0.075 +0.032	3.5 +0.5 0
	60	18 -0.018 -0.061	4 +0.5 0	15 +0.075 +0.032	5 +0.5 0

Unit [mm]

Size	Radial direction dimensions							Axial direction dimensions								
	A	C_1	C_2	C_3	E	Y	m	H	J	K	L_1	L_2	M	P	T	a
06	63	80	72	35	26	5	M4	18	3.5	2.1	37	25.5	15	7.3	6	0.2 ±0.05
08	80	100	90	42	31	6	M5	20	4.3	2.6	44.5	28.5	20	8.3	8	0.2 ±0.05
10	100	125	112	52	41	7	M5	22	5	3.1	53.1	33.1	25	9	10	0.2 ±0.05
12	125	150	137	62	49	7	M6	24	5.5	3.6	61	37	30	9.3	12	0.3 +0.05 −0.1
16	160	190	175	80	65	9.5	M8	26	6	4.1	73	42	38	11.7	15	0.3 +0.05 −0.1
20	200	230	215	100	83	9.5	M8	30	7	5.1	86.4	50.4	45	13.4	18	0.5 0 −0.2
25	250	290	270	125	105	11.5	M10	35	8	6.1	101.9	58.9	54	16	22	0.5 0 −0.2

How to Place an Order

111-06-11G 24V 12DIN

- 06: Size
- 12: Armature bore diameter (dimensional symbol d)
- DIN: Keyway standards — DIN: Compliant with JIS standards P9; JIS: Compliant with the old JIS standards (class 2) E9

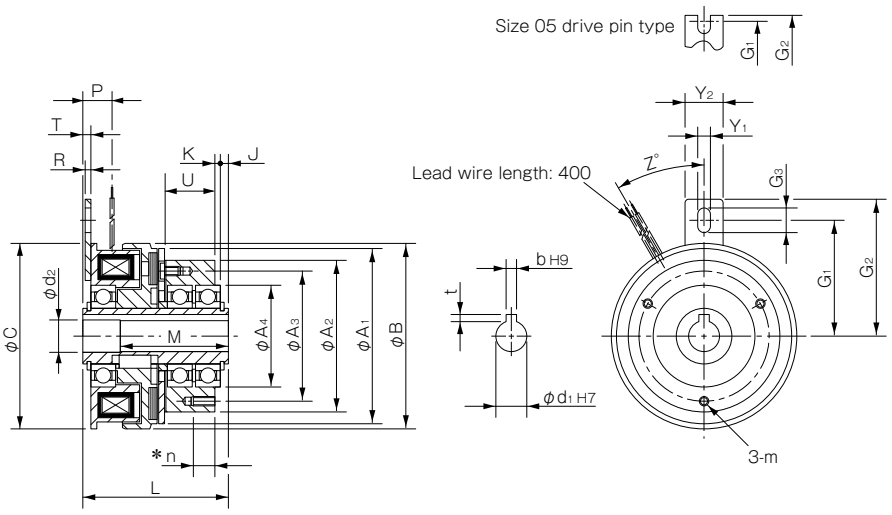
CSZ Models Electromagnetic Clutches – One-touch-mounted Type

Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Static friction torque T_s [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Rotating part moment of inertia		Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Bearing used	Mass [kg]
				Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size		Rotor [kg·m^2]	Armature [kg·m^2]						
CSZ-05-35	05	2.4	2.4	DC24	10	0.42	57	B	UL3398	AWG22	1800	2.87×10^{-5}	2.43×10^{-5}	9×10^6	0.017	0.035	0.023	6902ZZ	0.38
CSZ-06-35	06	5	5.5	DC24	11	0.46	52	B	UL3398	AWG22	1800	8.94×10^{-5}	7.57×10^{-5}	29×10^6	0.023	0.050	0.010	6904ZZ	0.67
CSZ-08-35	08	10	11	DC24	15	0.63	38	B	UL3398	AWG18	1800	2.41×10^{-4}	2.08×10^{-4}	60×10^6	0.025	0.064	0.020	6906ZZ	1.23

• The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.

Dimensions



Unit [mm]

Size	Shaft bore dimensions			
	$d_{1\ H7}$	d2	b H9	t
05	10	10.2	3 $^{+0.030}_{0}$	1.2 $^{+0.3}_{0}$
06	12	12.2	4 $^{+0.030}_{0}$	1.8 $^{+0.3}_{0}$
08	15	15.2	5 $^{+0.030}_{0}$	2.3 $^{+0.3}_{0}$

Unit [mm]

Size	Radial direction dimensions											Axial direction dimensions										
	A_1	A_2	A_3	A_4	B	C	G_1	G_2	G_3	Y_1	Y_2	J	K	L	M	P	R	T	U	Z	m	n
05	50	47	38	28 $^{0}_{-0.009}$	54	50	28	31	—	3.1	8	2.1	2	47.2	33	7.9	1.6	1.9	14	180	M4	6
06	63	55	46	37 $^{0}_{-0.011}$	67.5	67.5	42.5	50	9.5	4.5	14	2.5	2.3	53.5	40	9.8	2	2.5	18	30	M4	6
08	80	70	60	47 $^{0}_{-0.011}$	85	85	57.5	65	11.5	6.5	16	3	2.5	58	43	11.5	2	3	18.5	30	M4	8

How to Place an Order

CSZ-05-35

Size

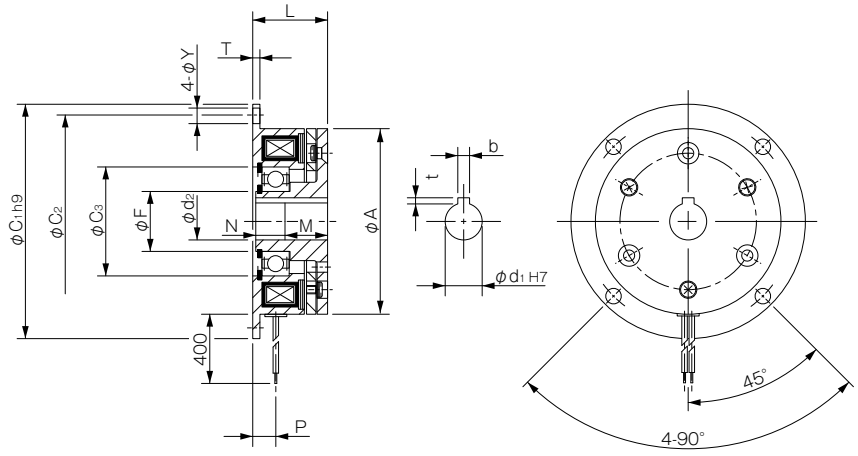
BSZ Models Electromagnetic Brakes – One-touch-mounted Type

Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Static friction torque T_s [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Armature Moment of inertia J [kg·m^2]	Total work performed until readjustment of the air gap E_T [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Bearing used	Mass [kg]
				Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size								
BSZ-05-12	05	2.4	2.4	DC24	10	0.42	57	B	UL3398	AWG22	1800	1.46×10^{-5}	9×10^6	0.020	0.030	0.010	6902ZZ	0.25
BSZ-06-12	06	5	5.5	DC24	11	0.46	52	B	UL3398	AWG22	1800	5.77×10^{-5}	29×10^6	0.017	0.033	0.010	6904ZZ	0.36
BSZ-08-12	08	10	11	DC24	15	0.63	38	B	UL3398	AWG18	1800	1.63×10^{-4}	60×10^6	0.020	0.052	0.015	6905ZZ	0.67

• The dynamic friction torque, T_d, is measured at a relative speed of 100 min^{-1}.

Dimensions



Unit [mm]

Size	Radial direction dimensions					Axial direction dimensions					Shaft bore dimensions				
	A	C_1	C_2	C_3	F	L	M	N	P	T	Y	$d_{1\ H7}$	d_2	b_{H9}	t
05	50	65	58	28	15	28.3	18	9.8	8.2	2	3.4	10	10.2	$3\ ^{+0.030}_{0}$	$1.2\ ^{+0.3}_{0}$
06	63	80	72	37	20	25.5	15	10	7.3	2	5	12	12.2	$4\ ^{+0.030}_{0}$	$1.8\ ^{+0.3}_{0}$
08	80	100	90	42	25	28.5	20	8	8.3	2.6	6	15	15.5	$5\ ^{+0.030}_{0}$	$2.3\ ^{+0.3}_{0}$

How to Place an Order

BSZ-05-12
Size

SPRING-ACTUATED BRAKES

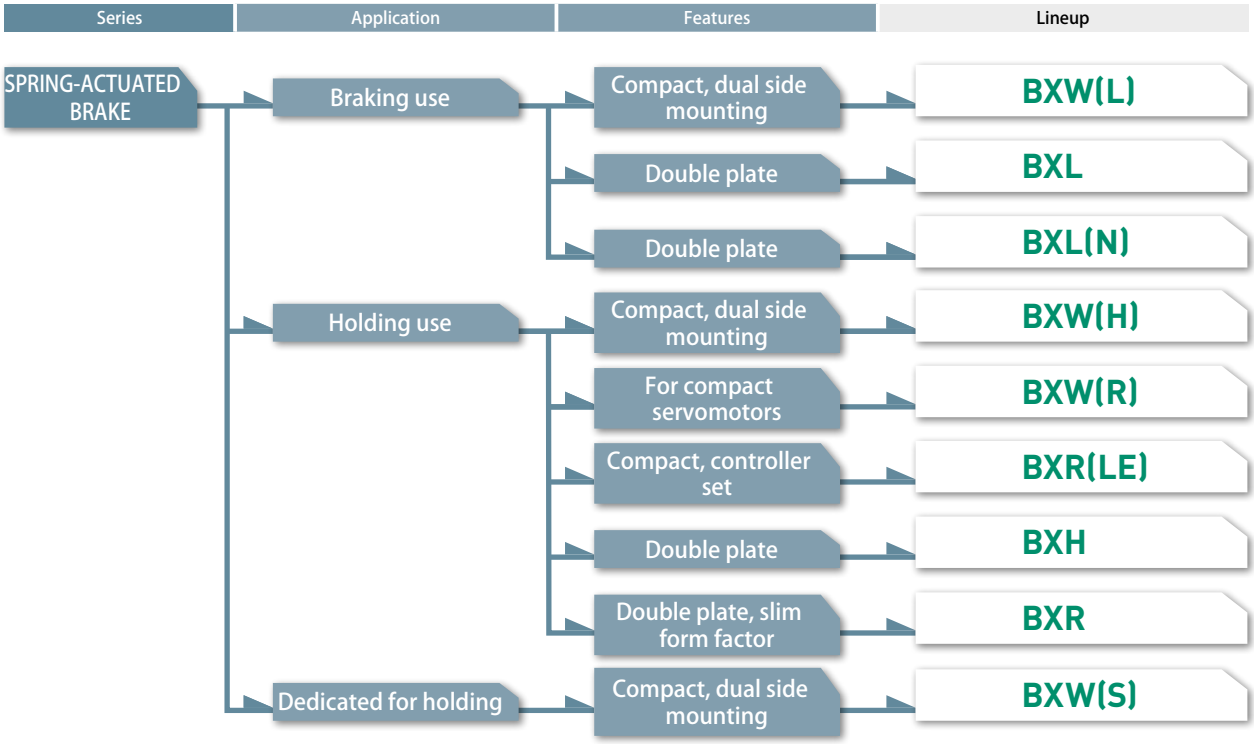
Application	Motors, articulated robots, actuators, machine tools, forklifts, aerial vehicles, hoists, electric carts, electric shutters, medical equipment, wind turbine generators

Safety Brakes with Excellence Performance in Braking and Holding for Various Applications

Spring actuated safety brakes from Miki Pulley are unique designed power off brakes. They convince with a huge variety of advantages like quiet operation, long service life, slim form factors, high torque in a compact package, stable braking force, and the ability to release manually. As customer needs are different case by case, the possibilities in customization are very high.

RoHS

Available Models



Model Selection

Models/ Type	Mounting method	Torque [N·m]	Release lever	Dust cover	Slim	Quiet mechanism		
						Reduced aperiodic noise	Reduced armature pull-in noise	Reduced braking noise
BXW(L/H/S)	Stator/ Plate	0.12 ~ 5.20	Option	Option	Customization	Std.	Customization	Customization
BXW(R)	Stator	0.30 ~ 2.50	—	—	Customization	Customization	Customization	Customization
BXR(LE)	Stator	0.06 ~ 3.20	—	—	Std.	Customization	Customization	Customization
BXR	Stator	5 ~ 55	—	—	Std.	Customization	Customization	Customization
BXL	Stator	2 ~ 22	Option	—	Customization	Option	Option	Std.
BXH	Stator	4 ~ 44	Option	—	Customization	Option	Customization	Customization
BXL(N)	Stator	2 ~ 80	—	—	Customization	Option	Option	Std.

Product Lineup

BXW(L/H/S)

Three types for various applications

The line-up includes three types: the L type for braking, the H type for holding, and the S type dedicated for holding.

2-way mounting

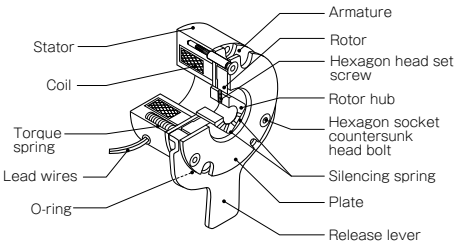
Mountable on either the stator or the plate, allowing the stator (a heat source) to be located freely.

Brake type		BXW(L)	BXW(H)	BXW(S)
Brake torque	[N·m]	0.12 ~ 2.00	0.24 ~ 4.00	0.36 ~ 5.20
Operating temperature	[℃]	−10 ~ +40	−10 ~ +40	−10 ~ +40
Backlash		Extremely small size	Extremely small size	Extremely small size

Braking use / Holding use / Dedicated for holding / 2-way mounting / Quiet / Long service life / No break-in needed Some exceptions apply

Structure

Has release lever



BXW(R)

Dedicated design for small servomotors

These have dedicated designs matched for specifications and dimensions for □40, □60, and □80 small servomotors.

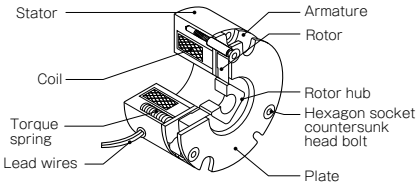
Low-inertia rotor

We succeeded in dramatically reducing both mass and drag wear while ensuring adequate strength.

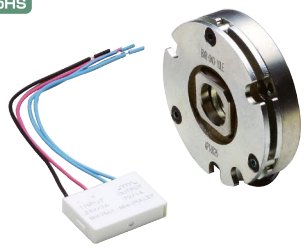
Brake torque	[N·m]	0.30 ~ 2.50
Operating temperature	[℃]	−10 ~ +40
Backlash		Extremely small size

Holding use / High torque / Low inertia / No break-in needed

Structure



BXR(LE)



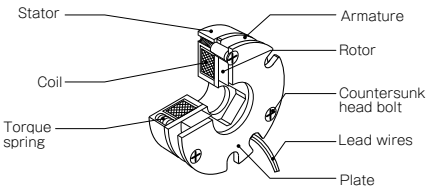
Ultra compact

Use with a built-in dedicated controller provides a range of benefits, including an ultra-thin profile, reduced energy consumption, lower heat emissions, higher torque and a longer service life.

Brake torque	[N·m]	0.06 ~ 3.20
Operating temperature	[℃]	−10 ~ +40
Backlash		Extremely small size

Holding use / Ultra-slim / Low inertia / No break-in needed

Structure



BXR

Ultra-slim

This ultra-slim design is two-thirds the thickness of our previous design.

Low-inertia rotor

We succeeded in dramatically reducing both mass and drag wear while ensuring adequate strength.

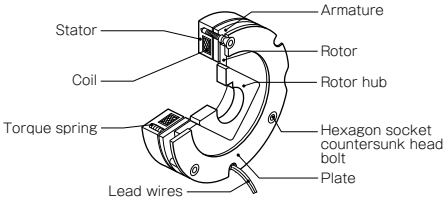
Extremely small backlash

The backlash of the spline hub type is 0.2°to 0.5°.

Brake torque	[N·m]	5~55
Operating temperature	[℃]	−10 ~ +40
Backlash		Extremely small size

Holding use / Ultra-slim / Low inertia / Spline / No break-in needed

Structure



BXL

Braking use / Quiet / Stable braking / Long service life

Low noise

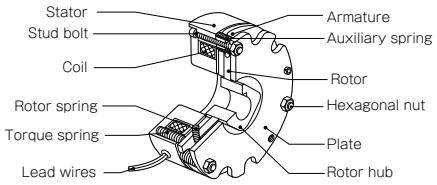
These reduce annoying high-frequency friction noise during braking. Products that reduce aperiodic noise or armature pull-in noise are also available.

Stable braking

With low torque fluctuation, these brake loads instantly even when malfunctions occur.

Brake torque	[N·m]	2～22
Operating temperature	[℃]	−10～+40
Backlash		Extremely small size

Structure



BXH

Holding use / High torque / Quiet / No break-in needed

For holding use

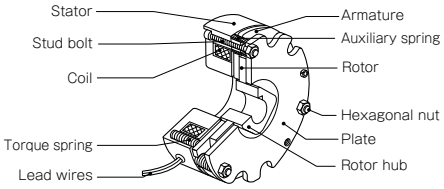
These brakes ensure sufficient torque for holding applications while also being usable as emergency brakes.

High torque

Provide twice the torque with the same dimensions as BXL models.

Brake torque	[N·m]	4~44
Operating temperature	[℃]	−10～+40
Backlash		Extremely small size

Structure



BXL(N)

Braking use / Quiet / Stable braking / Long service life

Low noise

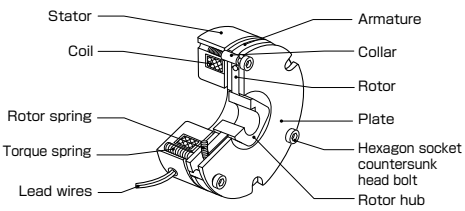
These reduce annoying high-frequency friction noise during braking. Products that reduce aperiodic noise or armature pull-in noise are also available.

Variety of torques

Two to three different kinds of braking torque for the same outer diameter are available to permit the most suitable design for the application at hand.

Brake torque	[N·m]	2～80
Operating temperature	[℃]	0～+40
Backlash		Extremely small size

Structure



BXW(L/H/S) Models

Specifications

BXW-□-□L (Braking use)

Model	Size	Static friction torque Ts [N·m]	Coil [at 20 °C] Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]	Heat resistance class	Lead wire UL style	Lead wire Size	Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m²]	Allowable braking energy rate $P_{ba\ell}$ [W]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Mass [kg]
BXW-01-10L	01	0.12	12	5.0	0.417	28.8	F	UL3398	AWG26	5000	0.6 × 10⁻⁶	2.5	1.5 × 10⁶	0.008	0.015	0.2
			24	5.0	0.208	115	F									
			45	5.0	0.111	405	F									
			90	5.0	0.056	1622	F									
			180	5.0	0.028	6486	F									
BXW-02-10L BXW-02-12L	02	0.25	12	6.6	0.550	21.8	F	UL3398	AWG26	5000	1.9 × 10⁻⁶	5.0	3.0 × 10⁶	0.008	0.015	0.3
			24	6.6	0.275	87.3	F									
			45	6.6	0.147	307	F									
			90	6.6	0.073	1228	F									
			180	6.6	0.037	4912	F									
BXW-03-10L BXW-03-12L	03	0.50	12	9.0	0.750	16.0	F	UL3398	AWG26	5000	3.8 × 10⁻⁶	10	4.5 × 10⁶	0.025	0.025	0.4
			24	9.0	0.375	64.0	F									
			45	8.2	0.182	247	F									
			90	8.2	0.091	988	F									
			180	8.2	0.046	3954	F									
BXW-04-10L BXW-04-12L	04	1.00	12	11.5	0.958	12.5	F	UL3398	AWG22	5000	12.0 × 10⁻⁶	20	7.0 × 10⁶	0.030	0.030	0.6
			24	11.5	0.479	50.1	F									
			45	10.0	0.222	203	F									
			90	10.0	0.111	810	F									
			180	10.0	0.056	3241	F									
BXW-05-10L BXW-05-12L	05	2.00	12	13.0	1.083	11.1	F	UL3398	AWG22	5000	23.0 × 10⁻⁶	30	12.0 × 10⁶	0.035	0.035	0.8
			24	13.0	0.542	44.3	F									
			45	13.0	0.289	156	F									
			90	13.0	0.144	623	F									
			180	13.0	0.072	2492	F									

• The armature pull-in time and armature release time are taken during DC switching.

BXW-□-□H (Holding use)

Model	Size	Static friction torque Ts [N·m]	Coil [at 20 °C] Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]	Heat resistance class	Lead wire UL style	Lead wire Size	Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m²]	Allowable braking energy rate $P_{ba\ell}$ [W]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Mass [kg]
BXW-01-10H	01	0.24	12	5.0	0.417	28.8	F	UL3398	AWG26	5000	0.6 × 10⁻⁶	0.5	0.2 × 10⁶	0.010	0.010	0.2
			24	5.0	0.208	115	F									
			45	5.0	0.111	405	F									
			90	5.0	0.056	1622	F									
			180	5.0	0.028	6486	F									
BXW-02-10H BXW-02-12H	02	0.50	12	6.6	0.550	21.8	F	UL3398	AWG26	5000	1.9 × 10⁻⁶	1.0	0.3 × 10⁶	0.010	0.010	0.3
			24	6.6	0.275	87.3	F									
			45	6.6	0.147	307	F									
			90	6.6	0.073	1228	F									
			180	6.6	0.037	4912	F									
BXW-03-10H BXW-03-12H	03	1.00	12	9.0	0.750	16.0	F	UL3398	AWG26	5000	3.8 × 10⁻⁶	2.0	0.5 × 10⁶	0.035	0.020	0.4
			24	9.0	0.375	64.0	F									
			45	8.2	0.182	247	F									
			90	8.2	0.091	988	F									
			180	8.2	0.046	3954	F									
BXW-04-10H BXW-04-12H	04	2.00	12	11.5	0.958	12.5	F	UL3398	AWG22	5000	12.0 × 10⁻⁶	4.0	1.0 × 10⁶	0.040	0.025	0.6
			24	11.5	0.479	50.1	F									
			45	10.0	0.222	203	F									
			90	10.0	0.111	810	F									
			180	10.0	0.056	3241	F									
BXW-05-10H BXW-05-12H	05	4.00	12	13.0	1.083	11.1	F	UL3398	AWG22	5000	23.0 × 10⁻⁶	6.0	2.0 × 10⁶	0.045	0.030	0.8
			24	13.0	0.542	44.3	F									
			45	13.0	0.289	156	F									
			90	13.0	0.144	623	F									
			180	13.0	0.072	2492	F									

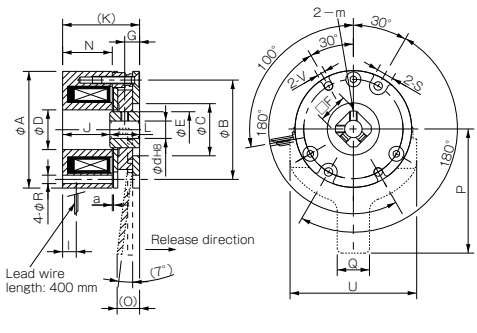
• The armature pull-in time and armature release time are taken during DC switching.

BXW-□-□S (Dedicated for holding)

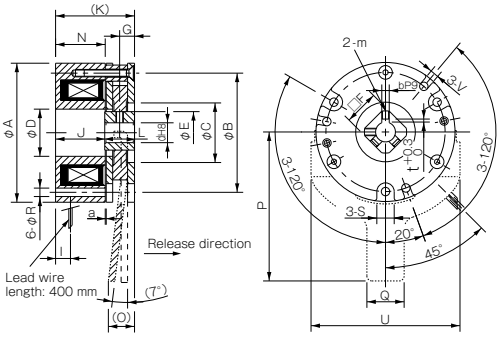
Model	Size	Static friction torque Ts [N·m]	Coil [at 20 °C] Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]	Heat resistance class	Lead wire UL style	Lead wire Size	Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m2]	Allowable braking energy rate $P_{ba\ell}$ [W]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Mass [kg]
BXW-01-10S	01	0.36	24	5.0	0.208	115	F	UL3398	AWG26	5000	0.6 × 10⁻⁶	—	—	0.025	0.010	0.2
BXW-02-10S BXW-02-12S	02	0.75	24	6.6	0.275	87.3	F	UL3398	AWG26	5000	1.9 × 10⁻⁶	—	—	0.030	0.010	0.3
BXW-03-10S BXW-03-12S	03	1.50	24	9.0	0.375	64.0	F	UL3398	AWG26	5000	3.8 × 10⁻⁶	—	—	0.035	0.020	0.4
BXW-04-10S BXW-04-12S	04	2.60	24	11.5	0.479	50.1	F	UL3398	AWG22	5000	12.0 × 10⁻⁶	—	—	0.040	0.025	0.6
BXW-05-10S BXW-05-12S	05	5.20	24	13.0	0.542	44.3	F	UL3398	AWG22	5000	23.0 × 10⁻⁶	—	—	0.045	0.030	0.8

• The armature pull-in time and armature release time are taken during DC switching.

Dimensions



Size #01, #02



Size #03, #04, #05

Unit [mm]

Size	Radial direction dimensions														Axial direction dimensions							Bore dimensions		
	A	B	C	D	E	S	V	R	F	m	O	P	Q	U	G	I	J	K	L	N	a	d	b	t
01	37	32	18	13.5	12.0	6	3	3	10	M3	—	—	—	—	4.5	5.0	22.5	31.5	9	22.5	0.10	5 6	—	—
02	47	40	21	16.0	14.5	7	3.4	3.4	12	M3	9	50	13	51	6.0	5.5	19.2	31.2	12	20.0	0.10	6 7	—	—
03	56	48	24	19.0	17.0	7	3.4	3.4	14	M3	11	60	15	60	6.0	6.0	19.9	31.9	12	20.0	0.15	8	—	—
04	65	58	35	24.0	22.0	7	3.4	3.4	18	M4	12	70	15	70	7.0	7.0	19.9	33.9	14	21.0	0.15	10	3	1.2
05	75	66	36	28.0	26.5	9	4.5	4.5	22	M4	14	80	20	80	7.0	7.0	22.1	36.1	14	21.5	0.15	12	4	1.5

• There is no release lever option for size #01.

How to Place an Order

BXW-01-10L-24V-5

- Size
- Release lever: 10: Not included; 12: Included
- Application: L: Braking-use; H: Holding-use; S: Dedicated for holding
- Voltage (Specifications table)
- Bore diameter (dimensional symbol d)

• Further bore diameters and voltages possible on request.

Options Dust Cover

Dust covers are available as options. These enable use in challenging environments by keeping out foreign matter.
Dust covers come in two types: full covers that have no hole for the shaft, and shaft-hole covers, which can be used on brakes mounted with the shaft passing through. You can also choose the locations of the lead exit holes for brakes mounted on plates or mounted on stators.

Specifications

Material	Ethylene propylene diene monomer (EPDM) rubber
Temperature range	-40℃ to 140 ℃
Exterior color	Black
Applicable brake models	L type, H type, S type BXW models
Applicable brake sizes	#01, #02, #03, #04, #05
Applicable specification voltages	12 V DC, 24 V DC, 45 V DC, 90 V DC, 180 V DC

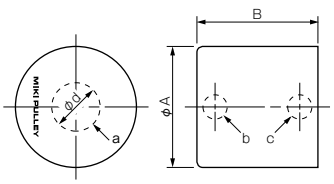
• This temperature range is for dust cover materials. The operating temperature for BXW models is -10° C to 40° C.
• Cannot be mounted on BXW models with release levers or R-type BXW models.

How to Place an Order

BXW-01-C02

- Brake size: 01, 02, 03, 04, 05
- Shape no.: 01, 02, 03, 04, 05, 06

Dimensions



Shape No.	a	b	c
01	×	×	×
02	×	×	○
03	×	○	×
04	○	×	×
05	○	×	○
06	○	○	×

Unit [mm]

Model	ϕA	B	ϕd
BXW-01-C□	41	33	16
BXW-02-C□	51	33	21
BXW-03-C□	60	33.5	24
BXW-04-C□	69	35.5	30
BXW-05-C□	79	37.5	30

• Symbol a indicates a hole made for brakes with shafts passing through; symbol b indicates a hole made for lead exit when mounted on a plate; symbol c indicates a hole made for lead exit when mounted on a stator.
• Shapes #01 and #04 require that a hole be made separately for leads to exit.

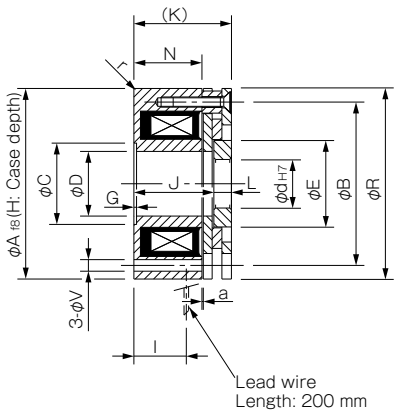
BXW(R) Models

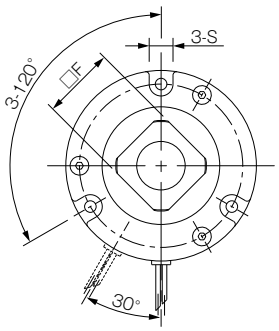
Specifications

Model	Size	Static friction torque T_S [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min^{-1}]	Rotating part moment of inertia J [$kg·m^2$]	Allowable braking energy rate $E_{ba\ell}$ [J]	Total braking energy Er [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size							
BXW-01-10R	01	0.3	24	6.1	0.254	94.4	F	UL3398	AWG26	6000	1.36×10^{-7}	15	3000	0.035	0.020	0.1
BXW-03-10R	03	1.3	24	7.2	0.300	80.0	F	UL3398	AWG22	6000	1.17×10^{-6}	87	17000	0.050	0.020	0.3
BXW-05-10R	05	2.5	24	8.0	0.333	72.0	F	UL3398	AWG22	6000	3.68×10^{-6}	200	40000	0.060	0.020	0.5

• The armature pull-in time and armature release time are taken during DC switching.

Dimensions





• The lead wire exit for size #01 is located in the dashed area.

Unit [mm]

Model	Radial direction dimensions										Axial direction dimensions								Bore dimensions	
	A	r	B	C	D	E	S	V	R	F	G	H	I	J	K	L	N	a	d	d max
BXW-01-10R	33	R0.5	26.5	16	9	14	7	3.4	32.5	12	0.2	4	19	25.5～26	30	4	22.8	0.1	8.5	8.5
BXW-03-10R	48	R1	42	26	14	23	8	3.4	47.5	19	0.2	4	18	25.5～26	30	4	22.6	0.1	11	15
BXW-05-10R	64	R1	56	28	22	31	8	4.5	63.5	25	0.2	4	16	25～25.5	30	4.5	21.3	0.1	16	20

• Further bore diameters and keyways possible on request. Please contact Miki Pulley for details.

How to Place an Order

BXW-01-10R-24V-8.5

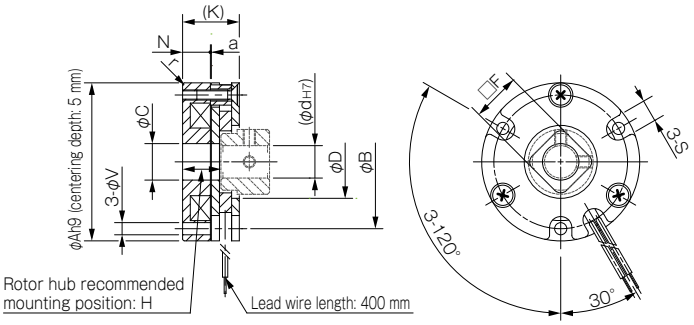
- Size
- Release lever: 10: Not included
- Application R: Servomotor-use
- Voltage (Specifications table)
- Bore diameter (dimensional symbol d)

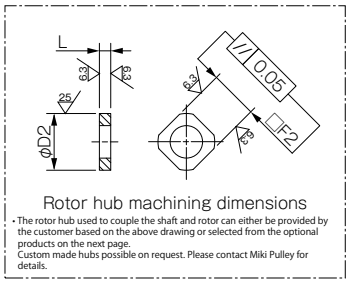
BXR(LE) Models

Specifications (Brake unit)

Model	Size	Static friction torque Ts [N·m]	Coil [at 20 ℃]								Heat resistance class	Lead wire		Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m²]	Allowable braking energy rate $E_{ba\ell}$ [J]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Mass [kg]
			Overexcitation output				Normal excitation output					UL style	Size							
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]	Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]										
BXR-015-10LE	015	0.06	24	16.5	0.688	35	7	1.4	0.200	35	F	UL3398	AWG26	6000	3.34×10^{-8}	5	1000	0.020	0.020	0.03
BXR-020-10LE	020	0.14	24	16.5	0.688	35	7	1.4	0.200	35	F	UL3398	AWG26	6000	5.56×10^{-8}	15	3000	0.035	0.020	0.06
BXR-025-10LE	025	0.32	24	16.5	0.688	35	7	1.4	0.200	35	F	UL3398	AWG26	6000	1.56×10^{-7}	15	3000	0.035	0.020	0.08
BXR-035-10LE	035	0.62	24	16.5	0.688	35	7	1.4	0.200	35	F	UL3398	AWG26	6000	4.83×10^{-7}	87	17000	0.050	0.020	0.12
BXR-040-10LE	040	1.32	24	16.5	0.688	35	7	1.4	0.200	35	F	UL3398	AWG26	6000	6.32×10^{-7}	87	17000	0.060	0.020	0.16
BXR-050-10LE	050	3.20	24	16.5	0.688	35	7	1.4	0.200	35	F	UL3398	AWG26	6000	1.51×10^{-6}	200	40000	0.060	0.020	0.40

Dimensions (Brake unit)





Unit [mm]

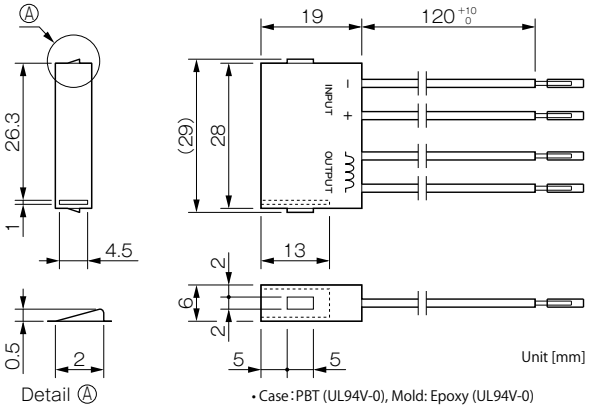
Model	Size	Radial direction dimensions										Axial direction dimensions			Rotor hub machining dimensions		
		A	r	B	C	D	d max.	□F	S	V	H	K	N	a	L	D2	□F2
BXR-015-10LE	015	26	R0.5	22	7	12	5	8	4.3	2.3	9.5 ~ 10.0	14.0	7.0	0.1	4 or more	$10^{\ 0}_{-0.1}$	$8^{\ 0}_{-0.07}$
BXR-020-10LE	020	32	R0.5	28	9	16	8	12	5.0	2.3	9.5 ~ 10.0	14.0	7.0	0.1	4 or more	$14^{\ 0}_{-0.1}$	$12^{\ 0}_{-0.07}$
BXR-025-10LE	025	39	R0.5	33	9	18	8	12	5.5	3.0	9.5 ~ 10.0	14.0	7.0	0.1	4 or more	$14^{\ 0}_{-0.1}$	$12^{\ 0}_{-0.07}$
BXR-035-10LE	035	48	R0.5	42	15	28	14	19	5.5	3.0	9.5 ~ 10.0	14.0	7.0	0.1	4 or more	$23^{\ 0}_{-0.1}$	$19^{\ 0}_{-0.07}$
BXR-040-10LE	040	56	R0.5	50	15	27	14	19	6.5	3.4	9.9 ~ 10.4	14.5	7.4	0.1	4 or more	$23^{\ 0}_{-0.1}$	$19^{\ 0}_{-0.07}$
BXR-050-10LE	050	71	R0.5	65	22	37	20	25	8.0	4.4	14.0 ~ 14.4	19.0	10.5	0.1	4.5 or more	$31^{\ 0}_{-0.1}$	$25^{\ 0}_{-0.07}$

Specifications (Controller)

Model	BEM-24ESN7-120N
Input voltage	24 V DC ± 10% smoothing power supply
Output voltage	Initial: 24 V DC (0.2 sec.) Constant: 7 V DC (± 10%), PWM control *When the input voltage is 21 V DC, the output voltage is cut off.
Max. output current	1.0 A DC (ambient temp.: 20 ℃), 0.8 A DC (ambient temp.: 60 ℃)
Insulating resistance	500 V DC, 100 MΩ with Megger (input/output – between terminal and case)
Dielectric strength voltage	1000 V AC, 50/60 Hz, 1 min. (input/output – between terminal and case)
Ambient environment	–20 to 60 ℃ , 5 to 95% RH, no condensation/freezing
Mass	0.02 kg

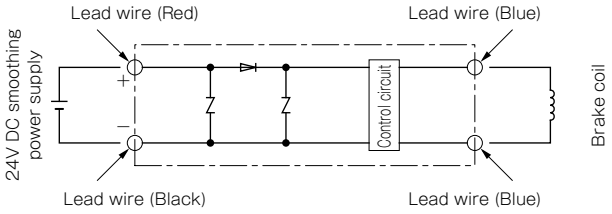
Lead wire	Function	Description	Specification
Red	Input (+)	Connects the 24 V DC smoothing power supply (+)	UL3398 AWG26
Black	Input (–)	Connects the 24 V DC smoothing power supply (–)	UL3398 AWG27
Blue	Output	Connects the spring-actuated brake (either pole)	UL3398 AWG28
Blue	Output	Connects the spring-actuated brake (either pole)	UL3398 AWG29

Dimensions (Controller)

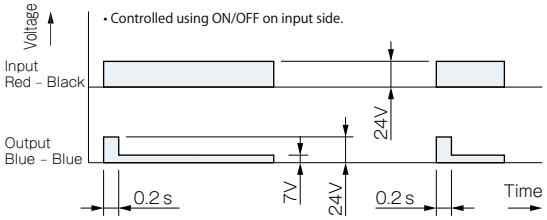


• Case : PBT (UL94V-0), Mold: Epoxy (UL94V-0)

Structure (Controller)

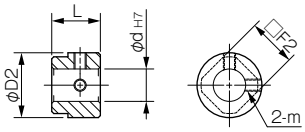


Timing Chart (Controller)



Options Rotor Hub

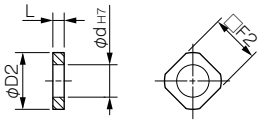
■ Set screw type (C)



Unit [mm]

Model	Size	L	D2	□F2	m Nominal dia.	d		
						Standard	Min.	Max.
BXR-015-10LE	015	10	10	8 $^{0}_{-0.07}$	M2.5	5	4	5
BXR-020-10LE	020	10	14	12 $^{0}_{-0.07}$	M3	8	5	8
BXR-025-10LE	025	10	16	12 $^{0}_{-0.07}$	M3	8	5	8
BXR-035-10LE	035	12	26	19 $^{0}_{-0.07}$	M4	14	8	14
BXR-040-10LE	040	12	26	19 $^{0}_{-0.07}$	M4	14	11	14
BXR-050-10LE	050	15	35	25 $^{0}_{-0.07}$	M5	20	15	20

■ Press fit type (P)



Unit [mm]

Model	Size	L	D2	□F2	d		
					Standard	Min.	Max.
BXR-015-10LE	015	4	9.58	8 $^{0}_{-0.07}$	5	5	6
BXR-020-10LE	020	4	14	12 $^{0}_{-0.07}$	8	7	8
BXR-025-10LE	025	4	14	12 $^{0}_{-0.07}$	8	7	8
BXR-035-10LE	035	4	23	19 $^{0}_{-0.07}$	14	9	14
BXR-040-10LE	040	4	23	19 $^{0}_{-0.07}$	14	11	14
BXR-050-10LE	050	4.5	31	25 $^{0}_{-0.07}$	20	15	20

How to Place an Order

BXR-015-10LE-006-C5

- 015: Size
- 10LE: Controller set type
- 006: Nominal static friction torque (3-digit number listed in the specifications tables)
- C: Option (Rotor Hub) Blank: Without rotor hub C: Set screw type P: Press fit type
- 5: Bore diameter (dimension symbol: d)

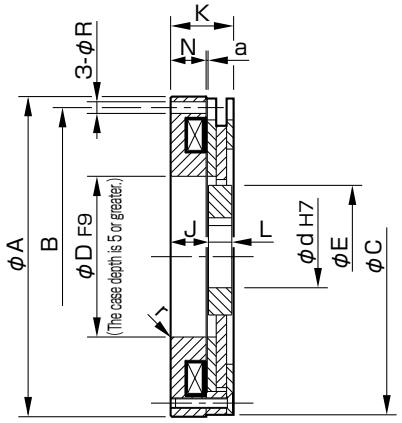
BXR Models Square Rotor Hub

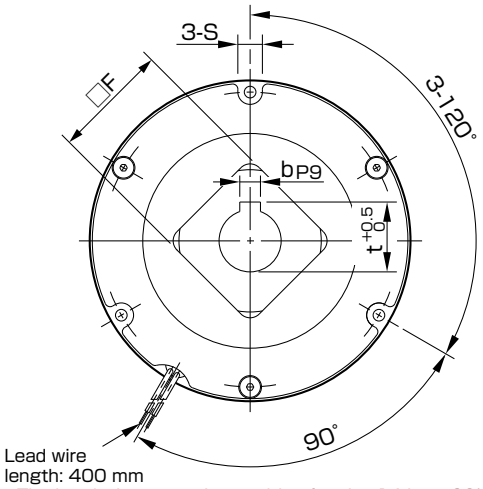
Specifications (BXR-□-10)

Model	Size	Static friction torque Ts [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m²]	Allowable braking energy rate $E_{ba\ell}$ [J]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Backlash [°]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size								
BXR-06-10-005	06	5	24	17.6	0.73	32.7	F	UL1333	AWG20	5000	2.35×10^{-5}	500	2.0×10^{5}	0.050	0.020	1.2	0.9
BXR-08-10-012	08	12	24	19.4	0.81	29.7	F	UL1333	AWG20	5000	3.45×10^{-5}	800	2.0×10^{5}	0.080	0.020	1.2	1.2
BXR-10-10-016	10	16	24	21.5	0.90	26.8	F	UL1333	AWG20	5000	1.12×10^{-4}	1500	2.2×10^{6}	0.110	0.050	0.9	1.3
BXR-12-10-030	12	30	24	23.7	0.99	24.3	F	UL1333	AWG20	5000	1.88×10^{-4}	1500	2.5×10^{6}	0.120	0.030	0.8	2.3
BXR-14-10-038	14	38	24	31.0	1.29	18.6	F	UL1333	AWG20	3600	4.22×10^{-4}	1800	3.0×10^{6}	0.120	0.030	0.5	3.0
BXR-16-10-055	16	55	24	19.0	0.79	30.3	F	UL1333	AWG20	3600	7.10×10^{-4}	2000	3.0×10^{6}	0.220	0.100	0.5	3.6

• The armature pull-in time and armature release time are taken during DC switching.
• Backlash is the value between the rotor and rotor hub.

Dimension (BXR-□-10)





Lead wire
length: 400 mm
• The Lead wire extraction position for size 14 is at 60°

Unit [mm]

Size	Radial direction dimensions									Axial direction dimensions					Bore diameter			
	A	B	C	D	r	E	F	R	S	J	L	N	K	a	d	b	t	d max
06	83.5	76	82	47	R0.5	42	35	4.5	9	17.0	7	14.7	25.0	0.10	20	6	22.5	25
08	93.5	85	92	49	R0.5	42	35	4.5	10	19.0	7	15.7	27.0	0.10	20	6	22.5	25
10	123.5	115	122	62	R0.5	55	45	4.5	9.5	14.6	9	13.7	24.3	0.10	24	8	27	28
12	137.5	130	136	65	R1	62	50	4.5	12	15.4	9	12.5	25.0	0.15	24	8	27	30
14	167.5	158	166	80	R1	74	60	5.5	12	16.0	9	12.0	25.0	0.15	28	8	31	38
16	185	175	184	100	R1	86	65	5.5	12.5	21.3	11.5	19.4	32.8	0.20	28	8	31	45

How to Place an Order

BXR-14-10-038-24V-28DIN

- Size
- Hub style 10: Square
- Static friction torque [N·m]
- Voltage
- Bore diameter (dimensional symbol d)

• Further bore diameters possible on request.

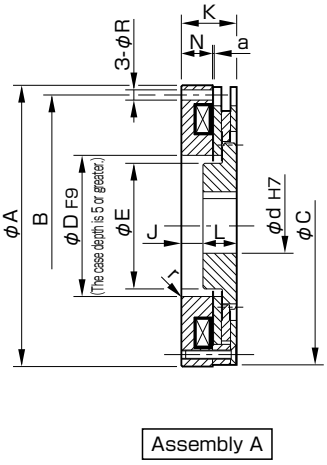
BXR Models Spline Rotor Hub

Specifications (BXR-□-20)

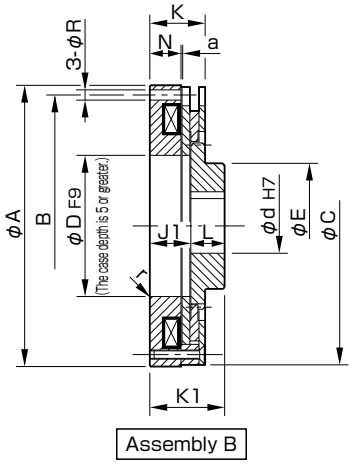
Model	Size	Static friction torque Ts [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m²]	Allowable braking energy rate $E_{ba\ell}$ [J]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Backlash [°]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size								
BXR-06-20-005	06	5	24	17.6	0.73	32.7	F	UL1333	AWG20	5000	3.39×10^{-5}	500	2.0×10^{5}	0.050	0.020	0.5	1.1
BXR-08-20-012	08	12	24	19.4	0.81	29.7	F	UL1333	AWG20	5000	7.56×10^{-5}	800	2.0×10^{5}	0.080	0.020	0.4	1.4
BXR-10-20-016	10	16	24	21.5	0.90	26.8	F	UL1333	AWG20	5000	3.02×10^{-4}	1500	2.2×10^{6}	0.110	0.050	0.3	1.6
BXR-12-20-030	12	30	24	23.7	0.99	24.3	F	UL1333	AWG20	5000	4.77×10^{-4}	1500	2.5×10^{6}	0.120	0.030	0.3	2.6
BXR-14-20-038	14	38	24	31.0	1.29	18.6	F	UL1333	AWG20	3600	11.3×10^{-4}	1800	3.0×10^{6}	0.120	0.030	0.2	3.5
BXR-16-20-055	16	55	24	19.0	0.79	30.3	F	UL1333	AWG20	3600	19.1×10^{-4}	2000	3.0×10^{6}	0.220	0.100	0.2	4.1

• The armature pull-in time and armature release time are taken during DC switching.
• Backlash is the value between the rotor and rotor hub.

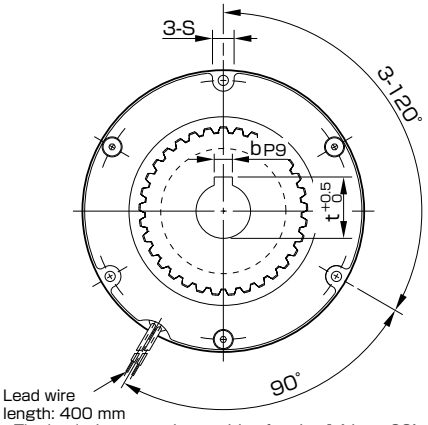
Dimension (BXR-□-20)



Assembly A



Assembly B



• The lead wire extraction position for size 14 is at 60°

Unit [mm]

Size	Radial direction dimensions								Axial direction dimensions							Bore diameter			
	A	B	C	D	r	E	R	S	J	J1	L	N	K	K1	a	d	b	t	d max
06	83.5	76	82	47	R0.5	36	4.5	9	10.5	18	12.5	14.7	25.0	30.5	0.10	20	6	22.5	25
08	93.5	85	92	49	R0.5	42	4.5	10	11.5	20	13.5	15.7	27.0	33.5	0.10	20	6	22.5	30
10	123.5	115	122	62	R0.5	56	4.5	9.5	9	18	15	13.7	24.3	33	0.10	24	8	27	40
12	137.5	130	136	65	R1	61	4.5	12	8.7	17.7	15	12.5	25.0	32.7	0.15	24	8	27	45
14	167.5	158	166	80	R1	75	5.5	12	7.2	17.2	16	12.0	25.0	33.2	0.15	28	8	31	55
16	185	175	184	100	R1	82	5.5	12.5	13.6	24.6	18	19.4	32.8	42.6	0.20	28	8	31	65

How to Place an Order

BXR-14-20-038-24V-28DIN

- Size
- Hub style 20: Spline
- Static friction torque [N·m]
- Voltage
- Bore diameter (dimensional symbol d)

• Further bore diameters possible on request.

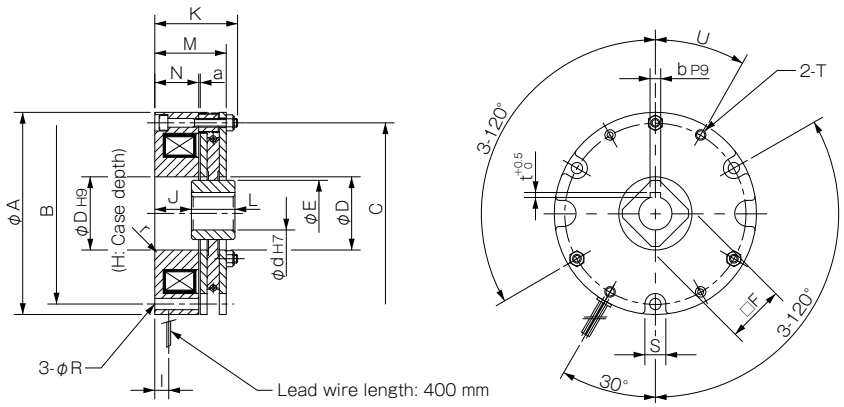
BXL Models

Specifications

Model	Size	Static friction torque Ts [N·m]	Coil [at 20 ℃]				Heat resistance class	Lead wire		Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m²]	Allowable braking energy rate P_{bal} [W]	Total braking energy E_T [J]	Armature pull-in time t_a[s]	Armature release time t_{ar}[s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size							
BXL-06-10	06	2	DC24	15	0.63	38.4	F	UL3398	AWG22	5000	3.75×10^{-5}	58.3	2.0×10^{7}	0.035	0.020	0.9
			DC45	12	0.27	169										
			DC90	12	0.13	677										
BXL-08-10	08	4	DC24	22.5	0.94	25.6	F	UL3398	AWG18	5000	6.25×10^{-5}	91.7	3.5×10^{7}	0.040	0.020	1.3
			DC45	19	0.41	110										
			DC90	19	0.21	440										
BXL-10-10	10	8	DC24	28	1.14	21.1	F	UL3398	AWG18	4000	13.75×10^{-5}	108.3	6.2×10^{7}	0.050	0.025	2.3
			DC45	25	0.54	83.0										
			DC90	25	0.27	331										
BXL-12-10	12	16	DC24	35	1.46	16.5	F	UL3398	AWG18	3600	33.75×10^{-5}	133.3	9.0×10^{7}	0.070	0.030	3.4
			DC90	30	0.33	271										
BXL-16-10	16	22	DC24	39	1.64	14.6	F	UL3398	AWG18	3000	7.35×10^{-4}	183.3	11.4×10^{7}	0.100	0.035	5.4
			DC90	39	0.43	207										

• The armature pull-in time and armature release time are taken during DC switching.

Dimensions



Unit [mm]

Size	A	B	C	r	D	E	F	H	I	J	K	L	M	N	R	S	T	U	a	d	b	t
06	83	73	73	R1	28	26.5	22	3	10	20.5	39.5	14	33.6	20	4.5	9	2-M5	30°	0.15	11	4	1.5
08	96	86	86	R1	35	32	25	3	12	20	41	17	35	20.8	5.5	10.5	2-M5	30°	0.15	14	5	2
10	116	104	104	R1	42	38	30	3	9.5	21	47.5	25	41	25.3	6.5	12.5	2-M6	30°	0.2	19	6	2.5
12	138	124	124	R1	50	45	35	4	12	19	49.8	30	43.5	23.3	6.5	12.5	2-M6	30°	0.2	24	8	3
16	158	142	143	R1	59	55	45	4	14	22.5	57.5	35	51	27.7	9	15.0	2-M8	40°	0.25	28	8	3

How to Place an Order

BXL-06-10G 24V 11DIN

- Size: 06
- Option number: 10: Standard
- Voltage (Specifications table): 24V
- Bore diameter (dimensional symbol d): 11DIN

• Further bore diameters and voltages possible on request.

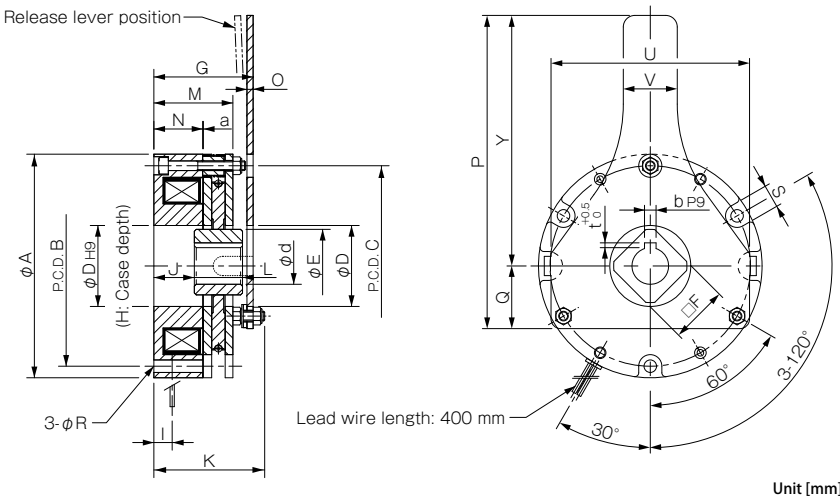
Options

Made to Order

Release Lever

Option No.: 12

We also offer an option with a manual release lever. See the dimensions table below for the dimensions of brakes with release levers. Please contact Miki Pulley for other specification values.



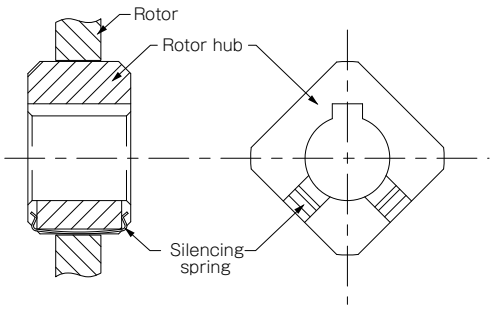
Unit [mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Y	U	V	S	a	d	b	t
BXL-06-12	83	73	73	28	26.5	22	42.4	3	10	20.5	49.5	14	33.7	20	2.6	88	24	4.5	64	73	16	9	0.15	11	4	1.5
BXL-08-12	96	86	86	35	32	25	44	3	12	20	51	17	35	20.8	2.9	122	27	5.5	95	85	20	10.5	0.15	14	5	2
BXL-10-12	116	104	104	42	38	30	51.2	3	9.5	21	57.5	25	41	25.3	3.2	162.5	32.5	6.5	130	103	28	12.5	0.2	19	6	2.5
BXL-12-12	138	124	124	50	45	35	56.4	4	12	19	64.8	30	43.5	23.3	5	200	40	6.5	160	121	36	12.5	0.2	24	8	3
BXL-16-12	158	142	143	59	55	45	64.9	4	14	22.5	72.5	35	51	27.7	6	300	44	9	186	140	36	15.5	0.25	28	8	3

Quiet Mechanism (Silencing Spring)

Option No.: S1

There is a extremely small structural backlash (see figure on the right) between the rotor and the rotor hub. In applications that are prone to microvibrations of the drive shaft such as single-phase motors, this backlash may produce rattling (banging). The silencing spring for the rotor hub reduces this rattling.



Quiet Mechanism (Pull-in Noise Reduction Mechanism)

Option No.: S2

When the brake is energized, a magnetic circuit is formed, and the armature is pulled to the stator by that magnetic force. At that time, the armature touches the magnetic pole of the stator and a noise is produced. This sound (pull-in noise) is reduced by putting shock absorbing material in the stator's magnetic pole part.

In option S2, in addition to the pull-in noise reduction mechanism, the silencing spring (option S1) is also supplemented.

List of Option Numbers

Description of options	No quiet mechanism	Silencing spring	Silencing spring + Pull-in noise reduction mechanism
No release lever	10	10S1	10S2
With release lever	12	12S1	12S2

• Option 10 uses standard specifications.

BXL-06-12S1G 24V 11DIN

Option no.

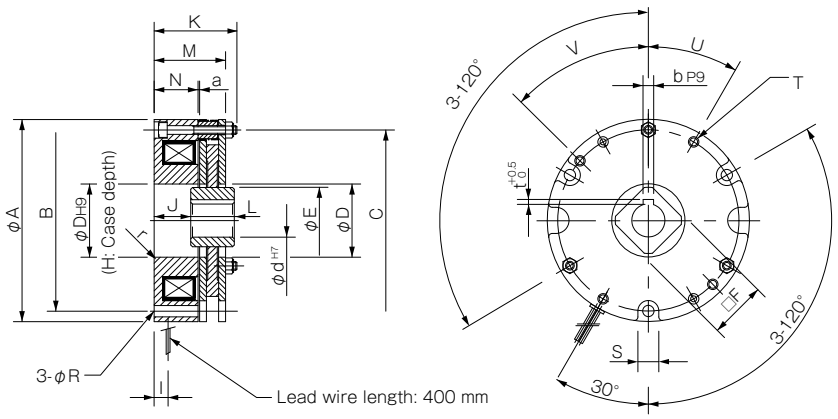
BXH Models

Specifications

Model	Size	Static friction torque T_S [N·m]	Coil [at 20 ℃] Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]	Heat resistance class	Lead wire UL style	Lead wire Size	Max. rotation speed [min^{-1}]	Rotating part moment of inertia J [$kg·m^2$]	Allowable braking energy rate $E_{ba\ell}$ [J]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Mass [kg]
			DC24	15	0.63	38.4										
BXH-06-10	06	4	DC45	12	0.27	169	F	UL3398	AWG22	5000	3.25×10^{-5}	700	2.0×10^6	0.040	0.020	0.9
			DC90	12	0.13	677										
			DC24	22.5	0.94	25.6										
BXH-08-10	08	8	DC45	19	0.41	110	F	UL3398	AWG18	5000	5.75×10^{-5}	1100	3.5×10^6	0.045	0.020	1.3
			DC90	19	0.21	440										
			DC24	28	1.14	21.1										
BXH-10-10	10	16	DC45	25	0.54	83	F	UL3398	AWG18	4000	1.30×10^{-4}	1300	6.2×10^6	0.070	0.025	2.3
			DC90	25	0.27	331										
			DC24	35	1.46	16.5										
BXH-12-10	12	32	DC90	30	0.33	271	F	UL3398	AWG18	3600	3.20×10^{-4}	1600	9.0×10^6	0.090	0.025	3.4
			DC24	39	1.64	14.6										
BXH-16-10	16	44	DC90	39	0.43	207	F	UL3398	AWG18	3000	6.93×10^{-4}	2200	11.4×10^6	0.125	0.030	5.4

• The armature pull-in time and armature release time are taken during DC switching.

Dimensions



Unit [mm]

Size	A	B	C	D	r	E	F	H	I	J	K	L	M	N	R	S	T	U	V	a	d	b	t
06	83	73	73	28	R1	26.5	22	3	10	20.5	39.5	14	33.6	20	4.5	9	2-M5	30°	—	0.15	11	4	1.5
08	96	86	86	35	R1	32	25	3	12	20	41	17	35	20.8	5.5	10.5	2-M5	30°	—	0.15	14	5	2
10	116	104	104	42	R1	38	30	3	9.5	21	47.5	25	41	25.3	6.5	12.5	2-M6	30°	—	0.2	19	6	2.5
12	138	124	124	50	R1	45	35	4	12	19	49.8	30	43.5	23.3	6.5	12.5	2-M6	30°	45°	0.2	24	8	3
16	158	142	143	59	R1	55	45	4	14	22.5	57.5	35	51	27.7	9	15.5	2-M8	40°	40°	0.25	28	8	3

How to Place an Order

BXH-06-10G 24V 11DIN

- Size: 06
- Option number: 10G (10: Standard)
- Voltage (Specifications table): 24V
- Bore diameter (dimensional symbol d): 11DIN

• Further bore diameters and voltages possible on request.

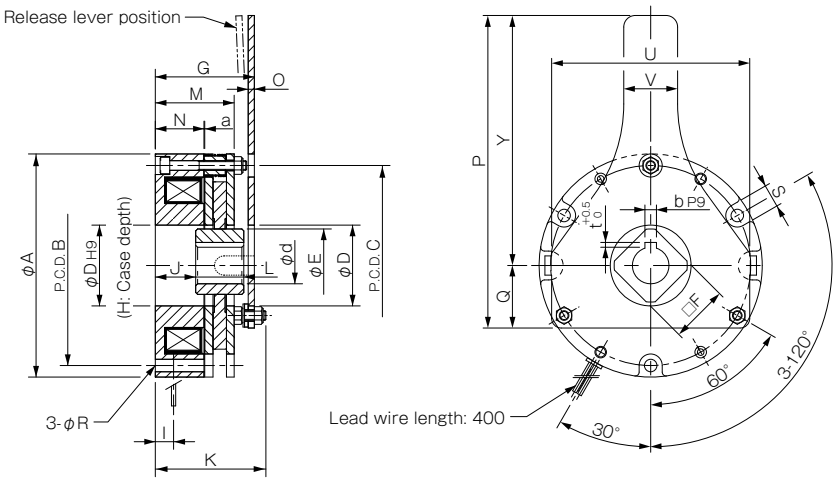
Options

Made to Order

Release Lever

Option No.: 12

IWe also offer an option with a manual release lever. See the dimensions table below for the dimensions of brakes with release levers. Please contact Miki Pulley for other specification values.



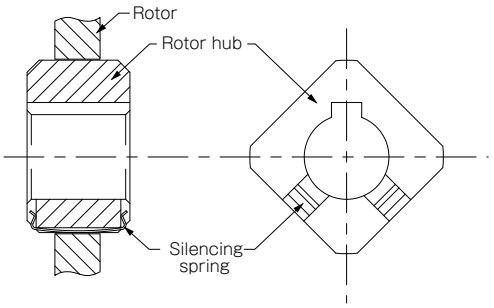
Unit [mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R	Y	U	V	S	a	d	b	t
BXH-06-12	83	73	73	28	26.5	22	42.8	3	10	20.5	49.5	14	33.7	20	4.5	81	73	20	9	0.15	11	4	1.5
BXH-08-12	96	86	86	35	32	25	45.4	3	12	20	56	17	35.3	20.8	5.5	95	85	20	10.5	0.2	14	5	2
BXH-10-12	116	104	104	42	38	30	53.9	3	9.5	21	63	25	42.2	25.3	6.5	130	103	28	12.5	0.25	19	6	2.5
BXH-12-12	138	124	124	50	45	35	58.9	4	12	19	70	30	45.4	23.3	6.5	160	121	36	12.5	0.25	24	8	3
BXH-16-12	158	142	143	59	55	45	66.5	4	14	22.5	72.5	35	53.3	27.7	9	186	140	36	15.5	0.25	28	8	3

Quiet Mechanism (Silencing Spring)

Option No.: S1

There is a extremely small structural backlash (see figure on the right) between the rotor and the rotor hub. In applications that are prone to microvibrations of the drive shaft such as single-phase motors, this backlash may produce rattling (banging). The silencing spring for the rotor hub reduces this rattling.



List of Option Numbers

Description of options	No quiet mechanism	Silencing spring
No release lever	10	10S1
With release lever	12	12S1

• Option 10 uses standard specifications.

BXH-06-12S1G 24V 11DIN

Option no.

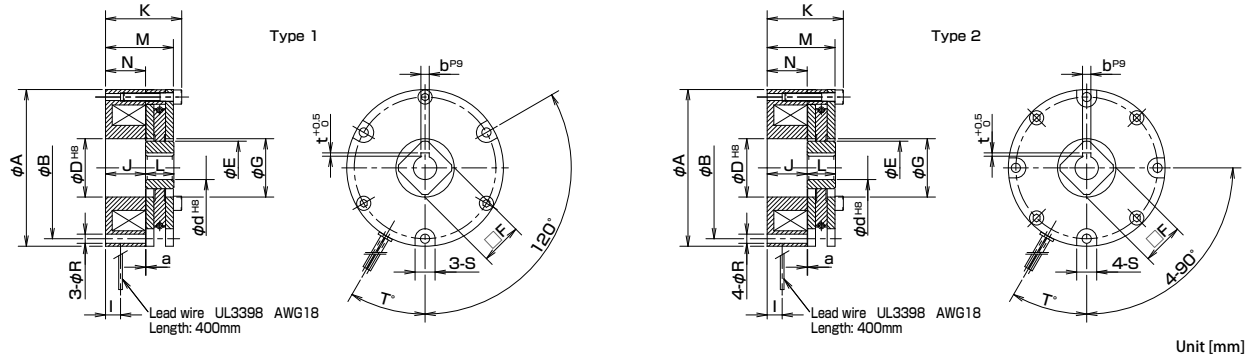
BXL(N) Models

Specifications

Model	Size	Static friction torque Ts [N·m]	Coil [at 20 ℃] Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]	Heat resistance class	Max. rotation speed [min⁻¹]	Rotating part moment of inertia J [kg·m²]	Allowable braking energy rate $P_{ba\ell}$ [W]	Total braking energy E_T [J]	Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Applicable motor output (Reference) Four poles [kW]	Mass [kg]
			24	19.0	0.793	30.3									
BXL-08-10N-002	08	2	99	19.0	0.192	515.8	F	3600	6.3×10^{-5}	60	5.0×10^{7}	0.030	0.050	0.1/0.2	1.4
			171	19.0	0.111	1539									
			24	19.0	0.793	30.3									
BXL-08-10N-004	08	4	99	19.0	0.192	515.8	F	3600	6.3×10^{-5}	60	5.0×10^{7}	0.040	0.040	0.4	1.4
			171	19.0	0.111	1539									
			24	28.0	1.166	20.6									
BXL-10-10N-008	10	8	99	28.0	0.283	350.0	F	3600	13.8×10^{-5}	70	8.0×10^{7}	0.050	0.050	0.75	2.7
			171	28.0	0.164	1044									
			24	28.0	1.166	20.6									
BXL-10-10N-015	10	15	99	28.0	0.283	350.0	F	3600	13.8×10^{-5}	70	8.0×10^{7}	0.070	0.030	1.5	2.7
			171	28.0	0.164	1044									
			24	35.0	1.460	16.4									
BXL-12-10N-022	12	22	99	35.0	0.353	280.1	F	3600	33.8×10^{-5}	90	12.0×10^{7}	0.080	0.060	2.2	4.7
			171	35.0	0.205	835.5									
			24	35.0	1.460	16.4									
BXL-12-10N-030	12	30	99	35.0	0.353	280.1	F	3600	33.8×10^{-5}	90	12.0×10^{7}	0.100	0.030	3.0	4.7
			171	35.0	0.205	835.5									
			24	42.0	1.753	13.7									
BXL-16-10N-040	16	40	99	42.0	0.424	233.3	F	1800	73.5×10^{-5}	120	16.0×10^{7}	0.100	0.070	3.7	6.3
			171	42.0	0.246	696.1									
			24	55.0	2.294	10.5									
BXL-16-10N-060	16	60	99	55.0	0.556	178.1	F	1800	74.6×10^{-5}	150	16.0×10^{7}	0.100	0.050	5.5	6.7
			171	55.0	0.322	531.6									
			24	55.0	2.294	10.5									
BXL-16-10N-080	16	80	99	55.0	0.556	178.1	F	1800	74.6×10^{-5}	150	16.0×10^{7}	0.100	0.030	7.5	6.7
			171	55.0	0.322	531.6									

• The armature pull-in time and armature release time are taken during DC switching.

Dimensions



Unit [mm]

Model	Type	A	B	D	E	F	G	I	J	K	L	M	N	R	S	T	a	d	b	t
BXL-08-10N-002	1	94	85	35	32	25	35	9	24	45.7	17	40.7	24	5.5	12	30	0.3	11	4	1.5
BXL-08-10N-004	1	94	85	35	32	25	35	9	24	45.7	17	40.7	24	5.5	12	30	0.3	14	5	2
BXL-10-10N-008	1	124	110	40	38	30	42	10	22	48.7	25	42.7	26	6.5	12	30	0.3	18	6	2.5
BXL-10-10N-015	1	124	110	40	38	30	42	10	22	48.7	25	42.7	26	6.5	12	30	0.3	20	6	2.5
BXL-12-10N-022	1	150	130	49	45	35	50	18	25	57.1	30	51.1	29	6.5	14	30	0.3	24	8	3
BXL-12-10N-030	1	150	130	49	45	35	50	18	25	57.1	30	51.1	29	6.5	14	30	0.3	24	8	3
BXL-16-10N-040	1	165	150	62	55	45	62	18	24	63.1	35	55.1	28	9	15	30	0.3	28	8	3
BXL-16-10N-060	2	165	150	64	61	50	64	20	29	68.1	35	60.1	33	9	15	15	0.3	37	10	3.5
BXL-16-10N-080	2	165	150	64	61	50	64	20	29	68.1	35	60.1	33	9	15	15	0.3	37	10	3.5

How to Place an Order

BXL-08-10N-004-24V-11

- Size
- Static torque (refer to the specifications table)
- Voltage (refer to the specifications table)
- Bore diameter (dimensional symbol d)

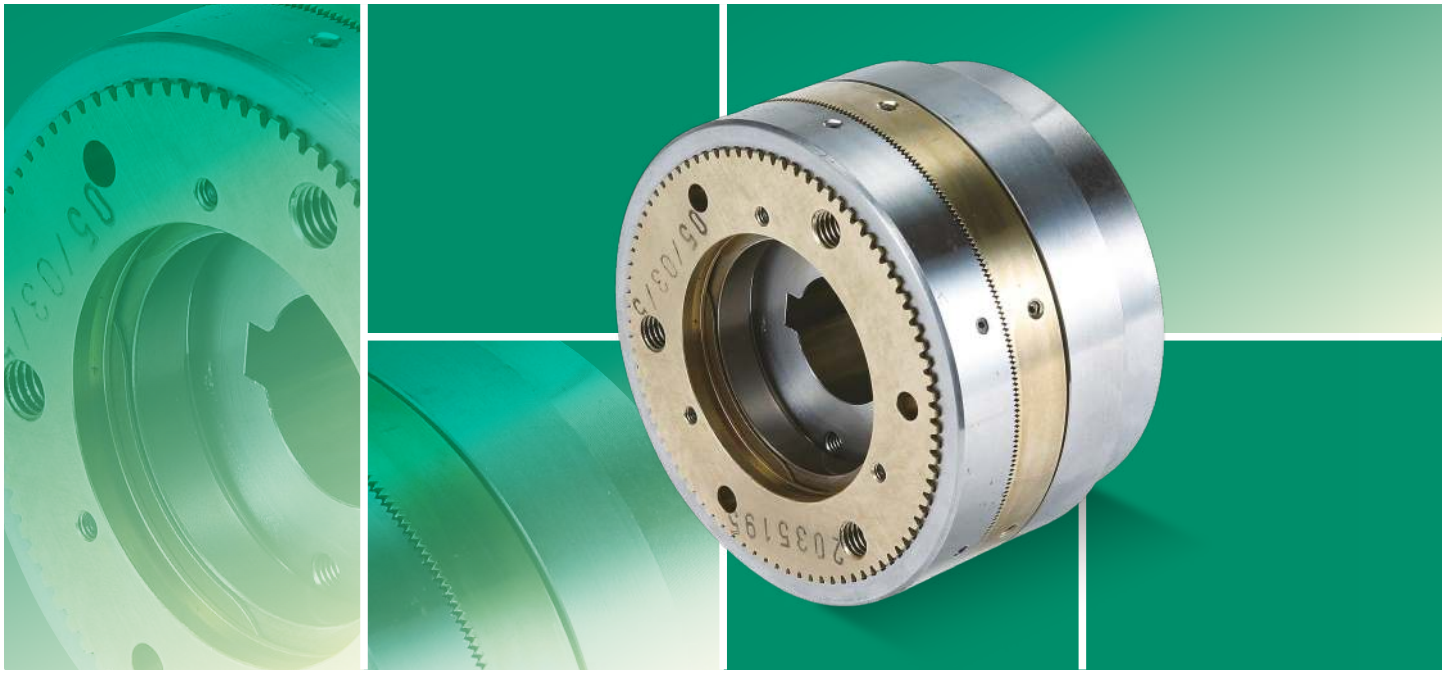
• Further bore diameters and voltages possible on request.

ELECTROMAGNETIC TOOTH CLUTCHES

Application	Printing machinery, wrapping machinery, filling machinery, food machinery, medical machinery

Meshing-type Electromagnetic-actuated Clutch Has High Torque and Reliable Transmission

These electromagnetic tooth clutches are electromagnetic-actuated clutches of the type that transmit torque by engaging tooth. Since torque is transmitted by engaging tooth, these clutches can transmit very high torque with a compact size (five to ten times our dry-type single discs). They may be either full position, which engage everywhere around their circumference, or single position, which engage at a set position, engaging in only one location per revolution. The shape of the tooth tip may be either symmetrical or sawtooth. Symmetrical tips can be used in any rotation direction, while sawtooth tips are faster than symmetrical tips and can engage at higher speeds.



Compact, high torque
Since torque is transmitted by the meshing of the tooth, high torque transmission can be achieved with a compact form factor.

No drag torque
Since the tooth do not form a magnetic circuit, engagement and release can be faster, and there is no drag torque.

Easy mounting
Bearings are built in, so there is no centering of stator and rotor.

Can be used in oily environments
Can be used in oily environments under some usage conditions.

Special position engagement
Special tooth shapes can be made that mesh at multiple locations.

Available Models

Series	Tooth Shapes	Positions	Lineup
TOOTH CLUTCHES	Full-depth tooth	Full position	546-□-34-NF
		Single position	546-□-34-NS
	Sawtooth (right rotation)	Full position	546-□-34-RF
		Single position	546-□-34-RS
	Sawtooth (left rotation)	Full position	546-□-34-LF
		Single position	546-□-34-LS

Tooth Shape/Construction

Full-depth Tooth
By far the most common tooth shape, it can be used rotating in either direction.

Sawtooth
These have fewer tooth that the full-depth tooth type, and have a smaller angle of mesh insertion. They can thus engage at a relatively higher speed than full-depth tooth.

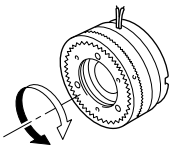
Full Position
A common tooth shape that can mesh anywhere around the full circumference.

Single Position
This tooth shape is for fixed position engagement, where only one location meshes per revolution.

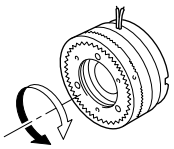
Name of tooth shape	NF	NS	RF	RS	LF	LS
Type of tooth shape	Full-depth tooth	Full-depth tooth	Sawtooth	Sawtooth	Sawtooth	Sawtooth
Position	Full	Single	Full	Single	Full	Single
Rotational direction	Both	Both	Right	Right	Left	Left

• The reference point for rotation direction (rotor) is the direction as seen from the adapter plate. With armature input, the rotation direction is as stated. Note that with shaft input, the direction is the opposite.Example: To get right rotation at shaft input, use a left-rotating sawtooth (L).

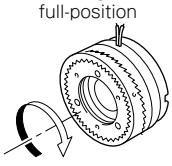
[NF] Full-depth tooth, full-position



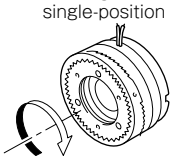
[NS] Full-depth tooth, single-position



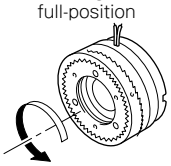
[RF] Right-handed rotating sawtooth, full-position



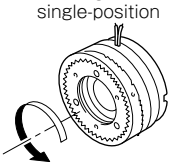
[RS] Right-handed rotating sawtooth, single-position



[LF] Left-handed rotating sawtooth, full-position



[LS] Left-handed rotating sawtooth, single-position



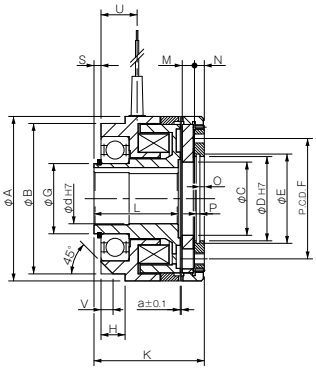
546 Models

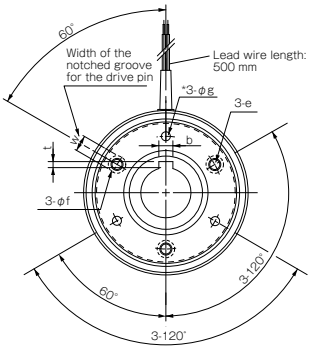
Specifications

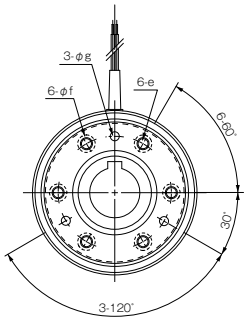
Model	Size	Torque [N·m]	Coil [at 20 ℃]				Heat resistance class	Allowable rotation speed of engagement [min⁻¹]			Max. rotation speed [min⁻¹]	Moment of inertia J [kg·m²]		Number of teeth		Armature pull-in time t_a [s]	Armature release time t_{ar} [s]	Bearing number	Mass [kg]
			Exciting voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		NF	NS	Sawtooth		Rotor	Armature	Full-depth tooth, Full	Sawtooth, Full				
546-12-34	12	17.5	DC24	13.3	0.55	43.4	F	50	30	100	1500	6.6×10^{-5}	6.0×10^{-5}	200	25	0.035	0.040	6004	0.5
546-13-34	13	25	DC24	18.7	0.78	31.0	F	50	30	100	1500	1.5×10^{-4}	1.2×10^{-4}	220	30	0.040	0.050	6005	0.9
546-15-34	15	50	DC24	21.3	0.89	27.1	F	50	30	100	1500	3.7×10^{-4}	3.7×10^{-4}	260	36	0.060	0.060	6007	1.5
546-21-34	21	100	DC24	27.0	1.13	21.0	F	50	30	100	1500	8.7×10^{-4}	5.2×10^{-4}	290	36	0.080	0.070	6009	2.4
546-23-34	23	250	DC24	36.3	1.51	15.9	F	50	30	100	1500	2.06×10^{-3}	1.85×10^{-3}	280	38	0.090	0.080	6011	3.9
546-25-34	25	500	DC24	56.6	2.36	10.2	F	50	30	100	1500	4.88×10^{-3}	4.51×10^{-3}	250	40	0.100	0.090	6014	6.8
546-31-34	31	1000	DC24	79.7	3.32	7.2	F	50	30	100	1500	1.12×10^{-2}	1.28×10^{-2}	195	40	0.110	1.110	6017	11.1
546-32-34	32	2200	DC24	114.1	4.75	5.1	F	50	30	100	1500	2.87×10^{-2}	2.92×10^{-2}	186	40	0.120	0.130	6020	15.3

• The armature pull-in and release times are reference values under no load in a static state. They are generally longer depending on the size of the load and the operating state when engaged.
• The allowable rotation speeds of engagement NF and NS indicate, respectively, full-depth tooth/full position and full-depth tooth/single position.

Dimensions







Drawing of mounting bore positions for size 31 and size 32

• The relationship between the positions of the keyway and mounting bore will differ from that shown in the drawing while the parts are fitted together.
• The dimension ø g marked with [*] does not apply for size 12.

Unit [mm]

Size	Shaft bore dimensions						
	d H7	Models compliant with JIS standards			Models compliant with the old JIS standards		
		b P9		t +0.5 0	b E9		t +0.5 0
12	10	3	-0.006 -0.031	1.2	4	+0.05 +0.02	1.5
13	15	5	-0.012 -0.042	2	5	+0.05 +0.02	2
15	20	6	-0.012 -0.042	2.5	5	+0.05 +0.02	2
	25	8	-0.015 -0.051	3	7	+0.061 +0.025	3
21	25	8	-0.015 -0.051	3	7	+0.061 +0.025	3
	30	8	-0.015 -0.051	3	7	+0.061 +0.025	3
23	30	8	-0.015 -0.051	3	7	+0.061 +0.025	3
	40	12	-0.018 -0.061	3	10	+0.061 +0.025	3.5
25	40	12	-0.018 -0.061	3	10	+0.061 +0.025	3.5
	50	14	-0.018 -0.061	3.5	12	+0.075 +0.032	3.5
31	50	14	-0.018 -0.061	3.5	12	+0.075 +0.032	3.5
	60	18	-0.018 -0.061	4	15	+0.075 +0.032	5
32	60	18	-0.018 -0.061	4	15	+0.075 +0.032	5
	70	20	-0.022 -0.074	4.5	18	+0.075 +0.032	6

Unit [mm]

Size	Radial direction dimensions										Axial direction dimensions											
	A	B	C	D	E	F	G	e	f	g	H	K	L	M	N	O	P	S	U	V	W	a
546-12-34	57	52	22.5	26	27.2	36	20	M4	8.5	—	10	43	34	4.3	3.1	1.3	1.3	2.0	15	4.5	5	0.2
546-13-34	67	58	31	32	33.7	46	25	M5	8.5	4.5	11	49	39	4.9	3.5	1.4	1.3	2.5	16.5	5	6	0.3
546-15-34	82	75	36.5	42	44.5	60	35	M6	10	4.5	12	55	42	6.1	4.8	2.2	1.9	3.5	18	6	8	0.3
546-21-34	95	88	46	52	55	70	45	M8	12	5.5	14	63	45	8.7	6.0	2.8	2.2	3.0	20	6	10	0.4
546-23-34	114	105	55	62	65	80	55	M8	12	7.8	18	69	50	9.0	6.5	3.3	2.2	3.0	24	6	10	0.4
546-25-34	134	127	68	72	75	95	70	M12	15	9.5	20	83	61	11.0	8.4	4.3	2.7	3.0	26	8	10	0.4
546-31-34	166	152	80	90	93.5	120	85	M12	15	9.5	22	93.5	66	13.1	11.4	5.3	3.2	3.5	31	10	12	0.5
546-32-34	195	175	95	100	103.5	150	100	M12	19	11.5	24	110	80	14.0	11.7	6.3	3.2	4.0	38.5	10	12	0.5

How to Place an Order

546-12-34-NF 24V 10DIN

Size

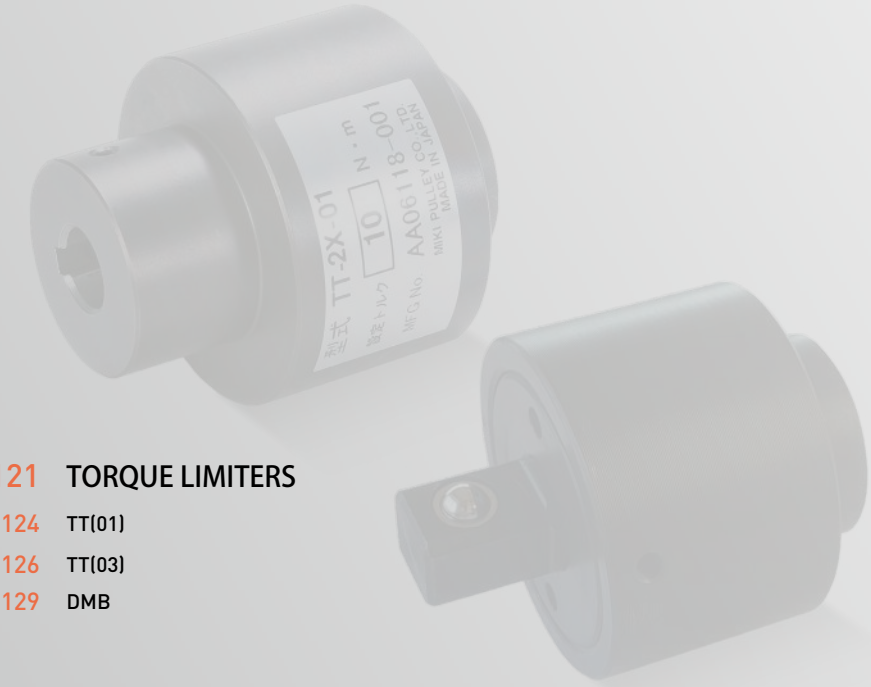
Tooth shape
NF: Full-depth tooth, full-position
RF: Right-handed rotating sawtooth, full-position
LF: Left-handed rotating sawtooth, full-position
NS: Full-depth tooth, single-position
RS: Right-handed rotating sawtooth, single-position
LS: Left-handed rotating sawtooth, single-position

Rotor bore diameter (dimensional symbol d)

Keyway standards
DIN: Compliant with JIS standards P9
JIS: Compliant with the old JIS standards (class 2) E9

TORQUE LIMITERS

CONTENTS



Torque Limiter Models

SERIES	TT	DMB
MODELS	TT(01)	DMB
	 » P.124	 » P.129
	TT(03)	
	 » P.126	

Overload Protection Equipment

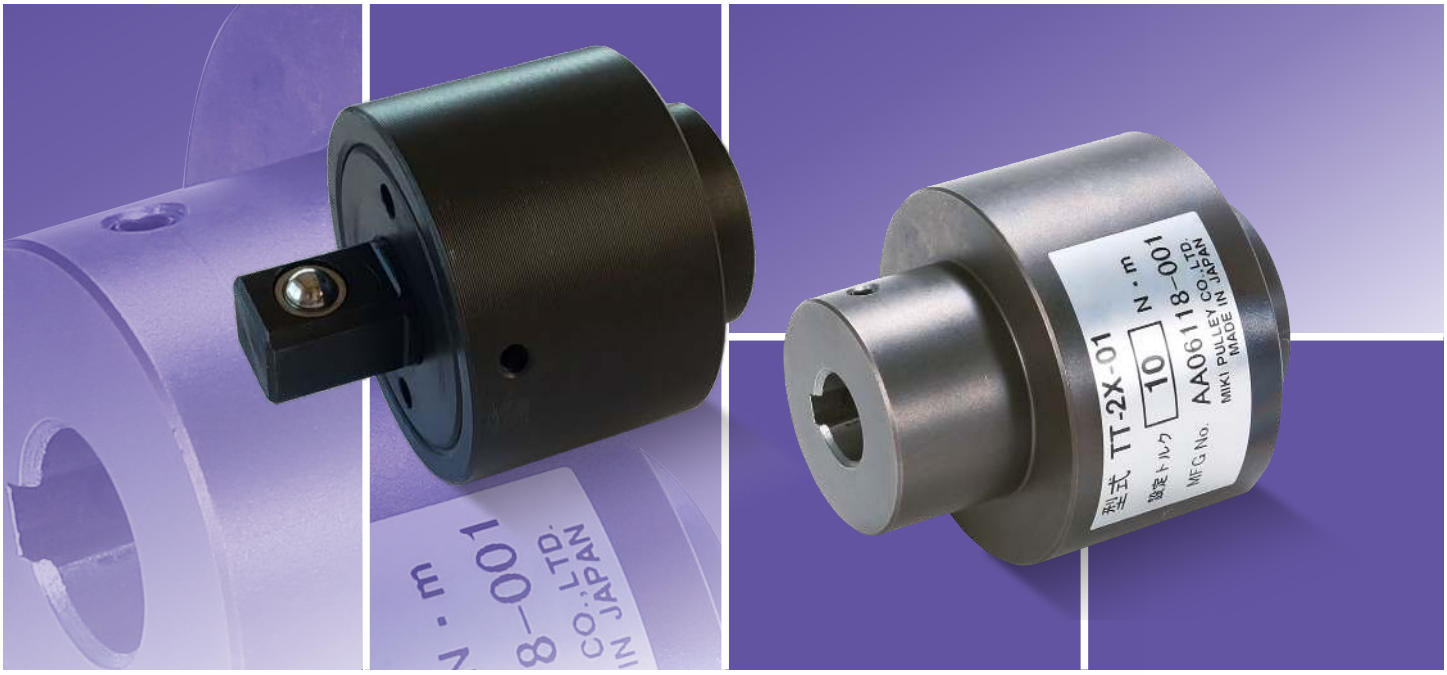
TORQUE LIMITERS

Application	Semiconductor manufacturing equipment, textile machinery, printing machinery

Detecting an Overload Reliably and Taking Appropriate Action to Protect the Machine against Overload

This torque limiter detects an overload and disconnects the input side and the output side immediately to protect the machine. Because it is the one-position engagement type, when the overload is removed, the input and output are automatically connected with the same torque in the same indexing position. In contrast to the friction type, this type can be used even in adverse environments.

RoHS
Some exceptions apply



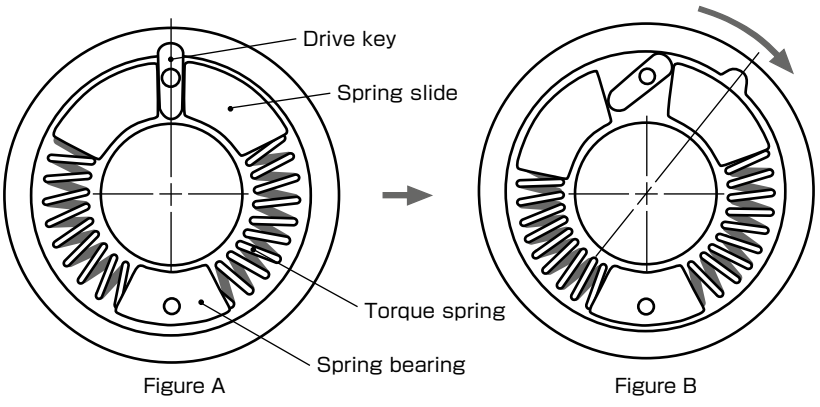


Figure A

Figure B

1. Normally the drive key is engaged with the groove of the housing to transmit torque. (Figure A)
2. If an overload is applied, the drive key is tilted against the force of the torque spring and disconnected from the groove of the housing to disconnect the input side and the output side. (Figure B)
3. When the input side and the output side are returned to the original indexing position after removing the overload, the operation can be restarted with the torque that was set originally.
4. The normal and reverse rotation torque can be changed by independently connecting normal and reverse rotation torque springs. (Please contact Miki Pulley for details.)

Available Models

Series	Applications	Lineup
Torque Tender	Two-shaft butting type	TT(01)
	Through-shaft winding type	TT(03)

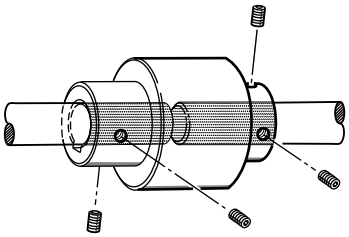
RoHS

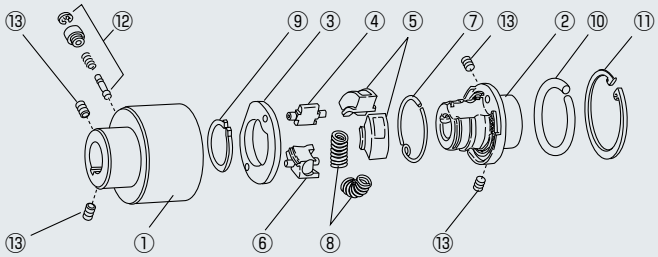
• Torque tender is the name of Miki Pulley's overload protection equipment

TT(01) Types (Two-shaft Butting Type)

The two-shaft butting type is made by inserting two shafts from both ends (housing and hub) of the torque tender and securing them with set screws to transmit power and protect the machine against overload.
The two-shaft butting type can also be used as a flexible coupling.

- Set torque: 0.2 to 200 N · m
- Applied shaft diameter: 8 to 50 mm



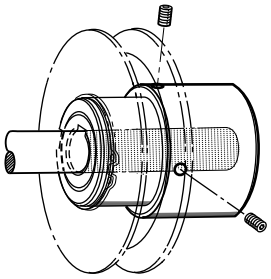


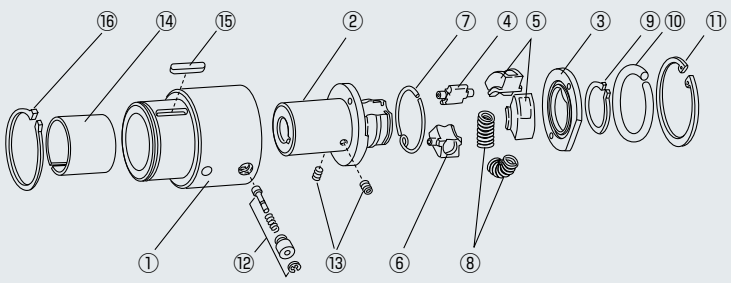
① Housing ② Hub ③ Hub ring ④ Drive key ⑤ Spring slide ⑥ Spring bearing ⑦ Reset spring ⑧ Torque spring ⑨ Stop ring ⑩ Stop ring washer ⑪ Stop ring ⑫ Signal pin (option) ⑬ Set screws (included)

TT(03) Types (Winding Type)

The winding type is made by inserting the shaft into the inside (hub) of the torque tender and attaching a pulley, sprocket, or gear to the outside of the housing to transmit power and protect the machine against overload.
The shaft is designed to be secured at the center of the main unit so it can be attached even if its end is structured as a through-shaft.

- Set torque: 0.2 to 200 N · m
- Applied shaft diameter: 8 to 45 mm





① Housing ② Hub ③ Hub ring ④ Drive key ⑤ Spring slide ⑥ Spring bearing ⑦ Reset spring ⑧ Torque spring ⑨ Stop ring ⑩ Stop ring washer ⑪ Stop ring ⑫ Signal pin (option) ⑬ Set screws (included) ⑭ Oilless metal ⑮ Outer diameter key (included) ⑯ Stop ring (included)

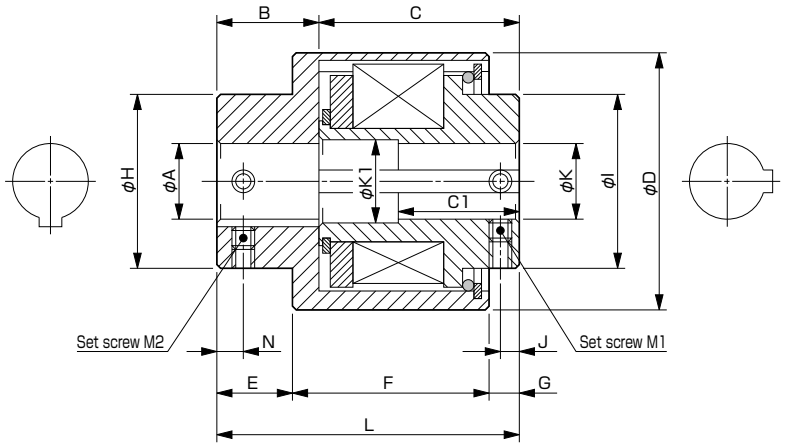
TT(01)Types

Specifications

Model	Size	Set torque value [N·m] (1500 min^{-1})									Misalignment		Max. rotation speed [min^{-1}]	Moment of inertia [kg·m^2]	Mass [kg]
											Parallel [mm]	Angular [°]			
TT-1X-01	1X	0.2	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	0.2	0.5	1800	0.06×10^{-3}	0.3
TT-2-01	2	1	2	3	4	5	6	7	8	10	0.2	0.5	1800	0.26×10^{-3}	0.7
TT-2X-01	2X	2	3	5	8	10	12	15	18	20	0.2	0.5	1800	0.52×10^{-3}	1.0
TT-3-01	3	5	8	10	15	20	25	30	35	40	0.2	0.5	1800	1.23×10^{-3}	1.5
TT-3X-01	3X	10	16	20	30	40	50	60	70	80	0.2	0.5	1800	1.94×10^{-3}	2.7
TT-4X-01	4X	20	30	50	80	100	120	150	180	200	0.2	0.5	500	14.8×10^{-3}	6.3

- The set torque values in the table above are those when the rotation speed is 1500 min^{-1}.
- Set torque values vary by ± 20%.
- If you need durability for the torque values in the ▭ area, select a larger size.

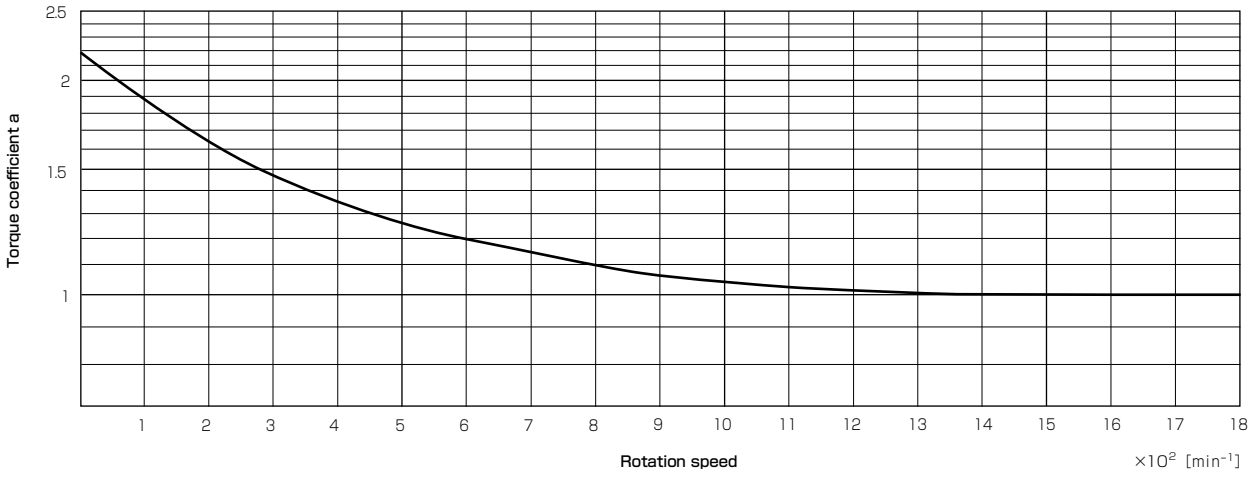
Dimensions



Unit [mm]

Size	K1	B	C	C1	D	E	F	G	H	I	J	L	N	M1	M2
1X	12.5	20	30	23	42	15	30	5	25	22	3	50	6	2-M4	2-M4
2	16.5	24.5	41.5	32.5	55	20	35	11	35	32	5	66	7	2-M5	2-M5
2X	20.5	31	45	34	65	25	40	11	40	38	5	76	8	2-M5	2-M5
3	25.5	37.5	53.5	40	75	30	50	11	45	45	5	91	10	2-M6	2-M6
3X	25.5	36	85	41	75	30	80	11	45	45	6	121	10	2-M6	2-M6
4X	—	46	95	—	120	35	90	16	80	80	8	141	12	2-M10	2-M10

Torque coefficient



Standard Bore Diameter ø A

Model	Bore Drilling Standards	Nominal bore diameter	Standard bore diameter A [mm]																						
			8	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50
TT-1X-01	Old JIS standards (E9)	Blank	●	●	●	●	●																		
	JIS standards (H9)	H		●	●	●	●																		
	Motor standards	N					●																		
TT-2-01	Old JIS standards (E9)	Blank			●	●	●	●	●	●	●	●													
	JIS standards (H9)	H			●	●	●	●	●	●	●	●													
	Motor standards	N					●				●														
TT-2X-01	Old JIS standards (E9)	Blank					●	●	●	●	●	●	●	●											
	JIS standards (H9)	H					●	●	●	●	●	●	●	●											
	Motor standards	N					●				●			●											
TT-3-01	Old JIS standards (E9)	Blank								●	●	●	●	●	●	●	●								
	JIS standards (H9)	H								●	●	●	●	●	●	●	●								
	Motor standards	N									●			●		●									
TT-3X-01	Old JIS standards (E9)	Blank								●	●	●	●	●	●	●	●								
	JIS standards (H9)	H								●	●	●	●	●	●	●	●								
	Motor standards	N									●			●		●									
TT-4X-01	Old JIS standards (E9)	Blank									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	JIS standards (H9)	H									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Motor standards	N									●			●		●				●		●		●	

• There is no keyway for bore diameter ø8 mm.

Standard Bore Diameter ø K

Model	Bore Drilling Standards	Nominal bore diameter	Standard bore diameter K [mm]																						
			8	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50
TT-1X-01	Old JIS standards (E9)	Blank	●	●	●	●																			
	JIS standards (H9)	H		●	●	●																			
	Motor standards	N																							
TT-2-01	Old JIS standards (E9)	Blank			●	●	●	●	●																
	JIS standards (H9)	H			●	●	●	●	●																
	Motor standards	N					●																		
TT-2X-01	Old JIS standards (E9)	Blank					●	●	●	●	●	●													
	JIS standards (H9)	H					●	●	●	●	●														
	Motor standards	N					●				●														
TT-3-01	Old JIS standards (E9)	Blank								●	●	●	●	●	●										
	JIS standards (H9)	H								●	●	●	●	●	●										
	Motor standards	N									●			●											
TT-3X-01	Old JIS standards (E9)	Blank								●	●	●	●	●	●										
	JIS standards (H9)	H								●	●	●	●	●	●										
	Motor standards	N									●			●											
TT-4X-01	Old JIS standards (E9)	Blank									●	●	●	●	●	●	●	●	●	●	●	●	●		
	JIS standards (H9)	H									●	●	●	●	●	●	●	●	●	●	●	●	●		
	Motor standards	N									●			●		●				●		●			

• There is no keyway for bore diameter ø8 mm.

How to Place an Order

TT-2X-01-14N-19H-10NM-P

- Size
- Type
  01: Two-shaft butting
- Housing bore diameter (ϕA)
- Bore specifications
  Blank: Compliant with the old JIS standards (class 2) (E9)
  H: Compliant with JIS standards (H9)
  N: Compliant with motor standards
- Hub bore diameter (ϕK)
- Bore specifications
  Blank: Compliant with the old JIS standards (class 2) E9
  H: Compliant with JIS standards (H9)
  N: Compliant with motor standards
- Set torque
  * Contact Miki Pulley for assistance in changing the set torque for normal or reverse operation.
- Option
  Blank: None
  P: Equipped with a signal pin

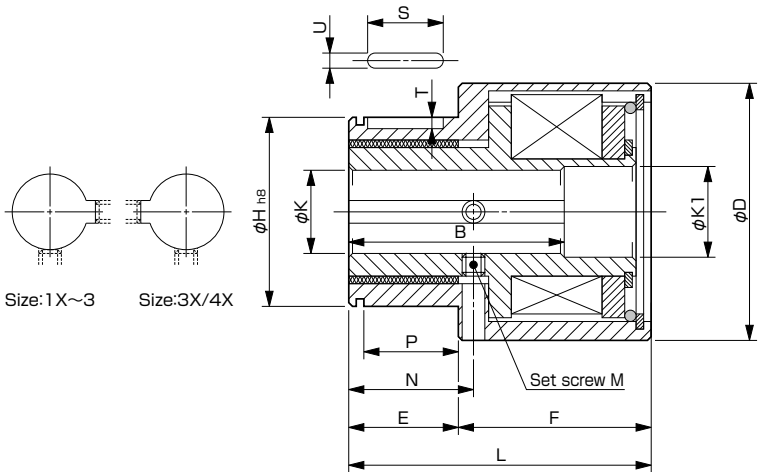
TT(03)Types

Specifications

Model	Size	Set torque value [N·m] (1500 min^{-1})									Max. rotation speed [min^{-1}]	Moment of inertia [kg·m^2]	Mass [kg]
TT-1X-03	1X	0.2	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	1800	0.09×10^{-3}	0.4
TT-2-03	2	1	2	3	4	5	6	7	8	10	1800	0.31×10^{-3}	0.8
TT-2X-03	2X	2	3	5	8	10	12	15	18	20	1800	0.66×10^{-3}	1.1
TT-3-03	3	5	8	10	15	20	25	30	35	40	1800	1.59×10^{-3}	1.7
TT-3X-03	3X	10	16	20	30	40	50	60	70	80	1800	2.43×10^{-3}	3.0
TT-4X-03	4X	20	30	50	80	100	120	150	180	200	500	15.8×10^{-3}	6.5

- The set torque values in the table above are those when the rotation speed is 1500 min^{-1}.
- Set torque values vary by ± 20%.
- If you need durability for the torque values in the ▭ area, select a larger size.

Dimensions

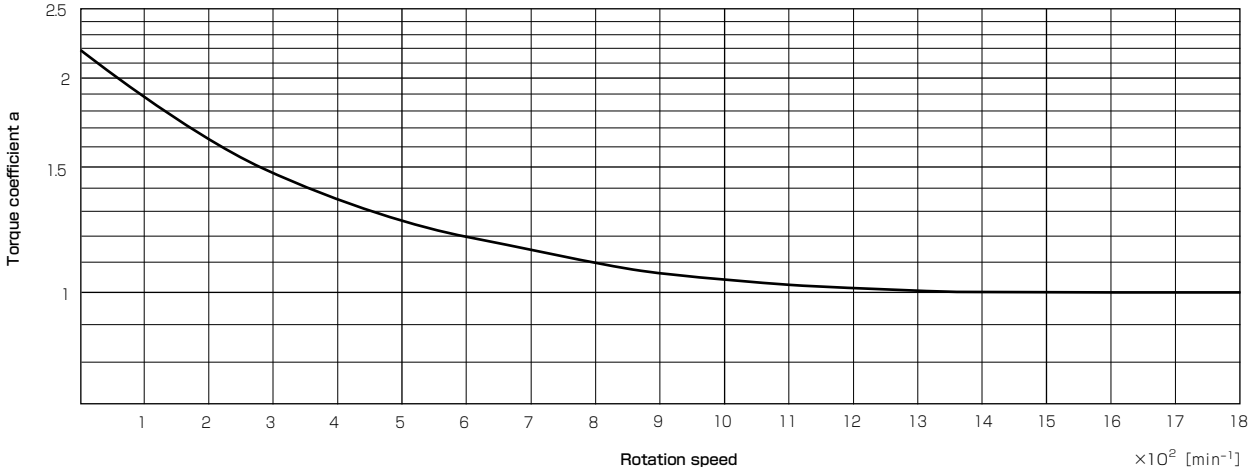


Unit [mm]

Size	K1	B	D	E	F	H	N	L	P	S	T	U	M
1X	12.5	34.5	42	20	35	30	25	55	16	14	2.5	4	2-M4
2	16.5	38.5	55	25	40	40	30	65	20	18	3	5	2-M5
2X	20.5	40.5	65	25	45	45	31	70	20	18	3	5	2-M5
3	25.5	52.5	75	35	55	60	45	90	30	28	4	7	2-M6
3X	25.5	75	75	35	90	60	45	125	30	28	4	7	2-M6
4X	46	100	120	50	90	85	57	140	45	40	4.5	12	2-M8

- The outer diameter key (old JIS class 2) and stop ring are included accessories.

Torque coefficient



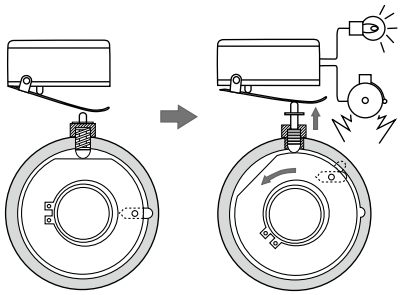
Standard Bore Diameter ø K

Model	Bore Drilling Standards	Nominal bore diameter	Standard bore diameter K [mm]																			
			8	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45
	Old JIS standards (E9)	Blank	●	●	●	●																	
TT-1X-03	JIS standards (H9)	H		●	●	●																	
	Motor standards	N																					
	Old JIS standards (E9)	Blank			●	●	●	●	●														
TT-2-03	JIS standards (H9)	H			●	●	●	●	●														
	Motor standards	N					●																
	Old JIS standards (E9)	Blank					●	●	●	●	●	●											
TT-2X-03	JIS standards (H9)	H					●	●	●	●	●												
	Motor standards	N					●				●												
	Old JIS standards (E9)	Blank								●	●	●	●	●	●								
TT-3-03	JIS standards (H9)	H								●	●	●	●	●	●								
	Motor standards	N									●			●									
	Old JIS standards (E9)	Blank								●	●	●	●	●	●								
TT-3X-03	JIS standards (H9)	H								●	●	●	●	●	●								
	Motor standards	N									●			●									
	Old JIS standards (E9)	Blank									●	●	●	●	●	●	●	●	●	●	●	●	●
TT-4X-03	JIS standards (H9)	H									●	●	●	●	●	●	●	●	●	●	●	●	●
	Motor standards	N									●			●		●				●		●	

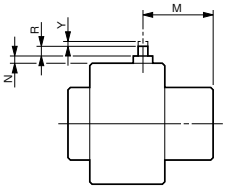
• There is no keyway for bore diameter ø8 mm.

Options Signal Pin

Unattended or remotely controlled machines and equipment require equipment that detects an overload and automatically switches off the power or sounds a warning alarm.
An overload can be detected by connecting the signal pin to the torque tender.
When an overload is detected, the input side and the output side are disconnected and the cam mechanism of the torque tender hub pushes the signal pin out in the radial direction. This can be used to switch off the power or sound a warning alarm.



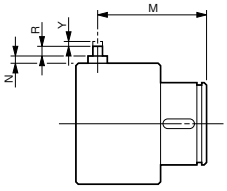
Dimensions (TT-□-01-□-P)



Unit [mm]

Size	M	Y	R	N
1X	24	1.5	6.5	5.5
2	29	2.5	5	4.5
2X	36	2.5	5	4.5
3	43	2.5	5	4.5
3X	42	2.5	5	4.5
4X	55	2.5	5	2

Dimensions (TT-□-03-□-P)



Unit [mm]

Size	M	Y	R	N
1X	47	1.5	6.5	5.5
2	56	2.5	5	4.5
2X	60	2.5	5	4.5
3	79	2.5	5	4.5
3X	114	2.5	5	4.5
4X	125	2.5	5	2

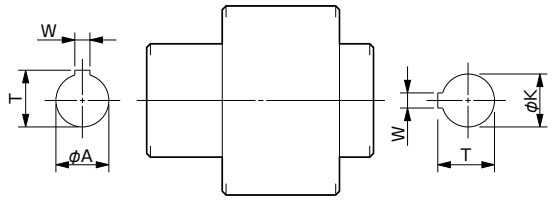
How to Place an Order

TT-2X-03-19H-10NM-P

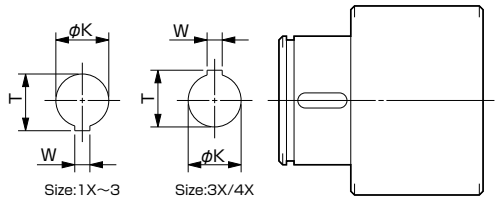
- Size: 2X
- Type: 03: Winding
- Hub bore diameter (øK): 19
- Bore specifications: H
  Blank: Compliant with the old JIS standards (class 2) (E9)
  H: Compliant with JIS standards (H9)
  N: Compliant with motor standards
- Set torque: 10NM
  *Contact Miki Pulley for assistance in changing the set torque for normal or reverse operation.
- Option: P
  Blank: None
  P: Equipped with a signal pin

Standard Hole-Drilling Standards

■ TT(01)



■ TT(03)



Unit [mm]

Models compliant with the old JIS standard (class 2) JIS B 1301 1959				Models compliant with the new JIS standard (H9) JIS B 1301 1996				Models compliant with the motor standard JIS C 4210 2001			
Nominal bore diameter	Bore diameter [øA/øK]	Keyway width [W]	Keyway height [T]	Nominal bore diameter	Bore diameter [øA/øK]	Keyway width [W]	Keyway height [T]	Nominal bore diameter	Bore diameter [øA/øK]	Keyway width [W]	Keyway height [T]
	Tolerance H7	Tolerance E9	—		Tolerance H7	Tolerance H9	—		Tolerance G7	Tolerance H9	—
8	8 $^{+0.015}_{0}$	—	—	—	—	—	—	—	—	—	—
10	10 $^{+0.015}_{0}$	4 $^{+0.050}_{+0.020}$	11.5 $^{0.5}_{0}$	10 H	10 $^{+0.015}_{0}$	4 $^{+0.030}_{0}$	11.8 $^{0.5}_{0}$	—	—	—	—
11	11 $^{+0.018}_{0}$	4 $^{+0.050}_{+0.020}$	12.5 $^{0.5}_{0}$	11 H	11 $^{+0.018}_{0}$	4 $^{+0.030}_{0}$	12.8 $^{0.5}_{0}$	—	—	—	—
12	12 $^{+0.018}_{0}$	4 $^{+0.050}_{+0.020}$	13.5 $^{0.5}_{0}$	12 H	12 $^{+0.018}_{0}$	4 $^{+0.030}_{0}$	13.8 $^{0.5}_{0}$	—	—	—	—
14	14 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	16.0 $^{0.5}_{0}$	14 H	14 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	16.3 $^{0.5}_{0}$	14 N	14 $^{+0.024}_{+0.006}$	5 $^{+0.030}_{0}$	16.0 $^{0.5}_{0}$
15	15 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	17.0 $^{0.5}_{0}$	15 H	15 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	17.3 $^{0.5}_{0}$	—	—	—	—
16	16 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	18.0 $^{0.5}_{0}$	16 H	16 $^{+0.018}_{0}$	5 $^{+0.030}_{0}$	18.3 $^{0.5}_{0}$	—	—	—	—
18	18 $^{+0.018}_{0}$	5 $^{+0.050}_{+0.020}$	20.0 $^{0.5}_{0}$	18 H	18 $^{+0.018}_{0}$	6 $^{+0.030}_{0}$	20.8 $^{0.5}_{0}$	—	—	—	—
19	19 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	21.0 $^{0.5}_{0}$	19 H	19 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	21.8 $^{0.5}_{0}$	19 N	19 $^{+0.028}_{+0.007}$	6 $^{+0.030}_{0}$	21.5 $^{0.5}_{0}$
20	20 $^{+0.021}_{0}$	5 $^{+0.050}_{+0.020}$	22.0 $^{0.5}_{0}$	20 H	20 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	22.8 $^{0.5}_{0}$	—	—	—	—
22	22 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	25.0 $^{0.5}_{0}$	22 H	22 $^{+0.021}_{0}$	6 $^{+0.030}_{0}$	24.8 $^{0.5}_{0}$	—	—	—	—
24	24 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	27.0 $^{0.5}_{0}$	24 H	24 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	27.3 $^{0.5}_{0}$	24 N	24 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	27.0 $^{0.5}_{0}$
25	25 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	28.0 $^{0.5}_{0}$	25 H	25 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	28.3 $^{0.5}_{0}$	—	—	—	—
28	28 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	31.0 $^{0.5}_{0}$	28 H	28 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	31.3 $^{0.5}_{0}$	28 N	28 $^{+0.028}_{+0.007}$	8 $^{+0.036}_{0}$	31.0 $^{0.5}_{0}$
30	30 $^{+0.021}_{0}$	7 $^{+0.061}_{+0.025}$	33.0 $^{0.5}_{0}$	30 H	30 $^{+0.021}_{0}$	8 $^{+0.036}_{0}$	33.3 $^{0.5}_{0}$	—	—	—	—
32	32 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	33.5 $^{0.5}_{0}$	32 H	32 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	35.3 $^{0.5}_{0}$	—	—	—	—
35	35 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	38.5 $^{0.5}_{0}$	35 H	35 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	38.3 $^{0.5}_{0}$	—	—	—	—
38	38 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	41.5 $^{0.5}_{0}$	38 H	38 $^{+0.025}_{0}$	10 $^{+0.036}_{0}$	41.3 $^{0.5}_{0}$	38 N	38 $^{+0.034}_{+0.009}$	10 $^{+0.036}_{0}$	41.0 $^{0.5}_{0}$
40	40 $^{+0.025}_{0}$	10 $^{+0.061}_{+0.025}$	43.5 $^{0.5}_{0}$	40 H	40 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	43.3 $^{0.5}_{0}$	—	—	—	—
42	42 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	45.5 $^{0.5}_{0}$	42 H	42 $^{+0.025}_{0}$	12 $^{+0.043}_{0}$	45.3 $^{0.5}_{0}$	42 N	42 $^{+0.034}_{+0.009}$	12 $^{+0.043}_{0}$	45.0 $^{0.5}_{0}$
45	45 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	48.5 $^{0.5}_{0}$	45 H	45 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	48.8 $^{0.5}_{0}$	—	—	—	—
48	48 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	51.5 $^{0.5}_{0}$	48 H	48 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	51.8 $^{0.5}_{0}$	48 N	48 $^{+0.034}_{+0.009}$	14 $^{+0.043}_{0}$	51.5 $^{0.5}_{0}$
50	50 $^{+0.025}_{0}$	12 $^{+0.075}_{+0.032}$	53.5 $^{0.5}_{0}$	50 H	50 $^{+0.025}_{0}$	14 $^{+0.043}_{0}$	53.8 $^{0.5}_{0}$	—	—	—	—

NOTE

- Set screws are included with the product.
- For standard bore drilling dimensions other than those specified, please contact Miki Pulley.

DMB Type

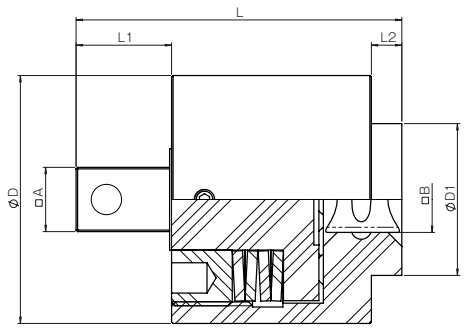
The DMB torque limiter is a factory torque set equipment, providing an over torque safety function without needing any maintenance during lifetime. In standard version it is designed with two connection for square drives in ⅜" and ½". As the DMB is a VMA developed and produced product the possibility for adaption on customer needs is very high. Special torque requirements as well as customized connections can be offered on request.

Specifications

Model	Torque min. [N·m]	Torque max. [N·m]	Drive A Square	Drive B Square	Mass [kg]
DMB-1	3	30	3/8"	3/8"	0.22
DMB-2	30	90	1/2"	1/2"	0.6

• Rotation speed depending on application. Contact Miki Pulley for assistance.

Dimensions



Unit [mm]

Model	A	B	L	L1	L2	ø D	ø D1
DMB-1	3/8"	3/8"	46	14	7	36	22
DMB-2	1/2"	1/2"	65	17.5	6	49	30

How to Place an Order

DMB-1-10NM
Size — Set torque

WORLD WIDE NETWORK

GROUP COMPANIES

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