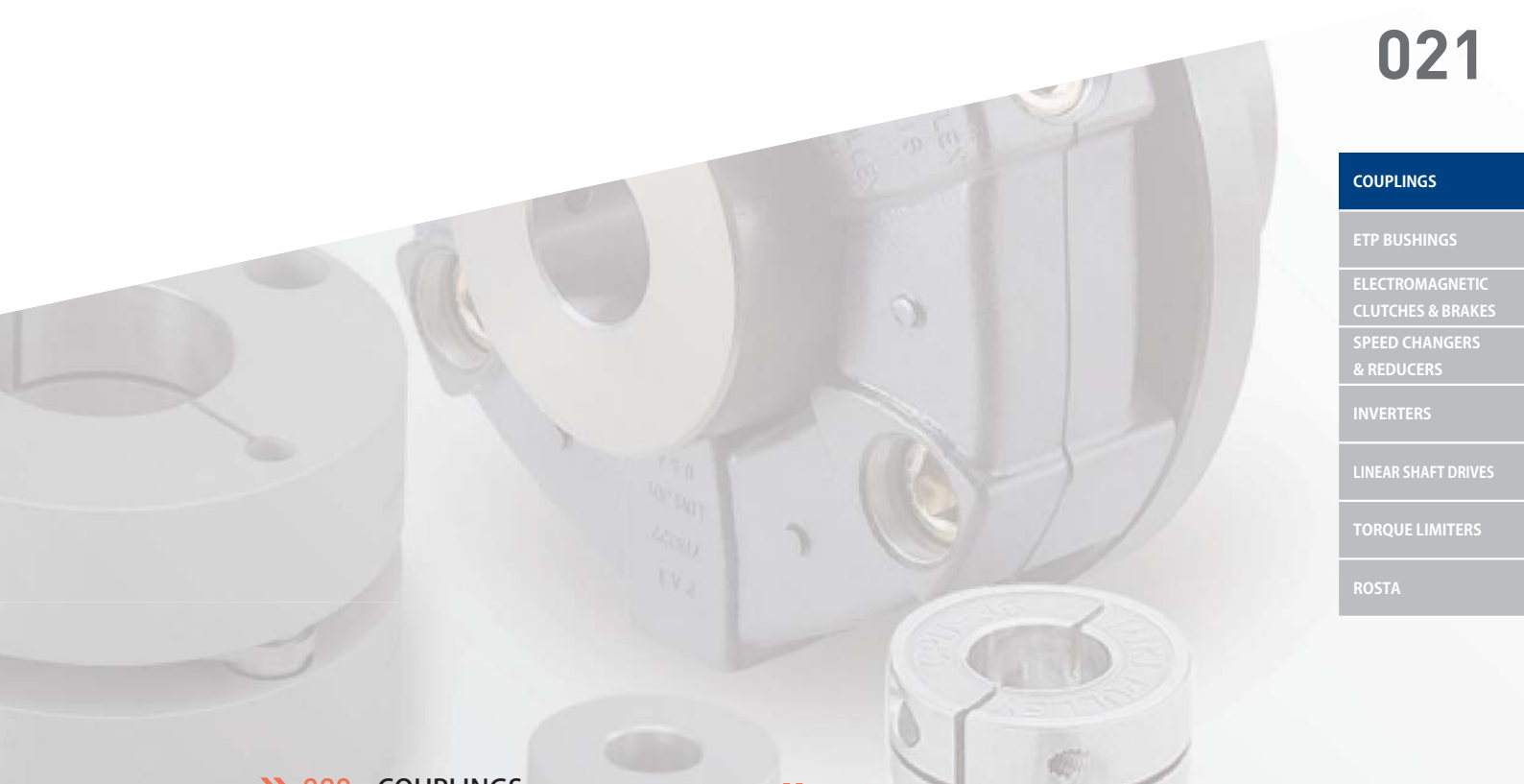
COUPLINGS

CONTENTS



Coupling Models

SERIES: SERVOFLEX

MODELS

SFC(SA2)

» P.034

SFC(DA2)

» P.036

SFS(S)

» P.046

SFS(W)

» P.048

SFS(G)

» P.050

SFF(SS)

» P.060

SFF(DS)

» P.064

SERIES: HELI-CAL

MODELS

HELI-CAL MINI /1441

» P.098

3000

» P.099

ARM

» P.100

ACRM

» P.100

DSR

» P.101

DSCR

» P.101

SERIES: STEPFLEX / MIKI PULLEY STARFLEX

MODELS

STF

» P.126

ALS(R) Key or Set Screw

» P.134

ALS(R) Clamp

» P.135

ALS(Y) Key or Set Screw

» P.136

ALS(Y) Clamp

» P.137

ALS(B) Key or Set Screw

» P.138

ALS(B) Clamp

» P.139

SERIES

SERVORIGID

SFM(SS)

» P.074

SFH(S)

» P.082

SRG

» P.093

SFM(SS)

» P.076

SFH(G)

» P.084

BAUMANNFLEX

ZG

» P.106

MM

» P.108

LM

» P.107

MF

» P.109

PARAFLEX

CPE

» P.113

CPU

» P.114

SCHMIDT

NSS

» P.117

DL

» P.122

SPRFLEX

AL

» P.147

BELLOWFLEX

CHP

» P.151

CENTAFLEX

CF-A

» P.160

CF-X

» P.176

CM

» P.186

CF-H

» P.172

CF-B

» P.182

Selection Guide

1 Select a type

Refer to the list of parts (p. 022), Select by Product Characteristics (p. 025), Select by Driver (p. 025), and Applications (p. 026) sections in order to select the best coupling for the application at hand.

2 Select a size

Select a size with a nominal torque (for SERVOFLEX, a rated torque) higher than the load torque. Make sure to also consider load conditions when making a selection.

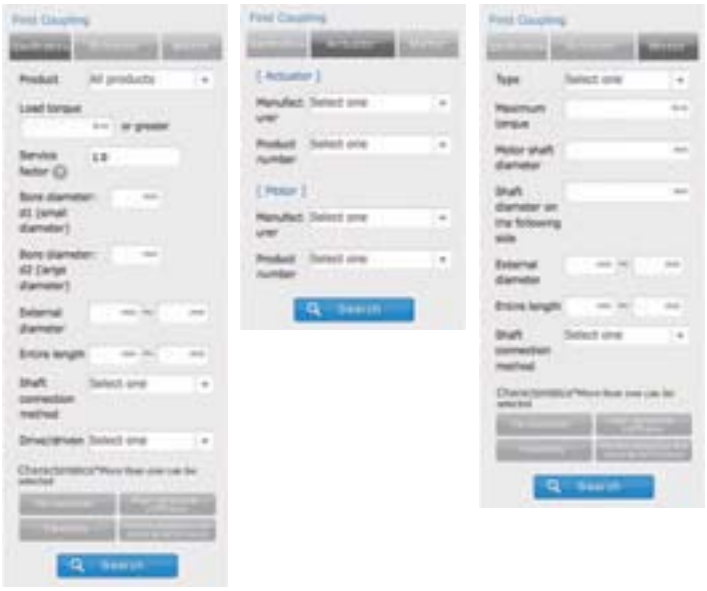
3 Check the max. bore diameter

When selecting a model, make sure to check that the mounting shaft diameter is smaller than the maximum bore diameter of the coupling.

4 Overview

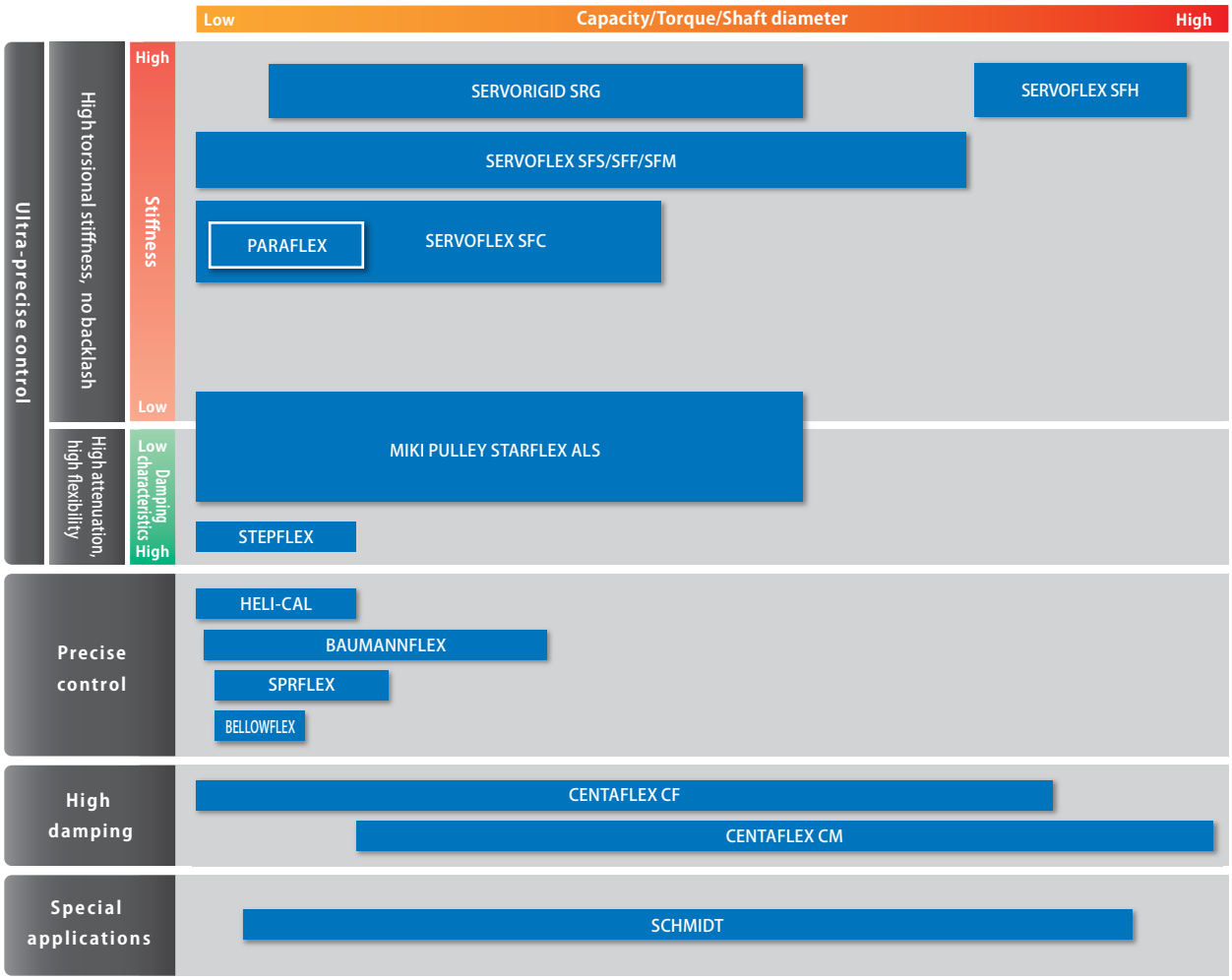
Once the model has been selected, check the rated torque, maximum rotation speed, dimensions, and other specifications again to confirm that they satisfy the usage conditions.

Quick Search

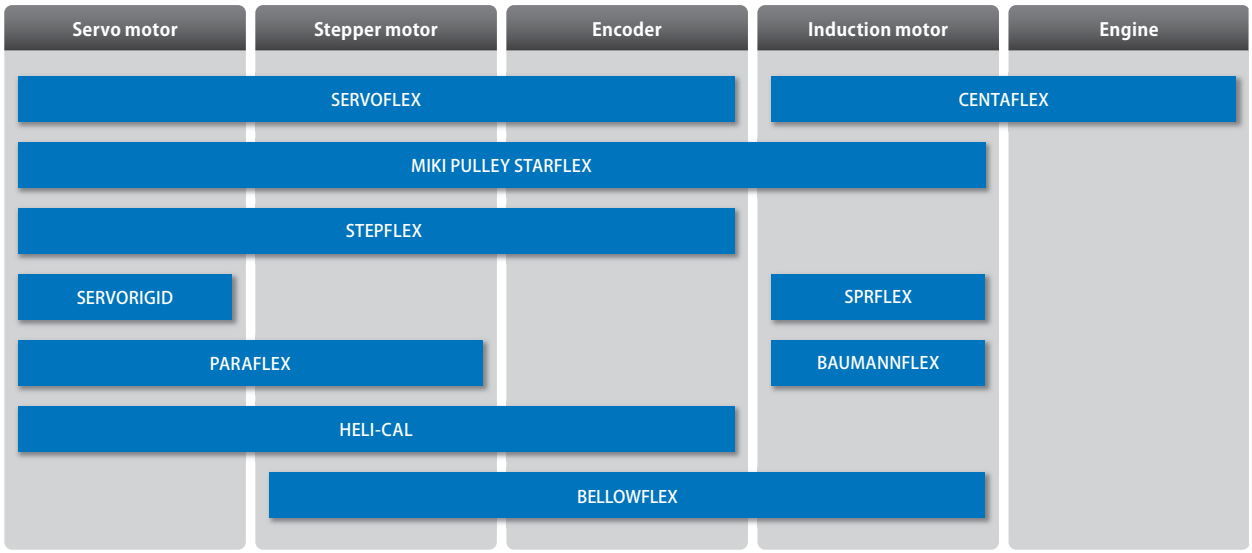


You can use the website quick search feature to narrow down your search for couplings.

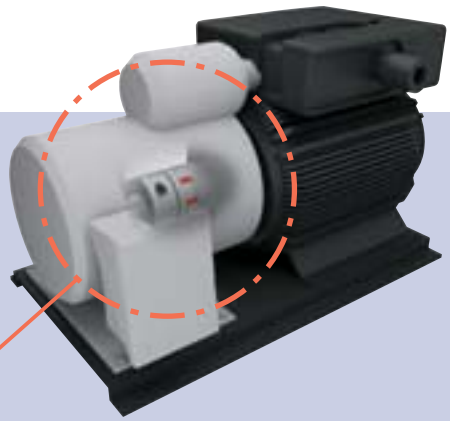
Select by Product Characteristics



Select by Drive

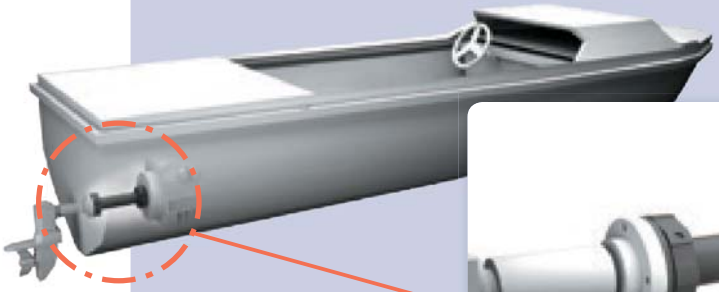


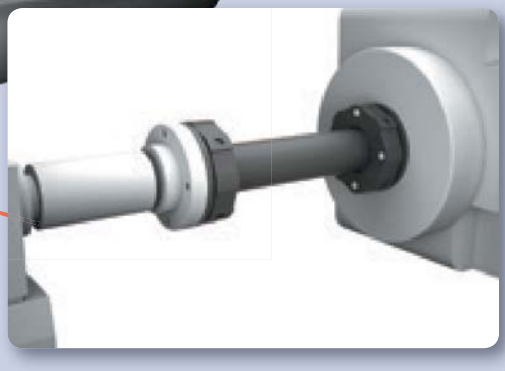
Applications



Product model ALS(R)
Employed device Vacuum Pump

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



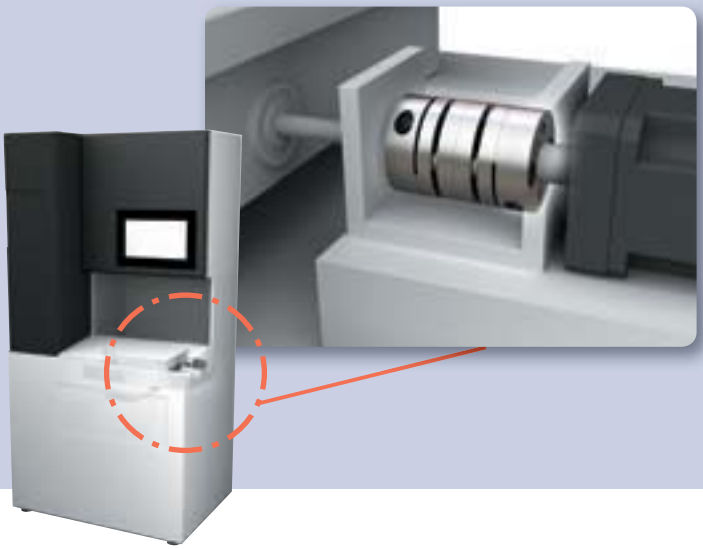


Product model CF-A(OZ)
Employed device Pleasure Boat

CENTAFLEX coupling and floating shaft (for high-speed rotation) are used to connect the engine and the propeller.

Product model SFC
Employed device Dicing Saw

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

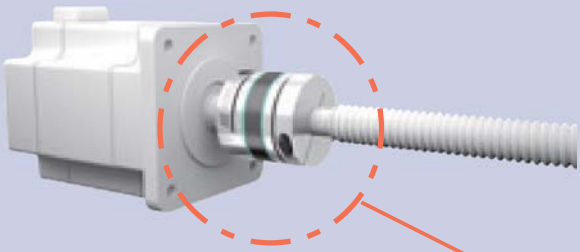


Ultra-high stiffness coupling SFF model for connecting the servo motor and feed shaft. The rated torque is higher than the conventional models, and the coupling size and the moment of inertia can be reduced.

Product model SFF
Employed device CNC Lathe

SERVOFLEX coupling for the head of a chip mounter.

Product model SFC
Employed device Chip Mounter



Product model STF
Employed device General-purpose Feed Shaft

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

Rubber and Plastic Couplings

CENTAFLEX

High flexibility | High damping | For high output | For special-order specific length couplings | Long service life | Wide range of variations

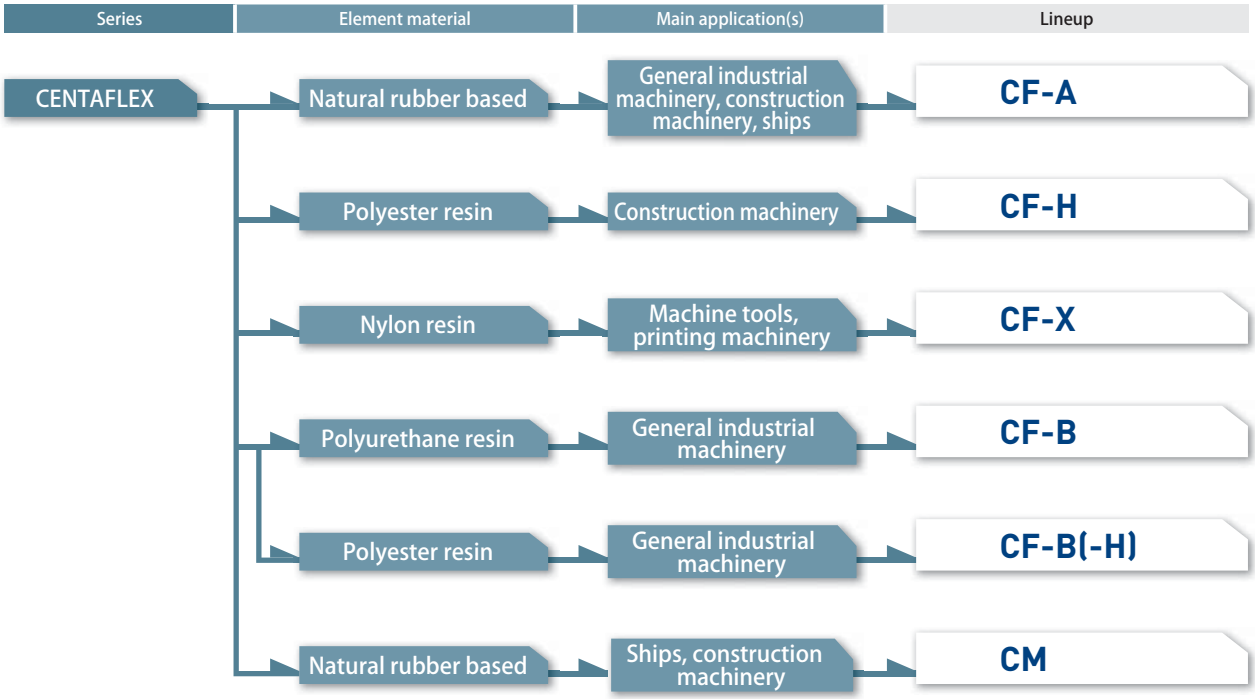
Drive	Engines, induction motors
Applications	Construction machinery, agricultural machinery, ships, generators, special rolling stock, machine tools, testing machinery, wind turbin generator

Couplings Allow a Large Mounting Misalignment and Rapidly Absorb Vibration and Shock

These couplings use rubber or plastic in their power transmission elements. They reduce or absorb shock and vibration using the elasticity of those transmission elements. Their advantages include high flexibility, low noise, easy maintenance (because they do not require lubrication), simple construction, and long service life.

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

Available Models



Model Selection

Model/ Type	Nominal torque [N·m]	Element material	Oil-proof	Misalignment			Operating temperature [℃]	Torsion at rated torque[°]	Outer diameter [mm]	Max. shaft dia. [mm]	Max. nominal torque [N·m]
				Parallel	Angular	Axial					
CF-A	10 ～ 5000	Natural rubber based (NR)	×	●	●	●	−30 ～ 95	3 ～ 6	56 ～ 370	130	5000
CF-H	100 ～ 2500	Polyester resin	●	○	△	●	−40 ～ 120	0.2 ～ 0.3	125 ～ 330	120	2500
CF-X	15 ～ 370	Nylon resin	●	△	△	○	−30 ～ 90	0.12	57 ～ 175	65	370
CF-B	30 ～ 1000	Polyure-thane resin	●	●	○	○	−40 ～ 80	2.5	72 ～ 187	80	1000
CF-B(-H)	45 ～ 1400	Polyester resin	●	●	○	○	−40 ～ 120	4	72 ～ 187	80	1400
CM	700 ～ 18000	Natural rubber based (NR)	×	◎	△	●	−30 ～ 80	12	314.3 ～ 733.4	175	18000

* Symbols in the table indicate compatibility in five levels. The symbols are, highest compatibility to lowest, ●◎○△×. (Higher compatibility ← ●◎○△× → Lower compatibility)

Product Lineup

CF-A

Applications: Construction machinery, ships, generators, compressors

Excellent Durability and Vibration/Shock Absorbance

Heat resistant rubber and pre-compressed construction were used to provide excellent durability and vibration/shock absorbance. Machinery noise is also reduced.

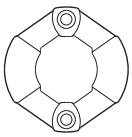
Two Ways to Mount

These couplings can be mounted on the shaft using bolts (O0) or by insertion (S0). Select the method that works best for your maintenance and mounting/removal circumstances. Both are easy to center.

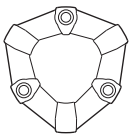
Specific Lengths Can be Ordered

Specific lengths can be ordered for the OG and OZ types. Select either low speed (OG) or high speed (OZ) types.

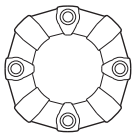
Shaped by Size



Size 001, 002



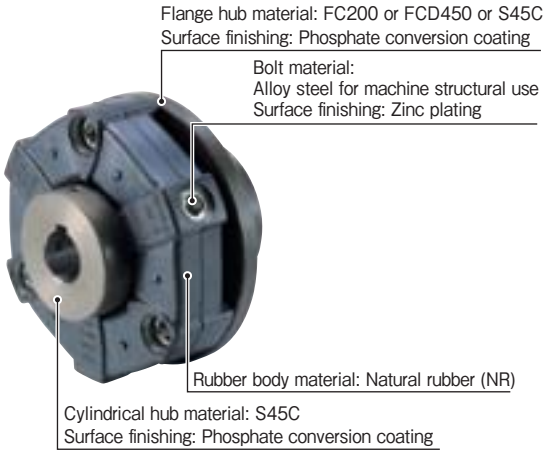
Size 004, 008, 016
025, 030, 090



Size 012, 022, 028, 050
080, 140, 200, 250,400

Max. nominal torque	[N·m]	5000
Pilot bore/added work ranges	[mm]	ϕ 9 ~ 130
Operating temperature	[℃]	− 30 ~ 95
Backlash		Zero

Materials Used for Main Parts

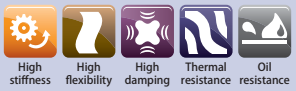


Component Construction by Type

Type	Structural components				
	Rubber body	Spring pin	Bolt	Cylindrical hub	Flange hub
O0 • S0	●				
OP • SP	●	●			
OB • SB	●		●		
OC • SC	●	●	●		
O1 • S1	●	●	●	●	
O2 • S2	●	●	●	●	●

CF-H

Applications: Construction machinery



Excellent Environmental Resistance

In addition to absorbing vibration and shock, they have excellent resistance to cold, heat, and oil, enabling their use in punishing environments.

High Durability

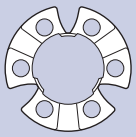
A clamping hub is available (made to order) that fully locks the cylindrical hub to the spline shaft to eliminate fretting wear.

Easy to Maintain

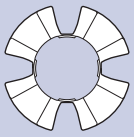
Input and output can be coupled or separated easily by simply moving the coupling in the axial, facilitating maintenance.

Shaped by Size

Size 008, 016



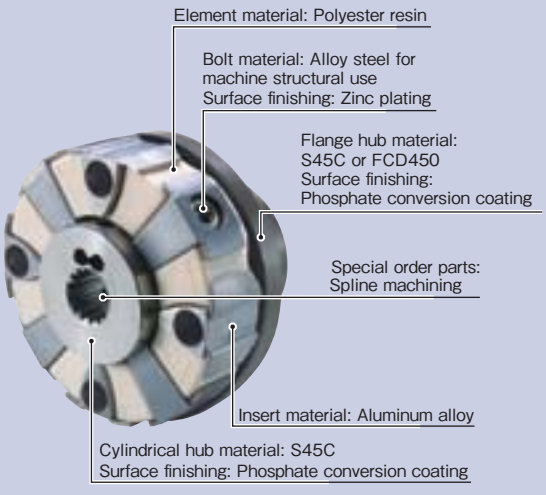
Size 030



Size 040, 050, 090
110, 160, 240

Max. nominal torque	[N·m]	2500
Pilot bore/added work ranges	[mm]	ϕ 13 ~ 120
Operating temperature	[℃]	− 40 ~ 120
Backlash		Yes

Materials Used for Main Parts

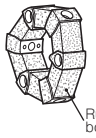


Component Construction by Type

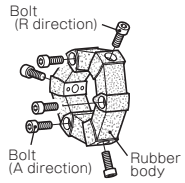
Type	Structural components					
	Element	Aluminum insert	Spring pin	Bolt	Cylindrical hub	Flange hub
O0	●	●				
OP	●	●	●			
OB	●	●		●		
OC	●	●	●	●		
O1	●	●	●	●	●	
O2	●	●	●	●	●	●

O Bolt Mounted Types

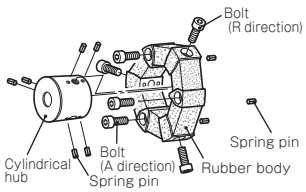
O0 type



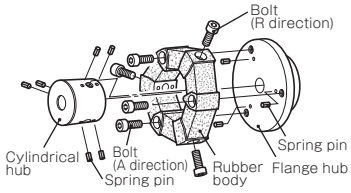
OB type



O1 type

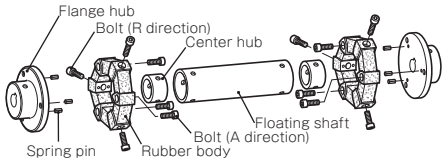


O2 type



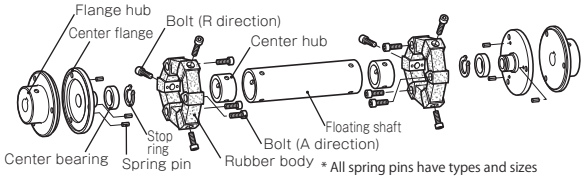
OG type

■ For Low Rotation Speeds



OZ type

■ For High Rotation Speeds

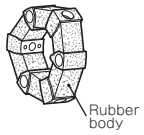


* All spring pins have types and sizes on which they are not used.

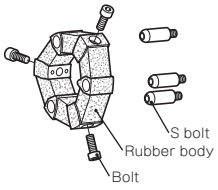
* The OP type is the O0 type with a spring pin. * The OC type is the OB type with a spring pin.

S Insertion-Mounted Types

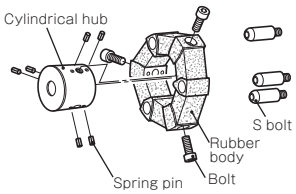
S0 type



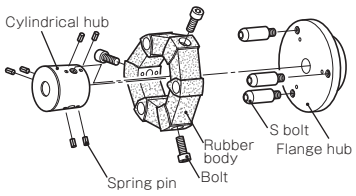
SB type



S1 type



S2 type

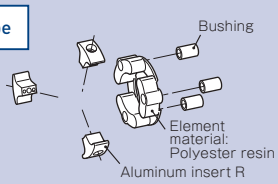


* The SP type is the S0 type with a spring pin. * The SC type is the SB type with a spring pin.

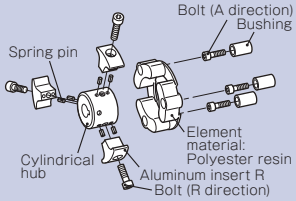
O Bolt Mounted Types

Size 008, 016

O0 type

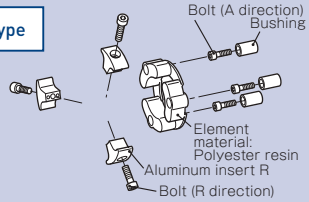


O1 type

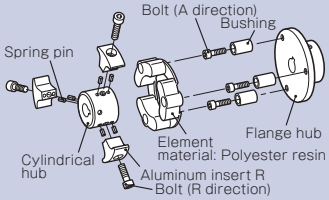


* There is no spring pin for size 008.

OB type



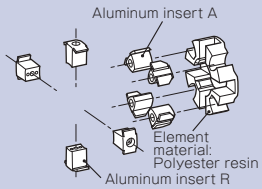
O2 type



* There is no spring pin for size 008.

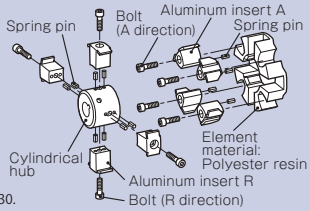
Size 030 to 240

O0 type



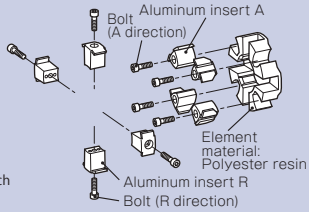
*There are three of each bolt for size 030.

O1 type



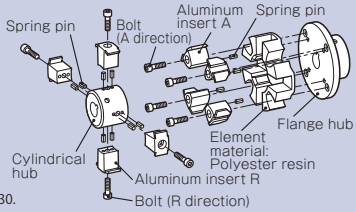
* There are three of each bolt for size 030.

OB type



* There are three of each bolt for size 030.

O2 type

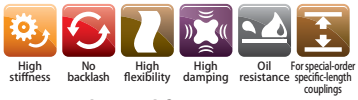


* There are three of each bolt for size 030.

* The OP type is the O0 type with a spring pin. * The OC type is the OB type with a spring pin.

Product Lineup

CF-X



Applications: Machine tools, printing machines, compressors

High Torsional Stiffness, High Strength

They have very high torsional stiffness for rubber/plastic couplings, as well as no backlash in constant-speed operation. They absorb vibration and shock while delivering accurate power transmission.

Specific Lengths Can be Ordered

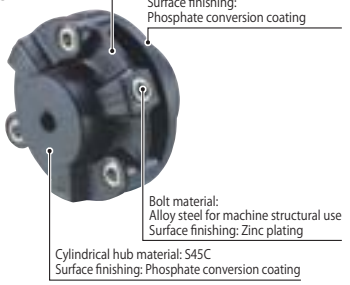
The OG types allow specific lengths to be specified, and they can be removed without moving machinery.

Two Types of Hubs

Cylindrical hubs and flange hubs can be selected with the key/set screw system or the clamp system.

Max. nominal torque	[N·m]	370
Pilot bore/added work ranges	[mm]	ϕ 9 ~ 65
Operating temperature	[℃]	−30 ~ 90
Backlash		Zero

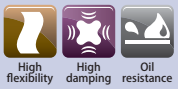
Materials Used for Main Parts



Component Construction by Type

Type	Structural components			
	Element	Bolt	Cylindrical hub	Flange hub
00	●			
0B	●	●		
01	●	●	●	
02	●	●	●	●

CF-B



Applications: Electric pumps, general industrial machinery

Excellent Vibration/Shock Absorbance

Excellent at absorbing shock and vibration and also reduces machinery noise.

Easy to Maintain

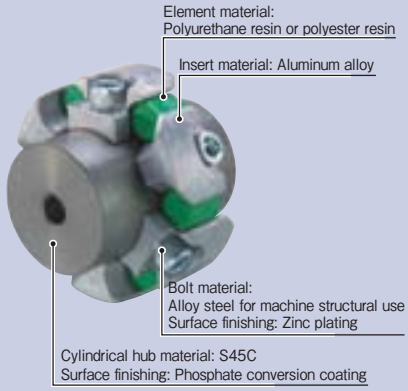
The simple design sandwiches the element between two hubs, facilitating mounting and removal.

Two Types of Elements

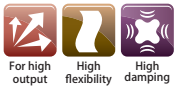
Elements with differing characteristics are available. Select CF-B couplings to emphasize flexibility or CF-B-H couplings to emphasize torsional stiffness.

Max. nominal torque	[N·m]	1400
Pilot bore/added work ranges	[mm]	ϕ 10 ~ 80
Operating temperature	[℃]	CF-B: -40 - 80 CF-B-H: -40 - 120
Backlash		Insignificant

Materials Used for Main Parts



CM Made to order



Applications: Ships, construction machinery, generators, compressors

Excellent Vibration/Shock Absorbance

These are very soft in the torsional direction and excellent at absorbing shock and vibration.

Easy to Mount and Remove

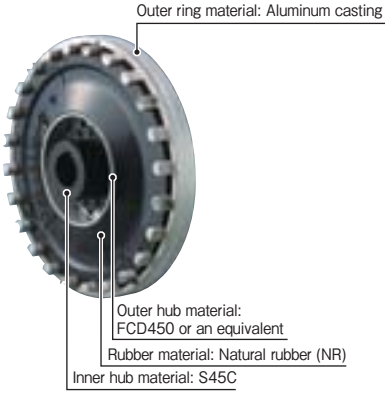
Input and output can be coupled or separated easily by simply moving the coupling in the axial, and these couplings can be mounted directly onto engine flywheels that conform to SAE standard J620.

Excellent Durability

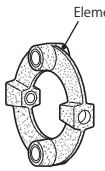
Two types of rubber with different transmission torques and hardnesses are available. They boast superior durability and require virtually no maintenance.

Max. nominal torque	[N·m]	18000
Pilot bore/added work ranges	[mm]	ϕ 19 ~ 175
Operating temperature	[℃]	−30 ~ 80
Backlash		Yes

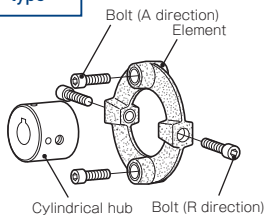
Materials Used for Main Parts



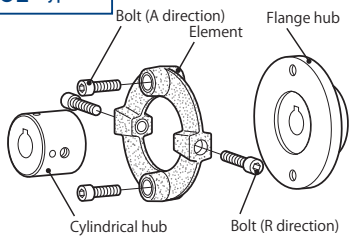
O0 type



O1 type

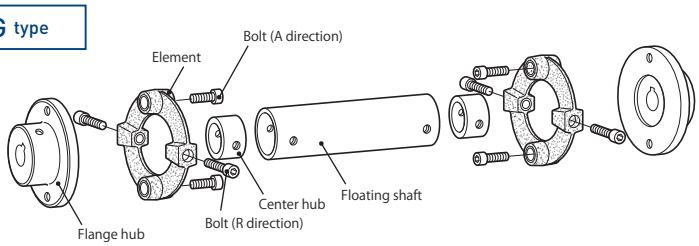


O2 type

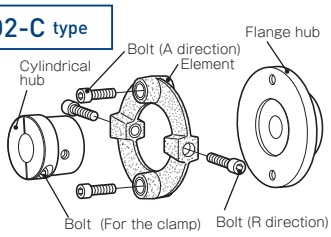


* The OB type is the O0 type with a bolt.

OG type



O2-C type



Clamp system, made to order

CF-B

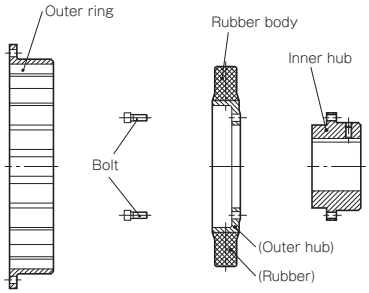
Polyurethane resin used for elements. These can transmit power smoothly even when the two shafts get off center.

CF-B(-H)

Polyester resin used for elements. These have double the torsional stiffness of polyurethane resins. They excel in resisting heat and cold.

Structural Components

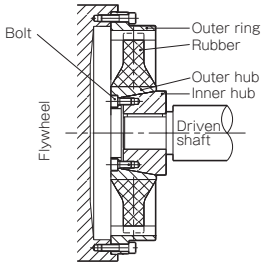
The rubber body is composed of rubber and an outer hub that are fully attached by vulcanizing adhesion.



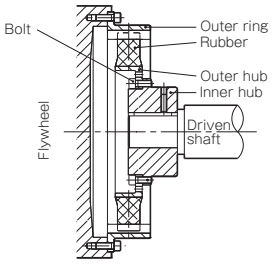
Component Construction by Type

Type	Structural components			
	Rubber body	Outer ring	Bolt	Inner hub
O0	●			
S0	●	●		
SB	●	●	●	
S1	●	●	●	●

Size
800 ~ 2400



Size
2800 ~ 18000



Product Lineup (for Ships)

The line-up of CENTAFLEX couplings includes products for generators and main and auxiliary ship engines.

CENTAX L Types

These are types that combine a high-elasticity CENTAX coupling with a center link. They are optimal for high-speed ferries, passenger boats, tugboats and the like that place engines on flexible mounts.

CENTAX G Types

These are types that combine a high-elasticity CENTAX coupling with a membrane. The membrane system can absorb ample mounting misalignment whether the engine has a rigid mount or flexible mount.

CENTAX B Types

These are simply constructed types that combine a high-elasticity CENTAX coupling with a pin/bushing system. They are ideal for flange-mounted large engine generators.

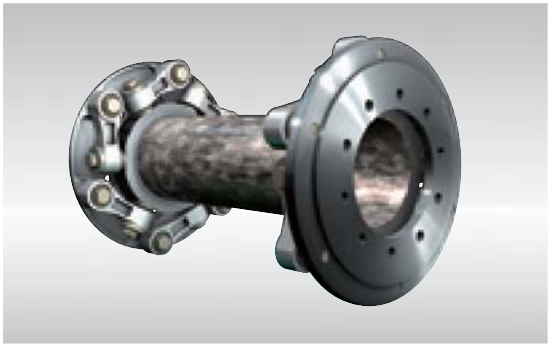
CENTAMAX

They come in a standard type for flange mounting and a no-backlash type for base mounting. They are optimal for medium-sized engine compressors and generators.

CENTAFLEX R Types

These are rubber roller couplings for small main ship engines. They are supple in the torsional direction at low torques and shift the resonance point below the idle RPM. These are optimal for small fishing boats, stern drives, and the like.

CENTALINK Carbon Drive Shaft



The drive shaft is made of carbon fiber. These are optimal for high-speed ferry and tugboat propulsion shafts and for wind power generation. Total shaft systems can be designed that include a center link coupling, bearings, bulkhead seals, and the like.

FAQ

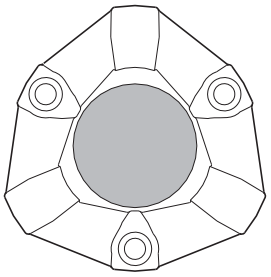
Q1 Resonance occurs on equipment that is driven by diesel engines. What can I do about it?

A If you are using an internal combustion engine (diesel engine, etc.) as your drive source, torsional resonance will occur when the natural frequency in the rotation direction of the torque transmission system as a whole coincides with the variable period of the rotational torque generated by the engine (vibration frequency dependent on rotational speed). Since occurrence of torsional resonance can damage couplings or shorten their service life significantly, it is necessary to avoid resonance points that can affect them. In general, with models with low torsional stiffness that use natural rubber-based elements, such as the CF-A and CM, the resonant rotation speed tends to be lower than low idle, while on models with high torsional stiffness such as the CF-H, it tends to be in a speed range that is higher than high idle. Any resonance point that may exist in the range of rotation speeds at which the engine is used can be shifted away from that range by changing the torsional stiffness of the coupling (accomplished by changing the type and size of coupling, the shore hardness, or the like).

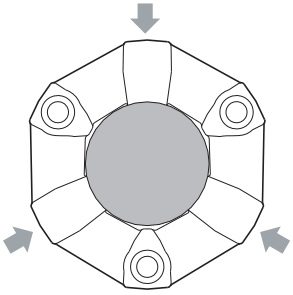
Q2 What does the "pre-compressed construction" of CF-A models refer to?

A It is a characteristic of rubber that its service life is longer when it is compressed rather than extended during use. It also has a longer life, even when compressed, if force is only applied to it after it has been somewhat compressed. This somewhat-compressed state is called pre-compression.
CF-A models are assembled with pre-compression applied to the rubber body. The compressed portion has longer life, and even the pulled portion will not go into an extended state if the torque on it does not exceed a certain level, so a longer overall life is achieved.

■ Before compression



■ After compression

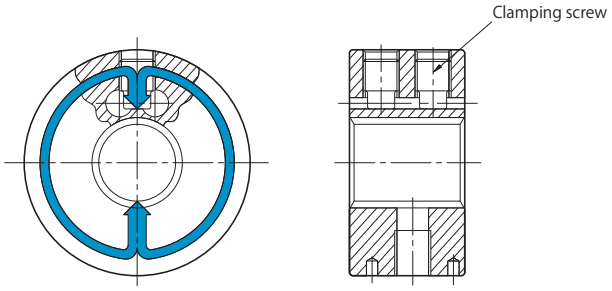


Q3 Do rubber couplings have heat and maintenance issues?

A When natural rubber is heated, it loses its surface oil, decreasing its elasticity and hardening it. While the progress of that hardening will vary with the temperature, when a CF-A coupling used inside an engine housing is subjected to heat, the rubber body surface hardens, so that when torque is applied to that part of it, cracks can start in the hardened layer, damaging it. As a maintenance guide, we recommend replacing the coupling when rubber hardness increases about 15 Hs from the pre-use level.

Q4 What is CENTA-LOCK?

A Hubs can be mounted on shafts using a CENTA-LOCK mechanism. Tightening the clamping screw changes the shape of the spline part of the clamping hub, pressing it against the spline part of the shaft and completely locking the hub to the spline shaft. While size also matters, when the clamping screw is tightened to the stipulated torque, about one ton of axial holding force is generated per clamping screw. This means that under normal conditions of use, they are locked to a degree that you never have to think about.



Center lock mechanism on the clamping hub

CF-A(00/01/02) Types Bolt-mounted Type

Specifications

Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-00-1360	10	25	±4	0.5	3	±2	10000	1.47×10^2	2.5×10^{-5}	0.08
CF-A-002-00-1360	20	50	±8	1.0	3	±3	8000	2.92×10^2	1.3×10^{-4}	0.2
CF-A-004-00-1360	40	100	±16	1.0	3	±3	7000	7.59×10^2	2.8×10^{-4}	0.2
CF-A-008-00-1360	80	200	±32	1.0	3	±4	6500	1.44×10^3	7.6×10^{-4}	0.3
CF-A-012-00-1360	120	300	±48	1.0	2	±4	6500	4.38×10^3	8.3×10^{-4}	0.3
CF-A-016-00-1360	160	400	±64	1.5	3	±5	6000	3.28×10^3	2.5×10^{-3}	0.7
CF-A-022-00-1360	220	550	±88	1.5	2	±5	6000	8.26×10^3	2.7×10^{-3}	0.7
CF-A-025-00-1360	250	630	±100	1.5	3	±5	5000	4.12×10^3	4.2×10^{-3}	0.8
CF-A-028-00-1360	350	880	±140	1.5	2	±5	5000	1.05×10^4	4.6×10^{-3}	1.0
CF-A-030-00-1360	400	1000	±160	1.5	3	±5	4000	6.40×10^3	1.1×10^{-2}	1.5
CF-A-050-00-1360	600	1500	±240	1.5	2	±5	4000	1.48×10^4	1.2×10^{-2}	1.7
CF-A-080-00-1360	800	2000	±320	1.5	2	±4	4000	2.17×10^4	1.5×10^{-2}	2.3
CF-A-090-00-1360	900	2250	±360	1.5	3	±5	3600	1.37×10^4	3.8×10^{-2}	3.2
CF-A-140-00-1360	1400	3500	±560	1.5	2	±5	3600	2.90×10^4	4.2×10^{-2}	3.7
CF-A-200-00-1360	2000	5000	±800	1.5	2	±5	3200	6.08×10^4	7.8×10^{-2}	5.5
CF-A-250-00-1360	3000	8750	±1250	1.5	2	±5	3000	8.28×10^4	0.14	7.8
CF-A-400-00-1360	5000	12500	±2000	1.5	2	±5	2800	1.25×10^5	0.24	11.5

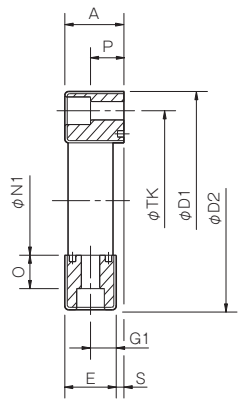
Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-01-1360	10	25	±4	0.5	3	±2	10000	1.47×10^2	5.8×10^{-5}	0.3
CF-A-002-01-1360	20	50	±8	1.0	3	±3	8000	2.92×10^2	2.5×10^{-4}	0.5
CF-A-004-01-1360	40	100	±16	1.0	3	±3	7000	7.59×10^2	5.4×10^{-4}	0.6
CF-A-008-01-1360	80	200	±32	1.0	3	±4	6500	1.44×10^3	1.6×10^{-3}	1.3
CF-A-012-01-1360	120	300	±48	1.0	2	±4	6500	4.38×10^3	1.8×10^{-3}	1.3
CF-A-016-01-1360	160	400	±64	1.5	3	±5	6000	3.28×10^3	4.3×10^{-3}	2.3
CF-A-022-01-1360	220	550	±88	1.5	2	±5	6000	8.26×10^3	4.8×10^{-3}	2.4
CF-A-025-01-1360	250	630	±100	1.5	3	±5	5000	4.12×10^3	8.5×10^{-3}	3.6
CF-A-028-01-1360	350	880	±140	1.5	2	±5	5000	1.05×10^4	9.6×10^{-3}	3.8
CF-A-030-01-1360	400	1000	±160	1.5	3	±5	4000	6.40×10^3	2.1×10^{-2}	6.0
CF-A-050-01-1360	600	1500	±240	1.5	2	±5	4000	1.48×10^4	2.3×10^{-2}	6.3
CF-A-080-01-1360	800	2000	±320	1.5	2	±4	4000	2.17×10^4	2.6×10^{-2}	7.6
CF-A-090-01-1360	900	2250	±360	1.5	3	±5	3600	1.37×10^4	6.7×10^{-2}	11.8
CF-A-140-01-1360	1400	3500	±560	1.5	2	±5	3600	2.90×10^4	7.4×10^{-2}	12.6
CF-A-200-01-1360	2000	5000	±800	1.5	2	±5	3200	6.08×10^4	0.14	17.8
CF-A-250-01-1360	3000	8750	±1250	1.5	2	±5	3000	8.28×10^4	0.24	24.5
CF-A-400-01-1360	5000	12500	±2000	1.5	2	±5	2800	1.25×10^5	0.44	37.6

Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-02-1360	10	25	±4	0.5	3	±2	10000	1.47×10^2	1.3×10^{-4}	0.5
CF-A-002-02-1360	20	50	±8	1.0	3	±3	8000	2.92×10^2	6.3×10^{-4}	1.1
CF-A-004-02-1360	40	100	±16	1.0	3	±3	7000	7.59×10^2	1.3×10^{-3}	1.5
CF-A-008-02-1360	80	200	±32	1.0	3	±4	6500	1.44×10^3	3.7×10^{-3}	3.0
CF-A-012-02-1360	120	300	±48	1.0	2	±4	6500	4.38×10^3	3.9×10^{-3}	3.1
CF-A-016-02-1360	160	400	±64	1.5	3	±5	6000	3.28×10^3	1.1×10^{-2}	5.5
CF-A-022-02-1360	220	550	±88	1.5	2	±5	6000	8.26×10^3	1.1×10^{-2}	5.6
CF-A-025-02-1360	250	630	±100	1.5	3	±5	5000	4.12×10^3	2.1×10^{-2}	8.5
CF-A-028-02-1360	350	880	±140	1.5	2	±5	5000	1.05×10^4	2.2×10^{-2}	8.7
CF-A-030-02-1360	400	1000	±160	1.5	3	±5	4000	6.40×10^3	4.7×10^{-2}	13.8
CF-A-050-02-1360	600	1500	±240	1.5	2	±5	4000	1.48×10^4	5.0×10^{-2}	14.2
CF-A-080-02-1360	800	2000	±320	1.5	2	±4	4000	2.17×10^4	5.4×10^{-2}	15.5
CF-A-090-02-1360	900	2250	±360	1.5	3	±5	3600	1.37×10^4	0.15	26.1
CF-A-140-02-1360	1400	3500	±560	1.5	2	±5	3600	2.90×10^4	0.16	26.8
CF-A-200-02-1360	2000	5000	±800	1.5	2	±5	3200	6.08×10^4	0.30	39.4
CF-A-250-02-1360	3000	8750	±1250	1.5	2	±5	3000	8.28×10^4	0.50	52.3
CF-A-400-02-1360	5000	12500	±2000	1.5	2	±5	2800	1.25×10^5	0.97	85.0

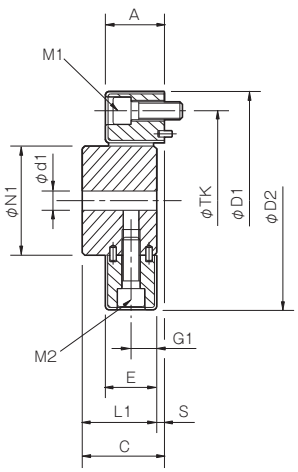
* Max. rotation speed does not take into account dynamic balance.
* The dynamic torsional stiffness is about 1.3 times that of the static torsional stiffness.
* Values for moment of inertia and mass are those when the cylindrical hub and flange hub have pilot bores.

Dimensions

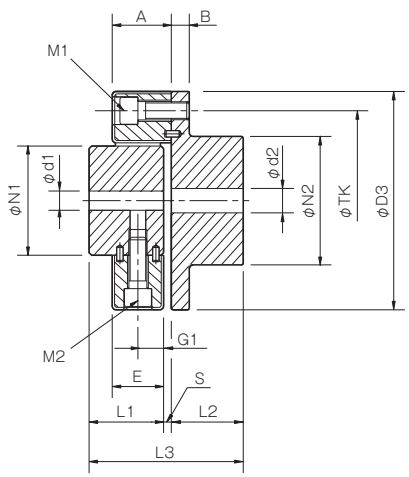
■ CF-A(O0)

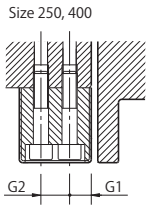


■ CF-A(O1)



■ CF-A(O2)





Unit [mm]

Model	d1			d2			D1	D2	D3	N1	N2	L1	L2	L3	A	B	C	E	G1	G2	O	P	S	TK	M1	M2
	Pilot bore	Min.	Max.	Pilot bore	Min.	Max.																				
CF-A-001	8	9	19	8	9	22	57	56	56	30	36	32	24	58	24	7	34	22	11	—	5	18	2	44	2-M6	2-M6
CF-A-002	10	11	28	9	10	30	86	85	85	40	45	30	28	62	24	8	34	20	10	—	14	12	4	68	2-M8	2-M8
CF-A-004	12	14	30	11	12	36	100	97	100	45	55	34	30	68	28	8	38	24	12	—	18.3	17	4	80	3-M8	3-M8
CF-A-008	12	14	38	15	16	46	122	120	120	60	70	40	42	86	32	10	44	28	14	—	20.5	20.5	4	100	3-M10	3-M10
CF-A-012	12	14	38	15	16	46	122	120	120	60	70	40	42	86	32	10	44	28	14	—	20.5	20.5	4	100	4-M10	4-M10
CF-A-016	15	16	48	19	20	56	150	150	150	70	85	52	50	108	42	12	58	36	18	—	25	23.5	6	125	3-M12	3-M12
CF-A-022	15	16	48	19	20	56	150	150	150	70	85	52	50	108	42	12	58	36	18	—	25	23.5	6	125	4-M12	4-M12
CF-A-025	15	16	55	19	20	65	170	170	170	85	100	58	56	120	46	14	64	40	20	—	26	26	6	140	3-M14	3-M14
CF-A-028	15	16	55	19	20	65	170	170	170	85	100	58	56	120	46	14	64	40	20	—	26	26	6	140	4-M14	4-M14
CF-A-030	20	22	65	28	30	80	200	200	200	100	120	68	66	142	58	16	76	50	25	—	33	34.5	8	165	3-M16	3-M16
CF-A-050	20	22	65	28	30	80	200	200	200	100	120	68	66	142	58	16	76	50	25	—	33	34.5	8	165	4-M16	4-M16
CF-A-080	20	22	65	28	30	80	205	205	200	100	120	80	66	150	65	16	84	61	30.5	—	33	34.5	4	165	4-M16	4-M16
CF-A-090	30	32	85	30	32	95	260	260	260	125	140	84	80	172	70	19	92	62	31	—	46	45	8	215	3-M20	3-M20
CF-A-140	30	32	85	30	32	95	260	260	260	125	140	84	80	172	70	19	92	62	31	—	46	45	8	215	4-M20	4-M20
CF-A-200	35	38	105	35	38	110	300	300	300	145	160	94	90	192	80	19	102	72	36	—	46	45	8	250	4-M20	4-M20
CF-A-250	40	42	115	40	42	120	340	340	340	160	180	100	100	208	85	19	108	77	22.5	32	60	60	8	280	4-M20	8-M20
CF-A-400	40	42	115	40	42	130	370	370	370	170	200	125	125	260	105	29	135	95	28.5	38	70.5	67	10	300	4-M24	8-M20

* Pilot bores are to be drilled into the part. Minimum values for d1 and d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximum allowable drilled bore diameters.
* The above table values are dimensions when the rubber body is assembled, so the N1, TK, D1, and D2 dimensions prior to rubber body assembly will differ from those above.
* The TK dimension is the bolt mounting pitch diameter of the flange hub or paired mounting part.
* The nominal diameters for bolts M1/M2 are equal to the quantity minus the nominal diameter of the screw threads.
* Using a hex-socket-head bolt with the CF-A-400 requires the special flat washer attached to the rubber body.

How to Place an Order

CF-A-001-O2-1360 12H-14N

- Size
- Type
  - O0: Rubber body only
  - OB: O0 and bolts
  - O1: OC and cylindrical hub
  - OP: O0 and spring pin
  - OC: OB and spring pin
  - O2: O1 and flange hub
- Rubber material
  - 13: Natural rubber (NR)
- Shore hardness (Rubber)
  - 60: 60 hardness (JIS A)
  - 50: 50 hardness (JIS A) (made to order)
- Bore specifications
  - Blank: Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - N: Compliant with motor standards
- Bore diameter: d1 (Cylindrical hub) - d2 (Flange hub)
  - Blank: Pilot bore

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

CF-A(S0/S1/S2) Types Bolt-insertion Mounted Type

Specifications

Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-S0-1360	10	25	± 4	0.5	3	± 2	10000	1.47×10^2	1.9×10^{-5}	0.07
CF-A-002-S0-1360	20	50	± 8	1.0	3	± 3	8000	2.92×10^2	1.2×10^{-4}	0.1
CF-A-004-S0-1360	40	100	± 16	1.0	3	± 3	7000	7.59×10^2	2.6×10^{-4}	0.2
CF-A-008-S0-1360	80	200	± 32	1.0	3	± 4	6500	1.44×10^3	7.2×10^{-4}	0.3
CF-A-012-S0-1360	120	300	± 48	1.0	2	± 4	6500	4.38×10^3	7.6×10^{-4}	0.3
CF-A-016-S0-1360	160	400	± 64	1.5	3	± 5	6000	3.28×10^3	2.4×10^{-3}	0.6
CF-A-022-S0-1360	220	550	± 88	1.5	2	± 5	6000	8.26×10^3	2.6×10^{-3}	0.7
CF-A-025-S0-1360	250	630	± 100	1.5	3	± 5	5000	4.12×10^3	4.0×10^{-3}	0.8
CF-A-028-S0-1360	350	880	± 140	1.5	2	± 5	5000	1.05×10^4	4.3×10^{-3}	0.9
CF-A-030-S0-1360	400	1000	± 160	1.5	3	± 5	4000	6.40×10^3	1.0×10^{-2}	1.4
CF-A-050-S0-1360	600	1500	± 240	1.5	2	± 5	4000	1.48×10^4	1.1×10^{-2}	1.7
CF-A-080-S0-1360	800	2000	± 320	1.5	2	± 4	4000	2.17×10^4	1.5×10^{-2}	2.3
CF-A-090-S0-1360	900	2250	± 360	1.5	3	± 5	3600	1.37×10^4	3.6×10^{-2}	3.1
CF-A-140-S0-1360	1400	3500	± 560	1.5	2	± 5	3600	2.90×10^4	3.8×10^{-2}	3.4
CF-A-200-S0-1360	2000	5000	± 800	1.5	2	± 5	3200	6.08×10^4	7.5×10^{-2}	5.3
CF-A-250-S0-1360	3000	8750	± 1250	1.5	2	± 5	3000	8.28×10^4	0.14	7.0
CF-A-400-S0-1360	5000	12500	± 2000	1.5	2	± 5	2800	1.25×10^5	0.22	10.7

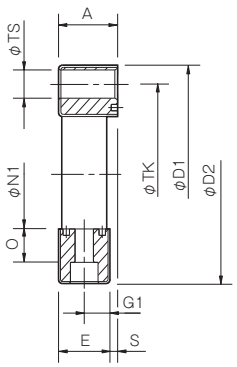
Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-S1-1360	10	25	± 4	0.5	3	± 2	10000	1.47×10^2	6.0×10^{-5}	0.3
CF-A-002-S1-1360	20	50	± 8	1.0	3	± 3	8000	2.92×10^2	2.8×10^{-4}	0.5
CF-A-004-S1-1360	40	100	± 16	1.0	3	± 3	7000	7.59×10^2	5.8×10^{-4}	0.7
CF-A-008-S1-1360	80	200	± 32	1.0	3	± 4	6500	1.44×10^3	1.8×10^{-3}	1.4
CF-A-012-S1-1360	120	300	± 48	1.0	2	± 4	6500	4.38×10^3	2.0×10^{-3}	1.4
CF-A-016-S1-1360	160	400	± 64	1.5	3	± 5	6000	3.28×10^3	4.7×10^{-3}	2.5
CF-A-022-S1-1360	220	550	± 88	1.5	2	± 5	6000	8.26×10^3	5.4×10^{-3}	2.6
CF-A-025-S1-1360	250	630	± 100	1.5	3	± 5	5000	4.12×10^3	9.2×10^{-3}	3.8
CF-A-028-S1-1360	350	880	± 140	1.5	2	± 5	5000	1.05×10^4	1.1×10^{-3}	4.0
CF-A-030-S1-1360	400	1000	± 160	1.5	3	± 5	4000	6.40×10^3	2.2×10^{-2}	6.3
CF-A-050-S1-1360	600	1500	± 240	1.5	2	± 5	4000	1.48×10^4	2.5×10^{-2}	6.8
CF-A-080-S1-1360	800	2000	± 320	1.5	2	± 4	4000	2.17×10^4	2.9×10^{-2}	8.1
CF-A-090-S1-1360	900	2250	± 360	1.5	3	± 5	3600	1.37×10^4	7.1×10^{-2}	12.4
CF-A-140-S1-1360	1400	3500	± 560	1.5	2	± 5	3600	2.90×10^4	7.9×10^{-2}	13.3
CF-A-200-S1-1360	2000	5000	± 800	1.5	2	± 5	3200	6.08×10^4	0.15	18.5
CF-A-250-S1-1360	3000	8750	± 1250	1.5	2	± 5	3000	8.28×10^4	0.25	24.5
CF-A-400-S1-1360	5000	12500	± 2000	1.5	2	± 5	2800	1.25×10^5	0.49	39.5

Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-S2-1360	10	25	± 4	0.5	3	± 2	10000	1.47×10^2	1.4×10^{-4}	0.5
CF-A-002-S2-1360	20	50	± 8	1.0	3	± 3	8000	2.92×10^2	6.6×10^{-4}	1.1
CF-A-004-S2-1360	40	100	± 16	1.0	3	± 3	7000	7.59×10^2	1.4×10^{-3}	1.5
CF-A-008-S2-1360	80	200	± 32	1.0	3	± 4	6500	1.44×10^3	3.9×10^{-3}	3.1
CF-A-012-S2-1360	120	300	± 48	1.0	2	± 4	6500	4.38×10^3	4.1×10^{-3}	3.2
CF-A-016-S2-1360	160	400	± 64	1.5	3	± 5	6000	3.28×10^3	1.1×10^{-2}	5.6
CF-A-022-S2-1360	220	550	± 88	1.5	2	± 5	6000	8.26×10^3	1.2×10^{-2}	5.8
CF-A-025-S2-1360	250	630	± 100	1.5	3	± 5	5000	4.12×10^3	2.2×10^{-2}	8.7
CF-A-028-S2-1360	350	880	± 140	1.5	2	± 5	5000	1.05×10^4	2.3×10^{-2}	8.9
CF-A-030-S2-1360	400	1000	± 160	1.5	3	± 5	4000	6.40×10^3	4.9×10^{-2}	14.2
CF-A-050-S2-1360	600	1500	± 240	1.5	2	± 5	4000	1.48×10^4	5.2×10^{-2}	14.6
CF-A-080-S2-1360	800	2000	± 320	1.5	2	± 4	4000	2.17×10^4	5.6×10^{-2}	16.0
CF-A-090-S2-1360	900	2250	± 360	1.5	3	± 5	3600	1.37×10^4	0.16	26.6
CF-A-140-S2-1360	1400	3500	± 560	1.5	2	± 5	3600	2.90×10^4	0.17	27.5
CF-A-200-S2-1360	2000	5000	± 800	1.5	2	± 5	3200	6.08×10^4	0.32	40.1
CF-A-250-S2-1360	3000	8750	± 1250	1.5	2	± 5	3000	8.28×10^4	0.50	52.3
CF-A-400-S2-1360	5000	12500	± 2000	1.5	2	± 5	2800	1.25×10^5	1.00	86.9

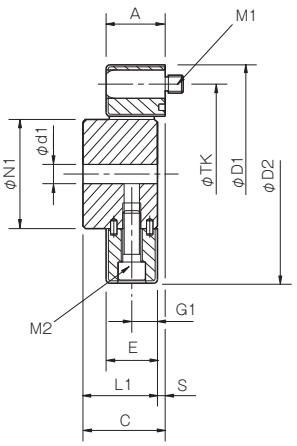
* Max. rotation speed does not take into account dynamic balance.
* The dynamic torsional stiffness is about 1.3 times that of the static torsional stiffness.
* Values for moment of inertia and mass are those when the cylindrical hub and flange hub have pilot bores.

Dimensions

■ CF-A(S0)



■ CF-A(S1)



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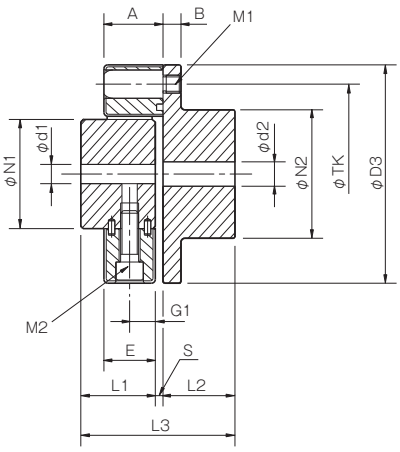

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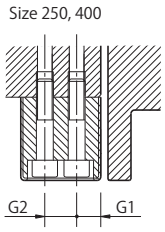


Unit [mm]

Model	d1			d2			D1	D2	D3	N1	N2	L1	L2	L3	A	B	C	E	G1	G2	O	S	TS	TK	M1	M2
	Pilot bore	Min.	Max.	Pilot bore	Min.	Max.																				
CF-A-001	8	9	19	8	9	22	57	56	56	30	36	32	24	58	24	7	34	22	11	—	5	2	10	44	2-M6	2-M6
CF-A-002	10	11	28	9	10	30	86	85	85	40	45	30	28	62	24	8	34	20	10	—	14	4	14	68	2-M8	2-M8
CF-A-004	12	14	30	11	12	36	100	97	100	45	55	34	30	68	28	8	38	24	12	—	18.3	4	14	80	3-M8	3-M8
CF-A-008	12	14	38	15	16	46	122	120	120	60	70	40	42	86	32	10	44	28	14	—	20.5	4	17	100	3-M10	3-M10
CF-A-012	12	14	38	15	16	46	122	120	120	60	70	40	42	86	32	10	44	28	14	—	20.5	4	17	100	4-M10	4-M10
CF-A-016	15	16	48	19	20	56	150	150	150	70	85	52	50	108	42	12	58	36	18	—	25	6	19	125	3-M12	3-M12
CF-A-022	15	16	48	19	20	56	150	150	150	70	85	52	50	108	42	12	58	36	18	—	25	6	19	125	4-M12	4-M12
CF-A-025	15	16	55	19	20	65	170	170	170	85	100	58	56	120	46	14	64	40	20	—	26	6	22	140	3-M14	3-M14
CF-A-028	15	16	55	19	20	65	170	170	170	85	100	58	56	120	46	14	64	40	20	—	26	6	22	140	4-M14	4-M14
CF-A-030	20	22	65	28	30	80	200	200	200	100	120	68	66	142	58	16	76	50	25	—	33	8	25	165	3-M16	3-M16
CF-A-050	20	22	65	28	30	80	200	200	200	100	120	68	66	142	58	16	76	50	25	—	33	8	25	165	4-M16	4-M16
CF-A-080	20	22	65	28	30	80	205	205	200	100	120	80	66	150	65	16	84	61	30.5	—	33	4	25	165	4-M16	4-M16
CF-A-090	30	32	85	30	32	95	260	260	260	125	140	84	80	172	70	19	92	62	31	—	46	8	32	215	3-M20	3-M20
CF-A-140	30	32	85	30	32	95	260	260	260	125	140	84	80	172	70	19	92	62	31	—	46	8	32	215	4-M20	4-M20
CF-A-200	35	38	105	35	38	110	300	300	300	145	160	94	90	192	80	19	102	72	36	—	46	8	32	250	4-M20	4-M20
CF-A-250	40	42	115	40	42	120	340	340	340	160	180	100	100	208	85	19	108	77	22.5	32	60	8	32	280	4-M20	8-M20
CF-A-400	40	42	115	40	42	130	370	370	370	170	200	125	125	260	105	29	135	95	28.5	38	70.5	10	45	300	4-M24	8-M20

* Pilot bores are to be drilled into the part. Minimum values for d1 and d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximum allowable drilled bore diameters.
* The above table values are dimensions when the rubber body is assembled, so the N1, TK, D1, and D2 dimensions prior to rubber body assembly will differ from those above.
* The TK dimension is the bolt mounting pitch diameter of the flange hub or paired mounting part, but it is possible to change to make the mounting easier. Please contact MIKI PULLEY for the details.
* The TS dimension is the H8 plug gauge reference dimension. However, size 001 has a tolerance of $^{+0.1}_{0}$ while sizes 002 and 004 have tolerances of $^{+0.15}_{0}$.
* The nominal diameters for bolts M1/M2 are equal to the quantity minus the nominal diameter of the screw threads.
* Using a hex-socket-head bolt with the CF-A-400 requires the special flat washer attached to the rubber body.

How to Place an Order

CF-A-001-S2-1360 12H-14N

- Size: 001
- Type: S2 (S0: Rubber body only; SB: S0 and bolts; S1: SC and cylindrical hub; SP: S0 and spring pin; SC: SB and spring pin; S2: S1 and flange hub)
- Rubber material: 13: Natural rubber (NR)
- Shore hardness (Rubber): 60: 60 hardness (JIS A); 50: 50 hardness (JIS A) (made to order)
- Bore diameter: d1 (Cylindrical hub) - d2 (Flange hub); 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

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

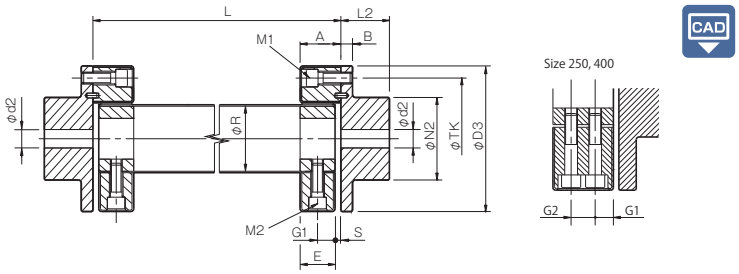
CF-A(OG) Types Floating Shaft (Low-speed Rotation) Type

Specifications

Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-OG-1360	10	25	±4	24.8	3	±2	1000	7.35×10^1	3.5×10^{-4}	1.4
CF-A-002-OG-1360	20	50	±8	24.7	3	±3	1000	1.46×10^2	1.5×10^{-3}	2.5
CF-A-004-OG-1360	40	100	±16	24.5	3	±3	1000	3.80×10^2	2.9×10^{-3}	3.3
CF-A-008-OG-1360	80	200	±32	24.3	3	±4	1000	7.20×10^2	8.0×10^{-3}	6.2
CF-A-012-OG-1360	120	300	±48	16.2	2	±4	1000	2.19×10^3	8.4×10^{-3}	6.4
CF-A-016-OG-1360	160	400	±64	23.7	3	±5	1000	1.64×10^3	2.1×10^{-2}	10.6
CF-A-022-OG-1360	220	550	±88	15.8	2	±5	1000	4.13×10^3	2.3×10^{-2}	11.0
CF-A-025-OG-1360	250	630	±100	23.5	3	±5	1000	2.06×10^3	4.2×10^{-2}	15.9
CF-A-028-OG-1360	350	880	±140	15.6	2	±5	1000	0.53×10^4	4.4×10^{-2}	16.5
CF-A-030-OG-1360	400	1000	±160	22.7	3	±5	1000	3.20×10^3	9.6×10^{-2}	25.8
CF-A-050-OG-1360	600	1500	±240	15.2	2	±5	1000	7.40×10^3	0.10	26.6
CF-A-080-OG-1360	800	2000	±320	15.1	2	±4	1000	1.09×10^4	0.11	28.7
CF-A-090-OG-1360	900	2250	±360	22.1	3	±5	1000	6.85×10^3	0.30	47.8
CF-A-140-OG-1360	1400	3500	±560	14.7	2	±5	1000	1.45×10^4	0.31	49.3
CF-A-200-OG-1360	2000	5000	±800	14.4	2	±5	1000	3.04×10^4	0.55	74.3
CF-A-250-OG-1360	3000	8750	±1250	14.2	2	±5	1000	4.14×10^4	0.99	97.7
CF-A-400-OG-1360	5000	12500	±2000	13.4	2	±5	1000	6.25×10^4	1.77	164.6

* The values of the above table are for a flange hub with pilot bore when L = 500.
* Max. rotation speed does not take into account dynamic balance.
* The dynamic torsional stiffness is about 1.3 times that of the static torsional stiffness.

Dimensions



CAD

Unit [mm]

Model	d2			D3	N2	L2	A	B	R	E	G1	G2	S	TK	M1	M2
	Pilot bore	Min.	Max.													
CF-A-001-OG-1360	8	9	22	56	36	24	24	7	30	22	11	—	2	44	2-M6	2-M6
CF-A-002-OG-1360	9	10	30	85	45	28	24	8	40	20	10	—	4	68	2-M8	2-M8
CF-A-004-OG-1360	11	12	36	100	55	30	28	8	45	24	12	—	4	80	3-M8	3-M8
CF-A-008-OG-1360	15	16	46	120	70	42	32	10	60	28	14	—	4	100	3-M10	3-M10
CF-A-012-OG-1360	15	16	46	120	70	42	32	10	60	28	14	—	4	100	4-M10	4-M10
CF-A-016-OG-1360	19	20	56	150	85	50	42	12	70	36	18	—	6	125	3-M12	3-M12
CF-A-022-OG-1360	19	20	56	150	85	50	42	12	70	36	18	—	6	125	4-M12	4-M12
CF-A-025-OG-1360	19	20	65	170	100	56	46	14	85	40	20	—	6	140	3-M14	3-M14
CF-A-028-OG-1360	19	20	65	170	100	56	46	14	85	40	20	—	6	140	4-M14	4-M14
CF-A-030-OG-1360	28	30	80	200	120	66	58	16	100	50	25	—	8	165	3-M16	3-M16
CF-A-050-OG-1360	28	30	80	200	120	66	58	16	100	50	25	—	8	165	4-M16	4-M16
CF-A-080-OG-1360	28	30	80	200	120	66	65	16	100	61	30.5	—	4	165	4-M16	4-M16
CF-A-090-OG-1360	30	32	95	260	140	80	70	19	125	62	31	—	8	215	3-M20	3-M20
CF-A-140-OG-1360	30	32	95	260	140	80	70	19	125	62	31	—	8	215	4-M20	4-M20
CF-A-200-OG-1360	35	38	110	300	160	90	80	19	145	72	36	—	8	250	4-M20	4-M20
CF-A-250-OG-1360	40	42	120	340	180	100	85	19	160	77	22.5	32	8	280	4-M20	8-M20
CF-A-400-OG-1360	40	42	130	370	200	125	105	29	170	95	28.5	38	10	300	4-M24	8-M20

* Pilot bores are to be drilled into the part. Minimum values for d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximumallowable drilled bore diameters.
* The nominal diameters for bolts M1/M2 are equal to the quantity minus the nominal diameter of the screw threads, where the quantity is for one side.
* The L dimension has a standard length of 1000 mm or less. Dimension L must at least allow enough space for an M1 bolt to be mounted.

How to Place an Order

CF-A-001-OG-1360 12H-14N L=600

- 001: Size
- OG: Type — OG: Floating shaft, Low-speed type
- 1360: Rubber material — 13: Natural rubber (NR)
- 12H: Shore hardness (Rubber) — 60: 60 hardness (JIS A); 50: 50 hardness (JIS A) (made to order)
- 14N: 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
- L=600: Floating shaft length *Use mm units for L dimensions.

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

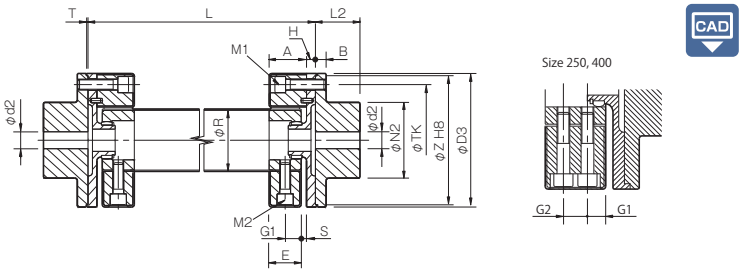
CF-A(OZ) Types Floating Shaft (High-speed Rotation) Type

Specifications

Model	Torque			Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]	Moment of inertia [kg·m^2]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-A-001-OZ-1360	10	25	±4	8.1	1	±2	10000	7.35×10^{1}	4.3×10^{-4}	1.6
CF-A-002-OZ-1360	20	50	±8	8.1	1	±3	8000	1.46×10^{2}	2.0×10^{-3}	3.1
CF-A-004-OZ-1360	40	100	±16	8.0	1	±3	7000	3.80×10^{2}	3.6×10^{-3}	4.0
CF-A-008-OZ-1360	80	200	±32	7.8	1	±4	6500	7.20×10^{2}	1.1×10^{-2}	7.7
CF-A-012-OZ-1360	120	300	±48	7.8	1	±4	6500	2.19×10^{3}	1.1×10^{-2}	7.8
CF-A-016-OZ-1360	160	400	±64	7.5	1	±5	6000	1.64×10^{3}	2.9×10^{-2}	13.1
CF-A-022-OZ-1360	220	550	±88	7.5	1	±5	6000	4.13×10^{3}	3.0×10^{-2}	13.4
CF-A-025-OZ-1360	250	630	±100	7.5	1	±5	5000	2.06×10^{3}	5.4×10^{-2}	19.1
CF-A-028-OZ-1360	350	880	±140	7.5	1	±5	5000	0.53×10^{4}	5.7×10^{-2}	19.6
CF-A-030-OZ-1360	400	1000	±160	7.2	1	±5	4000	3.20×10^{3}	0.12	30.2
CF-A-050-OZ-1360	600	1500	±240	7.2	1	±5	4000	7.40×10^{3}	0.12	30.9
CF-A-080-OZ-1360	800	2000	±320	7.2	1	±4	4000	1.09×10^{4}	0.13	33.0
CF-A-090-OZ-1360	900	2250	±360	7.0	1	±5	3600	6.85×10^{3}	0.37	55.3
CF-A-140-OZ-1360	1400	3500	±560	7.0	1	±5	3600	1.45×10^{4}	0.38	56.7
CF-A-200-OZ-1360	2000	5000	±800	6.7	1	±5	3200	3.04×10^{4}	0.74	91.3
CF-A-250-OZ-1360	3000	8750	±1250	6.6	1	±5	3000	4.14×10^{4}	1.19	111.9
CF-A-400-OZ-1360	5000	12500	±2000	6.2	1	±5	2800	6.25×10^{4}	2.47	190.0

* The values of the above table are for a flange hub with pilot bore when L = 500.
* Max. rotation speed does not take into account dynamic balance.
* The dynamic torsional stiffness is about 1.3 times that of the static torsional stiffness.

Dimensions



Unit [mm]

Model	d2			D3	N2	L2	A	B	H	R	E	T	G1	G2	S	TK	Z	M1	M2
	Pilot bore	Min.	Max.																
CF-A-001-OZ-1360	8	9	22	56	36	24	24	7	5	30	22	1.5	11	—	2	44	52	2-M6	2-M6
CF-A-002-OZ-1360	9	10	30	85	45	28	24	8	5	40	20	1.5	10	—	4	68	80	2-M8	2-M8
CF-A-004-OZ-1360	11	12	36	100	55	30	28	8	5	45	24	1.5	12	—	4	80	95	3-M8	3-M8
CF-A-008-OZ-1360	15	16	46	120	70	42	32	10	10	60	28	1.5	14	—	4	100	115	3-M10	3-M10
CF-A-012-OZ-1360	15	16	46	120	70	42	32	10	10	60	28	1.5	14	—	4	100	115	4-M10	4-M10
CF-A-016-OZ-1360	19	20	56	150	85	50	42	12	10	70	36	1.5	18	—	6	125	145	3-M12	3-M12
CF-A-022-OZ-1360	19	20	56	150	85	50	42	12	10	70	36	1.5	18	—	6	125	145	4-M12	4-M12
CF-A-025-OZ-1360	19	20	65	170	100	56	46	14	10	85	40	1.5	20	—	6	140	165	3-M14	3-M14
CF-A-028-OZ-1360	19	20	65	170	100	56	46	14	10	85	40	1.5	20	—	6	140	165	4-M14	4-M14
CF-A-030-OZ-1360	28	30	80	200	120	66	58	16	10	100	50	1.5	25	—	8	165	195	3-M16	3-M16
CF-A-050-OZ-1360	28	30	80	200	120	66	58	16	10	100	50	1.5	25	—	8	165	195	4-M16	4-M16
CF-A-080-OZ-1360	28	30	80	200	120	66	65	16	10	100	61	1.5	30.5	—	4	165	195	4-M16	4-M16
CF-A-090-OZ-1360	30	32	95	260	140	80	70	19	10	125	62	2	31	—	8	215	250	3-M20	3-M20
CF-A-140-OZ-1360	30	32	95	260	140	80	70	19	10	125	62	2	31	—	8	215	250	4-M20	4-M20
CF-A-200-OZ-1360	35	38	110	300	160	90	80	19	15	145	72	2	36	—	8	250	290	4-M20	4-M20
CF-A-250-OZ-1360	40	42	120	340	180	100	85	19	15	160	77	2.5	22.5	32	8	280	330	4-M20	8-M20
CF-A-400-OZ-1360	40	42	130	370	200	125	105	29	15	170	95	2	28.5	38	10	300	360	4-M24	8-M20

* Pilot bores are to be drilled into the part. Minimum values for d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximum allowable drilled bore diameters.
* The nominal diameters for bolts M1/M2 are equal to the quantity minus the nominal diameter of the screw threads, where the quantity is for one side.
* See the floating length graph on P.169 for the L dimension. Dimension L must at least allow enough space for an M1 bolt to be mounted.

How to Place an Order

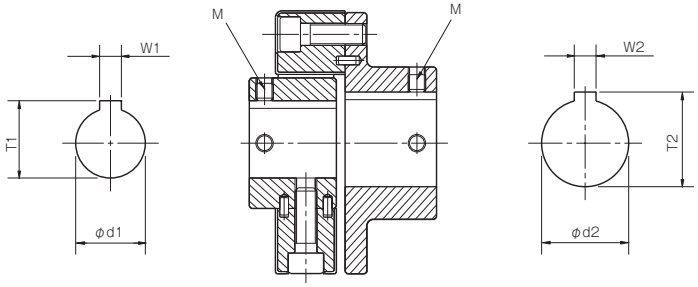
CF-A-001-OZ-1360 12H-14N L=600

- Size
- Type: OZ: Floating shaft, High-speed type
- Rubber material: 13: Natural rubber (NR)
- Shore hardness (Rubber): 60: 60 hardness (JIS A), 50: 50 hardness (JIS A) (made to order)
- 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
- Floating shaft length *Use mm units for L dimensions.

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

CF-A Models

Standard Hole-Drilling Standards



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	—	—
9	$9^{+0.022}_{0}$	—	—	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	—	—	—	—	—
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	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
63	$63^{+0.030}_{0}$	$18^{+0.075}_{+0.032}$	$69.0^{+0.3}_{0}$	2-M10	63H	$63^{+0.030}_{0}$	$18^{+0.043}_{0}$	$67.4^{+0.3}_{0}$	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

Set screw position

Cylindrical hub coupling size	Distance from edge [mm]
001	6
002 • 004	6
008 • 012	7
016 • 022 • 025 • 028	10
030 • 050 • 080	11
090 • 140	13
200 • 250 • 400	13

Flange hub coupling size	Distance from edge [mm]
001	6
002 • 004	7
008 • 012	9
016 • 022 • 025 • 028	10
030 • 050 • 080	15
090 • 140	15
200 • 250 • 400	16

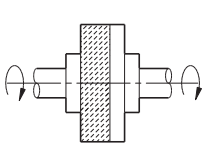
NOTE

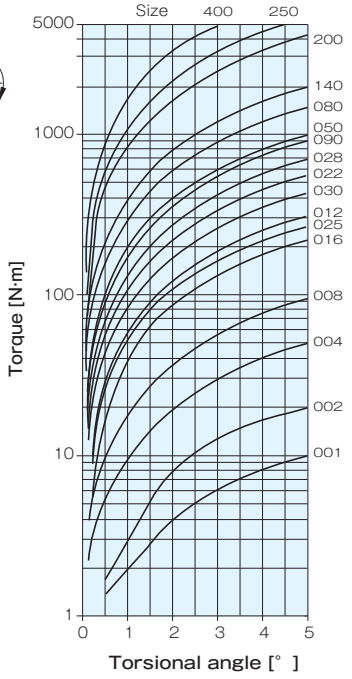
- All standards starting from ø11 are the same as those in the old JIS standards column.
- Positions of set screws and keyways are not on the same plane.
- Set screws are included with the product.
- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision for a particular flange hub.
- Consult the technical documentation at the end of this volume for standard dimensions for bore drilling other than those given here.
- We can also machine splines. Please contact Miki Pulley.

Items Checked for Design Purposes

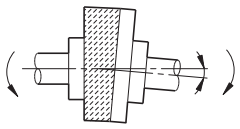
Static Spring Characteristics

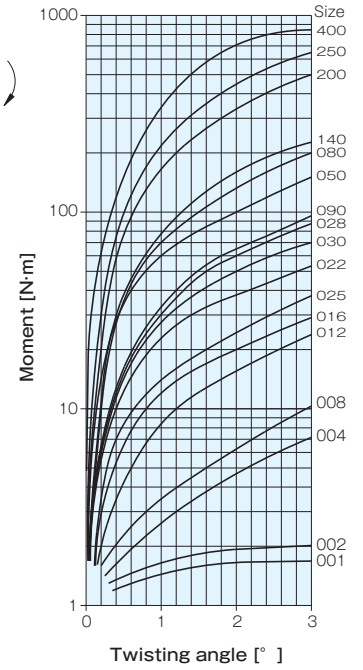
■ Torsional angle vs. torque diagram



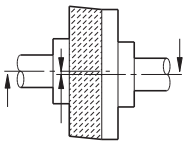


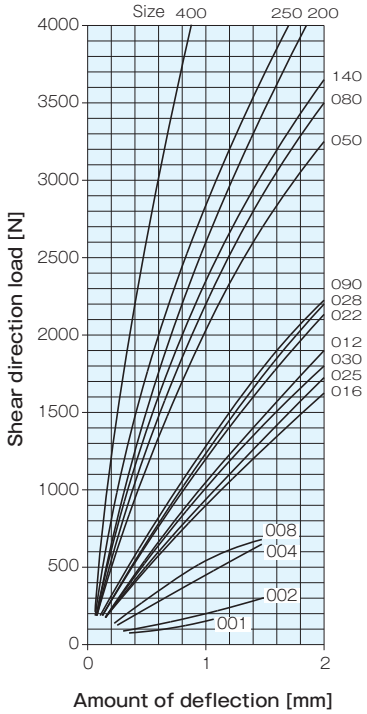
■ Twisting angle vs. moment diagram



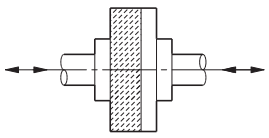


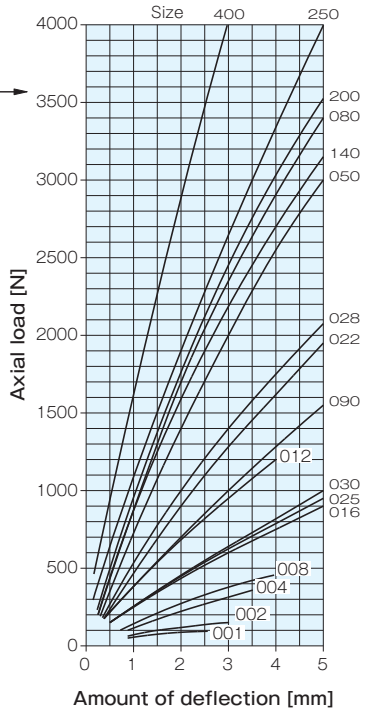
■ Shear direction load vs. deflection diagram





■ Axial load vs. deflection diagram





CF-A Models

Items Checked for Design Purposes

Special Items to Take Note of

You should note the following to prevent any problems.

(1) Always be careful of parallel, angular, and axial misalignment.

(2) Always tighten bolts with the specified torque.

Precautions for Handling

CF-A models are delivered in component form. Pay close attention to the misalignments for mounting and assembly methods shown below when you mount couplings.

(1) Couplings are designed for use within an operating temperature range of -30℃ to 95℃ .

(2) Rubber bodies are not sufficiently resistant to oil and grease, so avoid contact with these substances. Use and storage in direct sunlight may shorten service life of the rubber body, so cover it appropriately.

(3) Bolts for mounting are given a microcapsule coating that takes effect after mounting to stop loosening. Screw fixatives or other adhesives are therefore unnecessary. Be particularly careful to never use liquid anaerobic screw fixatives, as they have adverse effects on the rubber body. Also, store the couplings in well ventilated locations away from moisture to preserve their efficacy and keep them out of contact with oils.

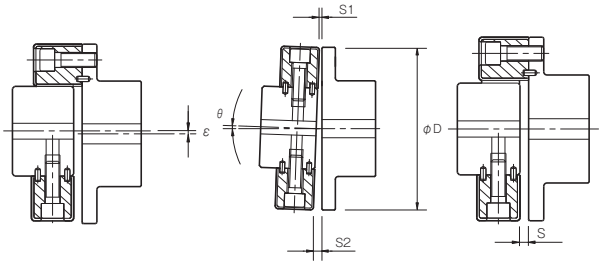
Mounting Misalignment

To get full coupling performance, mount couplings so that differences between coupling centers during operation are within the misalignment shown in the specifications table. When used at rotation speeds exceeding 1000 min^{-1}, however, we recommend parallel misalignment of 0.5 mm or less and angular deflection of 1° or less.

■ Mounting misalignment

Model	Parallel [mm]	Angular [°]	Axial [mm]
CF-A-001	0.5	3	± 2
CF-A-002	1.0	3	± 3
CF-A-004	1.0	3	± 3
CF-A-008	1.0	3	± 4
CF-A-012	1.0	2	± 4
CF-A-016	1.5	3	± 5
CF-A-022	1.5	2	± 5
CF-A-025	1.5	3	± 5
CF-A-028	1.5	2	± 5
CF-A-030	1.5	3	± 5
CF-A-050	1.5	2	± 5
CF-A-080	1.5	2	± 4
CF-A-090	1.5	3	± 5
CF-A-140	1.5	2	± 5
CF-A-200	1.5	2	± 5
CF-A-250	1.5	2	± 5
CF-A-400	1.5	2	± 5

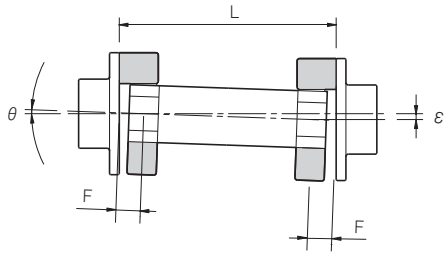
■ Parallel ■ Angular ■ Axial



$$\theta = \sin^{-1}\frac{S2 - S1}{D}$$

The allowable values for parallel misalignment and angular deflection of the floating-shaft type OG and OZ types will vary with the floating length used. Calculate them using the equations below.

■ Calculating parallel misalignment and angular deflection for OG and OZ types



$$\varepsilon = \tan\theta\,(L-2F)$$

Calculate F from the dimensions table as follows.

・For OG types, $F = G1 + S$

For sizes 250 and 400, however, $F = (E/2) + S$

・For OZ types, $F = G1 + S + H$

For sizes 250 and 400, however, $F = (E/2) + S + H$

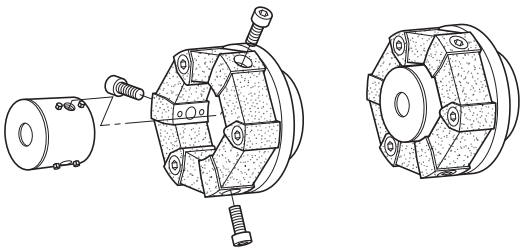
ε : Parallel misalignment of two shafts, θ : Angular deflection of coupling,

L: Length of floating shaft

Assembly

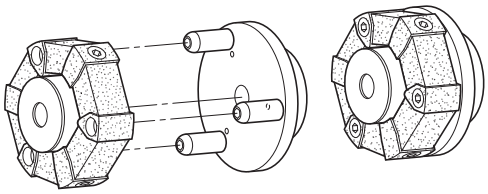
■ O□ Types

Push the spring pin into the cylindrical hub and flange hub, and then lock the rubber body first to the flange hub and then to the cylindrical hub. (Use a spring pin of size 008 or larger.)



■ S□ Types

Push the spring pin into the cylindrical hub, and then lock the S bolt into the flange hub. Assemble by first locking the rubber body into the cylindrical hub and then pushing the rubber body onto the S bolt. (Use a spring pin of size 008 or larger.)



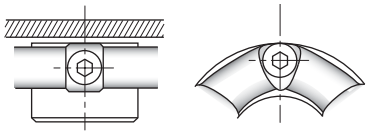
(1) To lock the cylindrical hub and flange hub to the rubber body, use a torque wrench to tighten the bolt to the prescribed torque. To ensure secure fastening, apply an extremely small amount of grease to the seat surface of the bolt. (Be careful not to get grease on the threads of the bolt.) Also be careful to never use liquid anaerobic screw fixatives, as they have adverse effects on the rubber body.

(2) When mounting a rubber body on a flange hub and then mounting it on a cylindrical hub, the rubber body can become significantly warped by the frictional force of the bolt's seat surface, so tighten the bolt after the cylindrical hub is locked in place.

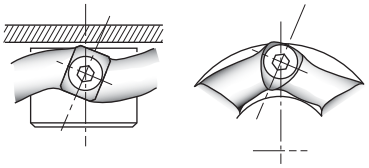
(3) When mounting a rubber body onto a cylindrical hub, screw each bolt in by two threads each and then tighten.

(4) Once assembly is complete, recheck the mounting situation of the rubber body, as shown in the next page.

Good mountings

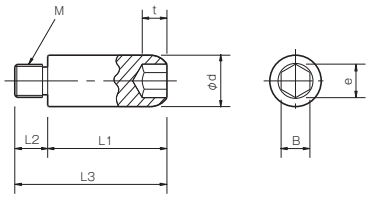


Bad mountings



Bolt Specifications and Tightening Torques

The bolts are hex-socket-head bolts that conform to JIS B1176, are zinc plated, and have microcapsule coatings (to prevent loosening).
Dedicated S bolts are used for bolts in the A (axial) direction that are insertion-mounted (S□ types). Check the dimensions in the following.



■ S bolt dimensions

Coupling size	d	L1	L2	L3	t	B	e	M
001	10	24	7	31	5.0	5	5.9	M6 × 1
002·004	14	24	8	32	6.0	6	7.0	M8 × 1.25
008·012	17	32	10	42	9.0	8	9.4	M10 × 1.5
016·022	19	42	12	54	9.0	10	11.7	M12 × 1.75
025·028	22	46	14	60	10.5	12	14.0	M14 × 2
030·050·080	25	58	16	74	12.0	14	16.3	M16 × 2
090·140·200·250	32	70	20	90	14.0	17	19.8	M20 × 2.5

* The nominal diameter for the bolt M is equal to the nominal diameter of the screw thread times pitch.
* Size 400 uses the spacer system, so S bolts are not used.

Tighten each of the bolts to the tightening torques given in the following tables, using a torque wrench or the like.

■ Bolt specifications and tightening torques in direction R

Model	Strength classification	Direction R bolt specification		Tightening torque [N·m]
		O1 • O2 • S1 • S2 • OG	OZ	
CF-A-001	8.8 or over	2-M6 × 10	2-M6 × 10	9 ~ 11
CF-A-002	8.8 or over	2-M8 × 20	2-M8 × 20	24 ~ 27
CF-A-004	8.8 or over	3-M8 × 25	3-M8 × 25	24 ~ 27
CF-A-008	8.8 or over	3-M10 × 30	3-M10 × 30	49 ~ 54
CF-A-012	8.8 or over	4-M10 × 30	4-M10 × 30	49 ~ 54
CF-A-016	8.8 or over	3-M12 × 35	3-M12 × 35	85 ~ 94
CF-A-022	8.8 or over	4-M12 × 35	4-M12 × 35	85 ~ 94
CF-A-025	8.8 or over	3-M14 × 40	3-M14 × 40	130 ~ 150
CF-A-028	8.8 or over	4-M14 × 40	4-M14 × 40	130 ~ 150
CF-A-030	8.8 or over	3-M16 × 50	3-M16 × 50	210 ~ 230
CF-A-050	8.8 or over	4-M16 × 50	4-M16 × 50	210 ~ 230
CF-A-080	8.8 or over	4-M16 × 50	4-M16 × 50	210 ~ 230
CF-A-090	10.9 or over	3-M20 × 65	3-M20 × 65	440 ~ 490
CF-A-140	10.9 or over	4-M20 × 65	4-M20 × 65	440 ~ 490
CF-A-200	10.9 or over	4-M20 × 65	4-M20 × 65	440 ~ 490
CF-A-250	10.9 or over	8-M20 × 80	8-M20 × 90	440 ~ 490
CF-A-400	10.9 or over	8-M20 × 100	8-M20 × 100	440 ~ 490

* The nominal diameters for bolts are equal to the quantity minus the nominal diameter of the screw threads times the nominal length. The OG and OZ quantities are for one side only.
* Contact Miki Pulley if you plan to use bolts with specifications other than those shown.

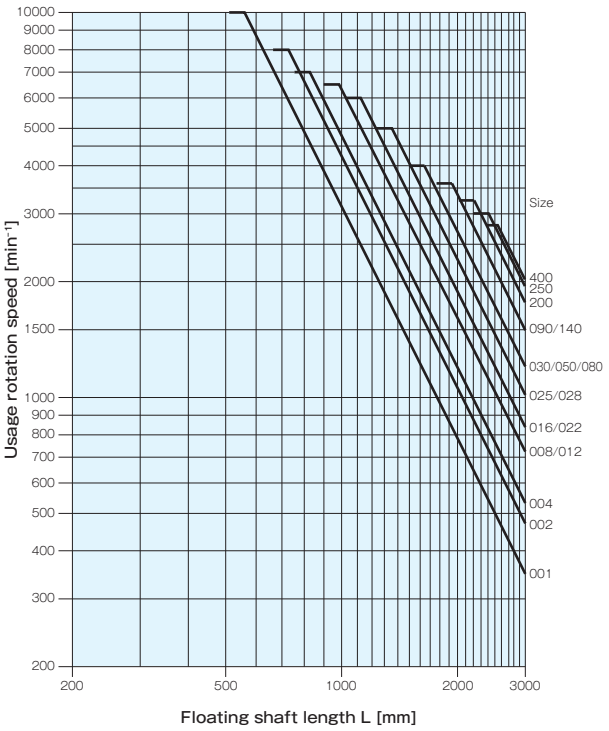
■ Bolt specifications and tightening torques in direction A

Model	Strength classification	Direction A bolt specification			Tightening torque [N·m]
		O1 • O2 • OG	OZ	S1 • S2	
CF-A-001	8.8 or over	2-M6 × 25	2-M6 × 30	2-M6	9 ~ 11
CF-A-002	8.8 or over	2-M8 × 20	2-M8 × 25	2-M8	24 ~ 27
CF-A-004	8.8 or over	3-M8 × 25	3-M8 × 30	3-M8	24 ~ 27
CF-A-008	8.8 or over	3-M10 × 30	3-M10 × 40	3-M10	49 ~ 54
CF-A-012	8.8 or over	4-M10 × 30	4-M10 × 40	4-M10	49 ~ 54
CF-A-016	8.8 or over	3-M12 × 35	3-M12 × 45	3-M12	85 ~ 94
CF-A-022	8.8 or over	4-M12 × 35	4-M12 × 45	4-M12	85 ~ 94
CF-A-025	8.8 or over	3-M14 × 40	3-M14 × 50	3-M14	130 ~ 150
CF-A-028	8.8 or over	4-M14 × 40	4-M14 × 50	4-M14	130 ~ 150
CF-A-030	8.8 or over	3-M16 × 50	3-M16 × 60	3-M16	210 ~ 230
CF-A-050	8.8 or over	4-M16 × 50	4-M16 × 60	4-M16	210 ~ 230
CF-A-080	8.8 or over	4-M16 × 50	4-M16 × 60	4-M16	210 ~ 230
CF-A-090	10.9 or over	3-M20 × 65	3-M20 × 75	3-M20	440 ~ 490
CF-A-140	10.9 or over	4-M20 × 65	4-M20 × 75	4-M20	440 ~ 490
CF-A-200	10.9 or over	4-M20 × 65	4-M20 × 80	4-M20	440 ~ 490
CF-A-250	10.9 or over	4-M20 × 80	4-M20 × 95	4-M20	440 ~ 490
CF-A-400	10.9 or over	4-M24 × 100	4-M24 × 115	4-M24	850 ~ 900

* The nominal diameters for bolts are equal to the quantity minus the nominal diameter of the screw threads times the nominal length. The OG and OZ quantities are for one side only.
* Contact Miki Pulley if you plan to use bolts with specifications other than those shown.

Usage Rotation Speed Limits for OZ Types

For OZ types, the rotation speeds at which the coupling can be used will vary with the length of floating shaft selected. Use the following figure to confirm that the rotation speed you will use is at or below the limit speed.



CF-A Models

Designing a Cylindrical or Flange Hub

■ Materials

When designing a new cylindrical or flange hub, use the following materials or materials that have at least the following tensile strength.

Hub type	Size	Material	Tensile strength
Cylindrical hub	Total size	S 45 C	569 N/mm² or higher
Flange hub	001 ~ 004	FC 200	200N/mm² or higher
	008 ~ 400	FCD 450	450N/mm² or higher

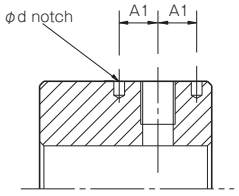
■ Dimensions

See the dimensions tables for required dimensions for cylindrical or flange hubs. We recommend that the outer diameter tolerance for cylindrical hubs be h9 class.

■ Spring pin bore dimensions

Contact the following table for spring pin bore dimensions for cylindrical or flange hubs. (Coupling size 008 or larger)

Cylindrical hub

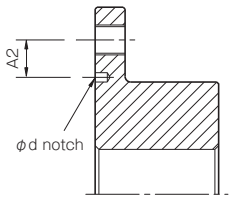


Unit [mm]

Model	A1 ± 0.1	d	Depth	Spring pin specification
CF-A-008	10.0	4	5.5	6- ϕ 4 × 8
CF-A-012	10.0	4	5.5	8- ϕ 4 × 8
CF-A-016	13.5	5	6.5	6- ϕ 5 × 10
CF-A-022	13.5	5	6.5	8- ϕ 5 × 10
CF-A-025	14.0	5	6.5	6- ϕ 5 × 10
CF-A-028	14.0	5	6.5	8- ϕ 5 × 10
CF-A-030	18.0	5	6.5	6- ϕ 5 × 10
CF-A-050	18.0	5	6.5	8- ϕ 5 × 10
CF-A-080	18.0	5	6.5	8- ϕ 5 × 10
CF-A-090	22.5	8	13.0	6- ϕ 8 × 16
CF-A-140	22.5	8	13.0	8- ϕ 8 × 16
CF-A-200	22.5	8	13.0	8- ϕ 8 × 16

* The nominal diameter of the spring pin is equal to the quantity minus the diameter times the length.
* Coupling sizes 250 and 400 do not require a spring pin bore on the cylindrical hub side.

Flange hubs (flywheel side)



Unit [mm]

Model	A2 ± 0.1	d	Depth	Spring pin specification
CF-A-008	12	4	6.5	3- ϕ 4 × 8
CF-A-012	12	4	6.5	4- ϕ 4 × 8
CF-A-016	18	5	6.5	3- ϕ 5 × 10
CF-A-022	18	5	6.5	4- ϕ 5 × 10
CF-A-025	18	5	6.5	3- ϕ 5 × 10
CF-A-028	18	5	6.5	4- ϕ 5 × 10
CF-A-030	20	5	6.5	3- ϕ 5 × 10
CF-A-050	20	5	6.5	4- ϕ 5 × 10
CF-A-080	20	5	6.5	4- ϕ 5 × 10
CF-A-090	25	8	13.0	3- ϕ 8 × 16
CF-A-140	25	8	13.0	4- ϕ 8 × 16
CF-A-200	25	8	13.0	4- ϕ 8 × 16
CF-A-250	30	10	13.0	4- ϕ 10 × 18
CF-A-400	40	10	13.0	4- ϕ 10 × 18

* The nominal diameter of the spring pin is equal to the quantity minus the diameter times the length.

Standard spring pin specifications for products with spring pins are given below.

■ Standard spring pin specification

Size	OP • OC • O1 • O2		SP • SC • S1 • S2		OG	OZ
	Cylindrical hub	Flange hub	Cylindrical hub	Flange hub	Flange hub	Center hub
001	—	—	—	—	—	—
002	—	—	—	—	—	—
004	—	—	—	—	—	—
008	6-ϕ4×8	3-ϕ4×8	6-ϕ4×8	—	3-ϕ4×8	—
012	8-ϕ4×8	4-ϕ4×8	8-ϕ4×8	—	4-ϕ4×8	—
016	6-ϕ5×10	3-ϕ5×10	6-ϕ5×10	—	3-ϕ5×10	3-ϕ5×10
022	8-ϕ5×10	4-ϕ5×10	8-ϕ5×10	—	4-ϕ5×10	4-ϕ5×10
025	6-ϕ5×10	3-ϕ5×10	6-ϕ5×10	—	3-ϕ5×10	3-ϕ5×10
028	8-ϕ5×10	4-ϕ5×10	8-ϕ5×10	—	4-ϕ5×10	4-ϕ5×10
030	6-ϕ5×10	3-ϕ5×10	6-ϕ5×10	—	3-ϕ5×10	3-ϕ5×10
050	8-ϕ5×10	4-ϕ5×10	8-ϕ5×10	—	4-ϕ5×10	4-ϕ5×10
080	8-ϕ5×10	4-ϕ5×10	8-ϕ5×10	—	4-ϕ5×10	4-ϕ5×10
090	6-ϕ8×16	3-ϕ8×16	6-ϕ8×16	—	3-ϕ8×16	3-ϕ8×10
140	8-ϕ8×16	4-ϕ8×16	8-ϕ8×16	—	4-ϕ8×16	4-ϕ8×10
200	8-ϕ8×16	4-ϕ8×16	8-ϕ8×16	—	4-ϕ8×16	4-ϕ8×10
250	—	4-ϕ 10×18	—	—	4-ϕ 10×18	—
400	—	4-ϕ 10×18	—	—	4-ϕ 10×18	—

* The nominal diameter of the spring pin is equal to the quantity minus the diameter times the length.
* The number of spring pins given for OG and OZ flange (center) hubs is for one side.

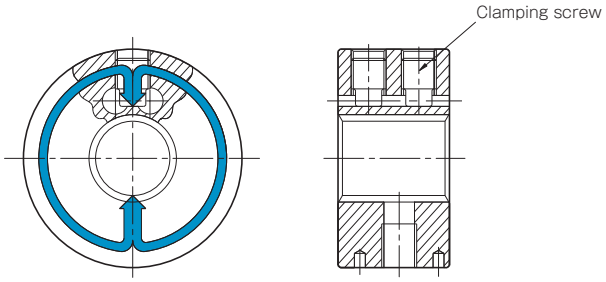
■ Coupling a pump shaft (spline shaft) to a cylindrical hub

(1) Movable splines

Heat treat (carburize and quench) the spline teeth of the cylindrical hub.
Contact Miki Pulley regarding materials, heat-treated hardness, and the like.
Only use type O0 rubber bodies for movable splines.

(2) Fixed splines

We can design a clamping hub that completely locks a cylindrical hub to a spline shaft using center lock action. Contact Miki Pulley for details.
Clamping hubs must be made to order.



CENTA-LOCK mechanism on the clamping hub

■ Recommended spline-shaft fit grades

Standards	Grade of fit
JIS D2001	Class b
SAE J498b	Class 2
ANSI B92.1	Class 5

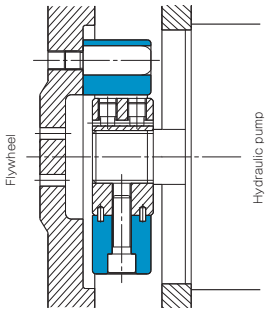
Induction Motor Specifications and Easy Selection Table

Motor		50 Hz: 3000 min^{-1}, 60 Hz: 3600 min^{-1}				50 Hz: 1500min^{-1}, 60 Hz: 1800min^{-1}			
		Two-pole motor		CENTAFLEX		Four-pole motor		CENTAFLEX	
Output [kW]	Frequency [Hz]	Shaft diameter [mm]	Torque [N·m]	Model	Nominal bore diameter	Shaft diameter [mm]	Torque [N·m]	Model	Nominal bore diameter
0.4	50	14	1.3	CF-A-001	14N	14	2.6	CF-A-001	14N
	60	14	1.1	CF-A-001	14N	14	2.2	CF-A-001	14N
0.75	50	19	2.4	CF-A-001	19N	19	4.9	CF-A-001	19N
	60	19	2	CF-A-001	19N	19	4.1	CF-A-001	19N
1.5	50	24	4.9	CF-A-002	24N	24	9.7	CF-A-002	24N
	60	24	4.1	CF-A-002	24N	24	8.1	CF-A-002	24N
2.2	50	24	7.1	CF-A-002	24N	28	14	CF-A-004	28N
	60	24	6	CF-A-002	24N	28	12	CF-A-004	28N
3.7	50	28	12	CF-A-002	28N	28	24	CF-A-008	28N
	60	28	10	CF-A-002	28N	28	20	CF-A-004	28N
5.5	50	38	18	CF-A-008	38N	38	36	CF-A-008	38N
	60	38	15	CF-A-008	38N	38	30	CF-A-008	38N
7.5	50	38	24	CF-A-008	38N	38	49	CF-A-012	38N
	60	38	20	CF-A-008	38N	38	41	CF-A-008	38N
11	50	42	36	CF-A-008	42N	42	71	CF-A-016	42N
	60	42	30	CF-A-008	42N	42	59	CF-A-012	42N
15	50	42	49	CF-A-012	42N	42	97	CF-A-022	42N
	60	42	41	CF-A-008	42N	42	81	CF-A-016	42N
18.5	50	42	60	CF-A-012	42N	48	120	CF-A-025	48N
	60	42	50	CF-A-012	42N	48	100	CF-A-022	48N
22	50	48	71	CF-A-016	48N	48	143	CF-A-028	48N
	60	48	59	CF-A-012	48N	48	119	CF-A-022	48N
30	50	55	97	CF-A-022	55N	55	195	CF-A-030	55N
	60	55	81	CF-A-016	55N	55	162	CF-A-028	55N
37	50	55	120	CF-A-025	55N	60	240	CF-A-050	60N
	60	55	100	CF-A-022	55N	60	200	CF-A-030	60N
45	50	55	146	CF-A-028	55N	60	292	CF-A-050	60N
	60	55	122	CF-A-025	55N	60	243	CF-A-050	60N

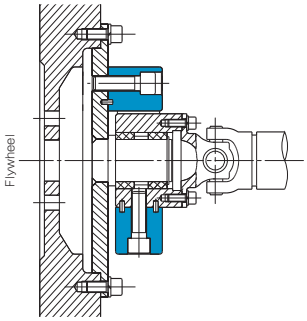
* The above table shows generally suitable sizes for use on an induction motor drive unit.
* Motor rotation speed and output torque are calculated (reference) values.

Mounting Examples

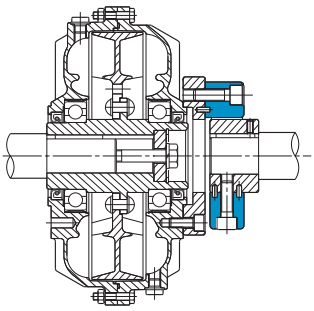
■ For joining an engine and hydraulic pump



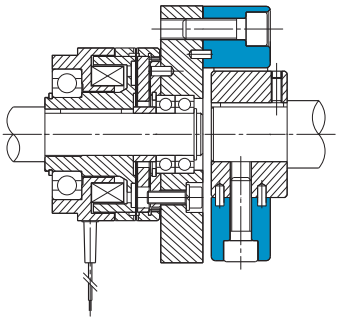
■ For joining an engine and drive shaft together with a universal joint



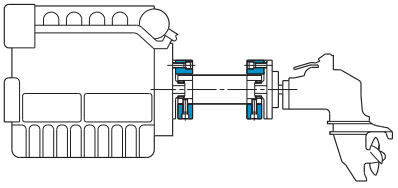
■ For joining fluid couplings



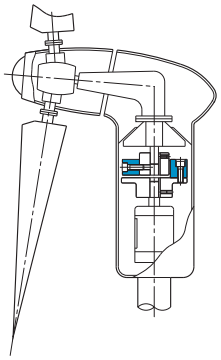
■ For joining with an electromagnetic clutch



■ For joining an engine and propeller as an intermediary shaft on a boat



■ For joining wind power generator blades with an electric generator



CF-H(00/01/02) Types

Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Dynamic torsional stiffness [N·m/rad]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]		
CF-H-008	100	200	0.3	0.5	± 3	6500	1.27×10^4
CF-H-016	200	400	0.3	0.5	± 3	5500	2.46×10^4
CF-H-030	400	800	0.4	0.5	± 3	4000	5.91×10^4
CF-H-040	600	1200	0.4	0.5	± 3	4000	1.87×10^5
CF-H-050	800	1600	0.4	0.5	± 3	4000	1.91×10^5
CF-H-090	950	1900	0.4	0.5	± 3	4000	2.69×10^5
CF-H-110	1100	2200	0.4	0.5	± 3	4000	2.79×10^5
CF-H-160	1600	3200	0.4	0.5	± 3	3600	5.11×10^5
CF-H-240	2500	5000	0.4	0.5	± 3	3000	5.10×10^5

Model	Moment of inertia [kg·m^2]	Mass [kg]
CF-H-008-00	9.4×10^{-4}	0.4
CF-H-016-00	3.0×10^{-3}	0.8
CF-H-030-00	9.2×10^{-3}	1.5
CF-H-040-00	6.9×10^{-3}	1.4
CF-H-050-00	1.2×10^{-2}	1.8
CF-H-090-00	1.5×10^{-2}	2.3
CF-H-110-00	2.3×10^{-2}	2.8
CF-H-160-00	3.6×10^{-2}	3.4
CF-H-240-00	0.10	5.8

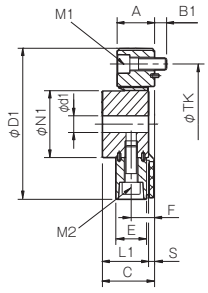
Model	Moment of inertia [kg·m^2]	Mass [kg]
CF-H-008-01	1.8×10^{-3}	1.3
CF-H-016-01	4.9×10^{-3}	2.5
CF-H-030-01	1.9×10^{-2}	6.0
CF-H-040-01	1.3×10^{-2}	4.4
CF-H-050-01	2.3×10^{-2}	6.5
CF-H-090-01	2.6×10^{-2}	6.9
CF-H-110-01	3.7×10^{-2}	9.7
CF-H-160-01	7.0×10^{-2}	11.9
CF-H-240-01	0.18	20.9

Model	Moment of inertia [kg·m^2]	Mass [kg]
CF-H-008-02	3.9×10^{-3}	3.1
CF-H-016-02	1.1×10^{-2}	5.6
CF-H-030-02	4.6×10^{-2}	13.9
CF-H-040-02	2.8×10^{-2}	9.8
CF-H-050-02	5.0×10^{-2}	14.4
CF-H-090-02	5.3×10^{-2}	14.8
CF-H-110-02	8.2×10^{-2}	18.3
CF-H-160-02	0.16	26.1
CF-H-240-02	0.39	48.8

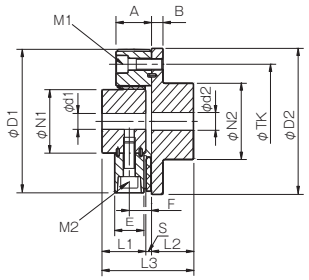
* Max. rotation speed does not take into account dynamic balance.
* Dynamic torsion spring characteristics are non-linear, so use a dynamic torsional stiffness that is at least roughly 20% of rated torque.
* The dynamic torsional stiffness is about 1.3 times that of the static torsional stiffness.
* Values for moment of inertia and mass are those when the cylindrical hub and flange hub have pilot bores.

Dimensions

■ CF-H(O1)



■ CF-H(O2)



Unit [mm]

Model	d1			d2			D1	D2	N1	N2	L1	L2	L3	A	B	B1	C	E	F	S	TK	M1	M2
	Pilot bore	Min.	Max.	Pilot bore	Min.	Max.																	
CF-H-008	12	14	38	15	16	46	125	120	60	70	40	42	88	32	10	10	46	25	20	6	100	3-M10	3-M10
CF-H-016	15	16	48	19	20	56	155	150	70	85	52	50	110	41	12	12	60	34	26	8	125	3-M12	3-M12
CF-H-030	20	22	65	28	30	80	205	200	100	120	68	66	144	56	16	15	78	46	35	10	165	3-M16	3-M16
CF-H-040	22	24	50	22	24	65	175	180	85	100	58	56	124	50	16	16	68	42	31	10	140	4-M16	4-M16
CF-H-050	20	22	65	28	30	80	205	200	100	120	68	66	144	56	16	15	78	46	35	10	165	4-M16	4-M16
CF-H-090	20	22	65	28	30	80	215	200	100	120	68	66	144	56	16	15	78	46	35	10	165	4-M16	4-M16
CF-H-110	25	28	63	28	30	80	225	230	100	120	68	66	144	56	18	18	78	46	35	10	180	4-M18	4-M18
CF-H-160	30	32	85	30	32	95	270	260	125	140	84	80	177	59	19	20	97	48	37	13	215	4-M20	4-M20
CF-H-240	40	42	115	40	42	120	330	320	160	180	100	100	213	65	19	20	113	54	40	13	260	4-M20	4-M20

* Pilot bores are to be drilled into the part. Minimum values for d1 and d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximum allowable drilled bore diameters.
* The TK dimension is the bolt mounting pitch diameter of the flange hub or paired mounting part.

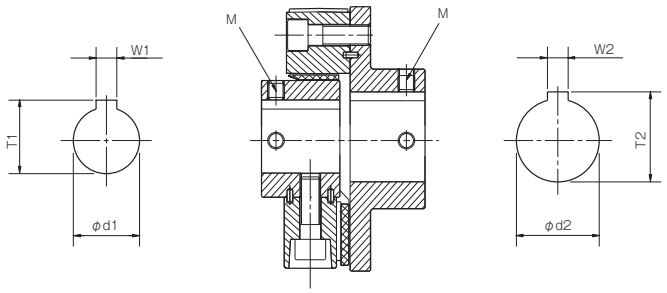
How to Place an Order

CF-H-008-O2 14H-14N

- Size: 008
- Type: O2
  - O0: Element and aluminum insert
  - OB: O0 and bolts
  - O1: OC and cylindrical hub
  - OP: O0 and spring pin
  - OC: OB and spring pin
  - O2: O1 and flange hub
- Bore diameter: d1 (Cylindrical hub) - d2 (Flange hub)
  - 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

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

Standard Hole-Drilling Standards



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	Tolerance E9	—	—		Tolerance H7	Tolerance H9	—	—		Tolerance G7, F7	Tolerance H9	—	—
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	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
63	63 $^{+0.030}_{0}$	18 $^{+0.075}_{+0.032}$	69.0 $^{+0.3}_{0}$	2-M10	63H	63 $^{+0.030}_{0}$	18 $^{+0.043}_{0}$	67.4 $^{+0.3}_{0}$	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

Set screw position

Cylindrical hub coupling size	Distance from edge [mm]
008	7
016	10
030	11
040	10
050 • 090 • 110	11
160 • 240	15

Flange hub coupling size	Distance from edge [mm]
008	9
016	10
030	15
040	10
050 • 090 • 110	15
160 • 240	15

NOTE

- Positions of set screws and keyways are not on the same plane.
- Set screws are included with the product.
- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision for a particular flange hub.
- Consult the technical documentation at the end of this volume for standard dimensions for bore drilling other than those given here.
- We can also machine splines. Please contact Miki Pulley.

CF-H Models

Items Checked for Design Purposes

Special Items to Take Note of

You should note the following to prevent any problems.

(1) Always be careful of parallel, angular, and axial misalignment.

(2) Always tighten bolts with the specified torque.

Precautions for Handling

CF-H models are delivered in component form. Pay close attention to the assembly methods shown below when mounting couplings.

(1) Couplings are designed for use within an operating temperature range of -40℃ to 120℃ .

(2) The elements have excellent oil resistance, but avoid using them submerged in oil or in oil mist atmospheres. Also, if the coupling will be stored rather than used immediately, store it in a cool location out of sunlight.

(3) Bolts for mounting (other than clamping screws) are given a microcapsule coating that takes effect after mounting to stop loosening. Screw fixatives or other adhesives are therefore unnecessary. Also, store the couplings in well ventilated locations away from moisture to preserve their efficacy and keep them out of contact with oils.

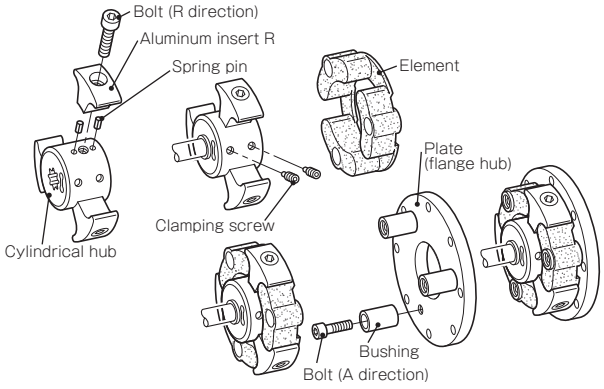
Assembly (When Using Clamping Hub)

(1) Press the spring pin into the cylindrical hub (except for coupling size 008), and then lock aluminum insert R into the cylindrical hub.

(2) Mount the cylindrical hub (clamping hub) onto the spline shaft, and then tighten the clamping screw to lock.

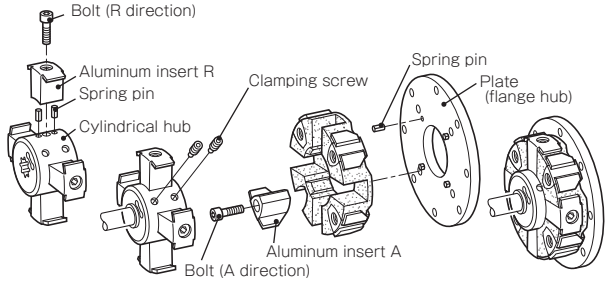
(3) **a. Coupling sizes 008 and 016**

Lock the bushing onto the flange hub (flywheel side).
Push the element into the cylindrical hub.



b. Coupling sizes 030, 040, 050, 090, 110, 160, and 240

Press the spring pin into the flange hub (flywheel side), add aluminum insert A to the element, and then lock it to the flange hub (flywheel side).



Bolt Specifications and Tightening Torques

The bolts are hex-socket-head bolts that conform to JIS B1176, are zinc plated, and have microcapsule coatings (to prevent loosening). The clamping screws are hex-socket-head screws (dog point) that conform to JIS B1177.
Tighten each of the bolts and clamping screws to the tightening torques given in the following tables, using a torque wrench or the like. To ensure secure fastening, apply an extremely small amount of grease to the seat surface of the bolt. (Be careful not to get grease on the threads of the bolt.)

■ Bolt specifications and tightening torques in directions R and A

Model	Strength classification	R direction/A direction Nominal bolt diameter	Tightening torque [N·m]
CF-H-008	8.8 or over	3-M10 × 30	49 ~ 54
CF-H-016	8.8 or over	3-M12 × 35	85 ~ 94
CF-H-030	8.8 or over	3-M16 × 50	210 ~ 230
CF-H-040	8.8 or over	4-M16 × 45	210 ~ 230
CF-H-050	8.8 or over	4-M16 × 50	210 ~ 230
CF-H-090	8.8 or over	4-M16 × 50	210 ~ 230
CF-H-110	10.9 or over	4-M18 × 55	310 ~ 330
CF-H-160	10.9 or over	4-M20 × 50	440 ~ 490
CF-H-240	10.9 or over	4-M20 × 65	440 ~ 490

* The nominal diameter of bolts are equal to the quantity minus the nominal diameter of the screw threads times the nominal length.
* Contact Miki Pulley if you plan to use bolts with specifications other than those shown.

■ Clamping screw specifications and tightening torques

Model	Clamping screw nominal diameter	Tightening torque [N·m]
CF-H-008	2-M10	25 ~ 30
CF-H-016	2-M12	40 ~ 50
CF-H-030	2-M16	100 ~ 120
CF-H-040	2-M16	100 ~ 120
CF-H-050	2-M16	100 ~ 120
CF-H-090	2-M16	100 ~ 120
CF-H-110	2-M16	100 ~ 120
CF-H-160	2-M20	200 ~ 220
CF-H-240	2-M20	200 ~ 220

* The nominal diameter of clamping screws are equal to the quantity minus the nominal diameter of the screw threads.

Designing a Cylindrical or Flange Hub

■ Materials

When designing a new cylindrical hub, flange hub, flywheel mounting plate, or the like, use the following materials or materials that have at least the following tensile strength.

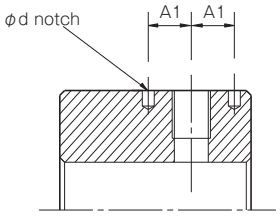
If the material is not strong enough on the flywheel side, it can be compensated for by changing the bolt length. Contact Miki Pulley for details.

Hub type	Material	Tensile strength
Cylindrical hub	S 45 C	569 N/mm² or higher
Flange hub	FCD 450	450N/mm² or higher

■ Spring pin bore dimensions

Consult the following table for spring pin bore dimensions for cylindrical or flange hubs (flywheel side). (Coupling size 016 or larger)

■ Cylindrical hub

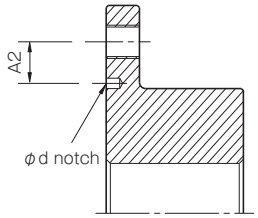


Unit [mm]

Model	A1 ± 0.1	d	Depth	Spring pin specification
CF-H-016	13.5	5	6.5	6- ϕ 5 × 10
CF-H-030	18.0	5	6.5	6- ϕ 5 × 10
CF-H-040	14.0	5	6.5	8- ϕ 5 × 10
CF-H-050	18.0	5	6.5	8- ϕ 5 × 10
CF-H-090	18.0	5	6.5	8- ϕ 5 × 10
CF-H-110	18.0	5	6.5	8- ϕ 5 × 10
CF-H-160	17.5	8	13.0	8- ϕ 8 × 16
CF-H-240	20.0	8	13.0	8- ϕ 8 × 16

* The nominal diameter of the spring pin is equal to the quantity minus the diameter times the length.

■ Flange hubs (flywheel side)



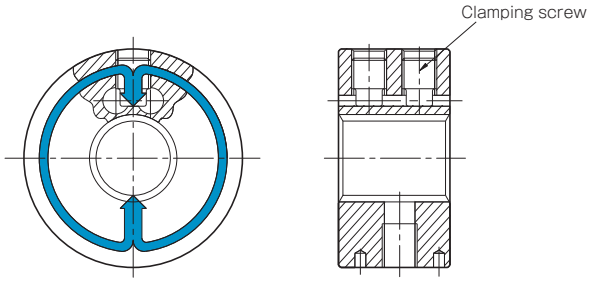
Unit [mm]

Model	A2 ± 0.1	d	Depth	Spring pin specification
CF-H-030	20	5	6.5	3- ϕ 5 × 10
CF-H-040	17	5	6.5	4- ϕ 5 × 10
CF-H-050	20	5	6.5	4- ϕ 5 × 10
CF-H-090	20	5	6.5	4- ϕ 5 × 10
CF-H-110	17.5	5	6.5	4- ϕ 5 × 10
CF-H-160	25	8	13.0	4- ϕ 8 × 16
CF-H-240	30	8	13.0	4- ϕ 8 × 16

* The nominal diameter of the spring pin is equal to the quantity minus the diameter times the length.
* Coupling size 016 does not require a spring pin bore on the flange hub side.

■ Coupling a pump shaft (spline shaft) to a cylindrical hub

We can design a clamping hub that completely locks a cylindrical hub to a spline shaft using CENTA-LOCK action. Contact Miki Pulley for details. Clamping hubs must be made to order.



CENTA-LOCK mechanism on the clamping hub

■ Recommended spline-shaft fit grades

Standards	Grade of fit
JIS D2001	Class b
SAE J498b	Class 2
ANSI B92.1	Class 5

CF-X(00/01/02) Types

Specifications

Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]		
CF-X-001	15	30	0.1	1	±0.5	10000	3.0×10^3
CF-X-002	30	60	0.1	1	±0.5	10000	6.0×10^3
CF-X-004	60	120	0.1	1	±0.5	8000	2.3×10^4
CF-X-008	120	250	0.1	1	±0.5	7000	5.8×10^4
CF-X-016	240	500	0.1	1	±0.5	6000	1.1×10^5
CF-X-025	370	800	0.1	1	±0.5	5000	1.7×10^5

Model	Moment of inertia [kg·m^2]	Mass [kg]
CF-X-001-00	2.03×10^{-5}	0.04
CF-X-002-00	9.75×10^{-5}	0.1
CF-X-004-00	2.30×10^{-4}	0.2
CF-X-008-00	6.63×10^{-4}	0.3
CF-X-016-00	1.56×10^{-3}	0.5
CF-X-025-00	2.77×10^{-3}	0.6

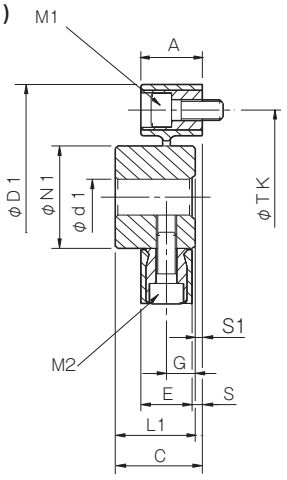
Model	Moment of inertia [kg·m^2]	Mass [kg]
CF-X-001-01	5.25×10^{-5}	0.2
CF-X-002-01	2.20×10^{-4}	0.4
CF-X-004-01	4.83×10^{-4}	0.6
CF-X-008-01	1.49×10^{-3}	1.3
CF-X-016-01	3.49×10^{-3}	2.2
CF-X-025-01	7.07×10^{-3}	3.5

Model	Moment of inertia [kg·m^2]	Mass [kg]
CF-X-001-02	1.22×10^{-4}	0.5
CF-X-002-02	5.74×10^{-4}	0.9
CF-X-004-02	1.19×10^{-3}	1.4
CF-X-008-02	3.49×10^{-3}	2.9
CF-X-016-02	9.20×10^{-3}	5.0
CF-X-025-02	1.83×10^{-2}	7.9

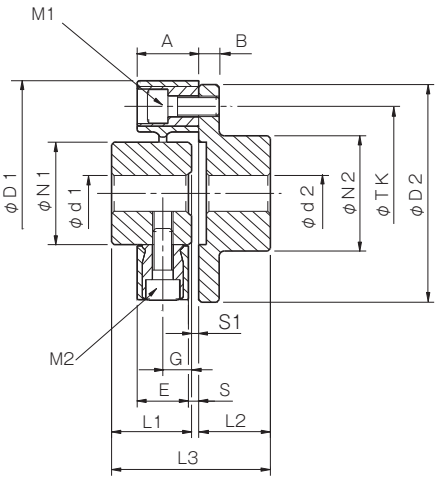
* Max. rotation speed does not take into account dynamic balance.
* Static torsional stiffness values given are from measurements taken at 20℃ .
* Values for moment of inertia and mass are those when the cylindrical hub and flange hub have pilot bores.

Dimensions

■ CF-X(O1)



■ CF-X(O2)



Unit [mm]

Model	d1			d2			D1	D2	N1	N2	L1	L2	L3	A	B	C	E	G	S	S1	M1	M2	TK
	Pilot bore	Min.	Max.	Pilot bore	Min.	Max.																	
CF-X-001	8	9	19	8	9	22	57	56	30	36	32	24	57	24	7	33	18	11	3	1	2-M6	2-M6	44
CF-X-002	10	11	26	9	10	30	88	85	40	45	30	28	62	24	8	34	20	10	4	4	2-M8	2-M8	68
CF-X-004	12	14	30	11	12	36	100	100	45	55	34	30	66.5	25	8	36.5	21	12	4	2.5	3-M8	3-M8	80
CF-X-008	12	14	38	15	16	46	125	120	60	70	40	42	85	30	10	43	26	14	4	3	3-M10	3-M10	100
CF-X-016	15	16	48	19	20	56	155	150	70	85	52	50	105	35	12	55	28	18	7	3	3-M12	3-M12	125
CF-X-025	15	16	55	19	20	65	175	170	85	100	58	56	117	40	14	61	34	20	6	3	3-M14	3-M14	140

* Pilot bores are to be drilled into the part. Minimum values for d1 and d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximum allowable drilled bore diameters.
* The nominal diameters for bolts M1/M2 are equal to the quantity minus the nominal diameter of the screw threads.
* The TK dimension is the bolt mounting pitch diameter of the flange hub or paired mounting part.

How to Place an Order

CF-X-001-O2 12H-14N

- Size
- Type
  - O0: Element only
  - O1: OB and cylindrical hub
  - OB: O0 and bolts
  - O2: O1 and flange hub
- Bore diameter: d1 (Cylindrical hub) - d2 (Flange hub)
  - 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

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

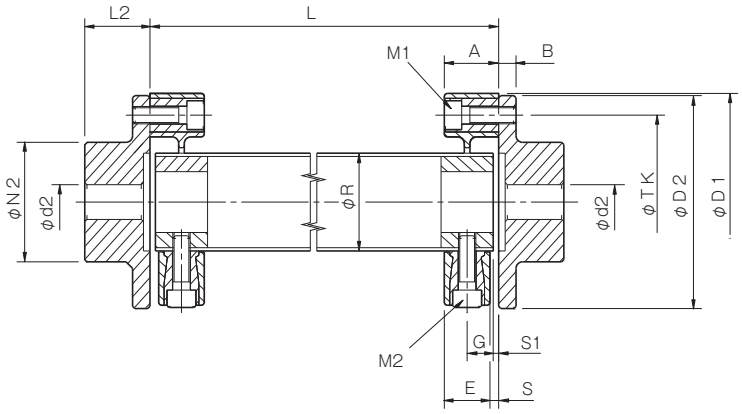
CF-X(OG) Types

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 [°]	Axial [mm]				
CF-X-001-OG	15	30	8.2	1	±0.5	2000	1.15×10^3	4.4×10^{-4}	1.2
CF-X-002-OG	30	60	8.2	1	±0.5	2000	2.40×10^3	1.6×10^{-3}	2.2
CF-X-004-OG	60	120	8.2	1	±0.5	2000	6.97×10^3	3.1×10^{-3}	3.1
CF-X-008-OG	120	250	8.1	1	±0.5	2000	1.75×10^4	8.6×10^{-3}	5.8
CF-X-016-OG	240	500	7.9	1	±0.5	2000	3.15×10^4	2.1×10^{-3}	9.6
CF-X-025-OG	370	800	7.8	1	±0.5	2000	5.76×10^4	4.2×10^{-2}	14.6

* Max. rotation speed does not take into account dynamic balance.
* Static torsional stiffness values given are from measurements taken at 20℃ .
* Values for moment of inertia and mass are those when the flange hubs have pilot bores and L = 500 mm.

Dimensions



Unit [mm]

Model	d2			D1	D2	N2	L2	A	B	E	G	S	S1	M1	M2	R	TK
	Pilot bore	Min.	Max.														
CF-X-001-OG	8	9	22	57	56	36	24	24	7	18	11	3	1	2-M6	2-M6	30	44
CF-X-002-OG	9	10	30	88	85	45	28	24	8	20	10	4	4	2-M8	2-M8	40	68
CF-X-004-OG	11	12	36	100	100	55	30	25	8	21	12	4	2.5	3-M8	3-M8	45	80
CF-X-008-OG	15	16	46	125	120	70	42	30	10	26	14	4	3	3-M10	3-M10	60	100
CF-X-016-OG	19	20	56	155	150	85	50	35	12	28	18	7	3	3-M12	3-M12	70	125
CF-X-025-OG	19	20	65	175	170	100	56	40	14	34	20	6	3	3-M14	3-M14	85	140

* Pilot bores are to be drilled into the part. Minimum values for d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximum allowable drilled bore diameters.
* The nominal diameters for bolts M1/M2 are equal to the quantity minus the nominal diameter of the screw threads, where the quantity is for one side.
* The L dimension has a standard length of 1000 mm or less. Dimension L must at least allow enough space for an M1 bolt to be mounted.

How to Place an Order

CF-X-001-OG 12H-14N L=600

- Size
- Type: OG: Floating shaft type
- 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
- Floating shaft length *Use mm units for L dimensions.

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

CF-X(O2-C) Types

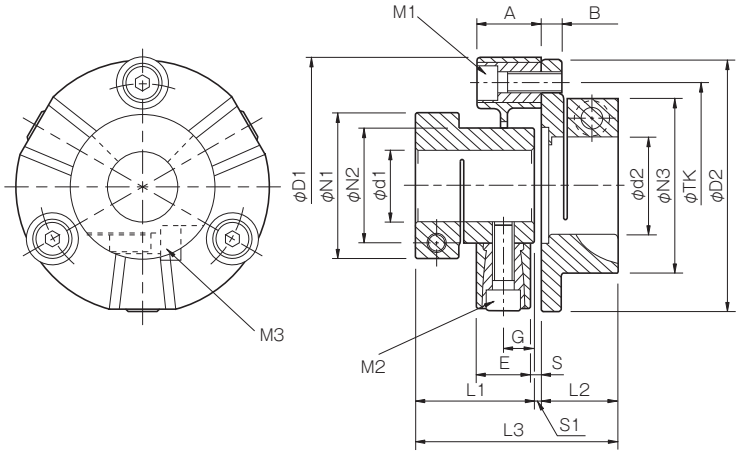
Made to order

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 [°]	Axial [mm]				
CF-X-001-O2-C	15	30	0.1	1	±0.5	10000	3.0×10^3	7.14×10^{-5}	0.2
CF-X-002-O2-C	30	60	0.1	1	±0.5	10000	6.0×10^3	3.44×10^{-4}	0.5
CF-X-004-O2-C	60	120	0.1	1	±0.5	8000	2.3×10^4	7.22×10^{-4}	0.7

* Max. rotation speed does not take into account dynamic balance.
* Static torsional stiffness values given are from measurements taken at 20℃ .
* Values for moment of inertia and mass are those when the cylindrical hub and flange hub have the minimum bore diameters.

Dimensions



Unit [mm]

Model	d1		d2		D1	D2	N1	N2	N3	L1	L2	L3	A	B	E	G	S	S1	M1	M2	M3	TK
	Min.	Max.	Min.	Max.																		
CF-X-001-O2-C	10	16	10	19	57	56	33	30	38	37	24	62	24	7	18	11	3	1	2-M6	2-M6	1-M5	44
CF-X-002-O2-C	12	25	12	25	88	85	46	40	46	43	28	75	24	8	20	10	4	4	2-M8	2-M8	1-M6	68
CF-X-004-O2-C	14	28	14	38	100	99	57	45	68	46.5	30	79	25	8	21	12	4	2.5	3-M8	3-M8	1-M8	80

* The nominal diameters for bolts M1, M2, and M3 are equal to the quantity minus the nominal diameter of the screw threads, where the quantity for clamping bolt M3 is for a hub on one side.
* The recommended processing tolerance for paired shafts is the h7 class.

Standard Bore Diameter

Model		Standard bore diameter [mm]																
		10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38
CF-X-001-O2-C	d1	●	●	●	●	●	●											
	d2	●	●	●	●	●	●	●	●									
CF-X-002-O2-C	d1			●	●	●	●	●	●	●	●	●	●					
	d2			●	●	●	●	●	●	●	●	●	●					
CF-X-004-O2-C	d1				●	●	●	●	●	●	●	●	●	●				
	d2				●	●	●	●	●	●	●	●	●	●	●	●	●	●

How to Place an Order

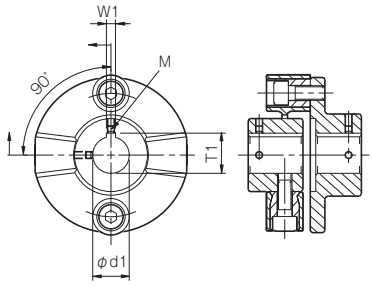
CF-X-001-O2-C 10-19

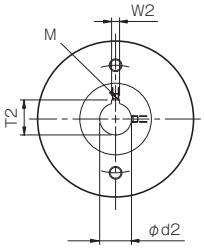
- 001: Size
- O2-C: Type — O2: Element and bolt and cylindrical hub and flange hub; C: Clamp
- 10-19: Bore diameter: d1 (Cylindrical hub) - d2 (Flange hub)

* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

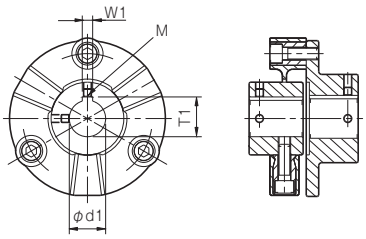
Standard Hole-Drilling Standards

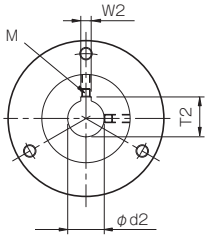
■ CF-X-001, 002





■ CF-X-004 to 025





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	—	—
9	9 $^{+0.022}_{0}$	—	—	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	—	—	—	—	—
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	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
63	63 $^{+0.030}_{0}$	18 $^{+0.075}_{+0.032}$	69.0 $^{+0.3}_{0}$	2-M10	63H	63 $^{+0.030}_{0}$	18 $^{+0.043}_{0}$	67.4 $^{+0.3}_{0}$	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

Set screw position

Cylindrical hub model	Distance from edge [mm]
CF-X-001	6
CF-X-002	6
CF-X-004	6
CF-X-008	7
CF-X-016	10
CF-X-025	10

Flange hub model	Distance from edge [mm]
CF-X-001	6
CF-X-002	7
CF-X-004	7
CF-X-008	9
CF-X-016	10
CF-X-025	10

NOTE

- All standards starting from ø11 are the same as those in the old JIS standards column.
- Positions of set screws and keyways are not on the same plane.
- Set screws are included with the product.
- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision for a particular flange hub.
- Consult the technical documentation at the end of this volume for standard dimensions for bore drilling other than those given here.

CF-X Models

Items Checked for Design Purposes

Special Items to Take Note of

You should note the following to prevent any problems.

(1) Always be careful of parallel, angular, and axial misalignment.

(2) Always tighten bolts with the specified torque.

Precautions for Handling

CF-X models are delivered in component form. Pay close attention to the misalignments for mounting and assembly methods shown below when mounting couplings.

(1) Couplings are designed for use within an operating temperature range of -30℃ to 90℃ .

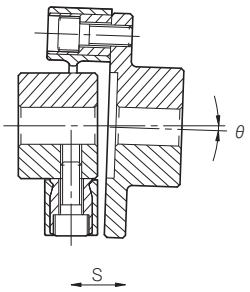
(2) Although elements are designed to be oilproof, do not subject them to excessive amounts of oil as this may cause deterioration. Use and storage in direct sunlight may shorten element service life, so cover elements appropriately.

(3) Bolts for mounting (other than CF-X(-C) type clamping bolts) are given a microcapsule coating that takes effect after mounting to stop loosening. Screw fixatives or other adhesives are therefore unnecessary. Also, store the couplings in well ventilated locations away from moisture to preserve their efficacy and keep them out of contact with oils.

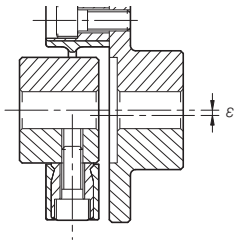
Mounting Misalignment

To get full coupling performance, mount couplings so that differences between coupling centers during operation are within the misalignment shown in the specifications table. The coupling should be mounted, however, so that the difference between centers is 50% or less of that misalignment value if rotation speed exceeds 2000 min^{-1}.

■ Angular (θ)/Axial (S)

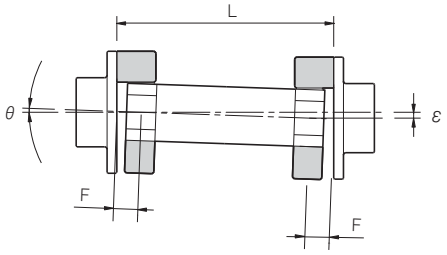


■ Parallel (ε)



The allowable values for parallel misalignment and angular deflection of the floating-shaft type OG types will vary with the floating length used. Calculate them using the equations below.

■ Calculating parallel misalignment and angular deflection for OG types



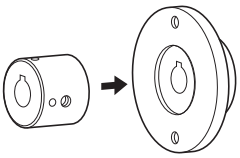
$\varepsilon = \tan\theta\ (L - 2F)$ From the dimensions table: $F = G + S1$

ε : Parallel misalignment of two shafts
θ : Angular deflection of coupling
L: Floating length

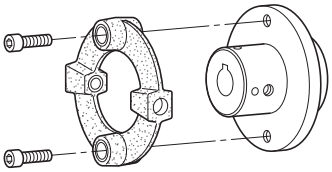
Assembly

When mounting elements onto cylindrical or flange hubs, wipe the oil on cylindrical hubs, flange hubs, and element mounting surfaces well, and then tighten with a torque wrench to the specified torque. To ensure secure fastening, apply an extremely small amount of grease to the seat surface of the bolt. (Be careful not to get grease on the threads of the bolt.)

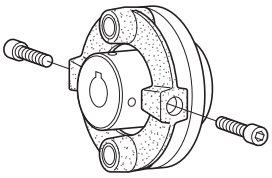
(1) To center the coupling, insert the cylindrical hub onto the centering part of the flange hub.



(2) With the cylindrical hub placed on the centering part of the flange hub, tighten the A direction bolt, and then mount the element onto the flange hub.

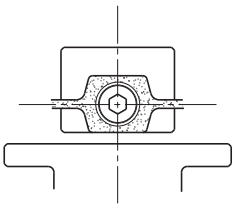


(3) Pull the cylindrical hub out a bit, tighten the R direction bolt, and then mount the element on the cylindrical hub.

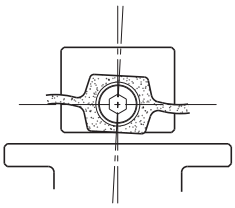


Once assembly is complete, recheck that the element is not mounted as shown in the figure below.

Good mountings



Bad mountings



Bolt Specifications and Tightening Torques

The R and A direction bolts are hex-socket-head bolts that conform to JIS B1176, are zinc plated, and have microcapsule coatings (to prevent loosening). CF-X(-C) types of bolts for clamping are also hex-socket-head bolts that conform to JIS B1176. They are surface treated with black oxide finishing to prevent loosening. Tighten each of the bolts to the tightening torques given in the following tables, using a torque wrench or the like.

■ Bolt specifications and tightening torques in directions R and A

Size	Direction R bolts	Direction A bolts	Tightening torque [N·m]
001	2-M6 × 10	2-M6 × 25	9 ～ 11
002	2-M8 × 20	2-M8 × 20	24 ～ 27
004	3-M8 × 25	3-M8 × 25	24 ～ 27
008	3-M10 × 30	3-M10 × 30	49 ～ 54
016	3-M12 × 35	3-M12 × 35	85 ～ 94
025	3-M14 × 40	3-M14 × 40	130 ～ 150

* The nominal diameters for bolts are equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

■ CF-X(-C) clamping bolt specifications and tightening torques

Size	Clamping bolt	Tightening torque [N·m]
001	2-M5 × 14	7
002	2-M6 × 15	11
004	2-M8 × 20	27

* The nominal diameters for bolts are equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

CF-B Models

Specifications

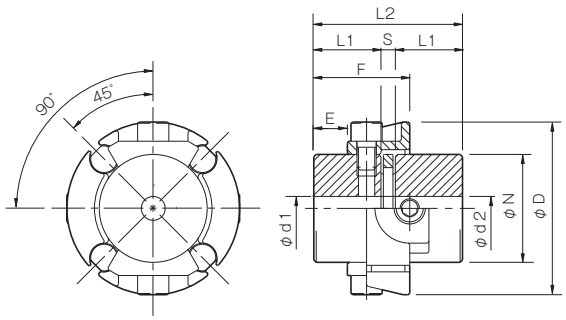
Model	Torque		Misalignment			Max. rotation speed [min^{-1}]	Static torsional stiffness [N·m/rad]	Moment of inertia [$kg·m^2$]	Mass [kg]
	Nominal [N·m]	Max. [N·m]	Parallel [mm]	Angular [°]	Axial [mm]				
CF-B-070	30	60	0.5	1.0	±1	10000	1.30×10^3	2.80×10^{-4}	0.7
CF-B-080	60	120	0.5	1.0	±1	9000	1.53×10^3	3.39×10^{-4}	0.8
CF-B-100	120	240	0.5	1.0	±1	7500	3.51×10^3	1.34×10^{-3}	2.0
CF-B-120	250	500	0.5	1.0	±1	6000	7.90×10^3	3.34×10^{-3}	3.4
CF-B-140	400	800	0.5	1.0	±1	5000	1.34×10^4	7.02×10^{-3}	5.4
CF-B-165	600	1200	0.5	1.0	±1	4000	2.36×10^4	1.78×10^{-2}	8.7
CF-B-185	1000	2000	0.5	1.0	±1	3600	1.02×10^5	3.67×10^{-2}	13.8

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 [°]	Axial [mm]				
CF-B-070-H	45	60	0.3	0.5	±1	10000	2.76×10^3	2.80×10^{-4}	0.7
CF-B-080-H	85	120	0.3	0.5	±1	9000	4.15×10^3	3.39×10^{-4}	0.8
CF-B-100-H	170	240	0.3	0.5	±1	7500	9.49×10^3	1.34×10^{-3}	2.0
CF-B-120-H	350	500	0.3	0.5	±1	6000	2.03×10^4	3.34×10^{-3}	3.4
CF-B-140-H	560	800	0.3	0.5	±1	5000	3.44×10^4	7.02×10^{-3}	5.4
CF-B-165-H	850	1200	0.3	0.5	±1	4000	5.24×10^4	1.78×10^{-2}	8.7
CF-B-185-H	1400	2000	0.3	0.5	±1	3600	2.53×10^5	3.67×10^{-2}	13.8

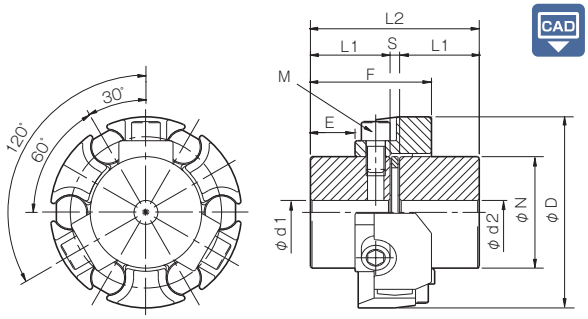
* Max. rotation speed does not take into account dynamic balance.
* Static torsional stiffness values given are from measurements taken at 20℃ .
* Values for moment of inertia and mass are those when the cylindrical hubs have pilot bores.

Dimensions

■ CF-B-070



■ CF-B-080 to 185



Model	d1・d2			D	N	L1	L2	S	E	F	M
	Pilot bore	Min.	Max.								
CF-B-070	9	10	30	72	45	28	62	6	14	40	4-M8
CF-B-080	12	14	30	76	45	30	66	6	16	42	6-M8
CF-B-100	12	14	38	98	60	42	90	6	24	64.5	6-M10
CF-B-120	15	16	48	120	70	50	106	6	28	76	6-M12
CF-B-140	15	16	55	138	85	55	116	6	30	83	6-M14
CF-B-165	19	20	60	165	100	65	138	8	36	99	6-M16
CF-B-185	29	30	80	187	115	80	170	10	45	123	6-M20

* Pilot bores are to be drilled into the part. Minimum values for d1 and d2 are given by the minimum bore diameter values in the MIKI PULLEY standard hole-drilling standards and maximum values from the maximum allowable drilled bore diameters.
* The nominal diameter for the bolt M is equal to the quantity minus the nominal diameter of the screw thread.

How to Place an Order

CF-B-070-H 12H-14N

Size

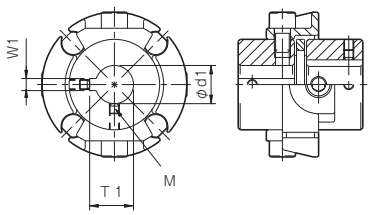
Element Material
Blank: Polyurethane resin (Green)
H: Polyester resin (Yellow)

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

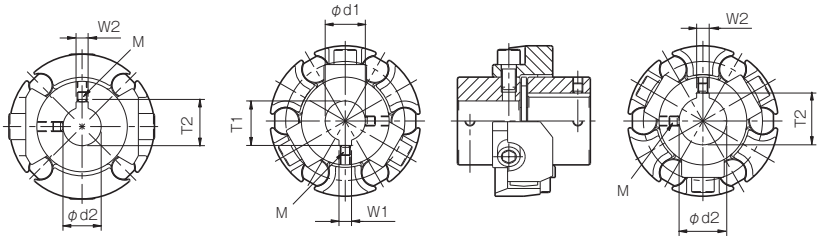
* Depending on your location and such, we may not be able to sell you our products. Please contact us for details.

Standard Hole-Drilling Standards

■ CF-B-070



■ CF-B-080 to 185



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	—	—
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	—	—	—	—	—
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	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
63	63 $^{+0.030}_{0}$	18 $^{+0.075}_{+0.032}$	69.0 $^{+0.3}_{0}$	2-M10	63H	63 $^{+0.030}_{0}$	18 $^{+0.043}_{0}$	67.4 $^{+0.3}_{0}$	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

Set screw position

Model	Distance from edge [mm]
CF-B-070	7
CF-B-080	8
CF-B-100	10
CF-B-120	10
CF-B-140	10
CF-B-165	15
CF-B-185	15

NOTE

- All standards starting from ø11 are the same as those in the old JIS standards column.
- Positions of set screws and keyways are not on the same plane.
- Set screws are included with the product.
- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision for a particular flange hub.
- Consult the technical documentation at the end of this volume for standard dimensions for bore drilling other than those given here.

CF-B Models

Items Checked for Design Purposes

Special Items to Take Note of

You should note the following to prevent any problems.

(1) Always be careful of parallel, angular, and axial misalignment.

(2) Always tighten bolts with the specified torque.

Precautions for Handling

The CF-B model cylindrical hub and aluminum insert are locked together with bolts before shipment. To maintain assembly precision, be careful to not loosen the bolts. When finishing the inner diameters of products with pilot bores, be sure to add the cylindrical hub part before machining.

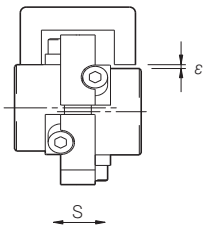
(1) The operating temperature range is -40℃ to 80℃ for polyurethane elements and -40℃ to 120℃ for polyester elements.

(2) Although elements are designed to be oilproof, do not subject them to excessive amounts of oil as this may cause deterioration. Use and storage in direct sunlight may shorten element service life, so cover elements appropriately.

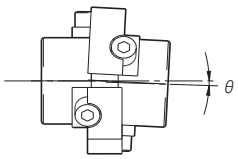
Mounting Misalignment

To get full coupling performance, mount couplings so that differences between coupling centers during operation are within the misalignment shown in the specifications table. The coupling should be mounted, however, so that the difference between centers is 50% or less of that misalignment value if rotation speed exceeds 2000 min^{-1}. Check centering by holding a jig to the outer circumference of the cylindrical hub, using two points about 90° apart. Set the axial displacement S using the total length (L2) as a reference.

■ Parallel (ε)/Axial (S)



■ Angular (θ)



Bolt Specifications and Tightening Torques

The bolts are galvanized hex-socket-head bolts that conform to JIS B1176 and are microcapsule-coated (to prevent loosening).

Type	Nominal bolt diameter	Tightening torque [N·m]
CF-B-070	4-M8 × 12	25
CF-B-080	6-M8 × 12	25
CF-B-100	6-M10 × 18	50
CF-B-120	6-M12 × 20	90
CF-B-140	6-M14 × 25	140
CF-B-165	6-M16 × 30	220
CF-B-185	6-M20 × 32	470

* The nominal diameters for bolts are equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

Induction Motor Specifications and Easy Selection Table

Motor		50Hz: 3000min^{-1}/60Hz: 3600min^{-1}				50Hz: 1500min^{-1}/60Hz: 1800min^{-1}			
		Two-pole motor		CENTAFLEX		Four-pole motor		CENTAFLEX	
Output [kW]	Frequency [Hz]	Shaft diameter [mm]	Torque [N·m]	Model	Nominal bore diameter	Shaft diameter [mm]	Torque [N·m]	Model	Nominal bore diameter
0.4	50	14	1.3	CF-B-070	14N	14	2.6	CF-B-070	14N
	60	14	1.1	CF-B-070	14N	14	2.2	CF-B-070	14N
0.75	50	19	2.4	CF-B-070	19N	19	4.9	CF-B-070	19N
	60	19	2	CF-B-070	19N	19	4.1	CF-B-070	19N
1.5	50	24	4.9	CF-B-070	24N	24	9.7	CF-B-070	24N
	60	24	4.1	CF-B-070	24N	24	8.1	CF-B-070	24N
2.2	50	24	7.1	CF-B-070	24N	28	14	CF-B-070	28N
	60	24	6	CF-B-070	24N	28	12	CF-B-070	28N
3.7	50	28	12	CF-B-070	28N	28	24	CF-B-080	28N
	60	28	10	CF-B-070	28N	28	20	CF-B-080	28N
5.5	50	38	18	CF-B-100	38N	38	36	CF-B-100	38N
	60	38	15	CF-B-100	38N	38	30	CF-B-100	38N
7.5	50	38	24	CF-B-100	38N	38	49	CF-B-100	38N
	60	38	20	CF-B-100	38N	38	41	CF-B-100	38N
11.0	50	42	36	CF-B-120	42N	42	71	CF-B-120	42N
	60	42	30	CF-B-120	42N	42	59	CF-B-120	42N
15.0	50	42	49	CF-B-120	42N	42	97	CF-B-120	42N
	60	42	41	CF-B-120	42N	42	81	CF-B-120	42N
18.5	50	42	60	CF-B-120	42N	48	120	CF-B-120	48N
	60	42	50	CF-B-120	42N	48	100	CF-B-120	48N
22.0	50	48	71	CF-B-120	48N	48	143	CF-B-120	48N
	60	48	59	CF-B-120	48N	48	119	CF-B-120	48N
30.0	50	55	97	CF-B-140	55N	55	195	CF-B-140	55N
	60	55	81	CF-B-140	55N	55	162	CF-B-140	55N
37.0	50	55	120	CF-B-140	55N	60	240	CF-B-165	60N
	60	55	100	CF-B-140	55N	60	200	CF-B-165	60N
45.0	50	55	146	CF-B-140	55N	60	292	CF-B-165	60N
	60	55	122	CF-B-140	55N	60	243	CF-B-165	60N

* The above table shows generally suitable sizes for use on an induction motor drive unit.
* Motor rotation speed and output torque are calculated (reference) values.

CM Models

Made to order

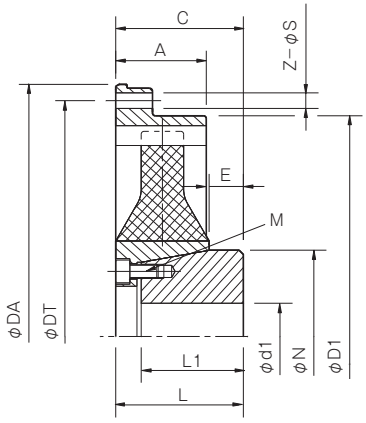
Specifications

Model	Shore hardness 50SH Torque			Shore hardness 50SH Dynamic torsional stiffness [N·m/rad]	Shore hardness 60SH Torque			Shore hardness 60SH Dynamic torsional stiffness [N·m/rad]	Misalignment		Max. rotation speed [min^{-1}]	Compatible flange size SAE J620
	Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]		Nominal [N·m]	Max. [N·m]	Continuous vibration torque [N·m/10 Hz]		Parallel [mm]	Angular [°]		
CM-800-S1	700	1400	280	2.80×10^3	850	1700	340	4.20×10^3	0.5	0.5	3600	10 • 11½ • 14
CM-1200-S1	1000	2000	400	4.50×10^3	1200	2400	480	7.00×10^3	0.5	0.5	3500	11½ • 14
CM-2400-S1	2000	4000	800	1.00×10^4	2500	5000	1000	1.50×10^4	0.5	0.5	3000	14
CM-2800-S1	2800	6000	1120	2.50×10^4	3000	7500	1200	3.75×10^4	0.5	0.5	3000	14
CM-3000-S1	3000	6000	1200	1.00×10^4	3300	7000	1300	1.51×10^4	0.5	0.5	3000	14 • 18
CM-3500-S1	3200	6500	1280	1.60×10^4	3500	8000	1400	2.40×10^4	0.5	0.5	3000	14 • 18
CM-4000-S1	—	—	—	—	4500	11000	1800	5.00×10^4	0.5	0.5	3000	14 • 18
CM-5000-S1	4500	9000	1800	1.70×10^4	5000	10000	2000	2.70×10^4	0.5	0.5	3000	14 • 18
CM-7000-S1	6300	12600	2520	2.85×10^4	7000	14000	2800	4.50×10^4	0.5	0.5	2500	18
CM-8000-S1	—	—	—	—	9000	22000	3600	8.00×10^4	0.5	0.5	2500	18 • 21
CM-18000-S1	16000	32000	6400	1.15×10^5	18000	36000	7200	1.70×10^5	0.5	0.5	2300	21

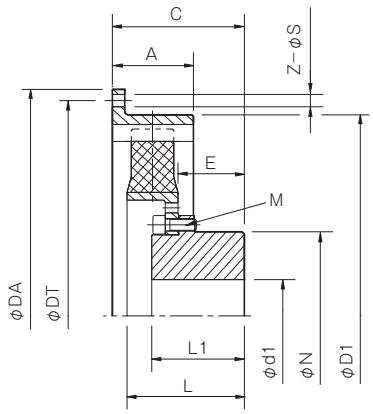
* Max. rotation speed is for the minimum flange size.
* This also does not take into account dynamic balance.

Dimensions

■ CM-800 ~ 2400-S1



■ CM-2800 ~ 18000-S1



Unit [mm]

Model	Adaptive flange size SAE J620	A	C	d1		D1	E	L	L1	N	M
				Pilot bore	Max.						
CM-800	10	50	82 ± 2	18	70	316	18	84	66	107	8-M10
	11½	39	71 ± 3	18	70	318	18	84	66	107	8-M10
	14	46	74 ± 6	18	70	318	18	84	66	107	8-M10
CM-1200	11½	39	65 ± 4	18	70	318	18	84	66	107	8-M10
	14	46	74 ± 1	18	70	318	18	84	66	107	8-M10
CM-2400	14	61	85^{+8}_{-2}	28	105	417	16	96	75	150	8-M12
CM-2800	14	61	130 ± 4	33	110	417	71	126	100	162	8-M16
CM-3000	14 • 18	70	135 ± 8	19	65	465	53	135	105	100	12-M12
CM-3500	14 • 18	70	135 ± 6	33	110	465	59	139	100	162	8-M16
CM-4000	14 • 18	70	161 ± 6	48	140	465	94	159	125	218	12-M16
CM-5000	14 • 18	70	147 ± 2	35	110	465	64	159	105	162	12-M16
CM-7000	18	80	159 ± 9	48	140	570	76	161	125	218	12-M16
CM-8000	18	90	197 ± 5	68	175	600	110	195	150	248	12-M20
	21	90	197 ± 5	68	175	584	110	195	150	248	12-M20
CM-18000	21	141	310 ± 9	70	175	680	176	306	200	248	24-M20

Nominal adaptive flange size	10	11	14	18	21
Adaptive flange size SAE J620	10	11½	14	18	21
DA	314.3	352.4	466.7	571.5	673.1
DT	295.3	333.4	438.2	542.9	641.4
Z	8 × 45°	8 × 45°	8 × 45°	6 × 60°	12 × 30°
S	11	11	13	17	17

* The dimensions of the outer ring on the drive side are for mounting directly on an SAE J620 flywheel.

How to Place an Order

CM-1200-S1-50-14

- Size
- Type
  - O0: Rubber body
  - S0: O0 and outer ring
  - SB: S0 and bolt
  - S1: SB and inner hub
- Shore hardness (Rubber)
  - 50: SH 50
  - 60: SH 60
- Nominal optimal flange size
  - 10: 10, 11: 11½, 14: 14
  - 18: 18, 21: 21

Items Checked for Design Purposes

Special Items to Take Note of

You should note the following to prevent any problems.

(1) Always be careful of parallel, and angular misalignment.

(2) Always tighten bolts with the specified torque.

Precautions for Handling

CM models are delivered in component form. Pay close attention to the misalignments for mounting shown below when mounting couplings.

(1) Couplings are designed for use within an operating temperature range of -30℃ to 80℃ .

(2) Rubber pieces are not sufficiently resistant to oil and grease, so avoid contact with these substances. Use and storage in direct sunlight may shorten service life of rubber bodies, so cover them appropriately.

(3) Be careful to never use liquid anaerobic screw fixatives on any of the mounting bolts to prevent loosening, as such fixatives have adverse effects on rubber bodies.

Mounting Misalignment

To get full coupling performance, mount couplings so that differences between coupling centers during operation are within the misalignment shown in the specifications table. When rotation speed exceeds 1500 min^{-1}, however, we recommend keeping to 50% or less of allowable values.

Parallel [mm]	Angular [°]	Axial [mm]
0.5	0.5	Tolerance C from Dimensions Table

Bolt Specifications and Tightening Torques (for Locking Inner Hubs)

Bolts are hex-socket-head bolts that conform to JIS B1176.
Tighten each of the bolts to the tightening torques given in the following tables, using a torque wrench or the like. To ensure secure fastening, apply an extremely small amount or grease to the seat surface of the bolt.

Model	Strength classification	Nominal bolt diameter	Tightening torque [N·m]
CM-800	8.8 or over	8-M10 × 20	46
CM-1200	8.8 or over	8-M10 × 20	46
CM-2400	8.8 or over	8-M12 × 25	79
CM-2800	10.9 or over	8-M16 × 40	280
CM-3000	10.9 or over	12-M12 × 30	85
CM-3500	10.9 or over	8-M16 × 40	280
CM-4000	10.9 or over	12-M16 × 40	280
CM-5000	10.9 or over	12-M16 × 40	280
CM-7000	10.9 or over	12-M16 × 40	280
CM-8000	10.9 or over	12-M20 × 50	490
CM-18000	10.9 or over	24-M20 × 50	490

* The nominal diameters for bolts are equal to the quantity minus the nominal diameter of the screw threads times the nominal length.
* Contact Miki Pulley if you plan to use bolts with specifications other than those shown.

Bolt Specifications and Tightening Torques (for Locking Outer Rings)

The bolts for locking the outer ring are not supplied. The customer must supply these bolts. Be sure to supply bolts whose specifications conform to JIS B1176 hex-socket-head bolts.
Tighten to the tightening torques given in the following tables, using a torque wrench or the like. To ensure secure fastening, apply an extremely small amount of grease to the seat surface of the bolt.

Compatible flange size SAE J620	Strength classification	Nominal bolt diameter	Tightening torque [N·m]
10	8.8 or over	8-M10	46
$11\frac{1}{2}$	8.8 or over	8-M10	46
14	8.8 or over	8-M12	79
18	8.8 or over	6-M16	195
21	8.8 or over	12-M16	195

* The nominal diameters for bolts are equal to the quantity minus the nominal diameter of the screw threads.
* Contact Miki Pulley if you plan to use bolts with specifications other than those shown.
* Be sure to use the supplied flat washers.

Designing an Inner Hub

When designing a new inner hub, contact Miki Pulley regarding materials and dimensions for mounting on the rubber piece.

CF-A/H/X/B/CM Models

Selection

Selection Procedures

(1) Find the torque, Ta, applied to the coupling using the output capacity, P, of the driver and the usage rotation speed, n.

$$Ta\ [N{\cdot}m] = 9550 \times \frac{P\ [kW]}{n(min^{-1})}$$

(2) Determine the service factor κ from the usage and operating conditions, and find the corrected torque, Td, applied to the coupling.

$$Td\ [N{\cdot}m] = Ta \times K1 \times K2 \times K3 \times K4$$

K1: Service factor based on load property
K2: Service factor based on operating time
K3: Service factor based on mounting misalignment
K4: Service factor based on operating temperature

(3) Set the size so that the nominal torque of the coupling, Tn, is at least equal to the corrected torque, Td.

$$Tn \geqq Td$$

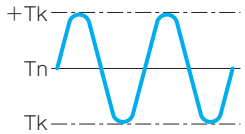
(4) Select a size that results in a maximum torque, Tm, for the coupling that is at least equal to the peak torque, Ts, generated by the driver, follower or both. Maximum torque refers to the maximum amount of torque that can be applied for a set amount of time considering eight hours of operation per day and up to around ten instances.

$$Tm \geqq Ts$$

(5) Find the corrected fluctuation torque, Tkw1, of the coupling using the following equation.
(For CF-A or CM)

$$Tkw1 = Tk \times Sf \times St$$

Tk: Size of torque fluctuation
Sf: Period (fluctuation) coefficient
St: Temperature coefficient (=K4)
Tn is at or below the nominal torque.



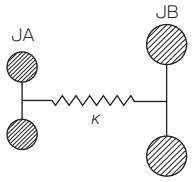
f [Hz]	≦10	>10
Sf	1	$\sqrt{\frac{f}{10}}$

Check that the corrected fluctuation torque, Tkw1, calculated from the above equation is within the rated fluctuation torque, Tkw, of the selected size.

(6) When the required shaft diameter exceeds the maximum bore diameter of the selected size, select a suitable coupling.
When the coupling is used in machinery prone to periodic violent load-torque fluctuations, torsional vibration must also be considered in addition to the above selection criteria. In other words, check that the vibration frequency of the torque fluctuation does not match the natural frequency of the shafting. The natural frequency is generally calculated by finding the natural frequency, fe, of one section, approximating the shafting as shown in the diagram below.

$$fe = \frac{1}{2\pi}\sqrt{\kappa\left(\frac{1}{JA}+\frac{1}{JB}\right)}\ [Hz]$$

κ : Dynamic torsional stiffness of coupling [N·m/rad]
JA: Moment of inertia of driving side [kg·m^2]
JB: Moment of inertia of driven side [kg·m^2]



Selection

Service Factors

■ Service factor based on load property: K1

● Winches	1.5
● Elevators	
Rope type	1.25
Hydraulic	2.0
● Agitators	1.0
● Metal molding machines	
Pultrusion/extrusion machines	2.0
Slitter machines	1.0
Wire drawers, rolling mills	1.75
Copper wire winders	1.5
● Cranes and hoists	
Hoist cranes	2.0
Skip hoists, hoists with trolleys	1.75
● Cooling towers	2.0
● Industrial washers	2.0
● Machine tools	
Auxiliary drives, transport devices	1.0
Bending and pressing machines	1.75
Main drive components	1.5
● Conveyors	
Belt, chain, roller	1.0
Screws, elevating (flat)	1.0
Elevating (bucket)	1.25
Vibrating screens	3.0
● Compressors	1.0
Centrifugal	
Rotary	1.25
Reciprocal	
2 cylinders or fewer	3.0
3 cylinders	2.0
4 cylinders or more	1.75
● Screens	
Air cleaners, water intake	1.0
Rotary coal and gravel screens	1.5
Vibrating types	2.5
● Ventilators	
Centrifugal	1.0
Impeller type	1.25
● Tumbling barrel	1.75
● Power meters	1.0
● Induction motors	
Constant load	1.0
Medium variable load (hoist)	1.5
Large variable load (welder)	2.0
● Hammer mills	2.0
● Feeders	
Aprons, belts, discs, screws	1.0
Reciprocal	2.5
● Pumps	
Centrifugal	1.0
Geared, rotary, vanes	1.25
Reciprocal	
1 cylinders	2.0
2 cylinders	1.75
3 cylinders or more	1.5
● Mixers	
Concrete	1.75
Pulverizing	1.5

* The values of the above table are generally recommended values.
* The values of the above table are suitable for electric motors, steam turbines, and internal combustion engines or four or more cylinders.
* For internal combustion engine drives with a single cylinder, add 0.7 to the above values.
For internal combustion engine drives with two or three cylinders, add 0.3 to the above values.

■ Service factor based on operating time: K2

Hrs./day	8 ≧	10	12	14	16	18	20	22	24
K2	1.0	1.1	1.2		1.3		1.4		1.5

■ Service factor based on mounting misalignment: K3 (=K ε × K θ)

(1) CENTAFLEX CF-A

● Sizes 001, 002, 004, 008, 012

Parallel [mm]	0.3	0.5	0.8	1.0
K ε	1.0	1.2	1.5	2.0

● Sizes 016, 022, 025, 028, 030, 050, 080, 090, 140, 200, 250, 400

Parallel [mm]	0.5	0.8	1.0	1.5
K ε	1.0	1.3	1.5	2.0

● Sizes 001, 002, 004, 008, 016, 025, 030, 090

Angular [°]	0.5	1.0	1.5	2.0	2.5	3.0
K θ	1.0	1.1	1.3	1.5	1.8	2.0

● Sizes 012, 022, 028, 050, 080, 140, 200, 250, 400

Angular [°]	0.5	1.0	1.5	2.0
K θ	1.0	1.2	1.5	2.0

(2) CENTAFLEX CF-H

Parallel [mm]	0.3	0.4
K ε	1.0	1.1

Angular [°]	0.5
K θ	1.0

(3) CENTAFLEX CF-X

Parallel [mm]	0.05	0.1
K ε	1.0	1.5

Angular [°]	0.5	1.0
K θ	1.0	1.5

(4) CENTAFLEX CF-B (polyurethane)

Parallel [mm]	0.2	0.3	0.5
K ε	1.0	1.1	1.2

Angular [°]	0.5	1.0
K θ	1.0	1.1

(5) CENTAFLEX CF-B-H (polyester)

Parallel [mm]	0.1	0.2	0.3
K ε	1.0	1.1	1.2

Angular [°]	0.25	0.5
K θ	1.0	1.1

(6) CENTAMAX CM

Parallel [mm]	0.5
K ε	1.0

Angular [°]	0.5
K θ	1.0

■ Service factor based on operating temperature: K4 (=St)

Temperature [℃]	− 20	− 10	0	10	20	30	40	50	60	70	80	90	100
CF-A				1.0					1.1	1.2	1.4	1.6	—
CF-H							1.0						
CF-X	1.3		1.2		1.0		1.2		1.5			1.8	—
CF-B				1.0				1.1		1.3		—	
CF-B-H					1.0						1.1		
CM				1.0					1.1	1.2	1.4	—	