

MFB

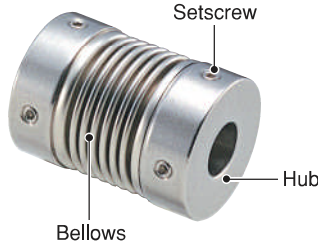


Configuration

MFB Setscrew Type



MFBS Setscrew Type



MFB-C Clamp Type



MFBS-C Clamp Type



Material		Attachment	
Hub	Bellows	Setscrew Type	Clamp Type
Aluminum Alloy	Phoshor Bronze	MFB -**	MFB -** C
Stainless Steel	Stainless Steel	MFBS-**	MFBS-** C

Material & Finish

Code	MFB	MFBS
Hub	A2017 Anodized Coating	SUS303
Bellows	C5191	SUS316L
Setscrew	SCM435 Black Oxide Coating*	SUSXM7
Cap Screw	SCM435 Black Oxide Coating*	SUSXM7

* Stock screws can be replaced with stainless steel screws. Please take advantage of our stainless steel screw option. For more information please refer to page 16.

Features

Merits

- Constant Velocity
- Zero Backlash

- Bellows type flexible coupling
- High Torsional Stiffness and High Response
- Spring action bellows configuration absorbs parallel, angular and shaft end-play misalignments
- Constant velocity even under misalignment
- Identical clockwise and counter-clockwise rotational characteristics
- Bellows available in stainless steel or phosphor bronze (Hub : Aluminum Alloy)
- Finished products featuring two different end bore diameters available in stock

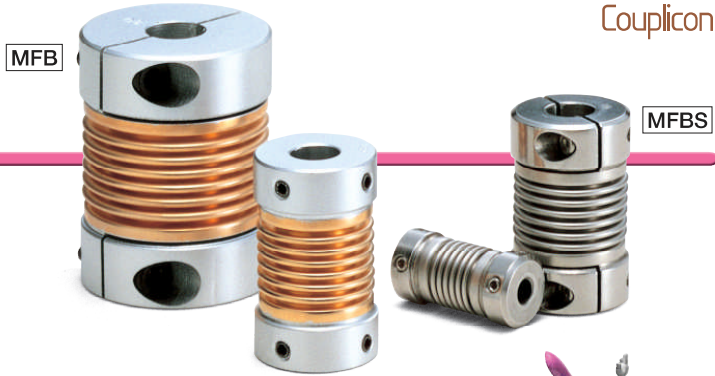
Application	
Servomotor	—
Stepping Motor	●
General-Purpose Motor	—
Encoder	◎
Special Characteristics	
Zero Backlash	◎
High Torsional Stiffness	●
High Torque	●
Allowable Misalignment	●
Vibration Absorption	—
Electrical Insulation	—
Corrosion Resistant (All Stainless Steel)	◎

◎ : Excellent ● : Very Good

When Ordering

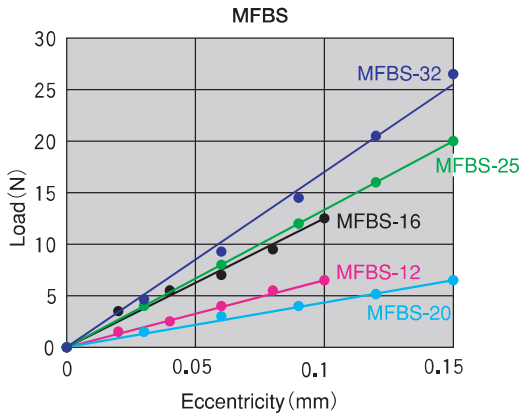
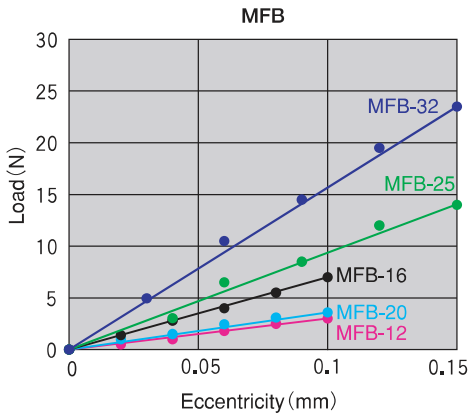
Specify product code and both bore diameters.



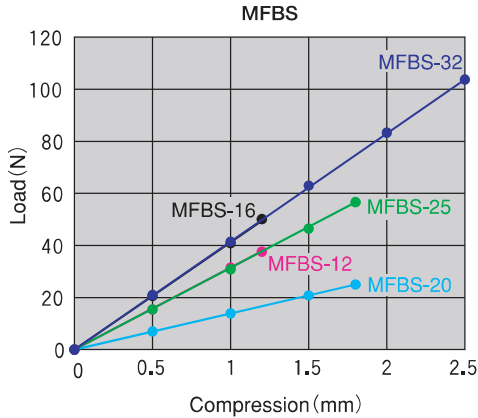
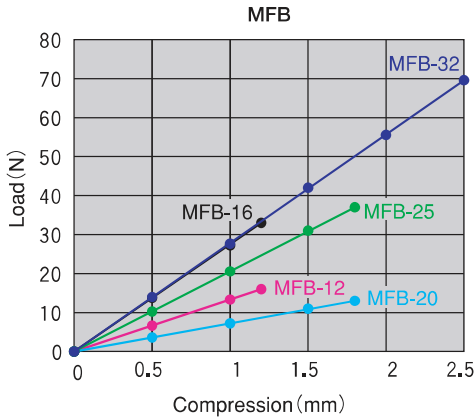


Technical Data

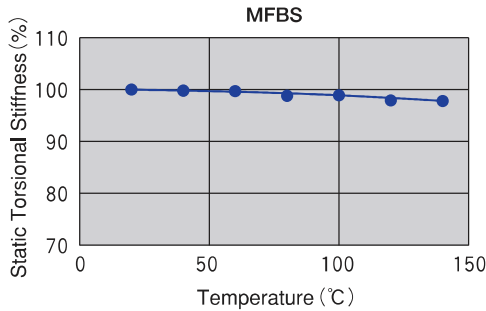
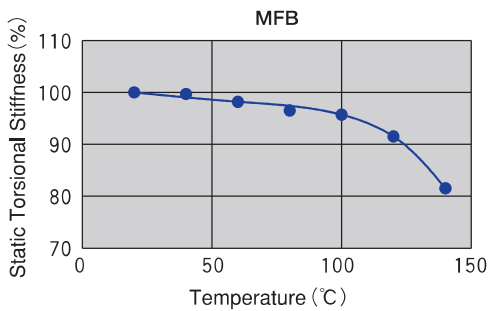
Eccentric Reaction Force



Thrust Reaction Force



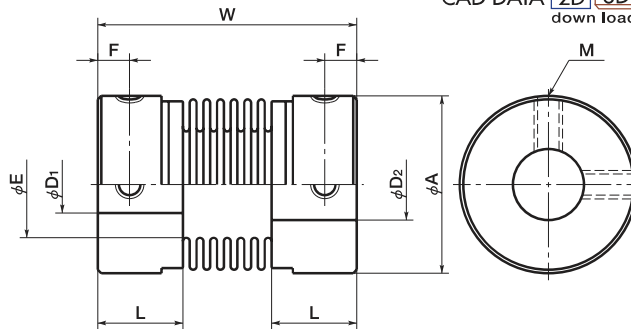
Changes in Static Torsional Stiffness Caused by Temperature



100% values represent product performance at 20°C.

Because [MFB] and [MFBS] experience very little change in static torsional stiffness caused by temperature, the effect on response is minimal. However, please take into consideration that operating at high temperatures may lead to misalignment due to shaft distortion or elongation from thermal expansion.

●The technical data contained in this catalog is for convenient reference, but they are not guaranteed values. More detailed technical data can be downloaded from our homepage.



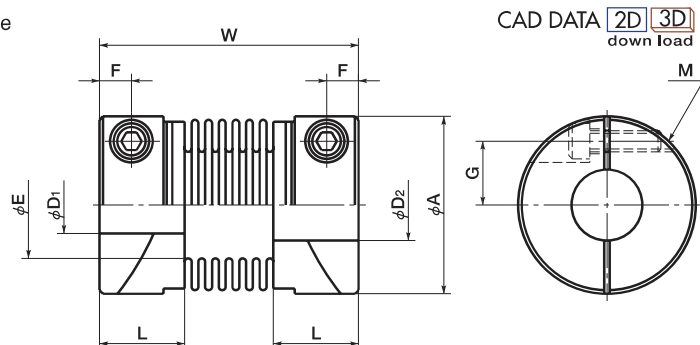
Dimensions

unit:mm

Product Code	A	L	W	E	F	G	M	Wrench Torque (N·m)	Stock Bore Diameters							
									D ₁ · D ₂							
									3	4	5	6	8	10	12	14
MFB -12	12	7,5	23,5	7	2,5	—	M2,5	0,5	●	●	●	●				
MFB -16	16	9	26,5	9,5	3	—	M3	0,7		●	●	●	●			
MFB -20	20	10	33	12,5	3,5	—	M3	0,7			●	●	●	●		
MFB -25	25	12	36,5	15	4,5	—	M4	1,7				●	●	●	●	
MFB -32	32	13,5	42	21	5,5	—	M4	1,7				●	●	●	●	●
MFBS-12	12	7,5	23,5	7	2,5	—	M2,5	0,5	●	●	●	●				
MFBS-16	16	9	26,5	9,5	3	—	M3	0,7		●	●	●	●			
MFBS-20	20	10	32	12,5	3,5	—	M3	0,7			●	●	●	●		
MFBS-25	25	12	36,5	15	4,5	—	M4	1,7				●	●	●	●	
MFBS-32	32	13,5	42	21	5,5	—	M4	1,7				●	●	●	●	●
MFB -12C	12	7,5	23,5	7	2,25	4	M2	0,5		●	●					
MFB -16C	16	9	26,5	9,5	3	5	M2,5	1			●	●				
MFB -20C	20	10	33	12,5	3,5	6,5	M2,5	1				●	●			
MFB -25C	25	12	36,5	15	4,5	9	M3	1,5					●	●		
MFB -32C	32	13,5	42	21	5	11	M4	2,5					●	●	●	●
MFBS-12C	12	7,5	23,5	7	2,25	4	M2	0,5		●	●					
MFBS-16C	16	9	26,5	9,5	3	5	M2,5	1			●	●				
MFBS-20C	20	10	32	12,5	3,5	6,5	M2,5	1				●	●			
MFBS-25C	25	12	36,5	15	4,5	9	M3	1,5					●	●		
MFBS-32C	32	13,5	42	21	5	11	M4	2,5					●	●	●	●

- All products come with set screws (MFB/MFBS) or cap screws (MFB-C/MFBS-C).
- Hubs with shaft bore diameters of ϕ 4 or less have one setscrew.
- Tolerance of shaft bore on setscrew type is H8.
- Recommended tolerance for shaft diameters is h6 and h7.
- Bore and keyway modifications are available on request. Please take advantage of our bore modification services. For more information please refer to pages 17~19.

MFBS-C MFBS-C Clamp Type



Specifications

Product Code	Max. Bore (mm)	Rated* Torque (N·m)	Max.* Torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment** of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass** (g)
MFBS-12	6,35	0,3	0,6	52000	9,0×10 ⁻⁸	82	0,10	1,5	+0,4 -1,2	4,1
MFBS-16	8	0,5	1	39000	3,5×10 ⁻⁷	110	0,10	1,5	+0,4 -1,2	9
MFBS-20	10	0,8	1,6	31000	9,9×10 ⁻⁷	180	0,15	2	+0,6 -1,8	16
MFBS-25	12	1,3	2,6	25000	3,1×10 ⁻⁶	240	0,15	2	+0,6 -1,8	32
MFBS-32	16	2	4	19000	9,2×10 ⁻⁶	330	0,20	2	+0,8 -2,5	57
MFBS-12C	6,35	0,5	1	52000	2,1×10 ⁻⁷	100	0,10	1,5	+0,4 -1,2	9,1
MFBS-16C	8	1	2	39000	8,0×10 ⁻⁷	150	0,10	1,5	+0,4 -1,2	20
MFBS-20C	10	1,5	3	31000	2,3×10 ⁻⁶	220	0,15	2	+0,6 -1,8	37
MFBS-25C	12	2	4	25000	7,0×10 ⁻⁶	330	0,15	2	+0,6 -1,8	73
MFBS-32C	16	3	6	19000	2,1×10 ⁻⁵	490	0,20	2	+0,8 -2,5	130
MFBS-12C	5	0,3	0,6	52000	9,7×10 ⁻⁸	82	0,10	1,5	+0,4 -1,2	3,8
MFBS-16C	6,35	0,5	1	39000	3,7×10 ⁻⁷	110	0,10	1,5	+0,4 -1,2	9,8
MFBS-20C	8	0,8	1,6	31000	1,0×10 ⁻⁶	180	0,15	2	+0,6 -1,8	16
MFBS-25C	10	1,3	2,6	25000	3,1×10 ⁻⁶	240	0,15	2	+0,6 -1,8	32
MFBS-32C	14	2	4	19000	9,6×10 ⁻⁶	330	0,20	2	+0,8 -2,5	58
MFBS-12C	5	0,5	1	52000	2,1×10 ⁻⁷	100	0,10	1,5	+0,4 -1,2	9,2
MFBS-16C	6,35	1	2	39000	8,1×10 ⁻⁷	150	0,10	1,5	+0,4 -1,2	22
MFBS-20C	8	1,5	3	31000	2,3×10 ⁻⁶	220	0,15	2	+0,6 -1,8	38
MFBS-25C	10	2	4	25000	6,9×10 ⁻⁶	330	0,15	2	+0,6 -1,8	74
MFBS-32C	14	3	6	19000	2,1×10 ⁻⁵	490	0,20	2	+0,8 -2,5	130

* Adjustment of rated and maximum torque specifications for load fluctuations is not required. For more detailed information, please refer to For Better Drive on page 34.
 ** Moment of inertia and mass figures based on maximum bore dimensions.

Slip Torque

Please be aware that for the bore sizes shown in the table below, the slip torque is smaller than MFBS-C's maximum torque.

unit: N·m

Product Code	Bore Diameter (mm)					
	4	5	6	8	10	12
MFBS-12C	0,4	0,6	—	—	—	—
MFBS-16C	—	0,9	1,9	—	—	—
MFBS-20C	—	—	1,6	1,8	—	—
MFBS-25C	—	—	—	2,2	2,9	—
MFBS-32C	—	—	—	3	3,4	4,1

* Testing performed with a permissible dimensional deviation of h7, hardness of 34~40 HRC and wrench torque shown in the above chart.

