

MBB Flexible Couplings - Bellows Type

Zero Backlash High torque High Rigidity

Structure

Clamping Type

MBB-C Aluminum alloy hub

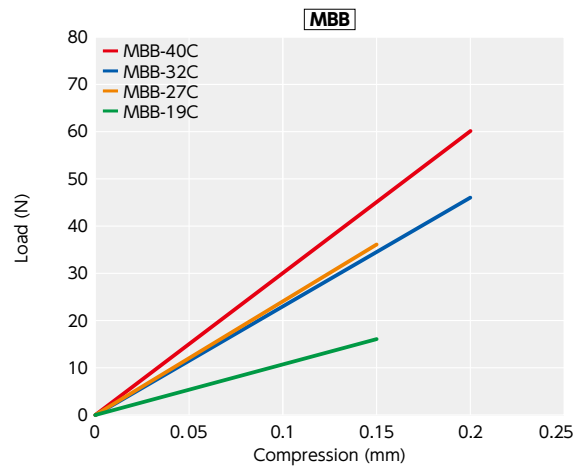


Material/Finish

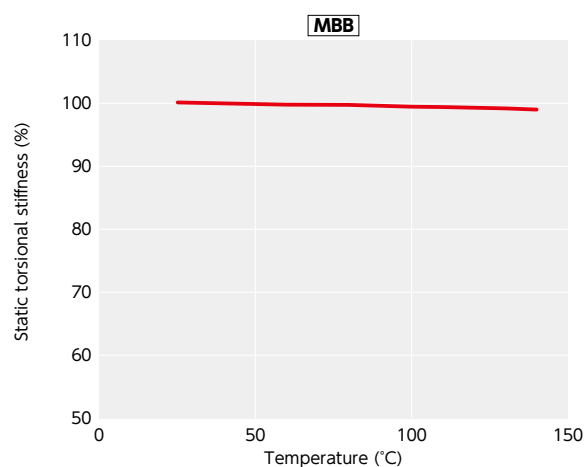
	MBB
Hub	A2017 Anodized
Bellows	SUS304
Hex Socket Head Cap Screw	SCM435 Ferrosulfur Oxide Film (Black)



Eccentric Reaction Force



Change in static torsional stiffness due to temperature



Applicable motors

	MBB
Servomotor	○
Stepping Motor	○
General-purpose Motor	●

○: Excellent ●: Available

Property

	MBB
Zero Backlash	○
Allowable Misalignment	○

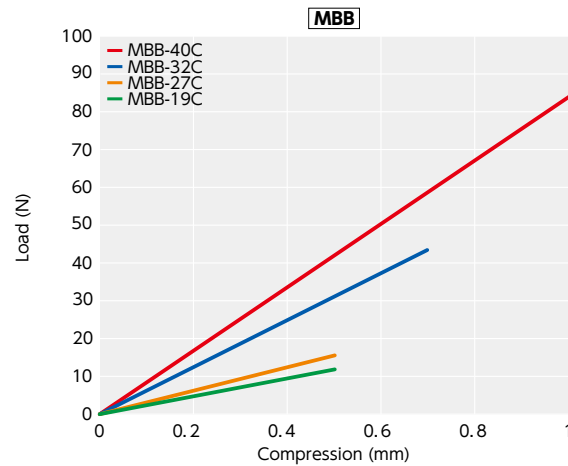
○: Excellent ○: Very good

- This is a bellows type flexible coupling.
- The bellows allows eccentricity, angular misalignment, and end-play.
- The bellows is stainless steel.

Application

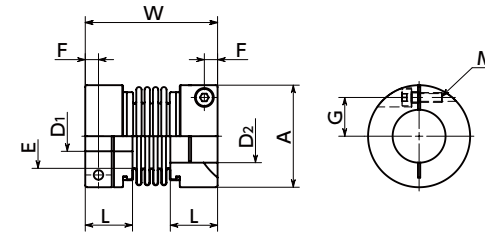
Actuator / High precision XY stage / Semiconductor devices / Encoder

Thrust Reaction Force



This is a value under the condition where the static torsional stiffness at 20°C is 100%.

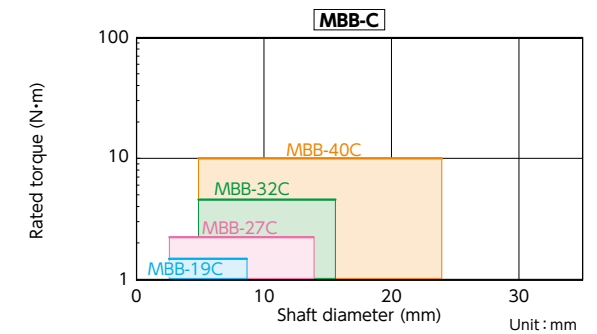
The change of **MBB** in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. If the unit is used under higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.



Selection

Selection Example

In case of selected parameters of shaft diameter of ϕ 10 and load torque of 2 N·m, the selected size for **MBB** is **MBB-27C**.



Dimensions

Part Number	Bore Diameter	A	L	W	E	F	G	M	Wrench Torque(N·m)
MBB-19C	3 ≤ D ≤ 8	19	10.5	30	12	3	6.75	M2	0.5
MBB-27C	3 ≤ D ≤ 14	27	12.5	35	17	3.5	10.25	M2.5	0.9
MBB-32C	5 ≤ D ≤ 16	32	15.5	46	22	4.25	12	M3	1.5
MBB-40C	5 ≤ D ≤ 20 20 < D ≤ 24	40	16	51	28	5	15	M4 M3	3.5

Part Number	Standard Bore Diameter D1·D2														
	3	4	5	6	8	10	12	14	15	16	17	19	20	22	24
MBB-19C	●	●	●	●	●										
MBB-27C	●	●	●	●	●	●	●	●							
MBB-32C			●	●	●	●	●	●	●	●					
MBB-40C			●	●	●	●	●	●	●	●	●	●	●	●	●

Part Number	Standard Bore Diameter D1·D2							
	1/8	3/16	1/4	3/8	1/2	5/8	3/4	7/8
MBB-19C	●	●	●					
MBB-27C	●	●	●	●	●			
MBB-32C			●	●	●	●		
MBB-40C			●	●	●	●	●	●

● For the shaft insertion amount to the coupling, see Mounting/maintenance.

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 Torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MBB-19C	8	1.5	33000	8.6 × 10 ⁻⁷	170	0.15	1.5	±0.5	16
MBB-27C	14	2.3	23000	3.6 × 10 ⁻⁶	800	0.15	1.5	±0.5	32
MBB-32C	16	4.5	19000	1.1 × 10 ⁻⁵	1600	0.2	1.5	±0.7	68
MBB-40C	24	10	15000	2.8 × 10 ⁻⁵	2700	0.2	1.5	±1	110

*1: Correction of rated torque due to load fluctuation is not required.

*2: These are values with max. bore diameter.

Slip Torque

Concerning the sizes shown in the table, please note that the shaft's slip torque is smaller than the rated torque of **MBB-C**.

Unit: N·m

Part Number	Bore Diameter (mm)		
	3	5	6
MBB-19C	0.8		
MBB-32C		2	4.2
MBB-40C		9.8	

● These are test values based on the condition of shaft's dimensional allowance: h7, hardness: from 34 - 40 HRC, and screw tightening torque of the values described in **MBB-C** dimensional table.

Part number specification

MBB-19C-6-1/4

Additional Keyway at Shaft Hole → P.xxx Cleanroom Wash & Packaging → P.xxx Change to Stainless Steel Screw → P.xxx