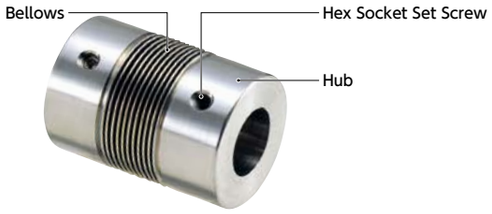
MWBS Flexible coupling - Bellows - type (high precision welding)

WEB Selection Tool | WEB CAD Download | Zero Backlash | High Allowable Misalignment | SUS Stainless steel

Structure

● Set Screw type

MWBS ➡ P.203



● Property

	MWBS
Zero Backlash	◎
Allowable Misalignment	◎
Corrosion Resistance (All S.S.)	◎

◎: Excellent ○: Very good

- This is a bellows type flexible coupling.
- The crest and root of the bellows are bonded by special high precision welding.
- Thin metal plate molded with high precision allows higher misalignment to be accepted.
- Even if there is misalignment, the constant revolution is performed.

● Application

Measurement equipment/Control device/Encoder

● Material/Finish

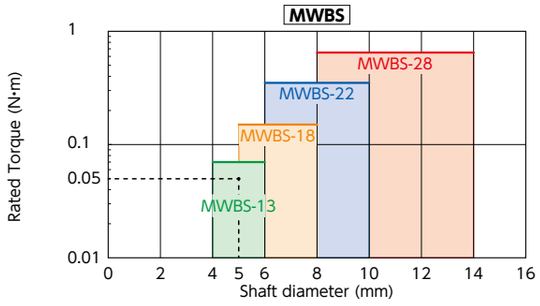
RoHS2 Compliant

	MWBS
Hub	SUS304
Bellows	SUS316L
Hex Socket Set Screw	SUSXM7

Selection

● Selection based on shaft diameter and rated torque

The area bounded by the shaft diameter and rated torque indicates is the selection size.



● Selection example

In case of selected parameters of shaft diameter of ϕ 5 and load torque of 0.05 N・m, the selected size for MWBS is MWBS-13.

● Related Products

Completely custom-made super bellows coupling with high precision welded bellows can be manufactured.
➡ P.204

● Part number specification

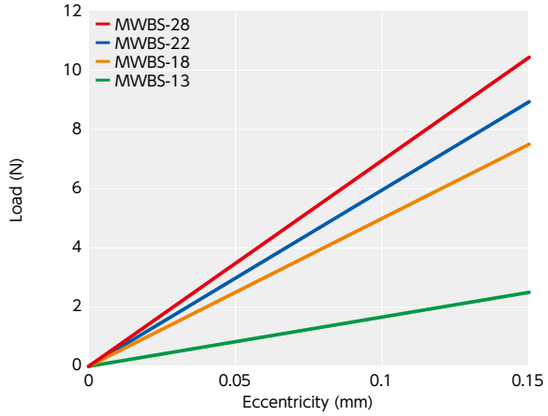
MWBS - 22 - 6-8

Product Code | Size | Bore Diameter

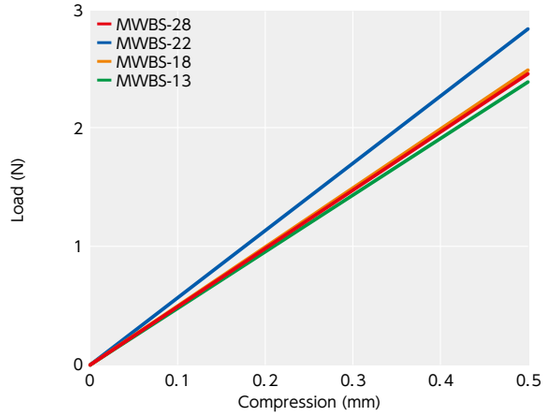
Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Please feel free to contact us	Available / Add'l charge	Changed to the S.S. screw

● Technical Information

● Eccentric reaction force

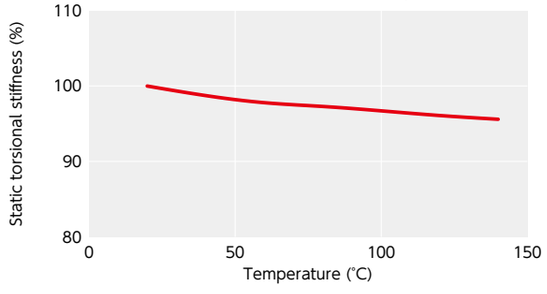


● Thrust Reaction Force



● Change in static torsional stiffness due to temperature

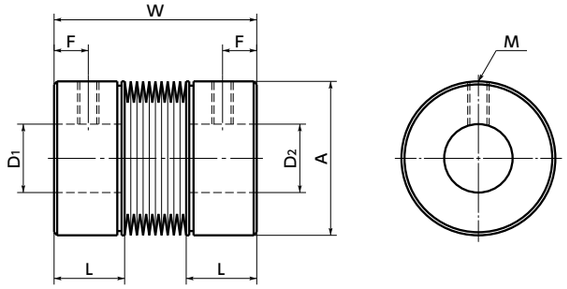
This is a value under the condition where the static torsional stiffness at 20℃ is 100%.
MWBS 's change in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. However, if the unit is used under higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.



MWBS Flexible coupling - Bellows - type (high precision welding)

Selection Tool · CAD Download · Zero Backlash · High Allowable Misalignment · SUS Stainless steel

MWBS Made of all stainless steel



Dimensions

Unit : mm

Part Number	A 1	L	W	F	M	Screw Tightening Torque (N·m)	Standard Bore Diameter (dimensional allowance H8) D1・D2 2							
							4	5	6	8	10	11	12	14
MWBS-13	13	6	16.5	3	M2	0.5	●	●	●					
MWBS-18	18	8	22	4	M2.5	1		●	●	●				
MWBS-22	22	10	27	5	M3	1.5			●	●	●			
MWBS-28	28	14	37	7	M4	2.5				●	●	●	●	●

- All products are provided with hex socket set screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max. Rotational Frequency (min^{-1})	Moment*2 of Inertia ($kg \cdot m^2$)	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MWBS-13	6	0.07	10000	2.5×10^{-7}	30	0.15	3.5	0.5	9.8
MWBS-18	8	0.15	10000	1.2×10^{-6}	40	0.15	5	0.5	25
MWBS-22	10	0.35	10000	3.4×10^{-6}	200	0.15	4	0.5	48
MWBS-28	14	0.65	10000	1.4×10^{-5}	900	0.15	4.5	0.5	110

*1 : Correction of rated torque due to load fluctuation is not required.
*2 : These are values with max. bore diameter.

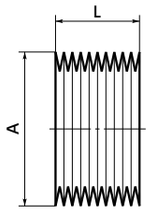
● Part number specification

MWBS - 22 - 6-8

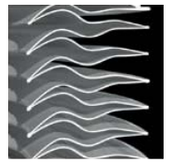
Product Code · 1 · 2

Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Please feel free to contact us	Available / Add'l charge	Changed to the S.S. screw

Super bellows Custom - made coupling



Single bellows



Double bellows

- Completely Custom-made super bellows coupling with high precision welded bellows can be designed and manufactured.
- The following table shows part of the performance that the super bellows coupling achieves. The performance depends on the type, outside diameter, threads per inch, and plate thickness of the bellows to use.

Dimensions・Performance

Type	A (mm)	Threads per inch	L (mm)	Plate thickness (mm)	Rated torque (N·m)	Max. torque (N·m)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)
Single bellows	13	10	4.5	0.05 - 0.1	0.07	0.15	0.15	3.5	±0.5
		20	9				0.3	6.5	±1
		30	13.5				0.45	10	±1.5
	18	10	6	0.05 - 0.1	0.15	0.3	0.15	5	±0.5
		20	12				0.3	9.5	±1
		30	18				0.45	14.5	±1.5
	22	10	7	0.06 - 0.1	0.35	0.7	0.2	4	±0.5
		20	14				0.4	8	±1
		30	21				0.6	12	±1.5
	28	10	9	0.1 - 0.15	0.65	1.3	0.25	6.5	±0.5
		20	18				0.5	9	±1
		30	27				0.75	14	±1.5
Double bellows	13	10	6	0.05 - 0.1	0.15	0.3	0.15	3.6	±0.5
		20	12				0.3	7.2	±1
		30	18				0.45	10	±1.5
	18	10	8	0.05 - 0.1	0.7	1.4	0.15	5.7	±0.5
		20	16				0.3	11.5	±1
		30	24				0.45	17.2	±1.5
	22	10	8	0.06 - 0.1	1.25	2.5	0.2	4.7	±0.5
		20	16				0.4	9.4	±1
		30	24				0.6	14	±1.5
	28	10	11	0.1 - 0.15	1.3	2.6	0.25	3.7	±0.5
		20	22				0.5	7.4	±1
		30	33				0.75	11	±1.5