

MSH Flexible Couplings - Beam Type

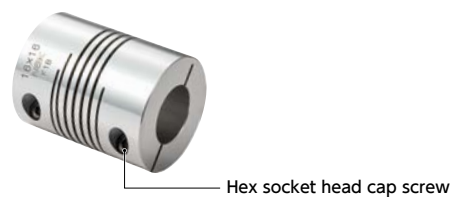
Zero Backlash

Structure

Outside diameter $\phi 8$



Outside diameter $\phi 13 - \phi 32$



Material/Finish



	MSH
Main Body	A7075 Anodized*1
Hex Socket Set Screw	SCM435 Ferrosferric Oxide Film (Black)
Hex Socket Head Cap Screw	SCM435 Ferrosferric Oxide Film (Black)

*1 : Due to manufacturing process requirements, couplings may have bores with or without surface treatment. This does not affect the performance of the couplings.

Applicable motors

	MSH
Servomotor	●
Stepping Motor	○
General-purpose Motor	●

○: Excellent ●: Available

Property

	MSH
Zero Backlash	○
Allowable Misalignment	○
Small Eccentric Reaction Force	○

○: Excellent ○: Very good

- This is a metal spring coupling with single-piece construction. A spiral-shaped slit is inserted into a cylindrical material.
- Because there is no backlash and the flexibility is excellent, it is suited to use at low torque for encoders, etc.
- The eccentric reaction force is minimal. It reduces burden on the shaft and helps prevent equipment damage.
- Metric and inch size bore diameters are available as standard.
- The structure is simple, enabling easy separation.

Application

Transport devices / actuators / optical equipment / encoders

Part number specification

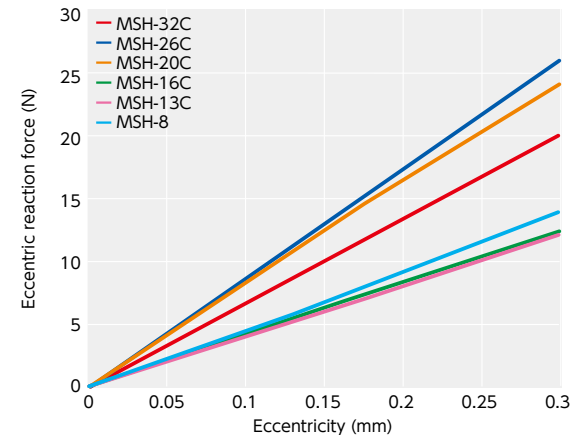
MSH-26C-1/4-8

Product Symbol Size Bore Diameter

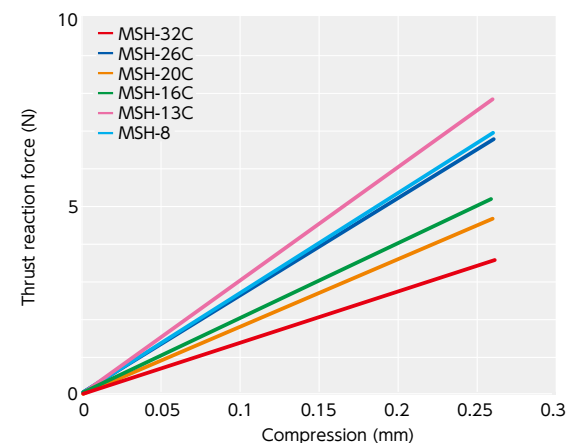
Please refer to dimensional table for part number specification.

Technical Information

Eccentric Reaction Force



Thrust Reaction Force



Slip Torque

As in the table below, the clamping types **MSH-C** have different slip torque according to the bore diameter.

Take care during selection.

Unit : N · m

Part Number	Bore Diameter (mm)						
	3	3.175	3.97	4	4.76	5	6
MSH-13C	0.3	0.3					
MSH-16C	0.4	0.3	0.3	0.5	0.3	0.3	
MSH-20C	0.4	0.6	0.8	0.6	0.9		
MSH-26C						2.6	3.3
MSH-32C							5.2

• These are test values based on the conditions of screw tightening torque of the values described in **MSH-C** dimension tables. They are not guaranteed values.

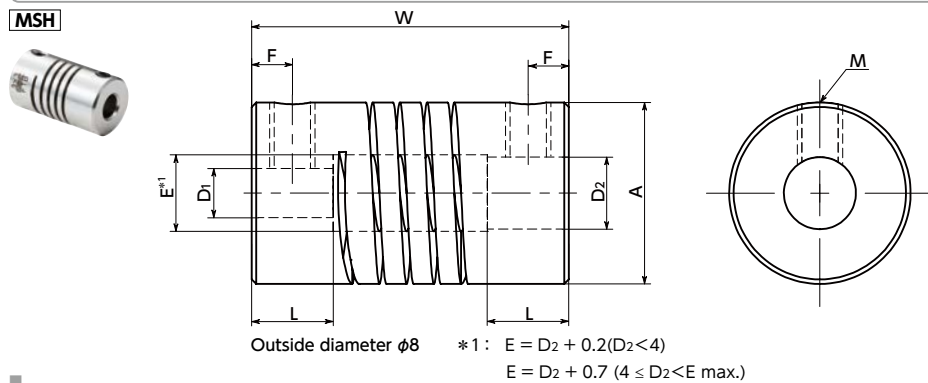
• Slip torque changes with usage conditions. Carry out tests under conditions similar to actual conditions in advance.

Additional Keyway at Shaft Hole → P.0000 Cleanroom Wash & Packaging → P.0000 Change to Stainless Steel Screw → P.0000
 Bore additional modification only/ Add'l charge Please combine with Stainless Steel Screw Alteration Service Available / Add'l charge

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Zero Backlash

MSH



Dimensions

Unit : mm

Part Number	A	L	W	E max.	F	G	M	Screw Tightening Torque (N·m)
MSH-8	8	3.6	14	3.175	1.8	—	M2	0.3
MSH-13C	13	5	19	3.6	2.5	4.4	M1.6	0.25
MSH-16C	16	5	20	5	2.5	5.2	M1.6	0.25
MSH-20C	20	5.8	22	6.3	2.9	7	M2	0.5
MSH-26C	26	7.2	31	9.5	3.6	9.2	M2.5	1
MSH-32C	32	13	41	15.8	6.5	11.5	M3	1.5

Part Number	Standard Bore Diameter (Dimensional Allowance H8)							
	D1-D2							
MSH-8	1.5 mm - 1.5 mm	1.5 mm - 3 mm	2 mm - 2 mm	2 mm - 3 mm	3/32in - 3/32in	3/32in - 1/8in	3 mm - 3 mm	1/8in - 1/8in
MSH-13C	3 mm - 3 mm	1/8in - 1/8in	4 mm - 4 mm	4 mm - 5 mm	5 mm - 5 mm			
MSH-16C	3 mm - 5 mm	1/8in - 1/8in	1/8in - 5/32in	1/8in - 3/16in	5/32in - 5/32in	5/32in - 3/16in	4 mm - 4 mm	4 mm - 5 mm
	3/16in - 3/16in	3/16in - 5 mm	5 mm - 5 mm					
MSH-20C	3 mm - 5 mm	1/8in - 1/8in	1/8in - 5/32in	1/8in - 3/16in	1/8in - 1/4in	5/32in - 5/32in	5/32in - 3/16in	5/32in - 1/4in
	4 mm - 4 mm	4 mm - 5 mm	3/16in - 3/16in	3/16in - 5 mm	3/16in - 1/4in	5 mm - 5 mm	5 mm - 6 mm	5 mm - 1/4in
	1/4in - 1/4in							
MSH-26C	5 mm - 5 mm	5 mm - 6 mm	5 mm - 1/4in	1/4in - 1/4in	1/4in - 5/16in	1/4in - 8 mm	1/4in - 3/8in	1/4in - 10 mm
	5/16in - 5/16in	5/16in - 3/8in	8 mm - 8 mm	8 mm - 10 mm	3/8in - 3/8in			
MSH-32C	3/8in - 3/8in	3/8in - 1/2in	3/8in - 5/8in	10 mm - 10 mm	1/2in - 1/2in	1/2in - 5/8in	5/8in - 5/8in	

- **MSH-8** is provided with hex socket set screws.
- **MSH-13C** to **MSH-32C** are provided with hex socket head cap screws.
- Recommended tolerance for shaft diameters is h6 and h7.
- For the shaft insertion amount to the coupling, see Mounting/maintenance.

Performance

Part Number	Max. Bore Diameter (mm)	Max. Rotational Frequency (min ⁻¹)	Moment *1 (kg·m ²)	Static *1 Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment		Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass *1 (g)
					No Load (mm)	With Load (mm)			
MSH-8	3.175	78000	1.0×10^{-7}	1.2	0.2	0.11	5	±0.25	1.4
MSH-13C	5	48000	6.8×10^{-7}	4.6	0.25	0.11	5	±0.25	5.8
MSH-16C	7	39000	1.2×10^{-6}	5.9	0.25	0.18	5	±0.25	8.4
MSH-20C	8	31000	2.6×10^{-6}	9.3	0.25	0.18	5	±0.25	14.1
MSH-26C	12	24000	1.2×10^{-5}	22	0.25	0.25	5	±0.25	33.4
MSH-32C	16	19000	3.8×10^{-5}	17	0.25	0.25	5	±0.25	60.6

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

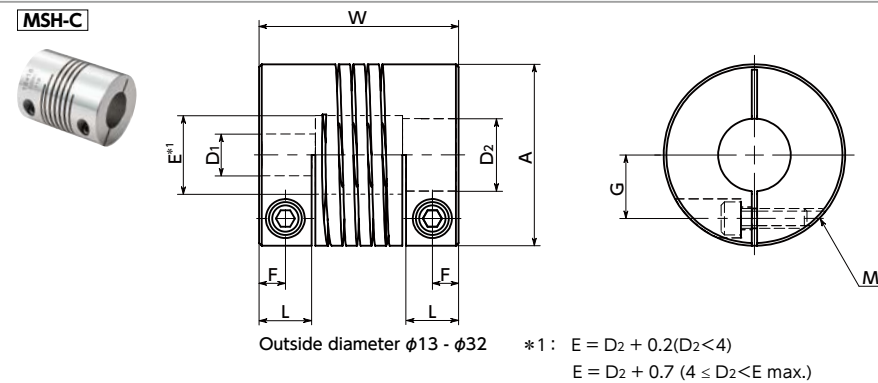
⚠ Precautions for Use

- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. ➡ P.xxxx
- There are sizes where the hex socket head bolt exceeds the outer diameter of the coupling and the rotating diameter is larger than the outer diameter. Please be careful of the interference of coupling. ➡ P.xxxx

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

Bore additional modification only/ Add'l charge Please combine with Stainless Steel Screw Alteration Service Available / Add'l charge

MSH-C



- Torque Value Differs According to the Bore Diameter. Refer to the Larger Bore Diameter of D1 and D2.

Unit : N·m

Part Number	Bore Diameter	Torque		
		Instantaneous Transmission	Single-Direction Rotation	Forward / Reverse Rotation
MSH-8	1.5 mm	0.2	0.1	0.05
	2 mm	0.17	0.08	0.04
	3/32in	0.15	0.07	0.03
	3 mm	0.15	0.07	0.03
	1/8in	0.11	0.05	0.02
MSH-13C	3 mm	0.44	0.22	0.11
	1/8in	0.42	0.21	0.1
	4 mm	0.4	0.2	0.1
	5 mm	0.4	0.2	0.1
	3 mm	0.98	0.49	0.24
MSH-16C	1/8in	0.96	0.48	0.24
	5/32in	0.86	0.43	0.21
	4 mm	0.79	0.39	0.19
	3/16in	0.7	0.35	0.17
	5 mm	0.7	0.35	0.17
MSH-20C	3 mm	1.6	0.8	0.4
	1/8in	1.57	0.78	0.39
	5/32in	1.44	0.72	0.36
	4 mm	1.35	0.67	0.33
	3/16in	1.24	0.62	0.31
	5 mm	1.2	0.6	0.3
	6 mm	1.11	0.55	0.27
	1/4in	1.01	0.5	0.25
	5 mm	4.27	2.13	1.06
	6 mm	3.43	1.71	0.85
MSH-26C	1/4in	3.32	1.66	0.83
	5/16in	2.84	1.42	0.71
	8 mm	2.82	1.41	0.7
	3/8in	2.48	1.24	0.62
	10 mm	2.48	1.24	0.62
MSH-32C	3/8in	5.78	2.89	1.44
	10 mm	5.55	2.77	1.38
	1/2in	4.4	2.2	1.1
	5/8in	3.27	1.63	0.81

- Part number specification

MSH-26C-1/4-8