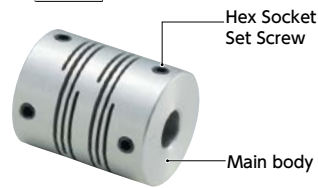


Structure

- Set Screw type → P.109

MST Made of aluminum alloy

MSTS Made of all stainless steel



- Clamping type → P.111

MST-C Made of aluminum alloy

MSTS-C Made of all stainless steel

Outside diameter $\phi 40 - \phi 63$



MSTS-C

Outside diameter $\phi 12 - \phi 32$



- Set Screw + Key type → P.113

MST-K Made of aluminum alloy



MSTS-K Made of all stainless steel



- Recommended applicable motor

	MST	MSTS
Servomotor	-	-
Stepping motor	⊙	⊙
General-purpose motor	△	△

⊙: Excellent ○: Very good △: Available

- Property

	MST	MSTS
Zero Backlash	⊙	⊙
High Torque	○	○
High Torsional Stiffness	○	○
Allowable Misalignment	○	○
Corrosion Resistance (All S.S.)	-	⊙

⊙: Excellent ○: Very good

- This is a metal spring coupling with single-piece construction. Slits are made into a cylindrical material.

- A plate spring formed by slits allows eccentricity, angular misalignment, and end-play to be accepted.

- There are two types of units made of aluminum alloy or all stainless steel.

- Wide variation of outside diameter $\phi 8 - \phi 63$.

- Application

Transport device/XY stage/Parts feeder

- Material/Finish

RoHS2 Compliant

	MST / MST-C / MST-K	MSTS / MSTS-C / MSTS-K
Main Body	A2017 Alumite Treatment	SUS303
Hex Socket Set Screw	SCM435 Ferrosioferric oxide film	SUSXM7
Hex Socket Head Cap Screw	SCM435 Ferrosioferric oxide film	SUSXM7

- Related Products

Slit-type flexible coupling **MSX** with excellent torsional stiffness is available.

→ P.97



XSTS SUS316L material finished with clean washing and clean packaging, which is best suited for FPD and semiconductor manufacturing equipment, is available.

→ P.227



- Part number specification

MST-32K-12-12

Product Code Size Bore Diameter

Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole → P.803

Available / Add'l charge

Cleanroom Wash & Packaging → P.807

Available / Add'l charge

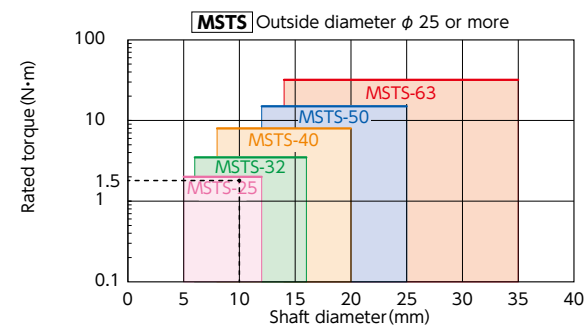
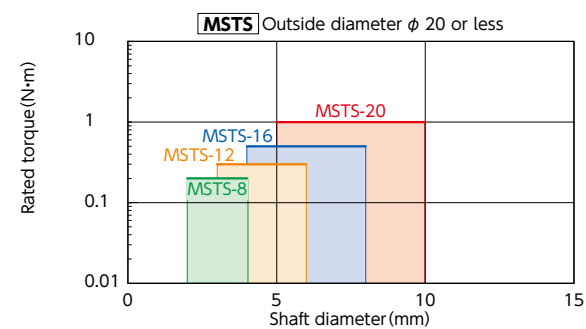
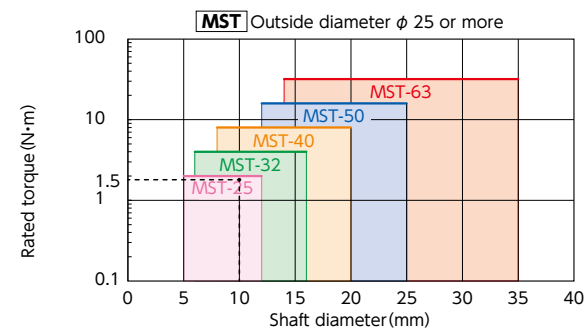
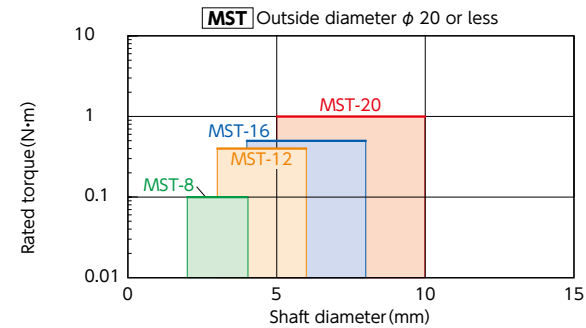
SUS Change to Stainless Steel Screw → P.805

Available / Add'l charge

Selection

- Selection based on shaft diameter and rated torque

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



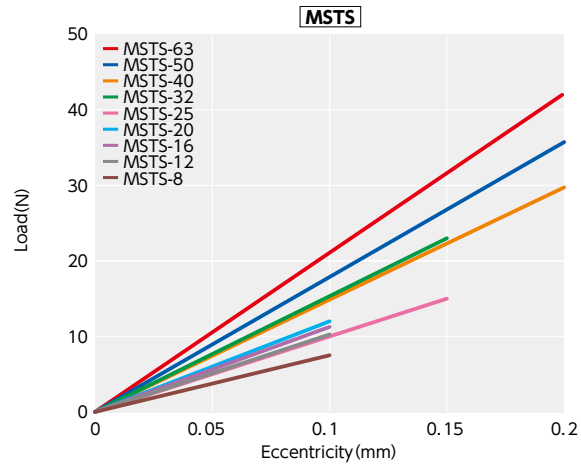
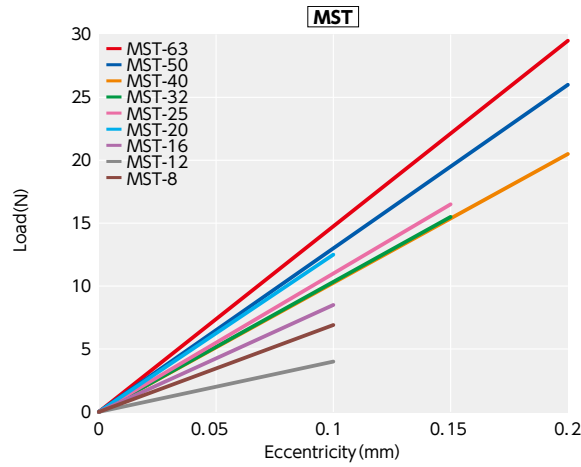
- Selection example

In case of selected parameters of shaft diameter of $\phi 10$ and load torque of 1.5 N·m, the selected size for

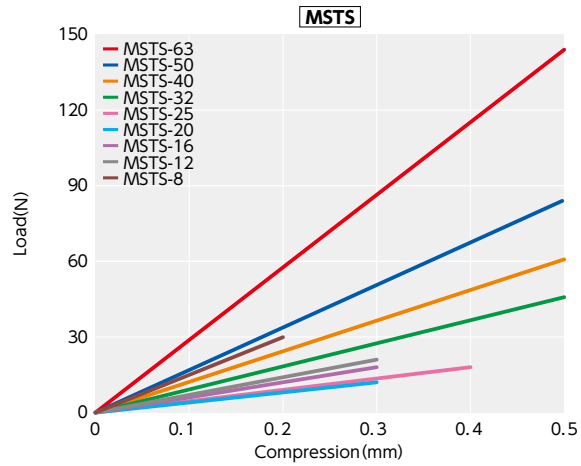
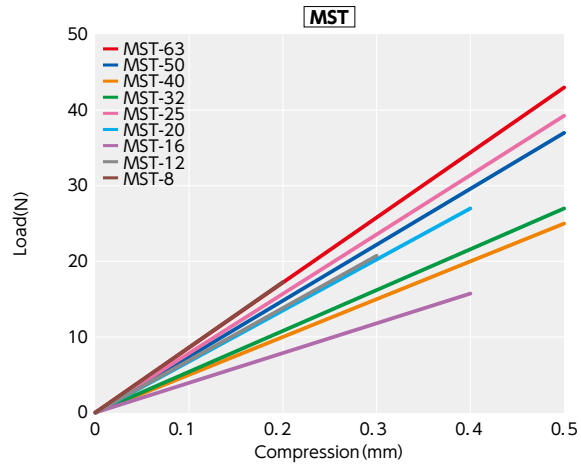
MST **MSTS** is **MST-25** **MSTS-25**

Technical Information

• Eccentric Reaction Force



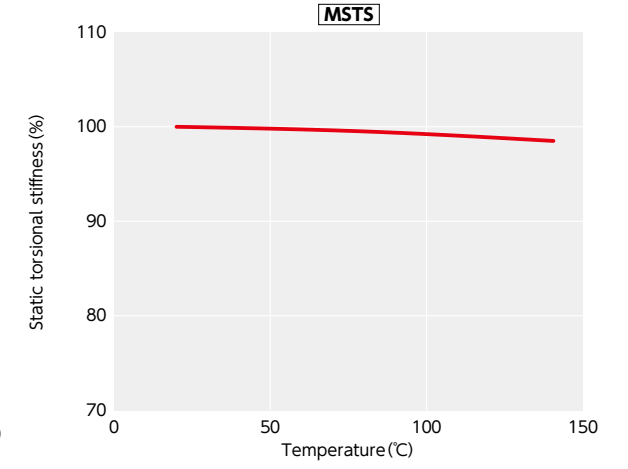
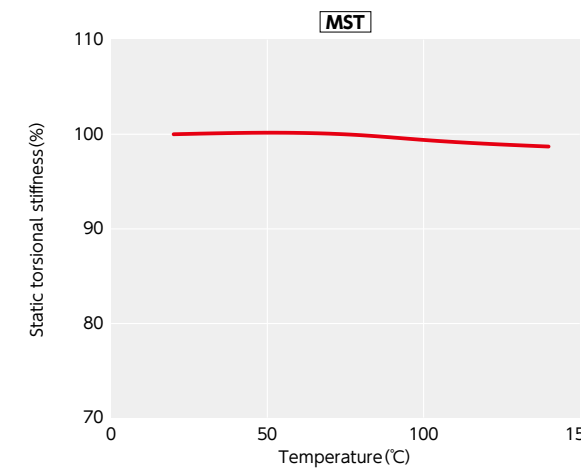
• Thrust Reaction Force



• Change in static torsional stiffness due to temperature

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

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



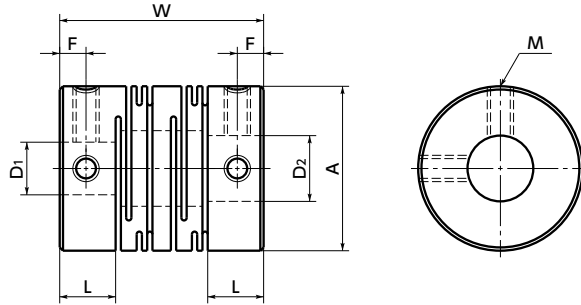
• Slip Torque

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

Part Number	Bore Diameter (mm)							
	5	6	6.35	8	9.525	10	11	14
MST-40C				7.1				
MSTS-25C	0.7	0.7	0.9	1.7				
MSTS-32C				1.2	2.1	2.7	2.9	
MSTS-63C								28.8

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

MST Made of aluminum alloy
MSTS Made of all stainless steel



Dimensions

Unit : mm

Part Number	A	L	W	F	M	Screw Tightening Torque (N·m)
MST-8	8	3.5	14	1.7	M2	0.3
MST-12	12	5	18.5	2.5	M2.5	0.5
MST-16	16	6.5	23	3	M3	0.7
MST-20	20	7.5	26	3	M3	0.7
MST-25	25	8.5	31	4	M4	1.7
MST-32	32	12	41	6	M4	1.7
MST-40	40	17	56	8.5	M5	4
MST-50	50	21	71	10.5	M6	7
MST-63	63	26	90	13	M8	15
MSTS-8	8	3.5	14	1.7	M2	0.3
MSTS-12	12	5	18.5	2.5	M2.5	0.5
MSTS-16	16	6.5	23	3	M3	0.7
MSTS-20	20	7.5	26	3	M3	0.7
MSTS-25	25	8.5	31	4	M4	1.7
MSTS-32	32	12	41	6	M4	1.7
MSTS-40	40	17	56	8.5	M5	4
MSTS-50	50	21	71	10.5	M6	7
MSTS-63	63	26	90	13	M8	15

Part Number	Standard Bore Diameter (dimensional allowance H8) D1-D2								
MST-8	MSTS-8	2 - 2	2 - 3	3 - 3					
MST-12	MSTS-12	3 - 3	3 - 4	4 - 4	4 - 5	4.5 - 5	5 - 5	5 - 6	
MST-16	MSTS-16	4 - 4 6 - 6.35	4 - 5 6 - 7	4 - 6 6 - 8	4.5 - 5 6.35 - 8	5 - 5	5 - 6	5 - 8	6 - 6
MST-20	MSTS-20	5 - 5 6.35 - 8	5 - 6 8 - 8	5 - 8 8 - 9.525*1	6 - 6 8 - 10	6 - 6.35 10 - 10	6 - 7	6 - 8	6 - 10
MST-25	MSTS-25	5 - 6 8 - 9.525*1	6 - 6 8 - 10	6 - 6.35 8 - 12	6 - 8 9.525 - 10	6 - 10 10 - 10	6.35 - 8 10 - 11*1	6.35 - 10 10 - 12	8 - 8 12 - 12
MST-32	MSTS-32	6 - 8 10 - 12	6.35 - 8 10 - 14	8 - 8 12 - 12	8 - 10 12 - 14	8 - 12 14 - 14	9.525 - 12 14 - 16	10 - 10	10 - 11
MST-40	MSTS-40	8 - 9.525	10 - 10	12 - 12	14 - 14	15 - 15	16 - 16	16 - 18*1	18 - 18
MST-50	MSTS-50	12 - 12	14 - 14	15 - 15	16 - 18				
MST-63	MSTS-63	14 - 14							

- All products are provided with hex socket set screw.
 - In a case where the bore diameter is $\phi 4$ or less, the set screw is used in only one place.
 - Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- *1 : Only **MSTS-*** is standard product. For **MST-***, use the additional modification service **BT**. → P.803

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)
MST-8	4	0.1	78000	1.2×10^{-8}	25	0.1	2	±0.2	1.4
MST-12	6	0.4	52000	8.3×10^{-8}	45	0.1	2	±0.3	3.7
MST-16	8	0.5	39000	3.3×10^{-7}	80	0.1	2	±0.4	8.1
MST-20	10	1	31000	9.0×10^{-7}	170	0.1	2	±0.4	14
MST-25	12	2	25000	2.6×10^{-6}	380	0.15	2	±0.5	27
MST-32	16	4	19000	9.6×10^{-6}	500	0.15	2	±0.5	60
MST-40	20	8	15000	3.2×10^{-5}	700	0.2	2	±0.5	130
MST-50	25	16	12000	1.0×10^{-4}	1800	0.2	2	±0.5	260
MST-63	35	32	10000	3.2×10^{-4}	3100	0.2	2	±0.5	490
MSTS-8	4	0.2	78000	3.1×10^{-8}	50	0.1	2	±0.2	3
MSTS-12	6	0.3	52000	2.1×10^{-7}	64	0.1	2	±0.3	9.3
MSTS-16	8	0.5	39000	8.4×10^{-7}	85	0.1	2	±0.3	21
MSTS-20	10	1	31000	2.4×10^{-6}	250	0.1	2	±0.3	38
MSTS-25	12	2	25000	6.8×10^{-6}	330	0.15	2	±0.4	71
MSTS-32	16	3.5	19000	2.6×10^{-5}	850	0.15	2	±0.5	160
MSTS-40	20	8	15000	8.7×10^{-5}	1000	0.2	2	±0.5	350
MSTS-50	25	15	12000	2.7×10^{-4}	1400	0.2	2	±0.5	700
MSTS-63	35	35	10000	8.4×10^{-4}	1800	0.2	2	±0.5	1300

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

• Part number specification

MSTS-25-9.525-10

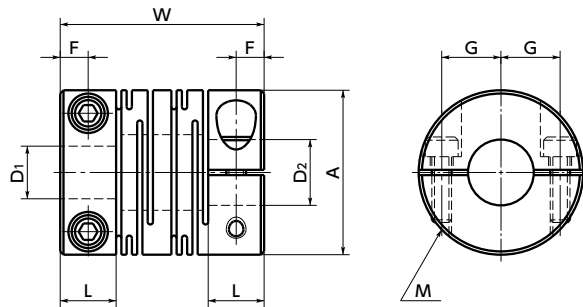


Additional Keyway at Shaft Hole → P.803 | Cleanroom Wash & Packaging → P.807 | SUS Change to Stainless Steel Screw → P.805
 Available / Add'l charge | Available / Add'l charge | Available / Add'l charge

MST-C/MSTS-C Flexible coupling - Slit - type - Clamping type

WEB Selection Tool | WEB CAD Download | 0 Zero Backlash | SUS Stainless steel

MST-C Made of aluminum alloy
MSTS-C Made of all stainless steel
 Outside diameter $\phi 40 - \phi 63$



Dimensions

Unit : mm

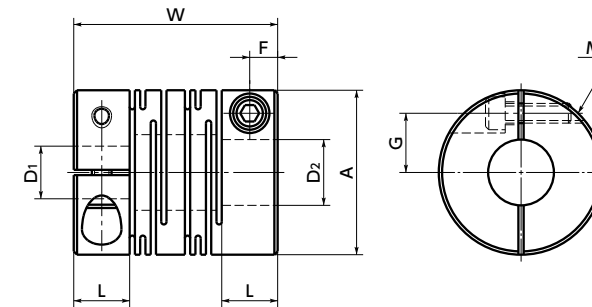
Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
MST-12C	12	5	18.5	2.5	4	M2	0.5
MST-16C	16	6.5	23	3.25	5	M2.5	1
MST-20C	20	7.5	26	3.75	6.5	M2.5	1
MST-25C	25	8.5	31	4.25	9	M3	1.5
MST-32C	32	12	41	6	11	M4	2.5
MST-40C	40	17	56	8.5	14	M5	4
MST-50C	50	21	71	10.5	18	M6	8
MST-63C	63	26	90	13	24	M8	16
MSTS-12C	12	5	18.5	2.5	4	M2	0.5
MSTS-16C	16	6.5	23	3.25	5	M2.5	1
MSTS-20C	20	7.5	26	3.75	6.5	M2.5	1
MSTS-25C	25	8.5	31	4.25	9	M3	1.5
MSTS-32C	32	12	41	6	11	M4	2.5
MSTS-40C	40	17	56	8.5	14	M5	4
MSTS-50C	50	21	71	10.5	18	M6	8
MSTS-63C	63	26	90	13	24	M8	16

Part Number	Standard Bore Diameter D1-D2								
MST-12C	MSTS-12C	4 - 4	4 - 5	4.5 - 5	5 - 5				
MST-16C	MSTS-16C	4.5 - 5	4.5 - 6	5 - 5	5 - 6	6 - 6			
MST-20C	MSTS-20C	5 - 6 6.35 - 8	5 - 6.35 8 - 8	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8
MST-25C	MSTS-25C	5 - 6 8 - 9.525	6 - 6 8 - 10	6 - 6.35 9.525 - 10	6 - 8 10 - 10	6 - 10	6.35 - 8	6.35 - 10	8 - 8
MST-32C	MSTS-32C	8 - 8 10 - 12	8 - 9.525 10 - 14	8 - 10 12 - 12	8 - 12 12 - 14	9.525 - 10	9.525 - 12	10 - 10	10 - 11
MST-40C	MSTS-40C	8 - 8 15 - 16	8 - 10 16 - 16	10 - 10	12 - 12	12 - 14	14 - 14	14 - 16	15 - 15
MST-50C	MSTS-50C	12 - 14	14 - 14	15 - 15	16 - 16	18 - 18			
MST-63C	MSTS-63C	14 - 14	16 - 16	18 - 18					

- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.258
- **MST-C** has variable slit shapes depending on the size. See the Slit Details.

Additional Keyway at Shaft Hole → P.803 | Cleanroom Wash & Packaging → P.807 | SUS Change to Stainless Steel Screw → P.805
 Available / Add'l charge | Available / Add'l charge | Available / Add'l charge

MSTS-C Made of all stainless steel
 Outside diameter $\phi 12 - \phi 32$



Performance

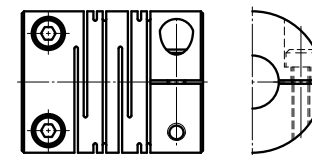
Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MST-12C	5	0.4	52000	7.8×10 ⁻⁸	45	0.1	2	±0.3	3.6
MST-16C	6	0.5	39000	3.4×10 ⁻⁷	80	0.1	2	±0.4	9.2
MST-20C	8	1	31000	9.1×10 ⁻⁷	170	0.1	2	±0.4	16
MST-25C	10	2	25000	2.6×10 ⁻⁶	380	0.15	2	±0.5	28
MST-32C	14	4	19000	9.7×10 ⁻⁶	500	0.15	2	±0.5	64
MST-40C	18	8	15000	3.3×10 ⁻⁵	700	0.2	2	±0.5	140
MST-50C	22	16	12000	1.0×10 ⁻⁴	1800	0.2	2	±0.5	270
MST-63C	30	32	10000	3.2×10 ⁻⁴	3100	0.2	2	±0.5	530
MSTS-12C	5	0.3	52000	2.2×10 ⁻⁷	64	0.1	2	±0.2	10
MSTS-16C	6	0.5	39000	9.0×10 ⁻⁷	85	0.1	2	±0.3	25
MSTS-20C	8	1	31000	2.5×10 ⁻⁶	250	0.1	2	±0.3	43
MSTS-25C	10	2	25000	7.1×10 ⁻⁶	330	0.15	2	±0.4	78
MSTS-32C	14	3.5	19000	2.7×10 ⁻⁵	850	0.15	2	±0.5	170
MSTS-40C	18	8	15000	9.0×10 ⁻⁵	1000	0.2	2	±0.5	370
MSTS-50C	22	15	12000	2.8×10 ⁻⁴	1400	0.2	2	±0.5	750
MSTS-63C	30	35	10000	8.8×10 ⁻⁴	1800	0.2	2	±0.5	1400

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

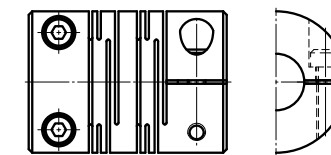
*2: These are values with max. bore diameter.

Slit Details

MST-C



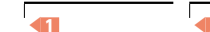
Outside diameter $\phi 12 - \phi 32$



Outside diameter $\phi 40 - \phi 63$

• Part number specification

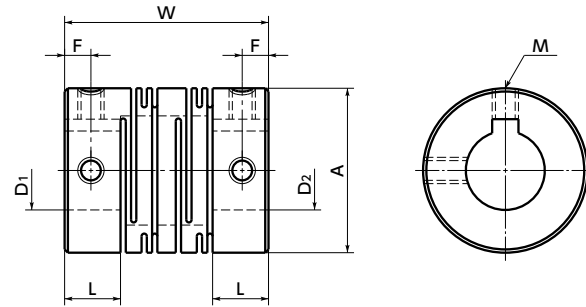
MST-40C - 12-14



MST-K/MSTS-K Flexible coupling - Slit - type - Set screw + Key type

WEB Selection Tool | WEB CAD Download | Zero Backlash | SUS Stainless steel

MST-K Made of aluminum alloy
MSTS-K Made of all stainless steel



Dimensions

Unit : mm

Part Number	A	L	W	F	M	Screw Tightening Torque (N·m)
MST-32K	32	12	41	6	M4	1.7
MST-40K	40	17	56	8.5	M5	4
MST-50K	50	21	71	10.5	M6	7
MST-63K	63	26	90	13	M8	15
MSTS-32K	32	12	41	6	M4	1.7
MSTS-40K	40	17	56	8.5	M5	4
MSTS-50K	50	21	71	10.5	M6	7
MSTS-63K	63	26	90	13	M8	15

Part Number	Standard Bore Diameter (dimensional allowance H8) D1-D2	
MST-32K	12 - 12	14 - 14
MST-40K	14 - 14	16 - 16
MST-50K	16 - 16	18 - 18
MST-63K	20 - 20	25 - 25
MSTS-32K	12 - 12	14 - 14
MSTS-40K	14 - 14	16 - 16
MSTS-50K	16 - 16	18 - 18
MSTS-63K	20 - 20	25 - 25

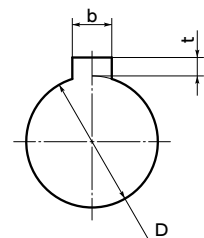
- All products are provided with hex socket set screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MST-32K	14	4	19000	9.6×10 ⁻⁶	500	0.15	2	±0.5	59
MST-40K	18	8	15000	3.2×10 ⁻⁵	700	0.2	2	±0.5	130
MST-50K	20	16	12000	1.0×10 ⁻⁴	1800	0.2	2	±0.5	270
MST-63K	30	32	10000	3.2×10 ⁻⁴	3100	0.2	2	±0.5	490
MSTS-32K	14	3.5	19000	2.6×10 ⁻⁵	850	0.15	2	±0.5	160
MSTS-40K	18	8	15000	8.6×10 ⁻⁵	1000	0.2	2	±0.5	340
MSTS-50K	20	15	12000	2.8×10 ⁻⁴	1400	0.2	2	±0.5	730
MSTS-63K	30	35	10000	8.5×10 ⁻⁴	1800	0.2	2	±0.5	1300

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

Details of Shaft Hole



Unit : mm

Standard bore diameter D	Keyway				Key Nominal Dimension b×h
	b Standard Dimension	t Allowance (JS9)	t Standard Dimension	t Allowance (JS9)	
12	4	±0.0150	1.8	+0.1 0	4×4
14·16	5	±0.0150	2.3	+0.1 0	5×5
18·20	6	±0.0150	2.8	+0.1 0	6×6
25·30	8	±0.0180	3.3	+0.2 0	8×7

Excerpt from JIS B 1301

Additional Keyway at Shaft Hole → P.803 | Cleanroom Wash & Packaging → P.807 | SUS Change to Stainless Steel Screw → P.805
 Please feel free to contact us | Available / Add'l charge | Available / Add'l charge

Part number specification

MST-32K-12-12

