Couplicon®

MSX Flexible coupling - Slit - type

WEB Selection Tool　WEB CAD Download　Zero Backlash　High Rigidity

Structure

● Set Screw type

MSX ➡ P.101

● Clamping type

MSX-C ➡ P.103

● Applicable motors

	MSX
Servomotor	◎
Stepping motor	◎
General-purpose motor	◎

◎: Excellent　○: Very good

● Property

	MSX
Zero Backlash	◎
High Torque	○
High Torsional Stiffness	◎

◎: Excellent　○: Very good

- This is a metal spring coupling with single-piece construction. A slit is inserted into a cylindrical material.
- It has an extremely high torsional stiffness and low moment of inertia.
- Extra super duralumin (A7075) featuring the highest strength among aluminum alloy is adopted.
- A plate spring formed by a slit allows eccentricity, angular misalignment, and end-play to be accepted.

● Application

Actuator/High precision XY stage/Index table

● Material/Finish　RoHS2 Compliant

	MSX / MSX-C
Main Body	A7075 Alumite Treatment
Hex Socket Set Screw	SCM435 Ferrosoferric oxide film
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film

● Related Products

The slit-type coupling **MSXP** in PEEK material can be used in an environment or cleanroom where heat and chemical resistance are required, such as FPD and semiconductor equipments.
➡ P.231

● Part number specification

MSX-19C-5-6

Product Code　size　Bore diameter

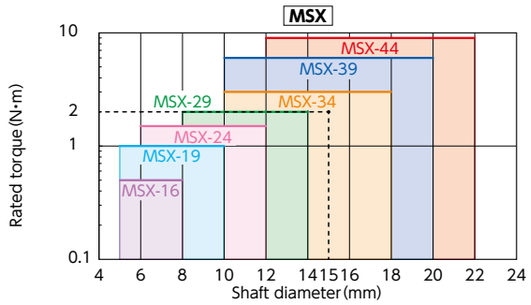
Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Available / Add'l charge	Available / Add'l charge	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 ϕ 15 and load torque of 2 N•m, the selected size is **MSX-34** or **MSX-34C**.

● Selection based on the rated output of the servomotor

Rated output (W)	Servomotor Specifications*1			Selection size	
	Diameter of motor shaft (mm)	Rated torque (N•m)	Instantaneous max. torque (N•m)	MSX Set Screw Type	MSX-C Clamping type
10	5 - 6	0.032	0.096	MSX-16	MSX-16C
20	5 - 6	0.064	0.19	MSX-16	MSX-16C
30	5 - 7	0.096	0.29	MSX-19	MSX-19C
50	6 - 8	0.16	0.48	MSX-19	MSX-19C
100	8	0.32	0.95	MSX-19	MSX-19C
200	9 - 14	0.64	1.9	MSX-29	MSX-34C
400	14	1.3	3.8	MSX-39	MSX-39C
750	16 - 19	2.4	7.2	MSX-44	MSX-44C

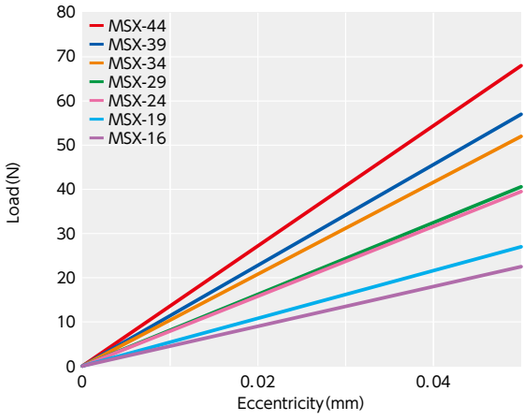
*1: Motor specifications are based on general values. For details, see the motor manufacturer's catalogs.This is the size for cases where devices such as reduction gears are not used.

MSX Flexible coupling - Slit - type

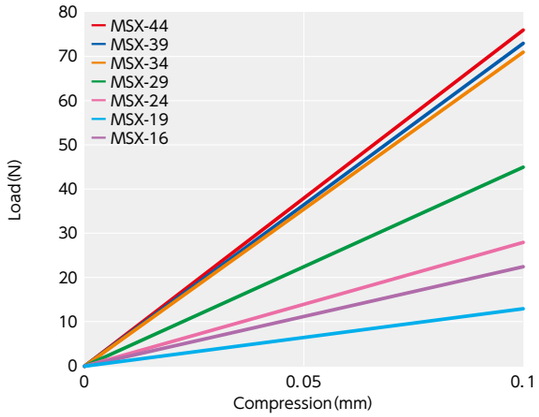
Selection Tool | CAD Download | Zero Backlash | High Rigidity

Technical Information

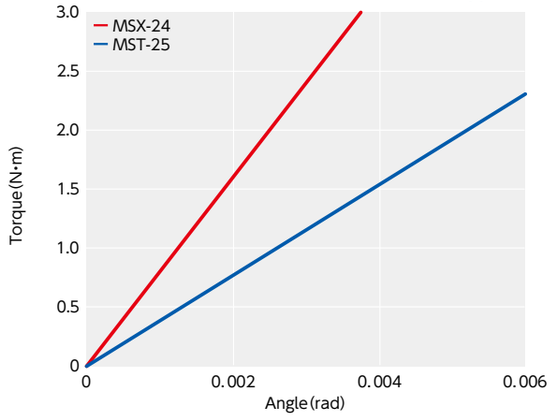
● Eccentric Reaction Force



● Thrust Reaction Force

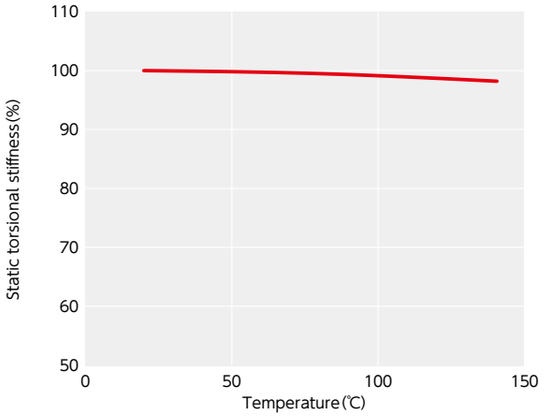


● Comparison of static torsional stiffness (slit-type)



MSX have high torsional stiffness and responsiveness.
Optimal for high-speed and precision positioning for servomotors, etc.

● Change in static torsional stiffness due to temperature

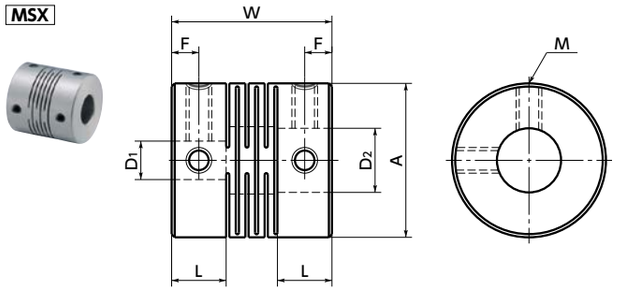


This is a value under the condition where the static torsional stiffness at 20℃ is 100%.
MSX's change in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. However, if the unit is used under higher temperature, be careful about misalignment due to elongation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

MSX Flexible coupling - Slit - type - Set screw type

Selection Tool | CAD Download | Zero Backlash | High Rigidity

MSX



Dimensions

Unit : mm

Part Number 1	A	L	W	F	M	Screw Tightening Torque (N·m)
MSX-16	16	6	17.4	3	M3	0.7
MSX-19	19	6.8	20	3.4	M3	0.7
MSX-24	24	8.5	25	4.25	M4	1.7
MSX-29	29	10.2	30	5.1	M4	1.7
MSX-34	34	12	35	6	M5	4
MSX-39	39	13.5	40	6.75	M5	4
MSX-44	44	15.5	45	7.75	M6	7

Part Number	Standard Bore Diameter (dimensional allowance H8) D1-D2 2							
MSX-16	5 - 5	5 - 6	6 - 6					
MSX-19	5 - 5 6.35 - 6.35	5 - 6 6.35 - 8	5 - 7 8 - 8	5 - 8 8 - 10	6 - 6 10 - 10	6 - 6.35	6 - 7	6 - 8
MSX-24	6 - 6 8 - 9.525	6 - 8 8 - 10	6 - 10 9.525 - 10	6.35 - 6.35 10 - 10	6.35 - 8 10 - 11	6.35 - 10 10 - 12	7 - 8 11 - 12	8 - 8 12 - 12
MSX-29	8 - 8 11 - 12	8 - 10 11 - 14	8 - 11 12 - 12	8 - 12 12 - 14	10 - 10	10 - 11	10 - 12	10 - 14
MSX-34	10 - 14 15 - 15	11 - 14 15 - 16	12 - 12 16 - 16	12 - 14	12 - 16	14 - 14	14 - 15	14 - 16
MSX-39	10 - 14 15 - 15	12 - 12 15 - 16	12 - 14 16 - 16	12 - 15	12 - 16	12 - 19	14 - 14	14 - 15
MSX-44	12 - 12 15 - 19	12 - 14 15 - 20	12 - 19 20 - 20	14 - 14	14 - 15	14 - 16	15 - 15	15 - 16

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

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

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)
MSX-16	8	0.5	39000	2.8×10^{-7}	200	0.05	0.5	±0.1	7
MSX-19	10	1	33000	6.2×10^{-7}	270	0.05	0.5	±0.1	10
MSX-24	12	1.5	26000	2.0×10^{-6}	790	0.05	0.5	±0.1	22
MSX-29	14	2	21000	5.2×10^{-6}	1400	0.05	0.5	±0.1	40
MSX-34	18	3	18000	1.1×10^{-5}	2200	0.05	0.5	±0.1	64
MSX-39	20	6	16000	2.9×10^{-5}	4100	0.05	0.5	±0.1	90
MSX-44	22	9	14000	5.5×10^{-5}	5100	0.05	0.5	±0.1	133

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

- Part number specification

MSX-19 - 5-6
1 2

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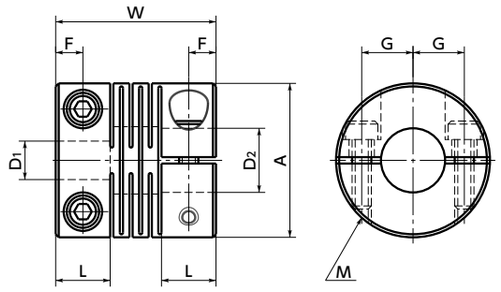
MSX-C Flexible coupling - Slit - type - Clamping type

WEB Selection Tool　WEB CAD Download　Zero Backlash　High Rigidity

MSX-C Made of aluminum alloy



Dimensions

Unit : mm

Part Number ①	A	L	W	F	G	M	Screw Tightening Torque (N・m)
MSX-16C	16	6	17.4	3	4.74	M2	0.5
MSX-19C	19	6.8	20	3.4	5.6	M2.5	1
MSX-24C	24	8.5	25	4.25	8	M3	1.5
MSX-29C	29	10.2	30	5.1	9	M3	1.5
MSX-34C	34	12	35	6	11	M3	1.5
MSX-39C	39	13.5	40	6.75	14	M4	2.5
MSX-44C	44	15.5	45	7.75	16	M4	2.5

Part Number	Standard Bore Diameter D_1-D_2 ②							
MSX-16C	5 - 5	5 - 6	6 - 6					
MSX-19C	5 - 5 6.35 - 6.35	5 - 6 6.35 - 8	5 - 7 8 - 8	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8
MSX-24C	6 - 6 8 - 9.525	6 - 8 8 - 10	6 - 10 9.525 - 10	6.35 - 6.35 10 - 10	6.35 - 8	6.35 - 10	7 - 8	8 - 8
MSX-29C	8 - 8 12 - 12	8 - 10	8 - 11	8 - 12	10 - 10	10 - 11	10 - 12	11 - 12
MSX-34C	10 - 14 15 - 15	11 - 14 15 - 16	12 - 12 16 - 16	12 - 14	12 - 16	14 - 14	14 - 15	14 - 16
MSX-39C	10 - 14 15 - 15	12 - 12 15 - 16	12 - 14 16 - 16	12 - 15	12 - 16	12 - 19	14 - 14	14 - 15
MSX-44C	12 - 12 15 - 19	12 - 14 15 - 20	12 - 19 20 - 20	14 - 14	14 - 15	14 - 16	15 - 15	15 - 16

- 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

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

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)
MSX-16C	6	0.5	39000	2.5×10^{-7}	200	0.05	0.5	±0.1	7
MSX-19C	8	1	33000	5.8×10^{-7}	270	0.05	0.5	±0.1	12
MSX-24C	10	1.5	26000	1.8×10^{-6}	790	0.05	0.5	±0.1	23
MSX-29C	12	2	21000	4.7×10^{-6}	1400	0.05	0.5	±0.1	41
MSX-34C	16	3	18000	1.1×10^{-5}	2200	0.05	0.5	±0.1	62
MSX-39C	20	6	16000	2.3×10^{-5}	4100	0.05	0.5	±0.1	88
MSX-44C	22	9	14000	4.3×10^{-5}	5100	0.05	0.5	±0.1	128

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

- Part number specification

MSX-39C - 14-15
① ②

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MST/MSTS Flexible coupling - Slit - type

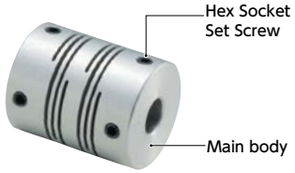
WEB Selection Tool　WEB CAD Download　Zero Backlash　SUS Stainless steel

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 ϕ40 - ϕ63

MSTS-C

Outside diameter ϕ 12 - ϕ 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 ϕ 8 - ϕ 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 Ferrosoferric oxide film	SUSXM7
Hex Socket Head Cap Screw	SCM435 Ferrosoferric 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

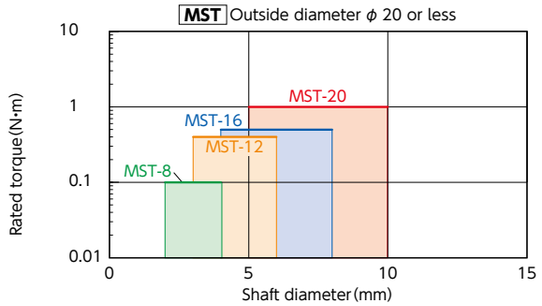
Please refer to dimensional table for part number specification.

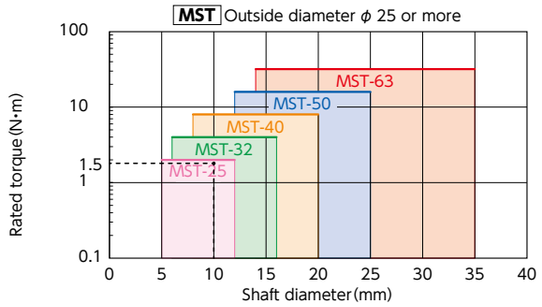
Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

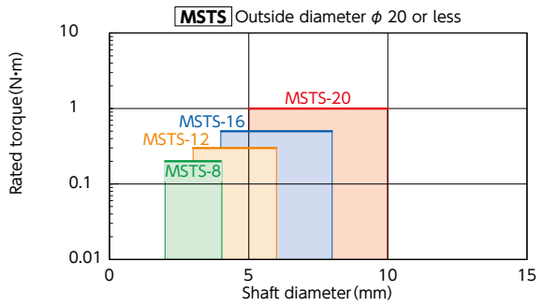
Selection

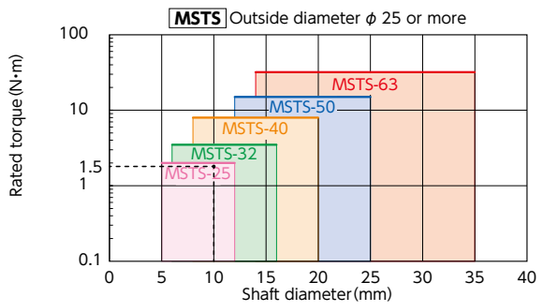
Selection based on shaft diameter and rated torque

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 ϕ 10 and load torque of 1.5 N•m, the selected size for **MST** **MSTS** is **MST-25** **MSTS-25**

GOOD DESIGN

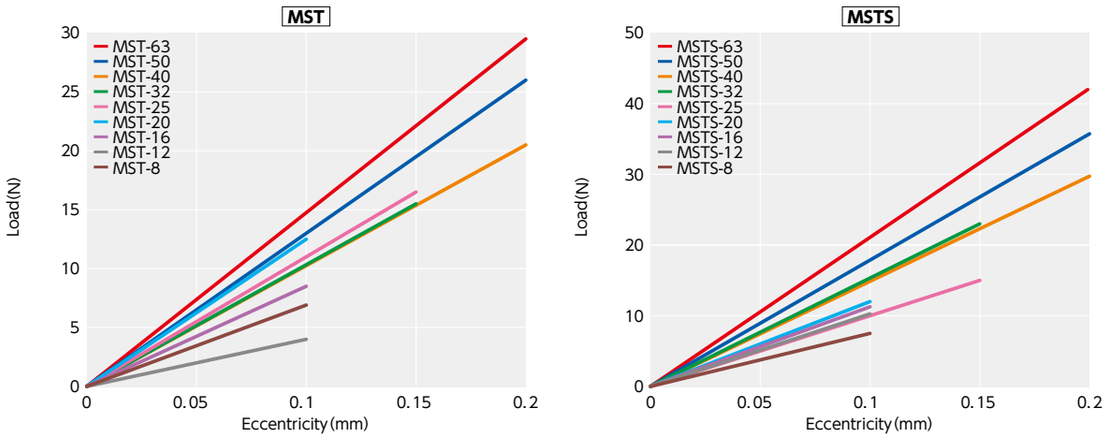
Couplicon®

MST/MSTS Flexible coupling - Slit - type

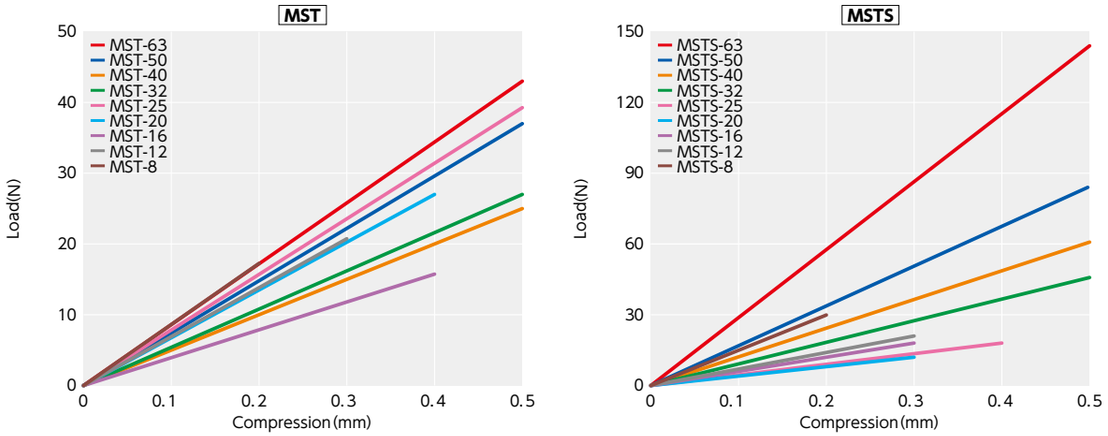
WEB Selection Tool WEB CAD Download SUS Stainless steel Zero Backlash

Technical Information

● Eccentric Reaction Force

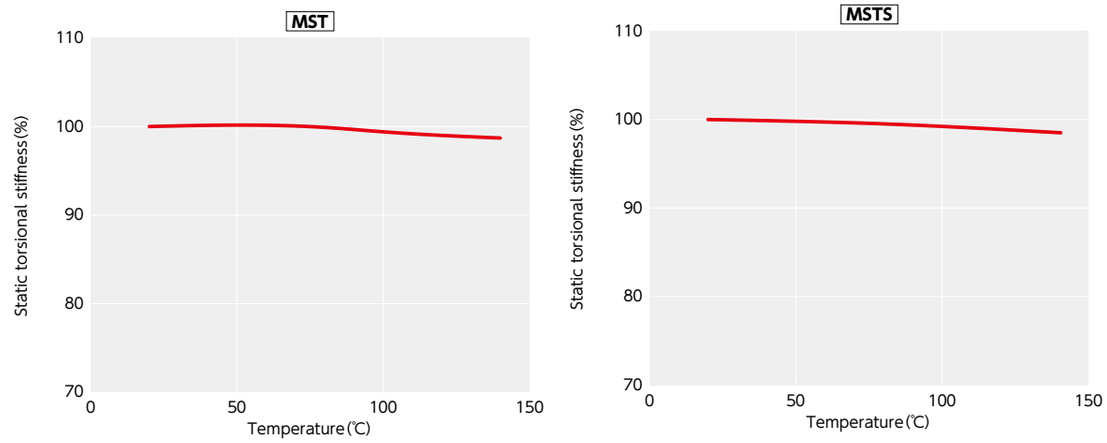


● Thrust Reaction Force



● Change in static torsional stiffness due to temperature

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

Unit : N・m

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

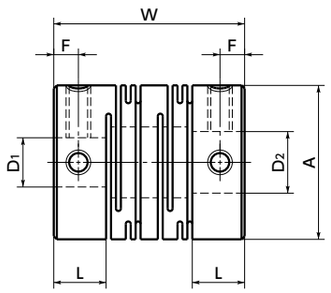
● These are test values based on the condition of shaft's dimensional allowance: h7, hardness: 34 - 40 HRC, and screw tightening torque of the values described in **MST-C** **MSTS-C** Dimension table.

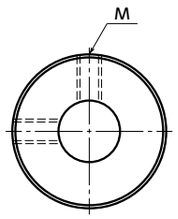
Couplicon®

MST/MSTS Flexible coupling - Slit - type - Set screw type

WEB Selection Tool　WEB CAD Download　Zero Backlash　SUS Stainless steel

MST Made of aluminum alloy
MSTS Made of all stainless steel





Dimensions

Unit : mm

Part Number 1	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) D_1-D_2 2							
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 ϕ 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

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

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)
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

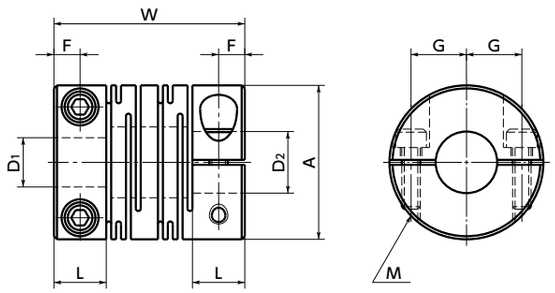
MSTS-25 - 9.525-10
1　2

Couplicon®

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

WEB Selection Tool　WEB CAD Download　Zero Backlash　SUS Stainless steel

MST-C Made of aluminum alloy
MSTS-C Made of all stainless steel
Outside diameter ϕ40 - ϕ63



Dimensions

Unit : mm

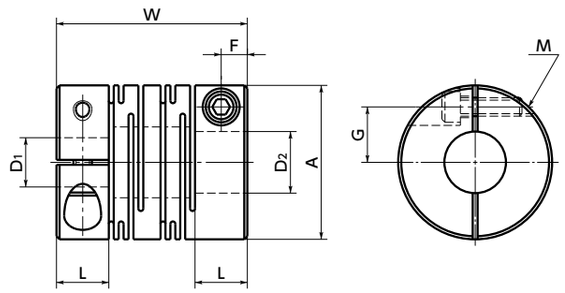
Part Number 1	A	L	W	F	G	M	Screw Tightening Torque (N・m)
MST-12C	12	5	18.5	2.5	4	M2	0.5
MST-16C	16	6.5	23	3.25	5	M2.5	1
MST-20C	20	7.5	26	3.75	6.5	M2.5	1
MST-25C	25	8.5	31	4.25	9	M3	1.5
MST-32C	32	12	41	6	11	M4	2.5
MST-40C	40	17	56	8.5	14	M5	4
MST-50C	50	21	71	10.5	18	M6	8
MST-63C	63	26	90	13	24	M8	16
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 D_1-D_2 2							
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	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 ϕ12 - ϕ32



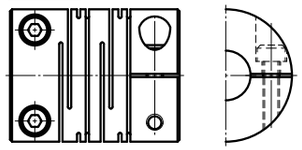
Performance

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)
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

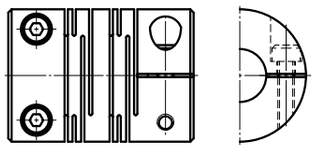
*1 : Correction of rated torque due to load fluctuation is not required.
*2 : These are values with max. bore diameter.

- Slit Details

MST-C



Outside diameter ϕ 12-ϕ 32



Outside diameter ϕ40 - ϕ63

- Part number specification

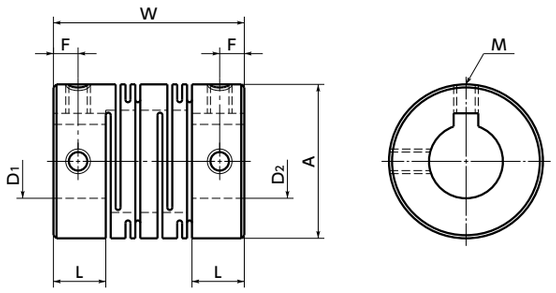
MST-40C - 12-14
1　2

Couplicon®

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 1	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 2		
MST-32K	12 - 12	14 - 14	
MST-40K	14 - 14	16 - 16	18 - 18
MST-50K	16 - 16	18 - 18	20 - 20
MST-63K	20 - 20	25 - 25	30 - 30
MSTS-32K	12 - 12	14 - 14	
MSTS-40K	14 - 14	16 - 16	18 - 18
MSTS-50K	16 - 16	18 - 18	20 - 20
MSTS-63K	20 - 20	25 - 25	

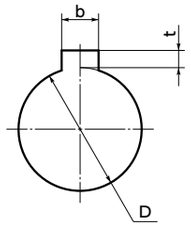
- All products are provided with hex socket set screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.

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 b Standard Dimension	Keyway b Allowance (JS9)	Keyway t Standard Dimension	Keyway t Allowance (JS9)	Key Nominal Dimension b×h
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	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
1　2

Couplicon®

MWS/MWSS Flexible coupling - Slit - type

WEB Selection Tool　WEB CAD Download　Zero Backlash　SUS Stainless steel

Structure

- Set Screw type ➡ P.119

MWS Made of aluminum alloy

MWSS Made of all stainless steel

- Clamping type ➡ P.121

MWS-C Made of aluminum alloy

MWSS-C Made of all stainless steel

- Recommended applicable motor

	MWS	MWSS
Servomotor	–	–
Stepping motor	◎	◎
General-purpose motor	△	△

◎: Excellent　○: Very good　△: Available

- Property

	MWS	MWSS
Zero Backlash	◎	◎
High Torque	○	○
High Torsional Stiffness	○	○
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 angular misalignment, and end-play to be accepted.
- There are two types of units made of aluminum alloy or all stainless steel.

- Application

Transport device/XY stage/Parts feeder

- Material/Finish

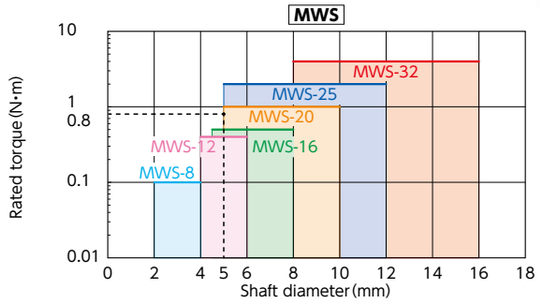
RoHS2 Compliant

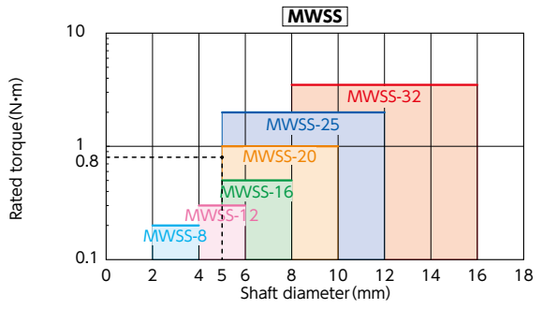
	MWS / MWS-C	MWSS / MWSS-C
Main body	A2017 Alumite Treatment	SUS303
Hex Socket Set Screw	SCM435 Ferrosoferric oxide film	SUSXM7
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film	SUSXM7

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 0.8 N•m, the selected size for **MWS** **MWSS** is **MWS-20** **MWSS-20**.

Related Products

The slit-type coupling **XWSS** SUS316L material, finished with clean washing and clean packaging, which is best suited to FPD and semiconductor manufacturing equipments is available.
➡ P.227

- Part number specification

MWS-20C-5-6

Product Code　Size　Bore Diameter

Please refer to dimensional table for part number specification.

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

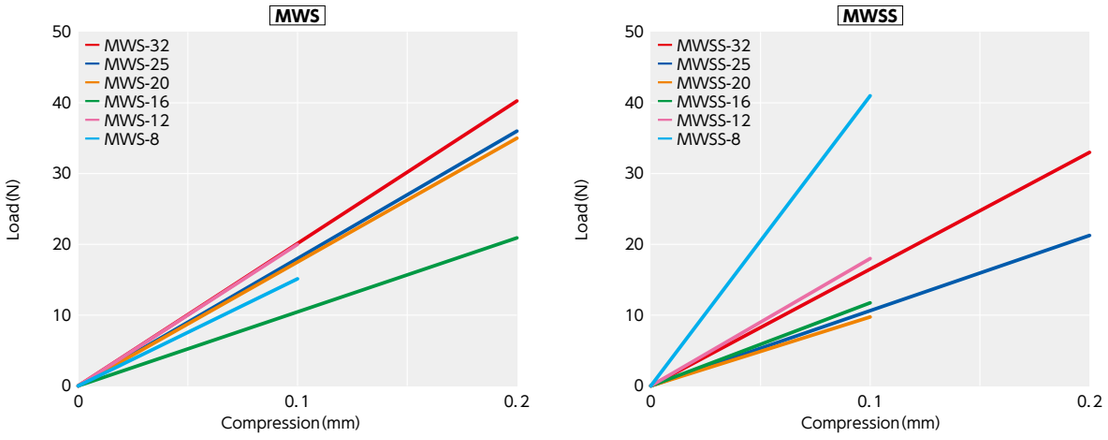
Couplicon®

MWS/MWSS Flexible coupling - Slit - type

WEB Selection Tool　WEB CAD Download　SUS Stainless steel　Zero Backlash

Technical Information

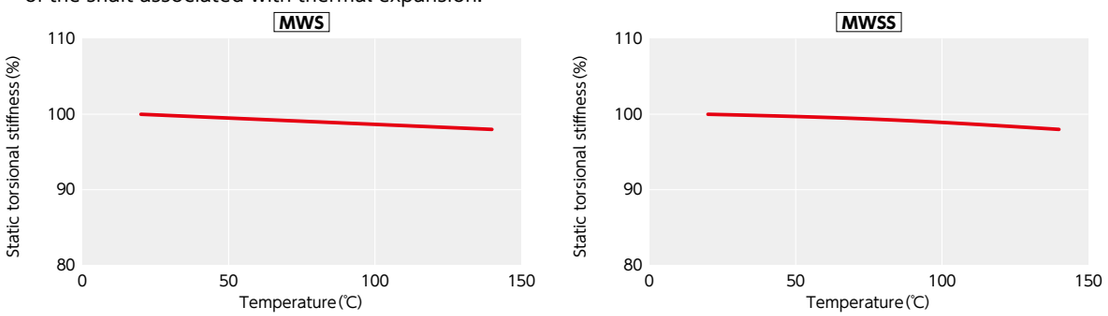
● Thrust Reaction Force



● Change in static torsional stiffness due to temperature

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

MWS **MWSS** '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.



● 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 **MWSS-C** .

Unit : N・m

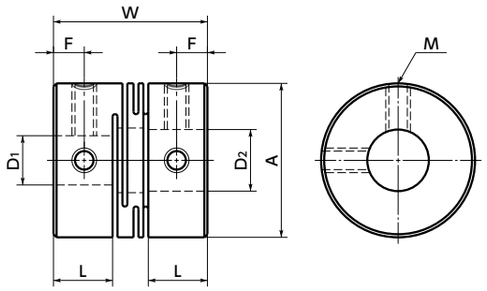
Part Number	Bore Diameter (mm)				
	5	6	8	10	12
MWSS-20C	0.9				
MWSS-25C	1.2	1.4	1.9		
MWSS-32C			1.9	2.4	3.4

● 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 **MWSS-C** Dimension table.

MWS/MWSS Flexible coupling - Slit - type - Set screw type

WEB Selection Tool　WEB CAD Download　Zero Backlash　SUS Stainless steel

MWS Made of aluminum alloy
MWSS Made of all stainless steel



Dimensions

Unit : mm

Part Number 1	A	L	W	F	M	Screw Tightening Torque (N・m)	Standard Bore Diameter (dimensional allowance H8) D1-D2 2					
MWS-8	8	3.4	10	1.7	M2	0.3	2 - 2	3 - 3				
MWS-12	12	5.2	14	2.5	M2.5	0.5	4 - 4	4 - 5	4.5 - 5	5 - 5		
MWS-16	16	6.8	18	3	M3	0.7	4.5 - 5	5 - 5	5 - 6	6 - 6		
MWS-20	20	7.65	20	3	M3	0.7	5 - 6	5 - 8	6 - 6	6 - 8	8 - 8	
MWS-25	25	9.6	25	4	M4	1.7	5 - 6	6 - 6	6 - 8	8 - 8	8 - 10	10 - 10
MWS-32	32	12.6	32	6	M4	1.7	8 - 8	8 - 10	10 - 10	10 - 12	12 - 12	12 - 14
MWSS-8	8	3.4	10	1.7	M2	0.3	2 - 2	3 - 3				
MWSS-12	12	5.2	14	2.5	M2.5	0.5	4 - 4	4 - 5	4.5 - 5	5 - 5		
MWSS-16	16	6.8	18	3	M3	0.7	5 - 5	5 - 6	6 - 6			
MWSS-20	20	7.65	20	3	M3	0.7	5 - 6	5 - 8	6 - 6	6 - 8	8 - 8	
MWSS-25	25	9.6	25	4	M4	1.7	5 - 6	6 - 6	6 - 8	8 - 8	8 - 10	10 - 10
MWSS-32	32	12.6	32	6	M4	1.7	8 - 8	8 - 10	10 - 10	10 - 12	12 - 12	12 - 14

- All products are provided with hex socket set screw.
- In a case where the bore diameter is ϕ 4 or less, the set screw is used in only one place.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.

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

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. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MWS-8	4	0.1	78000	1.0×10^{-8}	24	1	±0.1	1
MWS-12	6	0.4	52000	7.0×10^{-8}	80	1	±0.1	3.1
MWS-16	8	0.5	39000	2.8×10^{-7}	180	1	±0.2	7.4
MWS-20	10	1	31000	7.5×10^{-7}	200	1	±0.2	12
MWS-25	12	2	25000	2.3×10^{-6}	780	1	±0.2	24
MWS-32	16	4	19000	8.0×10^{-6}	1100	1	±0.2	50
MWSS-8	4	0.2	78000	2.4×10^{-8}	49	1	±0.1	2.7
MWSS-12	6	0.3	52000	1.8×10^{-7}	140	1	±0.1	7.8
MWSS-16	8	0.5	39000	7.2×10^{-7}	240	1	±0.1	18
MWSS-20	10	1	31000	2.0×10^{-6}	330	1	±0.1	32
MWSS-25	12	2	25000	6.1×10^{-6}	720	1	±0.2	63
MWSS-32	16	3.5	19000	2.1×10^{-5}	1300	1	±0.2	130

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

- Part number specification

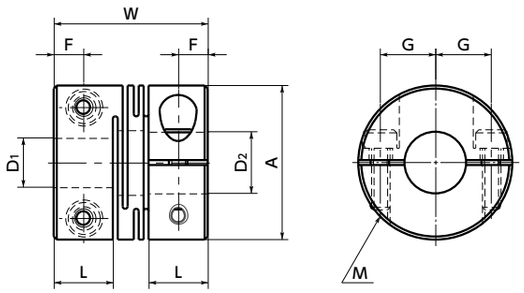
MWSS-32 - 10-12
1　2

Couplicon®

MWS-C/MWSS-C Flexible coupling - Slit - type - Clamping type

WEB Selection Tool　WEB CAD Download　Zero Backlash　SUS Stainless steel

MWS-C Made of aluminum alloy



Dimensions

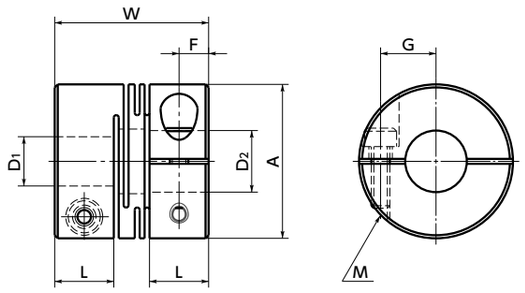
Unit : mm

Part Number 1	A	L	W	F	G	M	Screw Tightening Torque (N・m)	Standard Bore Diameter D1-D2 2						
MWS-12C	12	5.2	14	2.6	4	M2	0.5	4 - 4	4 - 5	4.5 - 5	5 - 5			
MWS-16C	16	6.8	18	3.4	5	M2.5	1	4.5 - 5	5 - 5	5 - 6	6 - 6			
MWS-20C	20	7.65	20	3.8	6.5	M2.5	1	5 - 6	5 - 8	6 - 6	6 - 8	8 - 8		
MWS-25C	25	9.6	25	4.8	9	M3	1.5	5 - 6	6 - 6	6 - 8	6 - 10	8 - 8	8 - 10	10 - 10
MWS-32C	32	12.6	32	6.3	11	M4	2.5	8 - 8	8 - 10	10 - 10	10 - 12	12 - 12	12 - 14	
MWSS-12C	12	5.2	14	2.6	4	M2	0.5	4 - 4	4 - 5	4.5 - 5	5 - 5			
MWSS-16C	16	6.8	18	3.4	5	M2.5	1	4.5 - 5	5 - 5	5 - 6	6 - 6			
MWSS-20C	20	7.65	20	3.8	6.5	M2.5	1	5 - 6	5 - 8	6 - 6	6 - 7	6 - 8	8 - 8	
MWSS-25C	25	9.6	25	4.8	9	M3	1.5	5 - 6	6 - 6	6 - 8	6 - 10	8 - 8	8 - 10	10 - 10
MWSS-32C	32	12.6	32	6.3	11	M4	2.5	8 - 8	8 - 10	10 - 10	10 - 12	12 - 14	12 - 14	

- 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

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

MWSS-C Made of all stainless steel



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. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MWS-12C	5	0.4	52000	6.4×10^{-8}	80	1	±0.1	3
MWS-16C	6	0.5	39000	2.9×10^{-7}	180	1	±0.2	8
MWS-20C	8	1	31000	7.5×10^{-7}	200	1	±0.2	13
MWS-25C	10	2	25000	2.3×10^{-6}	780	1	±0.2	25
MWS-32C	14	4	19000	8.1×10^{-6}	1100	1	±0.2	53
MWSS-12C	5	0.3	52000	1.8×10^{-7}	140	1	±0.1	8.5
MWSS-16C	6	0.5	39000	7.8×10^{-7}	240	1	±0.1	21
MWSS-20C	8	1	31000	2.1×10^{-6}	330	1	±0.1	36
MWSS-25C	10	2	25000	6.3×10^{-6}	720	1	±0.2	69
MWSS-32C	14	3.5	19000	2.2×10^{-5}	1300	1	±0.2	150

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

- Part number specification

MWS-16C - 5-6
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