

Couplings

Select from the table	P.19	Serration Couplings	P.205
Select based on motor	P.21	Rigid Couplings.....	P.207
Select based on device to use	P.22	Cleanroom,Vacuum,Heat Resistance ...	P.225
High-Gain Rubber Couplings	P.27	Flexus	P.249
Disk Couplings	P.63	Mechanical Parts	P.251
Slit Couplings.....	P.97	Explanation of Terminology	P.254
Jaw Couplings	P.125	Mounting and Maintenance	P.257
Cross Joint Couplings	P.155	For better drive	P.259
Oldham Couplings	P.161	Safety Precautions	P.260
Bellows Couplings	P.193		

• Custom-made parts

Super bellows	Flexus
P.204  Completely custom-made coupling with high precision welded bellows can be manufactured.	P.249  This is a multifunctional part made of various materials with slits and works as a spring.

• Mechanical Parts

Photo Sensor Flange	Damper Roll
MPF P.251 	MDR P.252 

	High-Gain Rubber Coupling					
Product Code	XGT2	XGS2	XGL2	XGT	XGS	XGL
Page	P.29	P.29	P.29	P.45	P.45	P.45
Shape	 <i>Additional Size</i>	 <i>Additional Size</i>				
Zero Backlash	○	○	○	○	○	○
High gain supported*	★	★	★	○	○	○
High torque	★	★	★	★	★	★
High torsional stiffness	○	○	○	○	○	○
Allowable Misalignment	○	○	○	○	○	○
Vibration absorption	★	★	★	○	○	○

*This is available for high gain of the servomotor. ★: excellent ○: very good ○: good

	Disk-Coupling					
Product Code	XHW / XHW-L	XHS	XBWS	XBSS	MDW / MDS	MHW / MHS
Page	P.65	P.71	P.77	P.83	P.89 / P.91	P.93 / P.95
Shape	 <i>Additional Size</i>	 <i>Additional Size</i>	 Stainless Steel	 Stainless Steel		
Zero Backlash	○	○	○	○	○	○
High gain supported*	○	○	○	○	○	○
High torque	○	○	○	○	○	○
High torsional stiffness	★	★	○	○	○	○
Allowable Misalignment	○	○	○	○	○	○
Vibration absorption	○	○	○	○	○	○

★: excellent ○: very good ○: good

	Slit-Coupling				Jaw-Coupling		
Product Code	MSX	MST / MSTs	MWS / MWSS	MSXP-C-W-SP	MJC	MJS	
Page	P.97	P.105	P.115	P.123	P.125	P.139	
Shape		 Stainless Steel	 Stainless Steel	 <i>NEW</i>	 <i>Additional Size</i>		
Zero Backlash	○	○	○	○	○	○	
High gain supported*	○	○	○	○	○	○	
High torque	○	○	○	○	○	○	
High torsional stiffness	○	○	○	○	○	○	
Allowable Misalignment	○	○	○	○	○	○	
Vibration absorption	○	○	○	○	○	○	

*This is available for high gain of the servomotor. ★: excellent ○: very good ○: good

	Cross Joint-Coupling	Oldham-Coupling			
Product Code	XUT	MOR	MOM	MOL	MOS
Page	P.155	P.161	P.173	P.187	P.187
Shape					
Zero Backlash	○	○	○	○	○
High gain supported*	○	○	○	○	○
High torque	○	○	○	○	○
High torsional stiffness	○	○	○	○	○
Allowable Misalignment	○	○	○	○	○
Vibration absorption	○	○	○	○	○

★: excellent ○: very good ○: good

	Bellows-Coupling			Serration-Coupling	Cleanroom, Vacuum, Heat Resistant Coupling	
Product Code	MBB	MFB / MFBS	MWBS	MSF	XSTS	XWSS
Page	P.193	P.195	P.201	P.205	P.227	P.227
Shape	 <i>NEW</i>	 Stainless Steel	 Stainless Steel		 Stainless Steel	 Stainless Steel
Zero Backlash	○	○	○	○	○	○
High gain supported*	○	○	○	○	○	○
High torque	○	○	○	○	○	○
High torsional stiffness	○	○	○	○	○	○
Allowable Misalignment	○	○	○	○	○	○
Vibration absorption	○	○	○	○	○	○

*This is available for high gain of the servomotor. ★: excellent ○: very good ○: good

	Rigid-Coupling				
Product Code	MSXP	MOHS	MOP	XRP	MRG / MRGS
Page	P.231	P.237	P.243	P.207	P.211
Shape		 Stainless Steel			 Stainless Steel
Zero Backlash	○	○	○	○	○
High gain supported*	○	○	○	○	○
High torque	○	○	○	○	○
High torsional stiffness	○	○	○	○	○
Allowable Misalignment	○	○	○	○	○
Vibration absorption	○	○	○	○	○

★: excellent ○: very good ○: good

2 Select based on motor

1 Select from the table
→ P.19

3 Select based on device to use
→ P.22

Servomotor & Stepping Motor

• These are couplings suitable to the combination with servomotor or stepping motor.

- High-gain rubber type coupling **XGT2** **XGL2** **XGS2** are superior in vibration absorption and are the most appropriate for the combination in particular with servomotor.



XGT2 **XGL2** **XGS2** → P.29

- **XHW** **XHS** have high rigidity.
- Also applicable to servomotors with instantaneous max. torque of 350%.



XHW → P.65



XHS → P.71



MSX → P.97



MJC → P.125



XUT → P.155



XRP → P.207

• Selection based on the rated output of servomotor
The size of coupling to be used can be selected from the rated output of the servomotor.

Rated output (W)	Servomotor Specifications*			Recommended Coupling size				
	Diameter of motor shaft (mm)	Rated torque (N·m)	Instantaneous max. torque (N·m)	XGT2 XGL2	XHW	MSX	MJC-RD	XUT
10	5 - 6	0.032	0.096	15C	19C	16C	14C	15C
20	5 - 6	0.064	0.19	15C	19C	16C	14C	15C
30	5 - 7	0.096	0.29	19C	19C	19C	14C	20C
50	6 - 8	0.16	0.48	19C	19C	19C	20C	20C
100	8	0.32	0.95	19C	19C	19C	20C	25C
200	9 - 14	0.64	1.9	30C	27C	29C	30C	30C
400	14	1.3	3.8	30C	34C	39C	30C	35C
750	16 - 19	2.4	7.2	39C	39C	44C	40C	—

• For the specifications of each product, please refer to the corresponding product pages.
* Motor specifications are based on general values. For details, please refer to catalogs of each motor manufacturers. Recommended sizes are for the cases where reduction gears are not used.

General-purpose motor

• These are couplings suitable to the combination with general-purpose motor.



MJC → P.125



MOR → P.161



MOM → P.173



MSF → P.205



3 Select based on device to use

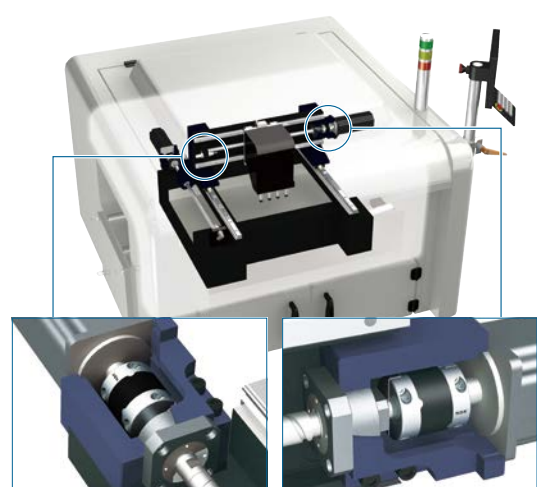
1 Select from the table
→ P.19

2 Select based on motor
→ P.21

Surface-Mount Machine

Improved Productivity (High Throughput)

- Selection point: reduced settling time due to the high-gain compatible servo motor

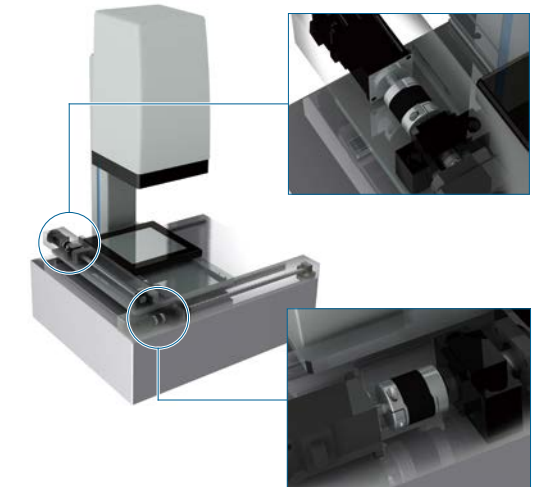


Product used: high-gain rubber type **XGT2** → P.29

CNC Image Measuring Instrument

Improved Measurement Speed

- Selection point: reduced settling time due to the high-gain compatible servo motor



Product used: high-gain rubber type **XGT2** → P.29

Genetic Testing Device

Vibration suppression and low noise of mixing shaft

- Selection point: excellent vibration absorption

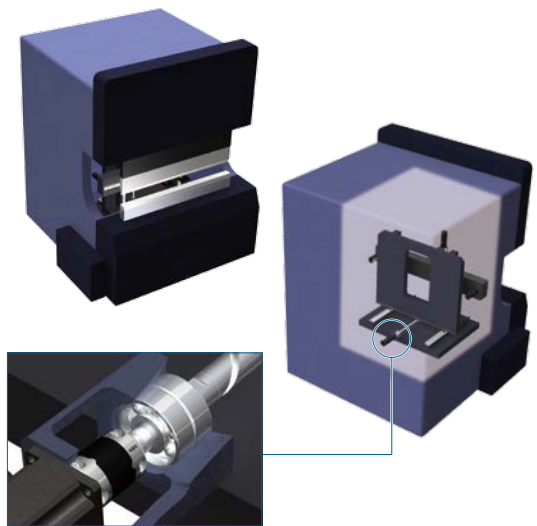


Product used: high-gain rubber type **XGS2** → P.29

Press Brake

Vibration suppression of back gauge

- Selection point: excellent vibration absorption



Product used: high-gain rubber type **XGT2** → P.29

Couplings
High-Gain Rubber Couplings
Disk Couplings
Slit Couplings
Jaw Couplings
Cross Joint Couplings
Oldham Couplings
Bellows Couplings
Serration Couplings
Rigid Couplings
Cleanroom/Vacuum, Heat Resistant
Flexus
Mechanical Parts
Technology, Mounting For better drive

Couplings
High-Gain Rubber Couplings
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Mechanical Parts
Technology, Mounting For better drive

3 Select based on device to use

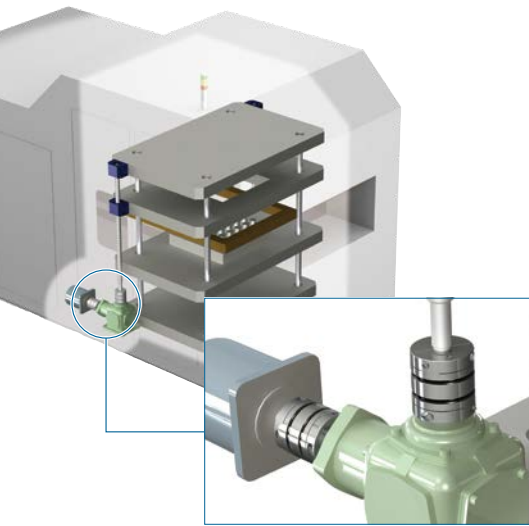
1 Select from the table
→ P.19

2 Select based on motor
→ P.21

Vacuum/Compressed Air Mold for Food Containers

High torque transmission, high-precision positioning

- Selection point: high torque/high torsional rigidity

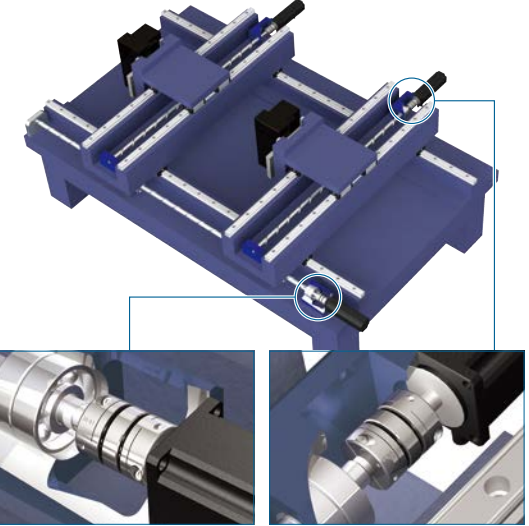


Product used: disk type **XHW** → P.65

Next-Generation Battery Module Assembling Device

High-speed/high-precision positioning

- Selection point: high torsional rigidity



Product used: disk type **XHW** → P.65

Medical Diagnostic Imaging Device

Stable Speed Control

- Selection point: high torsional rigidity



Product used: disk type **XHW** → P.65

Deposition Transport Device for Solar Cells

Long distance between motor shaft and driven shaft

- Selection point: special cleanroom specifications with a longer coupling length
→ P.807 Cleanroom Wash / Cleanroom Packing Service



Product used: disk type **XBWS** → P.77

3 Select based on device to use

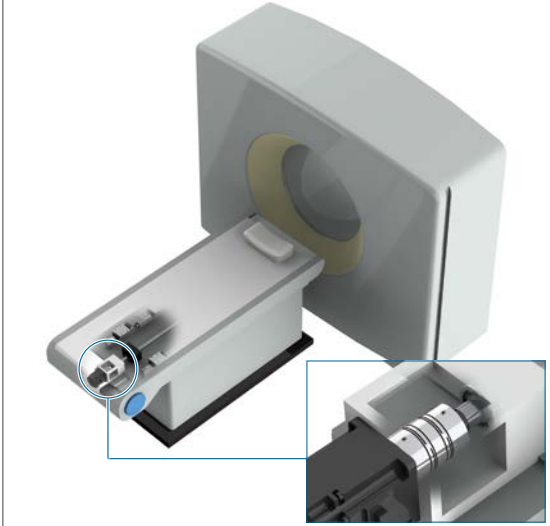
1 Select from the table
→ P.19

2 Select based on motor
→ P.21

CT Scan

Corrosion Resistance

- Selection point: all-stainless steel couplings

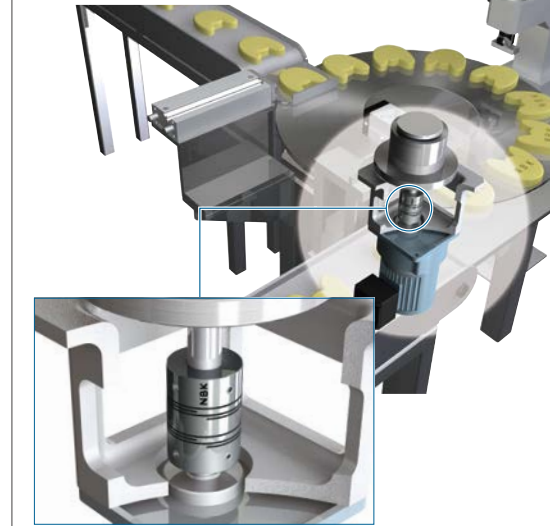


Product used: slit type **MSTS** → P.105

Confectionery Equipment

Corrosion Resistance

- Selection point: all-stainless steel couplings

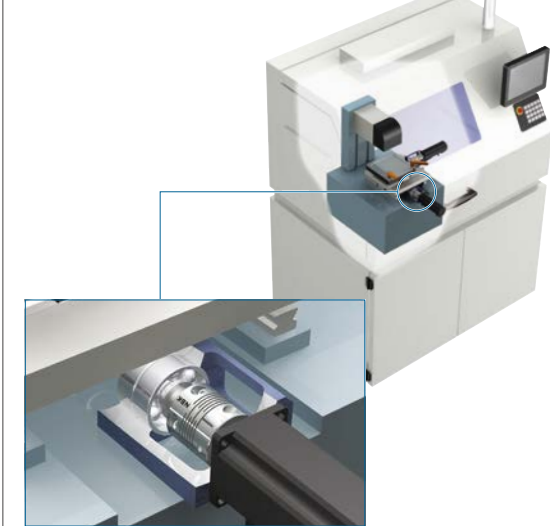


Product used: slit type **MSTS** → P.105

Laser Marking Device

High-speed/high-precision positioning

- Selection point: high torsional rigidity

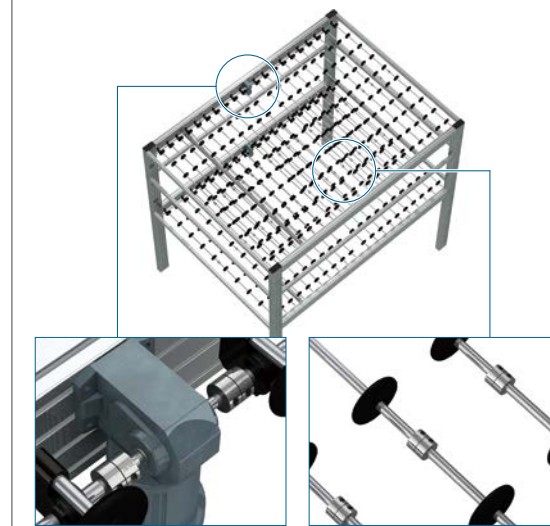


Product used: slit type **MSX** → P.97

Large Glass Cleaning/Transport Device

Chemical Resistance

- Selection point: all-stainless steel couplings



Product used: slit type **MRGS** → P.211

3 Select based on device to use

1 Select from the table
→ P.192 Select based on motor
→ P.21

Machine Tools

High-speed, high-torque spindle

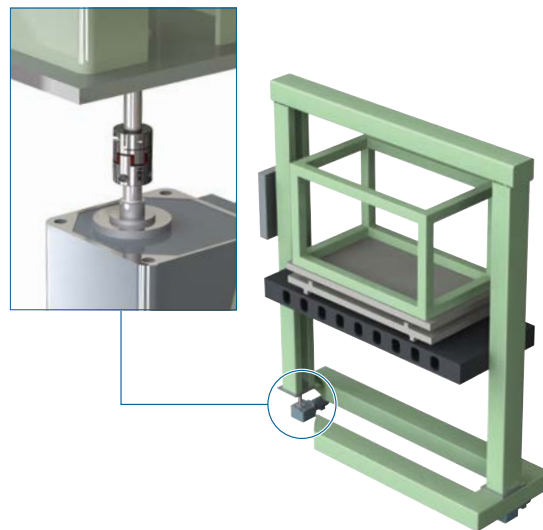
- Selection point: high-speed rotation and high-torque transmission

Product used: jaw type **MJB** → P.147

FPD Transport Stocker Lifting Device

Downsized drive module

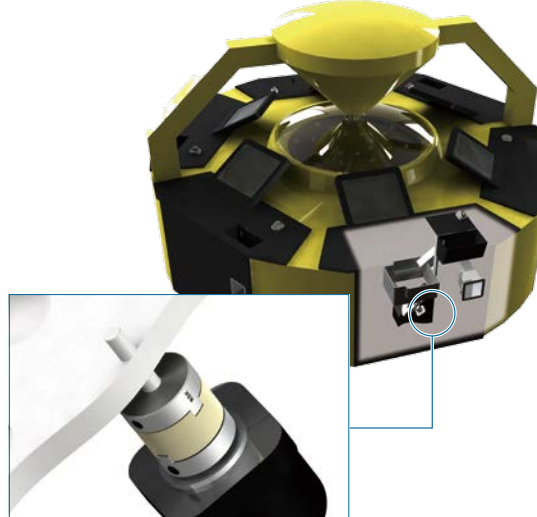
- Selection point: high torque and compact size

Product used: jaw type **MJC** → P.125

Coin Feeder

Reduced equipment assembly and adjustment time

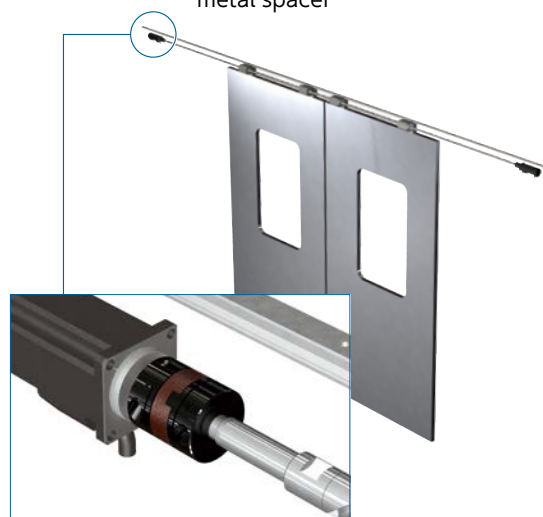
- Selection point: easy segmentation/large allowable misalignment

Product used: Oldham type **MOR** → P.161

Airtight Sliding Door Open/Close Device

Improved reliability of equipment operation

- Selection point: high torque transmission via metal spacer

Product used: Oldham type **MOM** → P.173

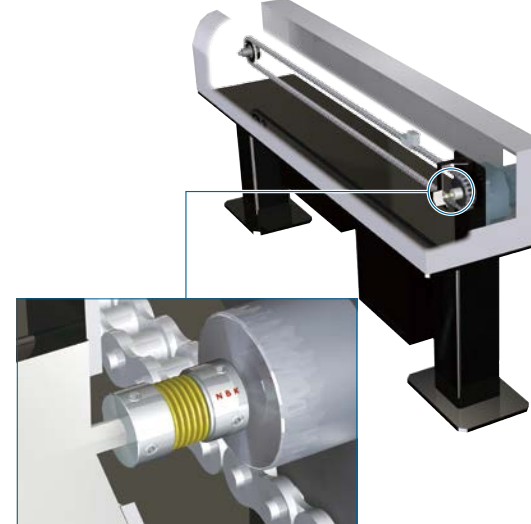
3 Select based on device to use

1 Select from the table
→ P.192 Select based on motor
→ P.21

Bar Feeder Encoder

Constant velocity and suppression of shaft radial load

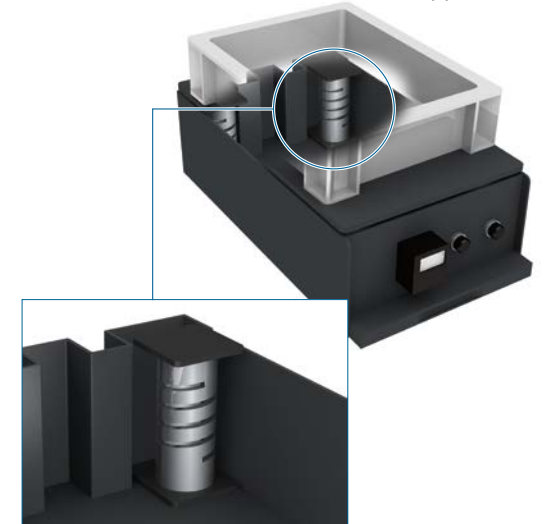
- Selection point: excellent constant velocity and low eccentric reaction force

Product used: bellows type **MFB** → P.195

Parts Feeder

Durability and improved positioning reproducibility

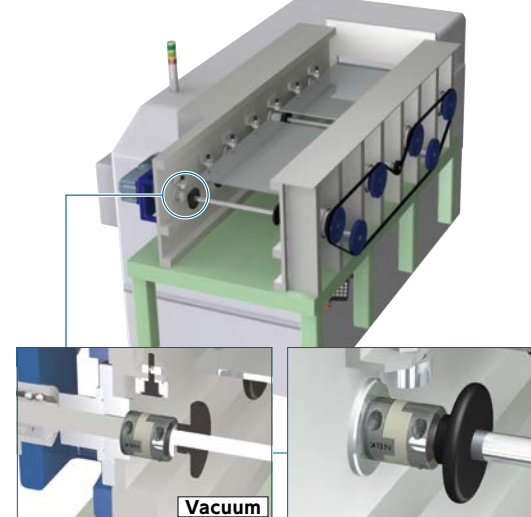
- Selection point: arbitrary spring characteristics available to suit the application

Product used: custom spring component **Flexus** → P.249

In-line Vacuum Vapor Deposition Equipment

Connection of devices in vacuum chamber and external drive unit

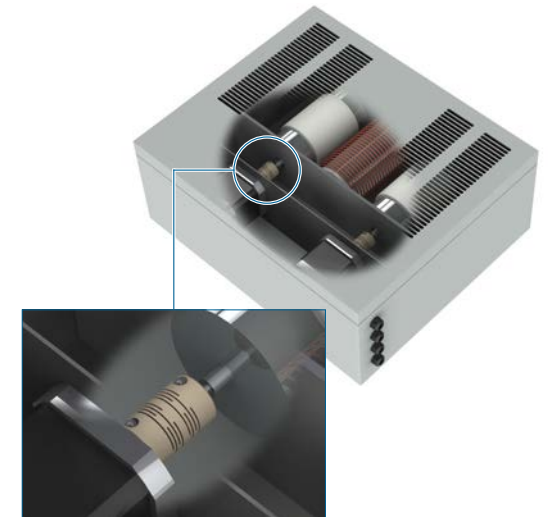
- Selection point: low outgassing/large allowable misalignment

Product used: cleanroom/vacuum/heat resistant type **MOP** → P.243

Matching Box for RF Power

Electrical insulation of vacuum variable capacitor and stepping motor

- Selection point: zero backlash/electrical insulation

Product used: for vacuum variable capacitor/slit type **MSXP** → P.231

Solution to High Response

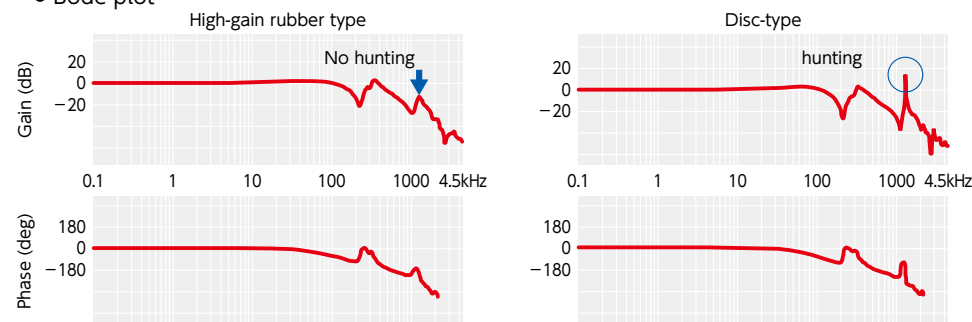
High-Gain Rubber Type Coupling XG2



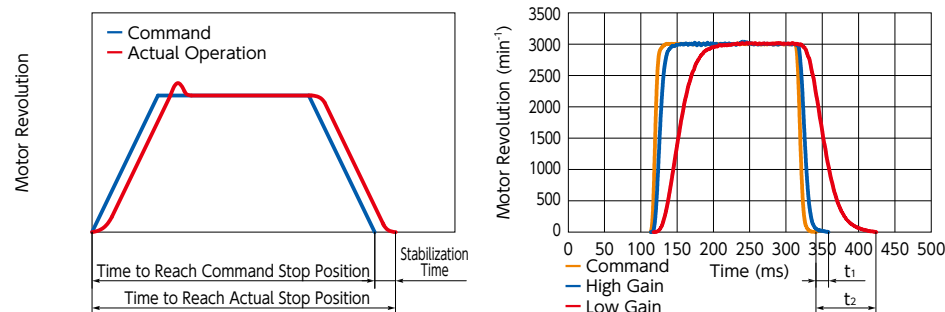
1. Reduction of Stabilization Time

Improvement in servomotor's limit gain can reduce stabilization time.

• Bode plot



• Gain and stabilization time



• Measurement of stabilization time and overshoot

Gain*		XG2 Series	XG Series	Disc-type
25	Stabilization time (ms)	12	12	12
	Overshoot (μm)	0.4	0.9	0.6
27	Stabilization time (ms)	8	8	Occurrence of hunting
	Overshoot (μm)	0.6	1	
32	Stabilization time (ms)	3	Occurrence of hunting	Occurrence of hunting
	Overshoot (μm)	1.7		

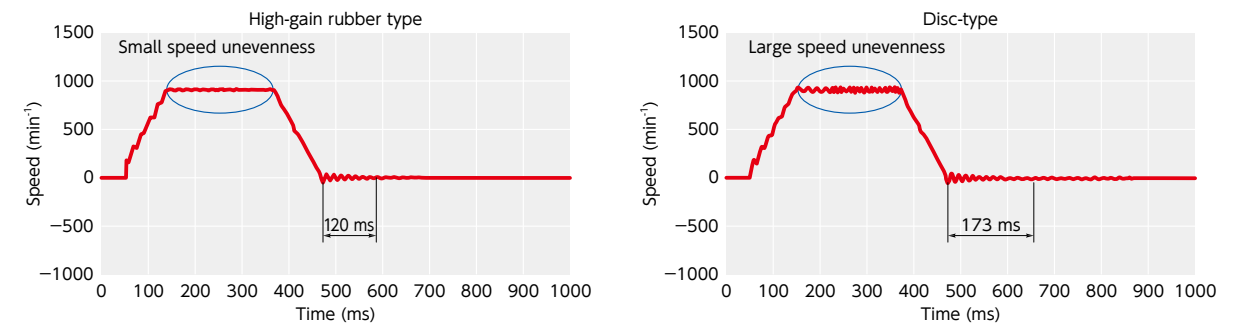
* Values after adjustment of all gains including position control gain and speed control gain (1 - 32)
 • The values in the table vary depending on the test conditions.

Reduction of Stabilization Time

Improved Productivity (Movie featuring comparison with disc-type is available on NBK website.)

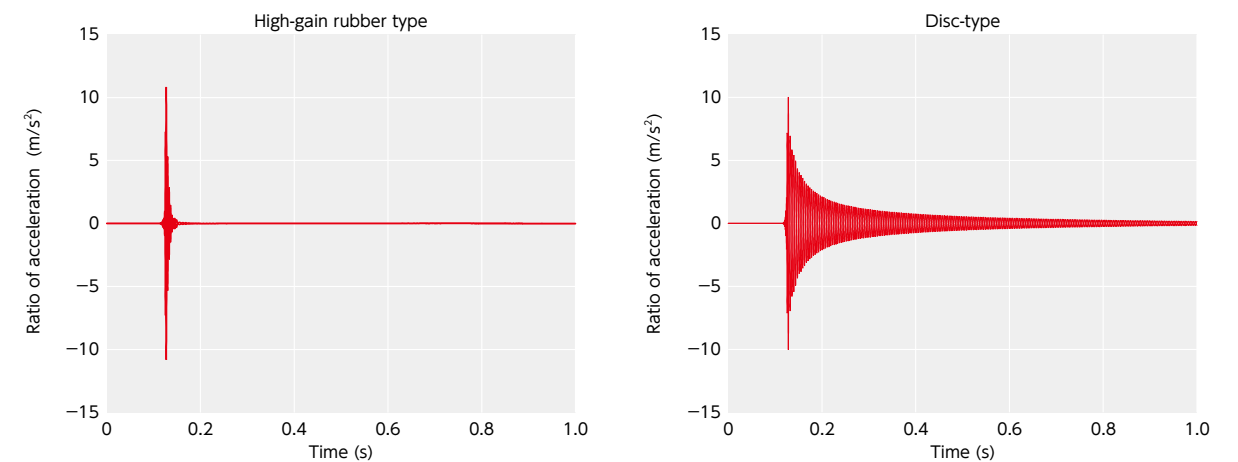
2. Speed Unevenness Suppression

Speed and torque unevenness arising from misalignment will be suppressed.



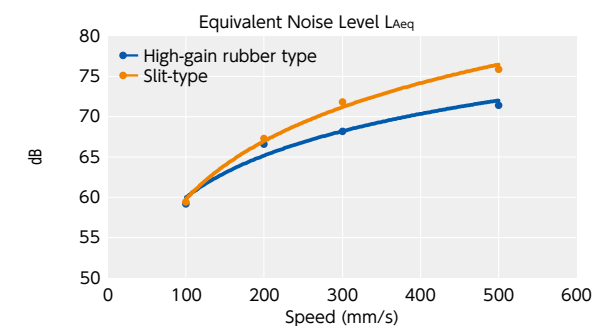
3. Vibration Suppression

High damping ratio will enable quick absorption of vibrations.



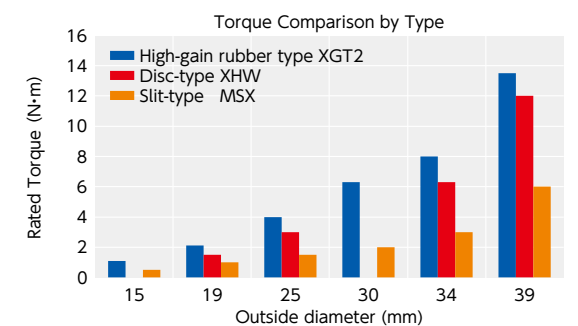
4. Quietness

Actuator drive noise can be reduced.



5. High Torque

High torque use is possible compared with disc-type and slit-type.



XGT2/XGL2/XGS2 Flexible coupling - High - gain rubber type Additional Size Patent Pending

WEB Selection Tool CAD Download Zero Backlash High gain supported High torque High Rigidity Vibration absorption

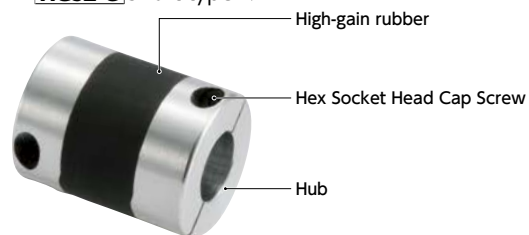
Structure

Clamping type

XGT2-C Standard type → P.39

XGL2-C Long type → P.43

XGS2-C Short type → P.41



Internal Structure



Recommended applicable motor

	XGT2 / XGL2 / XGS2
Servomotor	○
Stepping Motor	○
General-purpose motor	△

○: Excellent ○: Very good △: Available

Property

	XGT2 / XGL2 / XGS2
Zero Backlash	○
For servomotor high gain	○
High torque	○
High Torsional Stiffness	○
Allowable Misalignment	○
Vibration absorption	○
Allowable operating temperature	-10°C to 120°C

○: Excellent ○: Very good

• High-gain flexible coupling which surpasses of **XGT** **XGL** **XGS** in performance. This is a singlepiece construction with the two aluminum hubs molded with vibration-absorbing rubber.

• He optimal damping and rigidity design enables realization of even greater servomotor gain, leading to a reduction in stabilization time.

→ P.31 (Technical Information)

• Suppresses speed unevenness during stepping motor operation. → P.36

• Contributes to improved productivity and quality by suppressing residual vibration during positioning.

• Features outstanding thermal, oil and chemical resistance.

→ P.37 (Physical properties and chemical resistance of vibration-absorbing rubber)

• Standard type **XGT2**, Long type **XGL2** and Short type **XGS2** standardized.

Application

Semiconductor manufacturing equipment / Mount machines / Machine tools / Packaging machines

Material/Finish



	XGT2 / XGL2 / XGS2
Hub	A2017
Vibration-absorbing rubber	FKM
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film (Black)

Part number specification

XGT2-19C-6-8

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

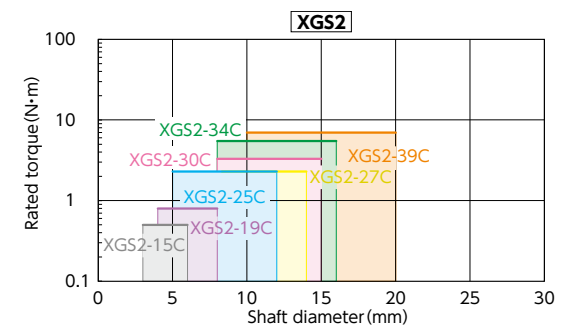
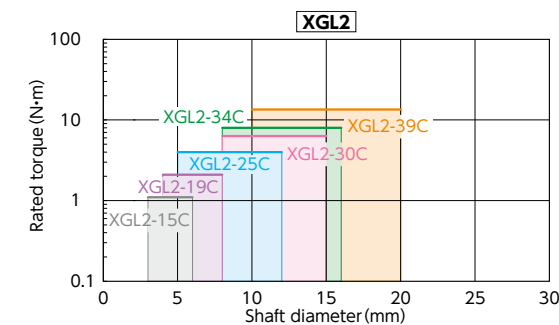
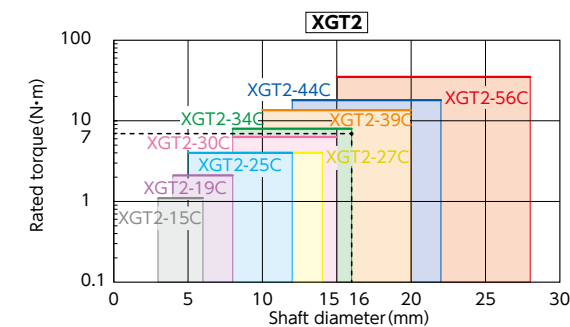
Available / Add'l charge



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 16 and load torque of 7N·m, the selection size is

XGT2-34C.

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)	XGT2	XGL2	XGS2
10	5 - 6	0.032	0.096	15C	15C	15C
20	5 - 6	0.064	0.19	15C	15C	15C
30	5 - 7	0.096	0.29	19C	19C	19C
50	6 - 8	0.16	0.48	19C	19C	19C
100	8	0.32	0.95	19C	19C	25C
200	9 - 14	0.64	1.9	27C	30C	27C
400	14	1.3	3.8	27C	30C	34C
750	16 - 19	2.4	7.2	39C	39C	—

*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.

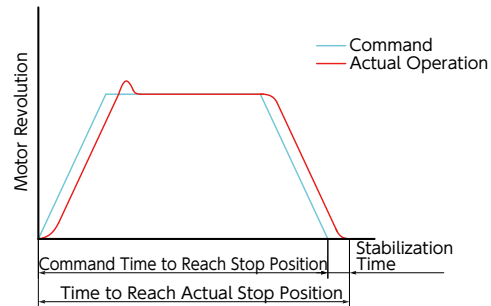
Technical Information

Productivity and stabilization time

In a production facility, using servomotor's and actuator's, operating these components accurately, as directed by the program, can lead to the improvement of productivity.

Reality, in actual operation, execution of commands may be delayed. For example, when trying to stop the actuator at a predetermined position, the actuator stops somewhat later than the command. We call this delay "stabilization time."

Since the operation does not shift to next process until the actuator completely stops, it is important to shorten the stabilization time to improve productivity.



Gain and stabilization time of servomotor

Servomotor's gain is an indicator representing to what degree the motor operation can follow the command.

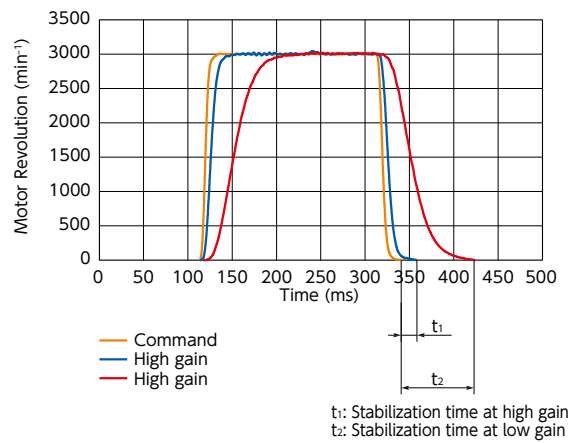
Although raising the gain can reduce the stabilization time, excessive gain increases are likely to cause hunting, thereby disable the control of the servomotor.

Raising the gain while suppressing hunting requires fine adjustment of respective parameters of the servomotor.

However, when a servomotor is combined with a coupling with a metal disk type in the elastic segment, raising the gain tends to cause hunting, making it difficult to resolve the problem by fine adjustments to parameters.

When hunting occurs, it is usually recommended to change to a more rigid coupling to increase the rigidity of the rotating system.

However, in reality, it is difficult to increase the rigidity of the entire rotating system including the ball screw simply by changing the coupling. So, changing to a highly-rigid coupling such as a disk-type may not be effective.



High-gain rubber type

XGT2 XGL2 XGS2 XGT XGL XGS

The high-gain rubber type can be used at higher gain than the disk type, enabling reduction of stabilization time.

In addition, the outstanding damping performance reduces the amount of troublesome parameter adjustments required, making it possible to make optimal actuator adjustments in a shorter time.

Why does the high-gain rubber type allows higher gain setting than the disk type?

The main reasons can be understood from the bode plot.

Intersection point between 0 dB gain line the phase lag in the board wiring is -180 degrees is called the "gain margin".

As a general guideline, in servo systems, the gain margin should be 10 - 20 dB, and when the servomotor gain is increased, the gain margin decreases, with the risk of hunting occurs at 10 dB or lower.

A comparison at the disk type limit gain shows not only that the high-gain rubber type features a larger gain margin, but also that the gain margin is over 10 dB. This is why the high-gain rubber type allows greater servomotor gain than the disk type.

To increase the gain margin are that both coupling damping ratio and dynamic rigidity are high.

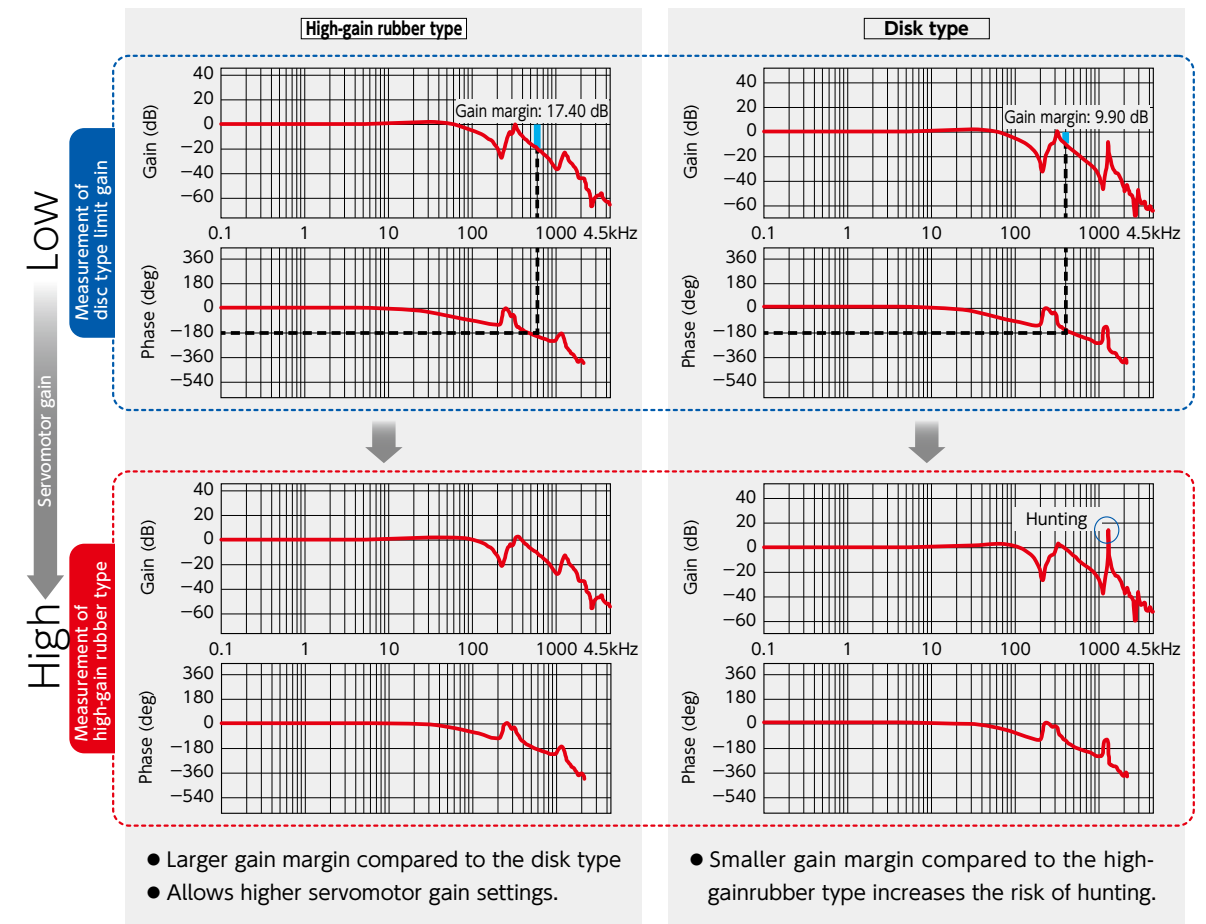
➔ P.33

Gain margin at the disk type limit gain

High-gain rubber type : 17.40 dB

Disk type : 9.90 dB

Bode plot



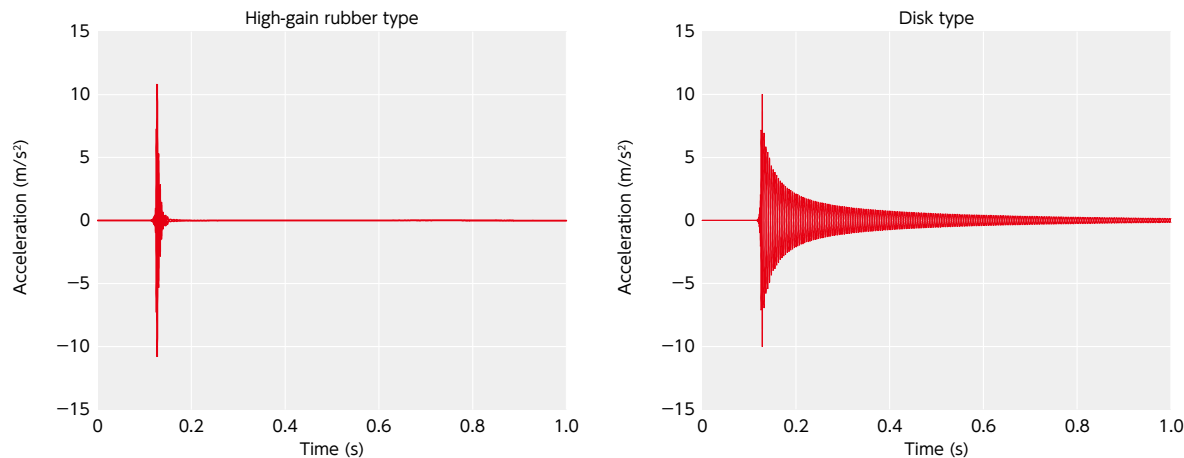
XGT2/XGL2/XGS2 Flexible Coupling - High - Gain Rubber Type Additional Size Patent Pending

WEB Selection Tool WEB CAD Download 0 Zero Backlash High gain supported High torque High Rigidity Vibration absorption

Technical Information

• Damping ratios of high-gain rubber and disk types

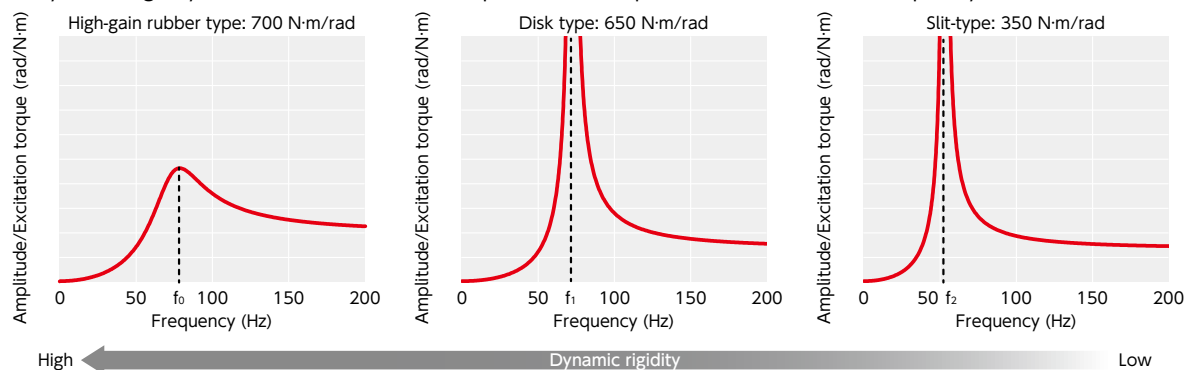
Damping ratio of high-gain rubber type is far higher than that of the disk type, enabling rapid absorption of vibration.



• Dynamic rigidity of high-gain rubber and disk types

The dynamic rigidity of the high-gain rubber type is equivalent to or higher than that of the disk type.

Dynamic rigidity (N·m/rad) = Excitation torque (N·m) / Amplitude (rad) at natural frequency (fn)



• Comparison of High-gain Rubber Type (XG2 Series/XG Series) and Disk Type Couplings

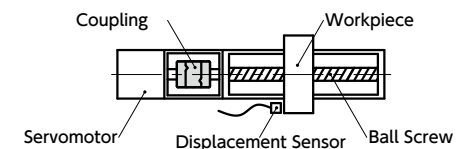
In tests using servo motors and actuators, the followings are verified.

- **Stabilization time**
No differences between couplings as long as the gain is the same.
To reduce stabilization time, higher gains enabled by the use of the high-gain rubber types, especially the XG2 series, demonstrates clear advantage against the disk type.
- **Positioning accuracy/Repeated positioning accuracy**
No differences observed attributable to factors such as gain or coupling.
- **Overshoot**
Normally higher gain increases the degree of overshoot. At the same gain, the XG2 series demonstrates the smallest overshoot.
- **The XG2 Series allows of higher servomotor gain settings than the existing XG series, enabling shorter stabilization time.**

- **Test Devices**
- **Actuator** : MCM08 Manufactured by NSK Ltd.
*Ball screw lead: 10 mm
- **Servomotor** : HF-KP13 Mitsubishi Electric
- **Test conditions**
- Motor revolution : 3000min⁻¹
- Acceleration/Deceleration time : 50ms
- Load on the work : 3.0kg
- Load inertia moment ratio : 3.5

- **Test Operation**
Normal rotation (1 rev) → Stop (500 ms) → Reverse rotation (1 rev)

- **Test Method**
Measure the work movement with a displacement sensor and also measure the work piece's travel distance and stabilization time.



• Measurement of stabilization time, positioning accuracy and overshoot

Gain*1		XG2 series	XG series	Disk type	Consideration
25	Stabilization time (ms)	12	12	12	This is the upper gain limit for the disk type. XG series and XG2 series have no problems.
	Positioning accuracy (mm)	0.002	0.002	0.002	
	Repeated positioning accuracy (mm)	±0.001	±0.002	±0.002	
	Overshoot (μm)	0.4	0.9	0.6	
27	Stabilization time (ms)	8	8	Occurrence of hunting	This is the upper gain limit for XG series. XG2 series have no problems. The disk type is not usable due to hunting.
	Positioning accuracy (mm)	0.002	0.003		
	Repeated positioning accuracy (mm)	±0.002	±0.002		
	Overshoot (μm)	0.6	1		
32	Stabilization time (ms)	3	Occurrence of hunting	Occurrence of hunting	The disk type and XG series are not usable due to hunting. XG2 series have no problems.
	Positioning accuracy (mm)	0.003			
	Repeated positioning accuracy (mm)	±0.001			
	Overshoot (μm)	1.7			

*1 : Values (1 - 32) are after adjustment of all gains including Position Control Gain and Speed Control Gain.

Positioning accuracy : Positioning operation is performed and the absolute value of the difference between the target point and the actual stop position is determined. Max. value of the values found by performing this measurement from the home position at all positions within the max. stroke range.

Repeated Positioning Accuracy : Positioning is repeated 7 times from the same direction of movement to a randomly-selected point and the stopping position are measured and the difference between the max. and minimum values of the stopping position is determined. This method of measurement is applied at positions at the middle and both ends of the max. stroke range, then the max. value becomes the measured value, halved and prefixed with ±.

• The values in the table vary depending on the test conditions.

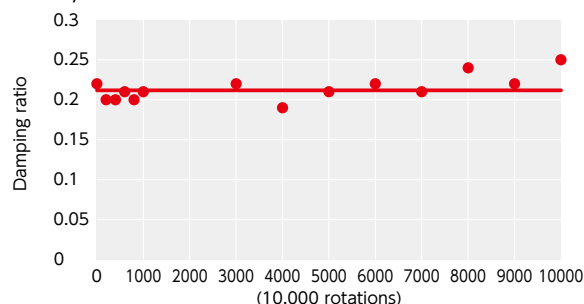
Technical Information

Changes in performance after cycles

Test Method ①

Rated torque load is applied to a coupling which rotates in a single direction, and the damping ratio and dynamic rigidity are measured.

Changes in Damping Ratio depends on the number of cycles.



*No changes are observed in the damping ratio or dynamic rigidity after 100,000,000 rotations.

Test Method ②

A motor and coupling are mounted on a single-shaft actuator, the work is set in reciprocating motion and the damping ratio and dynamic rigidity are measured.

Test Sample

XGT-25C-12 - 12

Test Operation

Normal rotation (10 rev) → Reverse rotation (10 rev). This operation is repeated.
Stroke: 100 mm, Total travel distance: 4400 km

Measurement of Damping Ratio and Dynamic Rigidity

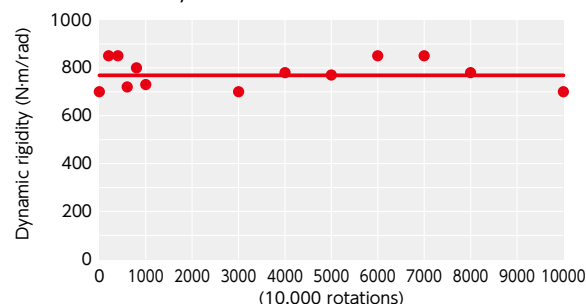
	Before testing	After testing
Damping ratio	0.07	0.07
Dynamic rigidity (N·m/rad)	330	330

*No changes are observed in the coupling performance even after a total travel distance of 4400 km.

Test Sample

XGT2 - 25C-12 - 12

Changes in Dynamic Rigidity depends on the number of cycles.



Test Devices

Actuator : BG46 Manufactured by Nippon Bearing Co., Ltd.
*Ball screw lead: 10 mm
Servomotor : HF-KP13 Mitsubishi Electric

Test conditions

Motor revolution : 3000min⁻¹
Acceleration/Deceleration time : 10ms
Load on the work : 3.0kg
Load inertia moment ratio : 3.5

Test Method

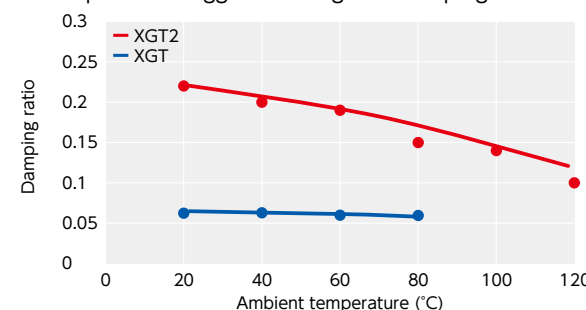
The damping ratio and dynamic rigidity of the coupling are measured before and after the testing.

Temperature-triggered changes in performance

Test Method

A coupling is left at the prescribed ambient temperature for 4 hours and damping ratio and dynamic rigidity measured.

Temperature-triggered changes in damping ratio

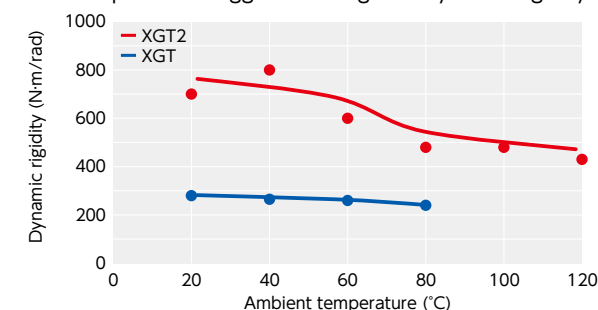


*Although the damping ratio and dynamic rigidity decrease as the temperature rises, **XGT2** exceeds the damping ratio and dynamic rigidity of **XGT** across the entire temperature range.

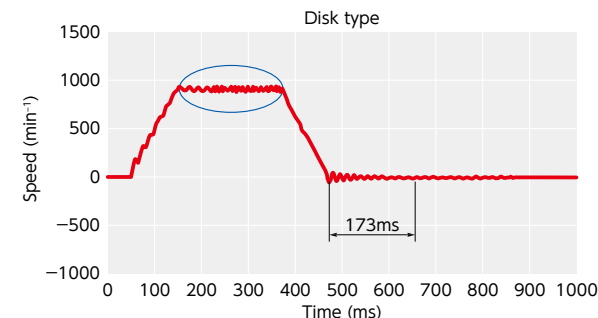
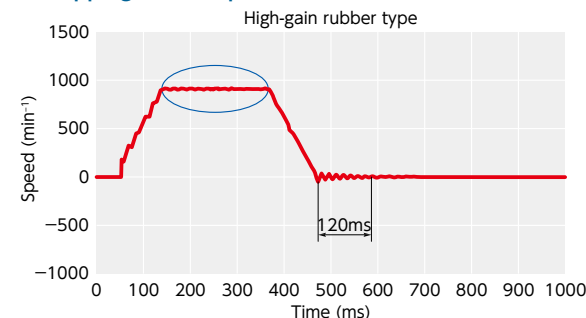
Test Sample

XGT2 - 25C-12 - 12, XGT-25C-12 - 12

Temperature-triggered changes in dynamic rigidity



Suppressing speed unevenness Control during Stepping Motor Operation



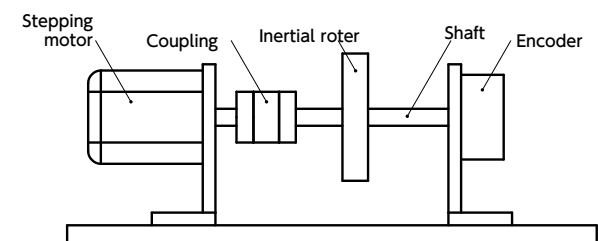
Test Devices

Motor : α step AR66AK-1 Manufactured by Oriental Motor Co., Ltd.
Set voltage: —24 VDC,
Resolution: —1000p/r
Moment of inertia: —1250×10⁻⁷kg·cm²
Encoder : RD5000 Manufactured by Nikon Corporation

Drive Parameters

Startup speed : 60min⁻¹
Drive speed : 900min⁻¹
Rotation angle : 1800°
Acceleration/Deceleration time : 0.1s

*The high-gain rubber type is effective to suppress speed unevenness during fixed-speed rotation.

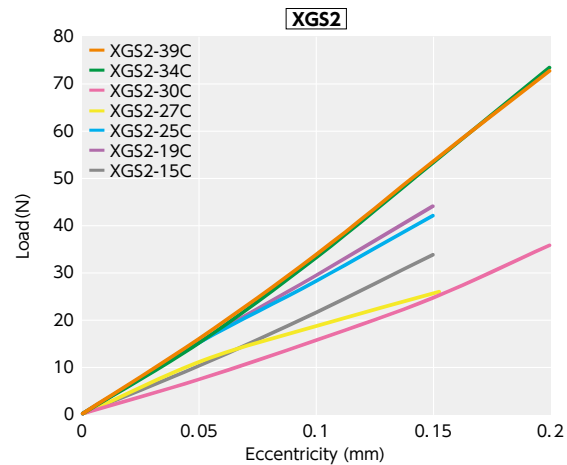
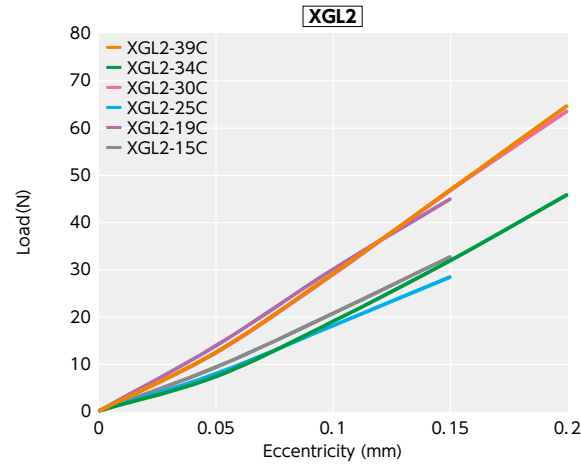
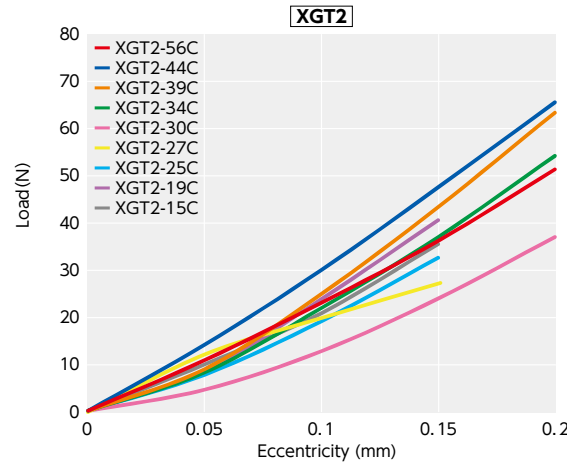


XGT2/XGL2/XGS2 Flexible Coupling - High - Gain Rubber Type Additional Size Patent Pending

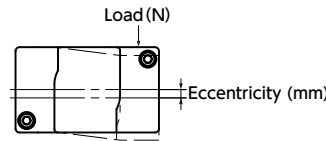
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Technical Information

• Eccentric reaction force



This is a force generated when making **XGT2** **XGL2** **XGS2** in eccentric condition. As the eccentric reaction force becomes smaller, the force acting on the shaft bearing also becomes smaller.

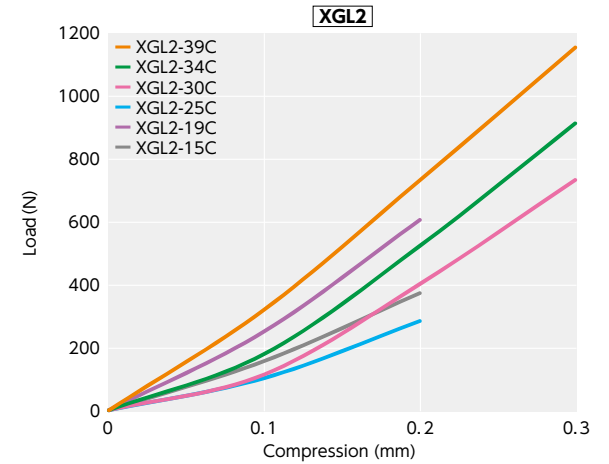
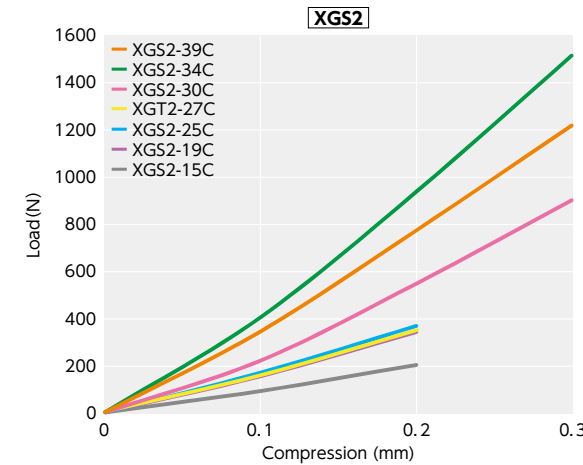
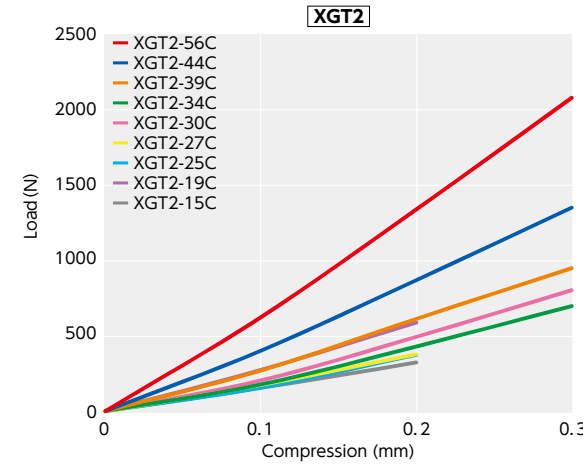


• Physical property and chemical resistance of vibration-resistance rubber (FKM)

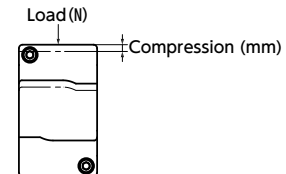
	Effect
Aging resistance	○
Weather resistance	○
Ozone resistance	○
Gasoline/Gas Oil	○
Benzene/Toluene	○
Alcohol	○
Ether	X~△
Ketone (MEK)	X
Ethyl acetate	X
Water	○
Organic acid	X
High concentration inorganic acid	○
Low concentration inorganic acid	○
Strong alkali	X
Weak alkali	△

○: Very Good ○: Available △: Fair pending on condition
X: Not available

• Thrust Reaction Force



This is a force generated when compressing **XGT2** **XGL2** **XGS2** in the shaft direction. As the thrust reaction force becomes smaller, the force acting on the motor also becomes smaller.



• Slip Torque

Concerning the sizes shown in the following table, please note that the shaft's slip torque is smaller than the rated torque.

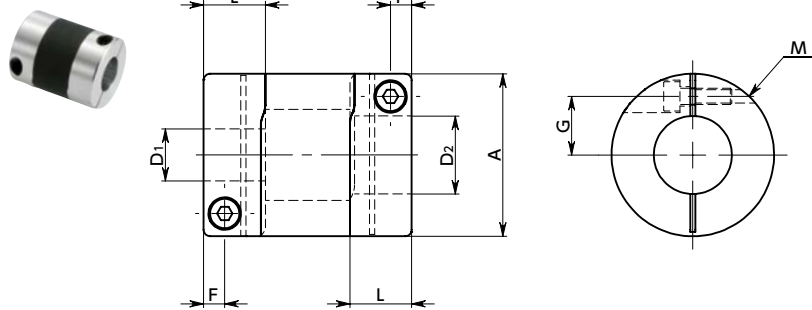
Part number	Bore Diameter (mm)		
	3	5	10
XGT2-15C, XGL2-15C	1		
XGT2-27C, XGL2-27C		3.8	
XGT2-39C, XGL2-39C			13.3

• 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 Dimension table.

XGT2 Flexible coupling - High - gain rubber type - Standard type Additional Size Patent Pending

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 Vibration absorption

XGT2-C



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N・m)
XGT2-15C	15	6.5	23	2.15	5	M1.6	0.25
XGT2-19C	19	7.7	26	2.65	6.5	M2	0.5
XGT2-25C	25	9.5	32	3.25	9	M2.5	1
XGT2-27C	27	9.5	32	3.25	10	M2.5	1
XGT2-30C	30	11	36	4	11	M3	1.5
XGT2-34C	34	12	38	4	12.25	M3	1.5
XGT2-39C	39	15.5	48	4.5	14.5	M4	2.5
XGT2-44C	44	15	48	4.75	16	M4	2.5
XGT2-56C	56	19.5	60	5.5	20	M5	7

Part Number	Standard Bore Diameter D1-D2									
XGT2-15C	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6	
XGT2-19C	4 - 5 6.35 - 8	4 - 8 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8
XGT2-25C	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10	8 - 8
XGT2-27C	5 - 6 8 - 10	5 - 8 8 - 11	5 - 14 8 - 12	6 - 6 8 - 14	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 10 - 14	6 - 12 12 - 12	6 - 14 12 - 14	8 - 8 14 - 14
XGT2-30C	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12	10 - 14
XGT2-34C	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15	10 - 14 16 - 16
XGT2-39C	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 15	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17	12 - 19 20 - 20
XGT2-44C	12 - 12 15 - 19	12 - 14 15 - 20	12 - 16 16 - 16	12 - 19 16 - 19	14 - 14 17 - 17	14 - 15 19 - 20	14 - 16 20 - 20	14 - 19	15 - 15	15 - 16
XGT2-56C	15 - 15	15 - 19	15 - 20	15 - 25	19 - 20	19 - 24	20 - 20	20 - 25	24 - 25	25 - 25

- 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

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N・m)	Max.*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)
XGT2-15C	6	1.1	2.2	42000	2.6×10 ⁻⁷	110	0.15	1.5	±0.2	9
XGT2-19C	8	2.1	4.2	33000	7.6×10 ⁻⁷	240	0.15	1.5	±0.2	15
XGT2-25C	12	4	8	25000	2.7×10 ⁻⁶	390	0.15	1.5	±0.2	29
XGT2-27C	14	4	8	23000	3.7×10 ⁻⁶	400	0.15	1.5	±0.2	33
XGT2-30C	15	6.3	12.6	21000	6.3×10 ⁻⁶	590	0.2	1.5	±0.3	45
XGT2-34C	16	8	16	18000	1.2×10 ⁻⁵	890	0.2	1.5	±0.3	66
XGT2-39C	20	13.5	27	16000	2.5×10 ⁻⁵	1100	0.2	1.5	±0.3	105
XGT2-44C	22	18	36	14000	4.1×10 ⁻⁵	1300	0.2	1.5	±0.3	134
XGT2-56C	28	35	70	11000	1.4×10 ⁻⁴	2500	0.2	1.5	±0.3	270

*1 : Correction of rated torque and max. torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of **XGT2-C** is -10°C to 120°C.

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

Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-10°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 120°C	0.55

Part number specification

XGT2-39C- 12-20

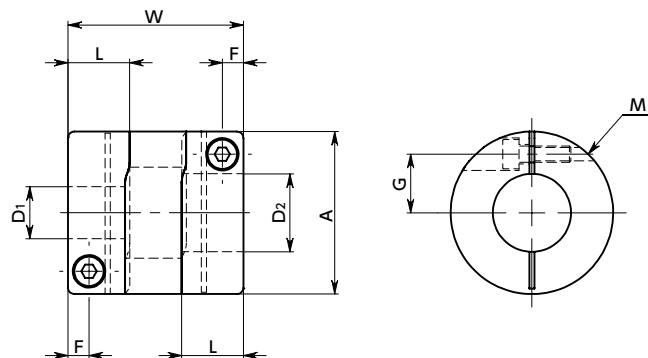
➡ 1 ➡ 2

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

XGS2 Flexible coupling - High - gain rubber type - Short type Additional Size Patent Pending

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[High torque](#)
[High Rigidity](#)
[Vibration absorption](#)

XGS2-C



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
XGS2-15C	15	6.5	18	2.15	5	M1.6	0.25
XGS2-19C	19	7.7	20	2.65	6.5	M2	0.5
XGS2-25C	25	9.5	27	3.25	9	M2.5	1
XGS2-27C	27	9.5	27	3.25	10	M2.5	1
XGS2-30C	30	11	30	4	11	M3	1.5
XGS2-34C	34	12	35	4	12.25	M3	1.5
XGS2-39C	39	15.5	40	4.5	14.5	M4	2.5

Part Number	Standard Bore Diameter D1-D2								
XGS2-15C	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6
XGS2-19C	4 - 5 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8 6.35 - 8
XGS2-25C	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10 8 - 8
XGS2-27C	5 - 6 8 - 10	5 - 8 8 - 11	5 - 14 8 - 12	6 - 6 8 - 14	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 10 - 14	6 - 12 12 - 12	6 - 14 12 - 14 8 - 8 14 - 14
XGS2-30C	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12 10 - 14
XGS2-34C	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15 10 - 14 16 - 16
XGS2-39C	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 15	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17 12 - 19 20 - 20

- 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

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)
XGS2-15C	6	0.5	42000	2.1×10 ⁻⁷	64	0.15	1.5	±0.2	7
XGS2-19C	8	0.8	33000	5.9×10 ⁻⁷	170	0.15	1.5	±0.2	12
XGS2-25C	12	2.3	25000	2.4×10 ⁻⁶	290	0.15	1.5	±0.2	24
XGS2-27C	14	2.3	23000	3.2×10 ⁻⁶	290	0.15	1.5	±0.2	28
XGS2-30C	15	3.3	21000	5.2×10 ⁻⁶	430	0.2	1.5	±0.3	38
XGS2-34C	16	5.5	18000	1.1×10 ⁻⁵	800	0.2	1.5	±0.3	61
XGS2-39C	20	7	16000	2.1×10 ⁻⁵	930	0.2	1.5	±0.3	90

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. The allowable operating temperature of **XGS2-C** is -10°C to 120°C.

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

Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-10°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 120°C	0.55

Part number specification

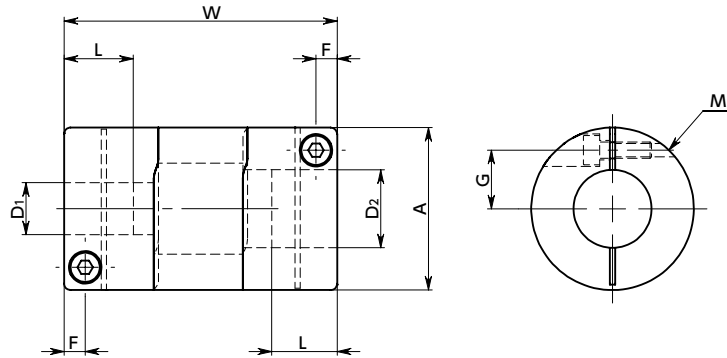
XGS2-34C-11-12

➡ 1 ➡ 2

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

XGL2 Flexible coupling - High - gain rubber type - Long type Patent Pending

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 High torque
 High Rigidity
 Vibration absorption

XGL2-C**Dimensions**

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
XGL2-15C	15	6.5	30	2.15	5	M1.6	0.25
XGL2-19C	19	7.7	34	2.65	6.5	M2	0.5
XGL2-25C	25	9.5	42	3.25	9	M2.5	1
XGL2-30C	30	11	42	4	11	M3	1.5
XGL2-34C	34	12	44	4	12.25	M3	1.5
XGL2-39C	39	15.5	55	4.5	14.5	M4	2.5

Part Number	Standard Bore Diameter D1-D2									
XGL2-15C	3 - 5	5 - 5	5 - 6							
XGL2-19C	4 - 5	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 8	6.35 - 8	8 - 8
XGL2-25C	5 - 8	6 - 8	6 - 10	6.35 - 8	8 - 8	8 - 10	8 - 11	8 - 12	10 - 10	10 - 12
XGL2-30C	8 - 8	8 - 10	8 - 11	8 - 12	8 - 14	8 - 15	10 - 10	10 - 11	10 - 14	11 - 12
XGL2-34C	8 - 8	8 - 10	8 - 12	8 - 14	10 - 11	10 - 14	11 - 12	12 - 14	14 - 15	
XGL2-39C	10 - 10	10 - 12	10 - 14	12 - 14	14 - 15	15 - 19				

- 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

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)
XGL2-15C	6	1.1	42000	3.6×10^{-7}	82	0.15	1.5	±0.2	11
XGL2-19C	8	2.1	33000	1.0×10^{-6}	210	0.15	1.5	±0.2	20
XGL2-25C	12	4	25000	3.8×10^{-6}	300	0.15	1.5	±0.2	40
XGL2-30C	15	6.3	21000	7.6×10^{-6}	540	0.2	1.5	±0.3	56
XGL2-34C	16	8	18000	1.4×10^{-5}	640	0.2	1.5	±0.3	78
XGL2-39C	20	13.5	16000	2.9×10^{-5}	950	0.2	1.5	±0.3	122

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. The allowable operating temperature of **XGL2-C** is -10°C to 120°C.

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

● Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-10°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 120°C	0.55

● Part number specification

XGL2-15C - 5-5

1 2

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

XGT/XGL/XGS Flexible coupling - High-gain rubber type

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Structure

Set Screw Type

XGT Standard type → P.49

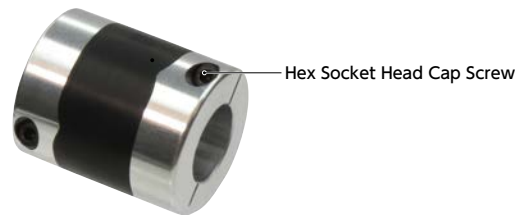
XGS Short type → P.55



Single Clamping Type

XGT-CS Standard type → P.51

XGS-CS Short type → P.57



Double Clamping Type

XGT-C Standard type → P.53

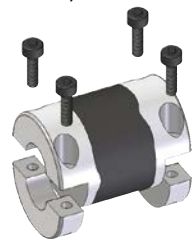
XGL-C Long type → P.61

XGS-C Short type → P.59



Split Type

Easy to mount and remove screws.



Material/Finish

	XGT / XGL / XGS
Hub	A2017
Vibration-absorbing rubber	HNBR
Hex Socket Head Cap Screw / Hex Socket Set Screw	SCM435 Ferrosoferric Oxide Film (Black)

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

Recommended applicable motor

	XGT / XGL / XGS
Servomotor	○
Stepping Motor	○
General-Purpose Motor	△

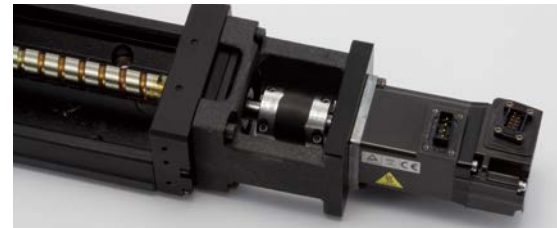
○: Excellent ○: Very good △: Available

Property

	XGT / XGL / XGS
Zero Backlash	○
For servomotor high gain	○
High Torque	○
High Torsional Stiffness	○
Allowable Misalignment	○
Vibration absorption characteristics	○
Allowable Operating Temperature	-20°C to 80°C

○: Excellent ○: Very good

- This is a high gain rubber type flexible coupling optimized for actuators.
- Enables you to make high precision positioning in a short time.



- A single-piece construction with the two aluminum hubs molded with vibration absorbing rubber.
- About high-gain rubber coupling and reduction of stabilization time → P.31

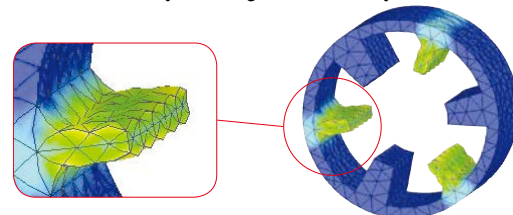
Application

Actuator / Surface-mount machine / High precision XY stage / Index table

Internal Structure



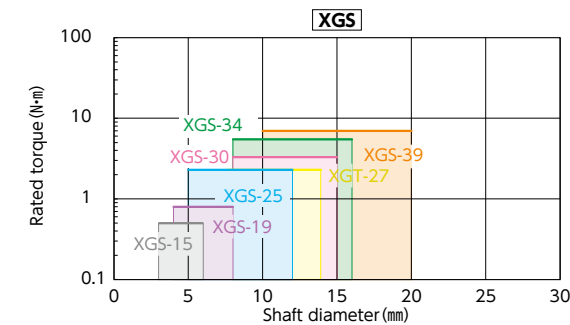
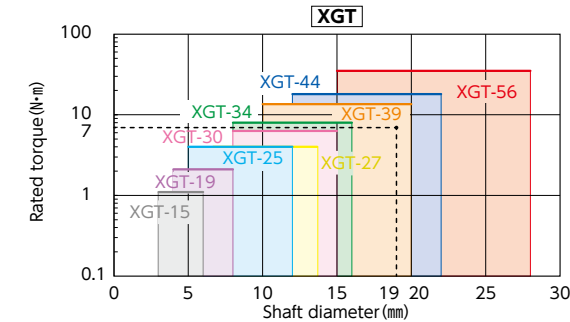
The designed shape of vibration-absorbing rubber achieves high torsional stiffness and high torque according to the newest finite element method. This product also succeeds in elongating its life by evenly dispersing the stress focusing on around the inner diameter of the jaw throughout the entire jaw.



Selection

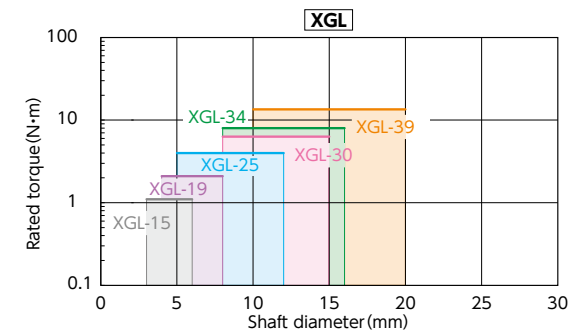
Selection based on shaft diameter and rated torque

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 19 and load torque of 7 N·m, the selected size is **XGT-39C**.



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)	XGT	XGL	XGS
10	5 - 6	0.032	0.096	15C	15C	15C
20	5 - 6	0.064	0.19	15C	15C	15C
30	5 - 7	0.096	0.29	19C	19C	19C
50	6 - 8	0.16	0.48	19C	19C	19C
100	8	0.32	0.95	19C	19C	25C
200	9 - 14	0.64	1.9	27C	30C	27C
400	14	1.3	3.8	27C	30C	34C
750	16 - 19	2.4	7.2	39C	39C	-

*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.

Related Products

XGT2 enables further improvement of productivity by adding damping performance to **XGT**.
→ P.29



Part number specification

XGT-19C-6-8

Product code Size bore diameter

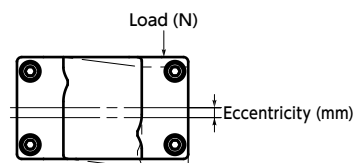
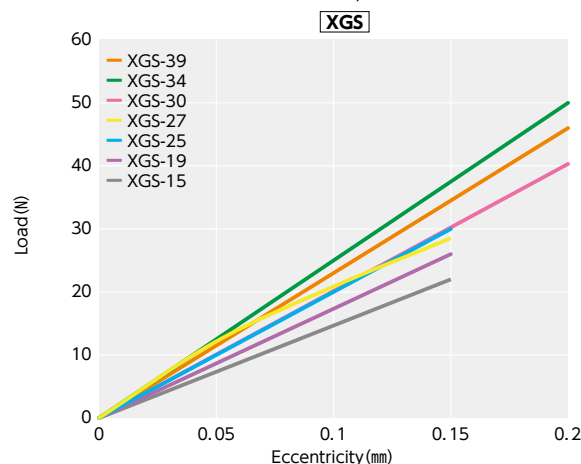
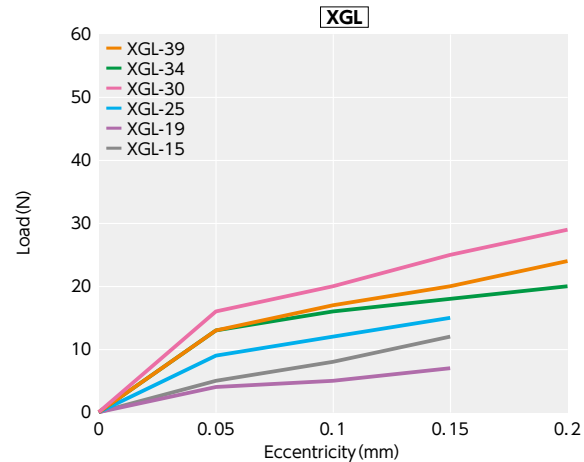
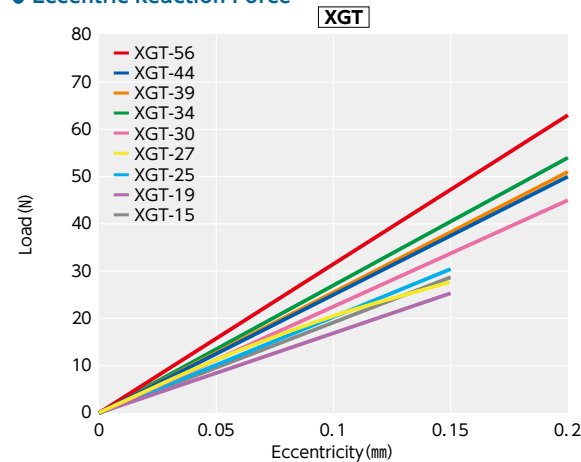
Please refer to dimensional table for part number specification.

XGT/XGL/XGS Flexible coupling - High-gain rubber type

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Technical Information

• Eccentric Reaction Force



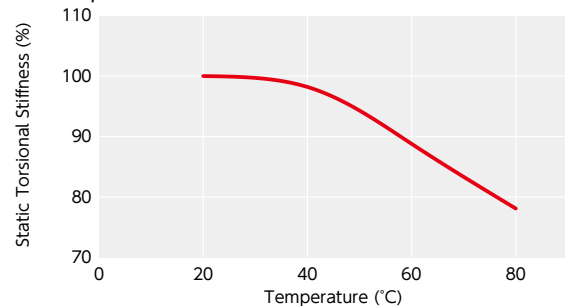
The charts show force generated when making **XGT XGL XGS** in eccentric condition. As the eccentric reaction force becomes smaller, the force acting on the shaft bearing also becomes smaller.

• 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 torsional stiffness within the range of allowable operating temperature is as shown in the graph.

Before using the unit, be aware of the deterioration of responsiveness.



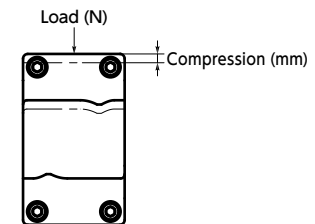
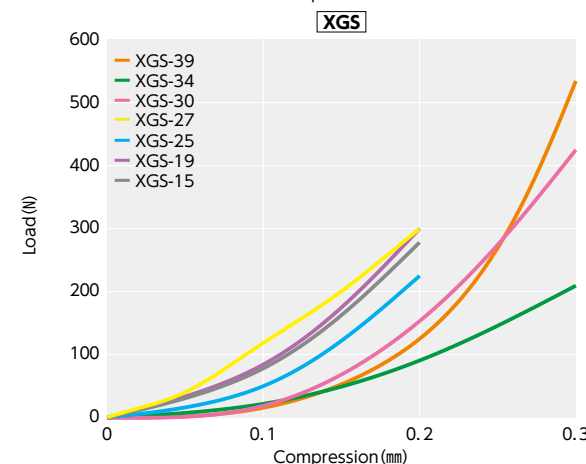
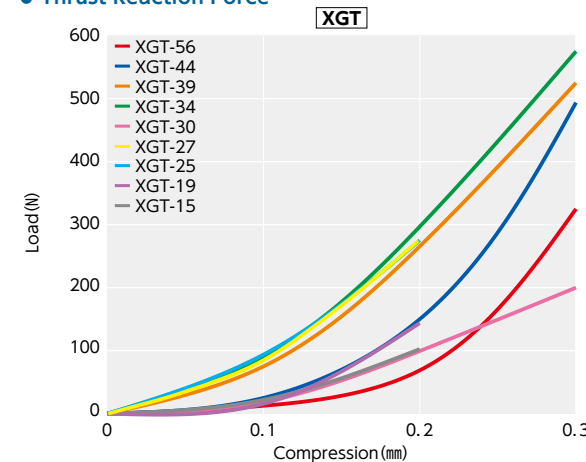
• Physical property and chemical resistance of high-gain type rubber (HNBR)

	Effect
Aging Resistance	○
Weather Resistance	○
Ozone Resistance	○
Gasoline / Gas Oil	○-○
Benzene / Toluene	△-○
Alcohol	○
Ether	x-△
Ketone (MEK)	x
Ethyl Acetate	x-△
Water	○
Organic Acid	○
High concentration inorganic acid	○
Low concentration inorganic acid	○
Strong Alkali	○
Weak Alkali	○

○: Very Good ○: Available

△: Fair pending on condition x: Not available

• Thrust Reaction Force



The charts show force generated when compressing **XGT XGL XGS** in the shaft direction. As the thrust reaction force becomes smaller, the force acting on the motor also becomes smaller.

• Slip Torque

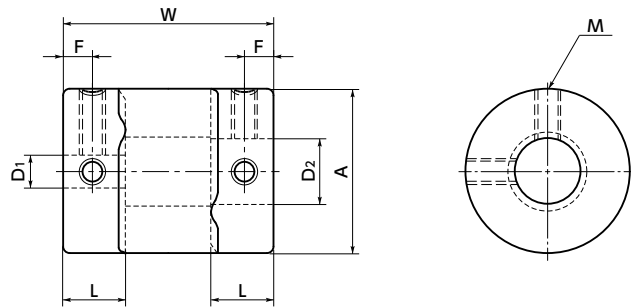
Concerning the sizes shown in the table, please note that the shaft's slip torque is smaller than the rated torque of **XGT-C XGT-CS XGS-C XGS-CS**.

Part Number	Bore diameter (mm)			
	3	5	10	12
XGT-15C, XGL-15C	1			
XGT-15CS	1			
XGT-27CS		3.8		
XGT-39CS			13.3	
XGT-44C				16.3

• 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 **XGT-C XGT-CS XGS-C XGS-CS XGL-C** dimensional table.

XGT Flexible coupling - High-gain rubber type - Set screw type

WEB Selection Tool
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 High gain supported
 High torque
 Vibration absorption

XGT**Dimensions**

Unit : mm

Part Number	A	L	W	F	M	Screw Tightening Torque (N·m)
XGT-15	15	6.5	23	3	M3	0.7
XGT-19	19	7.7	26	4	M3	0.7
XGT-25	25	9.5	32	5	M4	1.7
XGT-27	27	9.5	32	5	M4	1.7
XGT-30	30	11	36	5.5	M4	1.7
XGT-34	34	12	38	6	M5	4
XGT-39	39	15.5	48	8	M5	4
XGT-44	44	15	48	7.5	M6	7
XGT-56	56	19.5	60	10	M6	7

Part Number	Standard bore diameter (dimensional allowance H8)									
	D1-D2									
XGT-15	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6	
XGT-19	4 - 5 6.35 - 8	4 - 8 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8
XGT-25	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10	8 - 8
XGT-27	5 - 6 8 - 10	5 - 8 8 - 11	5 - 14 8 - 12	6 - 6 8 - 14	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 10 - 14	6 - 12 12 - 12	6 - 14 12 - 14	8 - 8 14 - 14
XGT-30	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12	10 - 14
XGT-34	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15	10 - 14 16 - 16
XGT-39	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 16	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17	12 - 19 20 - 20
XGT-44	12 - 12 15 - 19	12 - 14 15 - 20	12 - 16 16 - 16	12 - 19 16 - 19	14 - 14 17 - 17	14 - 15 19 - 20	14 - 16 20 - 20	14 - 19	15 - 15	15 - 16
XGT-56	15 - 15	15 - 19	15 - 20	15 - 25	19 - 20	19 - 24	20 - 20	20 - 25	24 - 25	25 - 25

- All products are provided with hex socket set screw.
- In a case where the bore diameter is $\phi 4$ or less, the setscrew is used in only one place.
- 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)
XGT-15	6	1.1	42000	2.6×10^{-7}	43	0.15	1.5	±0.2	9
XGT-19	8	2.1	33000	7.5×10^{-7}	88	0.15	1.5	±0.2	15
XGT-25	12	4	25000	2.7×10^{-6}	140	0.15	1.5	±0.2	29
XGT-27	14	4	23000	3.6×10^{-6}	140	0.15	1.5	±0.2	32
XGT-30	15	6.3	21000	6.3×10^{-6}	220	0.2	1.5	±0.3	46
XGT-34	16	8	18000	1.1×10^{-5}	390	0.2	1.5	±0.3	66
XGT-39	20	13.5	16000	2.4×10^{-5}	520	0.2	1.5	±0.3	103
XGT-44	22	18	14000	4.0×10^{-5}	640	0.2	1.5	±0.3	133
XGT-56	28	35	11000	1.3×10^{-4}	1500	0.2	1.5	±0.3	267

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. **XGT**'s allowable operating temperature is -20°C to 80°C.

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

● Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

● Part number specification

XGT-39 - 12-20

1

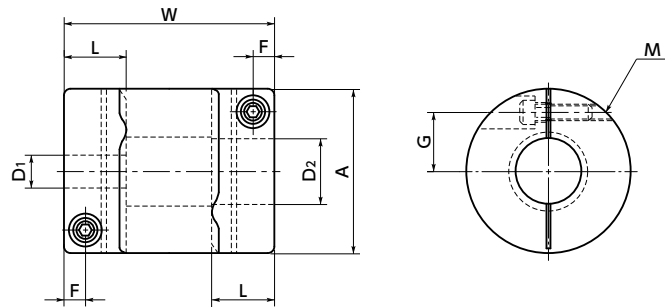
2

Additional Keyway at Shaft Hole → P.803 Available / Add'l charge	Cleanroom Wash & Packaging → P.807 Available / Add'l charge	Change to Stainless Steel Screw → P.805 Available / Add'l charge
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XGT-CS Flexible coupling - High-gain rubber type - Single clamp type

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XGT-CS



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
XGT-15CS	15	6.5	23	2.15	5	M1.6	0.25
XGT-19CS	19	7.7	26	2.65	6.5	M2	0.5
XGT-25CS	25	9.5	32	3.25	9	M2.5	1
XGT-27CS	27	9.5	32	3.25	10	M2.5	1
XGT-30CS	30	11	36	4	11	M3	1.5
XGT-34CS	34	12	38	4	12.25	M3	1.5
XGT-39CS	39	15.5	48	4.5	14.5	M4	2.5
XGT-44CS	44	15	48	4.75	16	M4	2.5
XGT-56CS	56	19.5	60	5.5	20	M5	7

Part Number	Standard bore diameter D1-D2									
XGT-15CS	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6	
XGT-19CS	4 - 5 6.35 - 8	4 - 8 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8
XGT-25CS	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10	8 - 8
XGT-27CS	5 - 6 8 - 10	5 - 8 8 - 11	5 - 14 8 - 12	6 - 6 8 - 14	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 10 - 14	6 - 12 12 - 12	6 - 14 12 - 14	8 - 8 14 - 14
XGT-30CS	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12	10 - 14
XGT-34CS	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15	10 - 14 16 - 16
XGT-39CS	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 15	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17	12 - 19 20 - 20
XGT-44CS	12 - 12 15 - 19	12 - 14 15 - 20	12 - 16 16 - 16	12 - 19 16 - 19	14 - 14 17 - 17	14 - 15 19 - 20	14 - 16 20 - 20	14 - 19	15 - 15	15 - 16
XGT-56CS	15 - 15	15 - 19	15 - 20	15 - 25	19 - 20	19 - 24	20 - 20	20 - 25	24 - 25	25 - 25

- 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

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)
XGT-15CS	6	1.1	42000	2.3×10^{-7}	43	0.15	1.5	±0.2	8
XGT-19CS	8	2.1	33000	6.9×10^{-7}	88	0.15	1.5	±0.2	14
XGT-25CS	12	4	25000	2.5×10^{-6}	140	0.15	1.5	±0.2	27
XGT-27CS	14	4	23000	3.4×10^{-6}	140	0.15	1.5	±0.2	30
XGT-30CS	15	6.3	21000	6.0×10^{-6}	220	0.2	1.5	±0.3	44
XGT-34CS	16	8	18000	1.0×10^{-5}	390	0.2	1.5	±0.3	61
XGT-39CS	20	13.5	16000	2.3×10^{-5}	520	0.2	1.5	±0.3	98
XGT-44CS	22	18	14000	3.7×10^{-5}	640	0.2	1.5	±0.3	124
XGT-56CS	28	35	11000	1.2×10^{-4}	1500	0.2	1.5	±0.3	252

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. **XGT-CS**'s allowable operating temperature is -20°C to 80°C.

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

• Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

• Part number specification

XGT-34CS-11-12

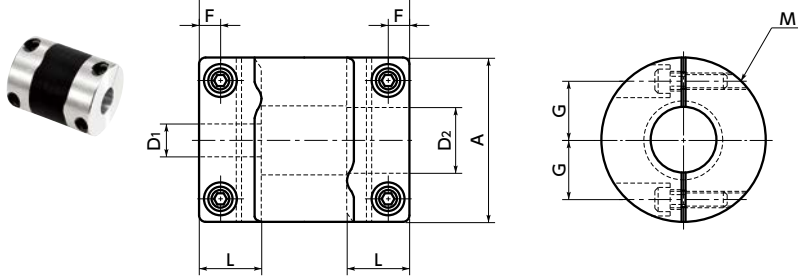


Additional Keyway at Shaft Hole ➔ P.803	Cleanroom Wash & Packaging ➔ P.807	Change to Stainless Steel Screw ➔ P.805
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

XGT-C Flexible coupling - High - gain rubber type - Standard type

WEB Selection Tool
 CAD Download
 Zero Backlash
 High gain supported
 High torque
 Vibration absorption

XGT-C



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
XGT-15C	15	6.5	23	2.15	5	M1.6	0.25
XGT-19C	19	7.7	26	2.65	6.5	M2	0.5
XGT-25C	25	9.5	32	3.25	9	M2.5	1
XGT-30C	30	11	36	4	11	M3	1.5
XGT-34C	34	12	38	4	12.25	M3	1.5
XGT-39C	39	15.5	48	4.5	14.5	M4	2.5
XGT-44C	44	15	48	4.75	16	M4	2.5
XGT-56C	56	19.5	60	5.5	20	M5	7

Part Number	Standard Bore Diameter									
	D1-D2									
XGT-15C	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6	
XGT-19C	4 - 5 6.35 - 8	4 - 8 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8
XGT-25C	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10	8 - 8
XGT-30C	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12	10 - 14
XGT-34C	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15	10 - 14 16 - 16
XGT-39C	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 15	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17	12 - 19 20 - 20
XGT-44C	12 - 12 15 - 19	12 - 14 15 - 20	12 - 16 16 - 16	12 - 19 16 - 19	14 - 14 17 - 17	14 - 15 19 - 20	14 - 16 20 - 20	14 - 19	15 - 15	15 - 16
XGT-56C	15 - 15	15 - 19	15 - 20	15 - 25	19 - 20	19 - 24	20 - 20	20 - 25	24 - 25	25 - 25

- 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

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)
XGT-15C	6	1.1	42000	2.7×10^{-7}	43	0.15	1.5	±0.2	8
XGT-19C	8	2.1	33000	8.4×10^{-7}	88	0.15	1.5	±0.2	14
XGT-25C	12	4	25000	3.0×10^{-6}	140	0.15	1.5	±0.2	28
XGT-30C	15	6.3	21000	6.9×10^{-6}	220	0.2	1.5	±0.3	45
XGT-34C	16	8	18000	1.3×10^{-5}	390	0.2	1.5	±0.3	65
XGT-39C	20	13.5	16000	2.7×10^{-5}	520	0.2	1.5	±0.3	98
XGT-44C	22	18	14000	4.2×10^{-5}	640	0.2	1.5	±0.3	136
XGT-56C	28	35	11000	1.4×10^{-4}	1500	0.2	1.5	±0.3	276

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. The allowable operating temperature of **XGT-C** is -20°C to 80°C.

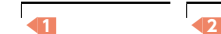
*2 : These are values with max. bore diameter.

● Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

● Part number specification

XGT-39C - 12-20

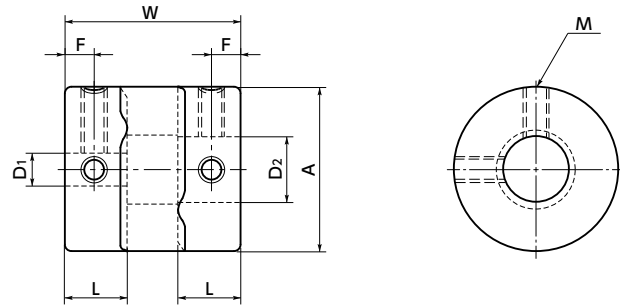


Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

XGS Flexible coupling - High-gain rubber type (short) - Set screw type

WEB Selection Tool WEB CAD Download 0 Zero Backlash High gain supported High torque Vibration absorption

XGS



Dimensions

Unit : mm

Part Number	A	L	W	F	M	Screw Tightening Torque (N·m)
XGS-15	15	6.5	18	3	M3	0.7
XGS-19	19	7.7	20	4	M3	0.7
XGS-25	25	9.5	27	5	M4	1.7
XGS-27	27	9.5	27	5	M4	1.7
XGS-30	30	11	30	5.5	M4	1.7
XGS-34	34	12	35	6	M5	4
XGS-39	39	15.5	40	8	M5	4

Part Number	Standard bore diameter (dimensional allowance H8)									
	D1-D2									
XGS-15	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6	
XGS-19	4 - 5 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8	6.35 - 8
XGS-25	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10	8 - 8
XGS-27	5 - 6 8 - 10	5 - 8 8 - 11	5 - 14 8 - 12	6 - 6 8 - 14	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 10 - 14	6 - 12 12 - 12	6 - 14 12 - 14	8 - 8 14 - 14
XGS-30	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12	10 - 14
XGS-34	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15	10 - 14 16 - 16
XGS-39	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 15	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17	12 - 19 20 - 20

- All products are provided with hex socket set screw.
- In a case where the bore diameter is $\phi 4$ or less, the setscrew is used in only one place.
- 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)
XGS-15	6	0.5	42000	2.2×10^{-7}	25	0.15	1.5	±0.2	7
XGS-19	8	0.8	33000	6.3×10^{-7}	63	0.15	1.5	±0.2	12
XGS-25	12	2.3	25000	2.4×10^{-6}	100	0.15	1.5	±0.2	26
XGS-27	14	2.3	23000	3.2×10^{-6}	120	0.15	1.5	±0.2	29
XGS-30	15	3.3	21000	5.6×10^{-6}	160	0.2	1.5	±0.3	41
XGS-34	16	5.5	18000	1.1×10^{-5}	350	0.2	1.5	±0.3	62
XGS-39	20	7	16000	2.2×10^{-5}	440	0.2	1.5	±0.3	91

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. **XGS**'s allowable operating temperature is -20°C to 80°C.

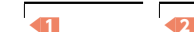
*2 : These are values with max. bore diameter.

• Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

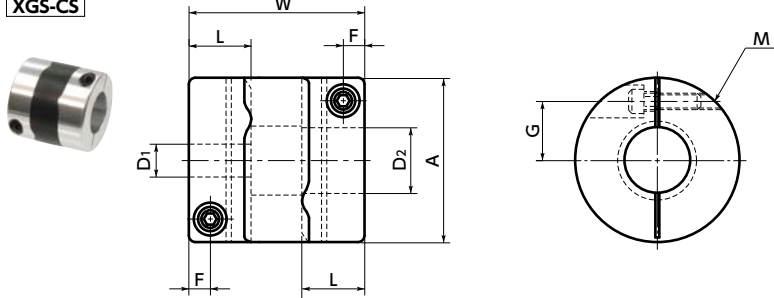
• Part number specification

XGS-34- 11-12



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

XGS-CS



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N・m)
XGS-15CS	15	6.5	18	2.15	5	M1.6	0.25
XGS-19CS	19	7.7	20	2.65	6.5	M2	0.5
XGS-25CS	25	9.5	27	3.25	9	M2.5	1
XGS-27CS	27	9.5	27	3.25	10	M2.5	1
XGS-30CS	30	11	30	4	11	M3	1.5
XGS-34CS	34	12	35	4	12.25	M3	1.5
XGS-39CS	39	15.5	40	4.5	14.5	M4	2.5

Part Number	Standard bore diameter D1-D2									
XGS-15CS	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6	
XGS-19CS	4 - 5 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8	6.35 - 8
XGS-25CS	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10	8 - 8
XGS-27CS	5 - 6 8 - 10	5 - 8 8 - 11	5 - 14 8 - 12	6 - 6 8 - 14	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 10 - 14	6 - 12 12 - 12	6 - 14 12 - 14	8 - 8 14 - 14
XGS-30CS	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12	10 - 14
XGS-34CS	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15	10 - 14 16 - 16
XGS-39CS	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 15	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17	12 - 19 20 - 20

- 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

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)
XGS-15CS	6	0.5	42000	2.0×10^{-7}	25	0.15	1.5	±0.2	7
XGS-19CS	8	0.8	33000	5.7×10^{-7}	63	0.15	1.5	±0.2	11
XGS-25CS	12	2.3	25000	2.2×10^{-6}	100	0.15	1.5	±0.2	24
XGS-27CS	14	2.3	23000	3.0×10^{-6}	120	0.15	1.5	±0.2	27
XGS-30CS	15	3.3	21000	5.3×10^{-6}	160	0.2	1.5	±0.3	38
XGS-34CS	16	5.5	18000	9.9×10^{-6}	350	0.2	1.5	±0.3	58
XGS-39CS	20	7	16000	2.0×10^{-5}	440	0.2	1.5	±0.3	86

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. **XGS-CS**'s allowable operating temperature is -20°C to 80°C.

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

• Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

• Part number specification

XGS-34CS - 11-12

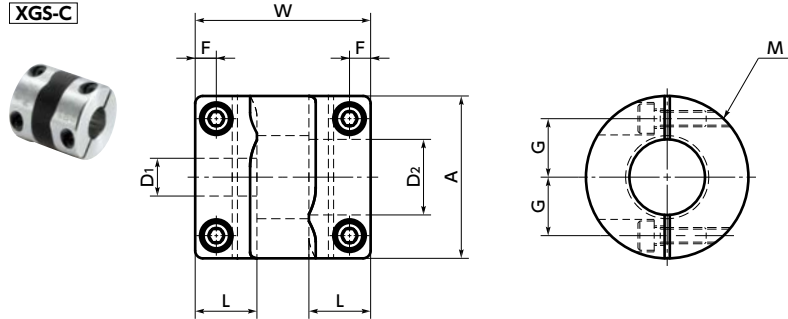


Additional Keyway at Shaft Hole ➔ P.803	Cleanroom Wash & Packaging ➔ P.807	Change to Stainless Steel Screw ➔ P.805
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

XGS-C Flexible coupling - High - gain rubber type - Short type

WEB Selection Tool
 CAD Download
 Zero Backlash
 High gain supported
 High torque
 Vibration absorption

XGS-C



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
XGS-15C	15	6.5	18	2.15	5	M1.6	0.25
XGS-19C	19	7.7	20	2.65	6.5	M2	0.5
XGS-25C	25	9.5	27	3.25	9	M2.5	1
XGS-30C	30	11	30	4	11	M3	1.5
XGS-34C	34	12	35	4	12.25	M3	1.5
XGS-39C	39	15.5	40	4.5	14.5	M4	2.5

Part Number	Standard Bore Diameter D1-D2									
XGS-15C	3 - 5	3 - 6	4 - 4	4 - 5	4 - 6	4.5 - 5	5 - 5	5 - 6	6 - 6	
XGS-19C	4 - 5 8 - 8	5 - 5	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 7	6 - 8	6.35 - 8
XGS-25C	5 - 6 8 - 10	5 - 8 8 - 11	6 - 6 8 - 12	6 - 8 10 - 10	6 - 10 10 - 12	6 - 11 12 - 12	6 - 12	6.35 - 8	6.35 - 10	8 - 8
XGS-30C	8 - 8 10 - 15	8 - 10 11 - 12	8 - 11 12 - 12	8 - 12 12 - 14	8 - 14 12 - 15	8 - 15 14 - 14	10 - 10 14 - 15	10 - 11 15 - 15	10 - 12	10 - 14
XGS-34C	8 - 8 10 - 15	8 - 10 11 - 11	8 - 11 11 - 12	8 - 12 12 - 12	8 - 14 12 - 14	8 - 15 12 - 15	10 - 10 14 - 14	10 - 11 14 - 15	10 - 12 15 - 15	10 - 14 16 - 16
XGS-39C	10 - 10 12 - 20	10 - 12 14 - 14	10 - 14 14 - 15	10 - 15 14 - 16	10 - 16 15 - 15	12 - 12 15 - 16	12 - 14 15 - 19	12 - 15 16 - 16	12 - 16 17 - 17	12 - 19 20 - 20

- 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

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)
XGS-15C	6	0.5	42000	2.0×10^{-7}	25	0.15	1.5	±0.2	7
XGS-19C	8	0.8	33000	6.2×10^{-7}	63	0.15	1.5	±0.2	12
XGS-25C	12	2.3	25000	2.3×10^{-6}	100	0.15	1.5	±0.2	25
XGS-30C	15	3.3	21000	5.5×10^{-6}	160	0.2	1.5	±0.3	39
XGS-34C	16	5.5	18000	1.0×10^{-5}	350	0.2	1.5	±0.3	62
XGS-39C	20	7	16000	2.1×10^{-5}	440	0.2	1.5	±0.3	85

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. The allowable operating temperature of **XGS-C** is -20°C to 80°C.

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

Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

Part number specification

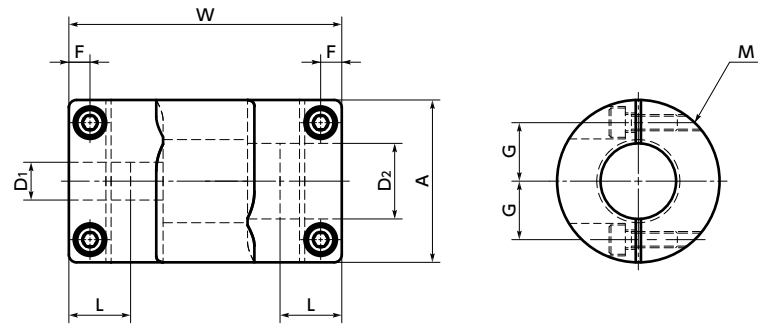
XGS-34C-11-12

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

XGL-C Flexible coupling - High - gain rubber type - Long type

[WEB Selection Tool](#)
[CAD Download](#)
[Zero Backlash](#)
[High gain supported](#)
[High torque](#)
[Vibration absorption](#)

XGL-C



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N・m)
XGL-15C	15	6.5	30	2.15	5	M1.6	0.25
XGL-19C	19	7.7	34	2.65	6.5	M2	0.5
XGL-25C	25	9.5	42	3.25	9	M2.5	1
XGL-30C	30	11	42	4	11	M3	1.5
XGL-34C	34	12	44	4	12.25	M3	1.5
XGL-39C	39	15.5	55	4.5	14.5	M4	2.5

Part Number	Standard Bore Diameter D1-D2							
XGL-15C	3 - 5	5 - 5	5 - 6					
XGL-19C	4 - 5 6.35 - 8	5 - 5 8 - 8	5 - 6	5 - 7	5 - 8	6 - 6	6 - 6.35	6 - 8
XGL-25C	5 - 8 10 - 10	6 - 8 10 - 12	6 - 10	6.35 - 8	8 - 8	8 - 10	8 - 11	8 - 12
XGL-30C	8 - 8 10 - 14	8 - 10 11 - 12	8 - 11 12 - 14	8 - 12	8 - 14	8 - 15	10 - 10	10 - 11
XGL-34C	8 - 8 14 - 15	8 - 10	8 - 12	8 - 14	10 - 11	10 - 14	11 - 12	12 - 14
XGL-39C	10 - 10	10 - 12	10 - 14	12 - 14	14 - 15	15 - 19		

- 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

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)
XGL-15C	6	1.1	42000	3.3×10^{-7}	32	0.15	1.5	±0.2	11
XGL-19C	8	2.1	33000	9.7×10^{-7}	77	0.15	1.5	±0.2	19
XGL-25C	12	4	25000	3.5×10^{-6}	130	0.15	1.5	±0.2	38
XGL-30C	15	6.3	21000	7.3×10^{-6}	200	0.2	1.5	±0.3	53
XGL-34C	16	8	18000	1.3×10^{-5}	280	0.2	1.5	±0.3	73
XGL-39C	20	13.5	16000	2.8×10^{-5}	450	0.2	1.5	±0.3	117

*1 : Correction of rated torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque with temperature correction factor shown in the following table. The allowable operating temperature of **XGL-C** is -20°C to 80°C.

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

Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

Part number specification

XGL-15C-5-5

1 2

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

Stronger, Easier to Use

Disc-Type Coupling

XHW/XHS/XHW-L

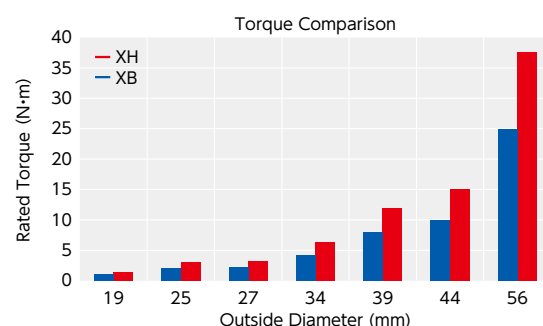


1. Transmission torque has improved by 1.5 times.

- The number of disc fixing bolts on one side, which was two for conventional XB series products, has been changed to three for XH series products. The increased disc fixing power has enhanced transmission torque by 1.5 times.

XB Series

XH Series

Fixing Bolts
for Disc

- XH series is the successor to XB series.
- Total length / outside diameter, and max. bore diameter are the same as **XBW**.
- Affordable price compared with identical sizes of XB series products.

XBW Part Number	Total Length (mm)	Rated Torque (N·m)	XHW Part Number	Total Length (mm)	Rated Torque (N·m)	XHW-L Part Number	Total Length (mm)	Rated Torque (N·m)
XBW-19C	25.5	1	XHW-19C	25.7	1.5	XHW-19C-L	34	1.5
XBW-25C	32.2	2	XHW-25C	32.2	3	XHW-25C-L	42	3
XBW-27C	32.2	2.2	XHW-27C	32.2	3.3	XHW-27C-L	42	3.3
XBW-34C	37.4	4.2	XHW-34C	36.8	6.3	XHW-34C-L	44	6.3
XBW-39C	46.6	8	XHW-39C	46.6	12	XHW-39C-L	55	12
XBW-44C	46.6	10	XHW-44C	46.6	15	—	—	—
XBW-56C	60.4	25	XHW-56C	61.2	37.5	—	—	—

2. Compact and Lower Cost

- Downsizing and cost reduction of couplings can be achieved by selecting XH series when servomotors' instantaneous maximum torque improve by 350%.

Servomotor Specifications				XBW Part Number	Total Length (mm)	Rated Torque (N·m)	XHW Part Number	Total Length (mm)	Rated Torque (N·m)	XHW-L Part Number	Total Length (mm)	Rated Torque (N·m)
Rated Output (W)	Shaft Diameter (φ)	Rated Torque (N·m)	instantaneous maximum torque (N·m)									
100	8	0.32	1.1	XBW-25C	32.2	2	XHW-19C	25.7	1.5	XHW-19C-L	34	1.5
200	14	0.64	2.2	XBW-34C	37.4	4.2	XHW-27C	32.2	3.3	XHW-27C-L	42	3.3
400	14	1.3	4.5	XBW-39C	46.6	8	XHW-34C	36.8	6.3	XHW-34C-L	44	6.3
750	16 - 19	2.4	8.4	XBW-44C	46.6	10	XHW-39C	46.6	12	XHW-39C-L	55	12

3. Expansion of Standard Bore Diameter

- Standard bore diameters, which are not in XB series, have been added. (● indicates standardized bore diameters newly added in XH series.)
- ① Minimum bore diameter has been added
- ② Inch sizes (φ6.35 · φ9.525) have been added
- ③ Inside bearing diameter of φ17 has been added

Part Number	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28
XH-19C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XH-25C		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XH-27C		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XH-34C			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XH-39C				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XH-44C					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XH-56C					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

4. Standardization of Long Type **XHW-L**

- If the coupling cannot reach the shaft when connecting an electric actuator and a motor, usually a special product with its total length elongated is used. However, in XH series, long type **XHW-L** has been standardized.
- With its improved torque transmission capability, XH series will enable downsizing from conventional products. If **XHW** does not provide sufficient total length, use long type **XHW-L** instead.



XHW / XHW-L Flexible Coupling - Disk - type Additional Size

WEB Selection Tool CAD Download 0 Zero Backlash High torque High Rigidity

Structure

- Clamping type → P.69
- XHW-C** Standard Type
- XHW-C-L** Long Type



- Material/Finish RoHS2 Compliant

	XHW-C / XHW-C-L
Hub	A2017 Alumite Treatment
Spacer	A2017 Alumite Treatment
Disk fixing bolt	SCM435 Ferrosferric Oxide Film (Black)
Disk	SUS304
Collar	SUS304
Hex Socket Head Cap Screw	SCM435 Ferrosferric Oxide Film (Black)

- Recommended applicable motor

	XHW / XHW-L
Servomotor	○
Stepping Motor	○
General-Purpose Motor	△

○: Excellent ○: Very good △: Available

- Property

	XHW / XHW-L
Zero Backlash	○
High gain supported	○
High Torque	○
High Torsional Stiffness	○
Allowable Misalignment	○

○: Excellent ○: Very good

- This is a disk-type flexible coupling.
- High-torque specification with rated torque 1.5 times higher than conventional products.
- This is the most appropriate for a servomotor with the instantaneous max. torque of 350%.
- The stainless steel Disk allows the eccentricity, angular misalignment, and end-play.

- Application

Actuator / Surface-mount machine / High precision XY stage / Index table

- Part number specification

XHW-34C-10-11

Product code Size bore diameter

Please refer to dimensional table for part number specification.

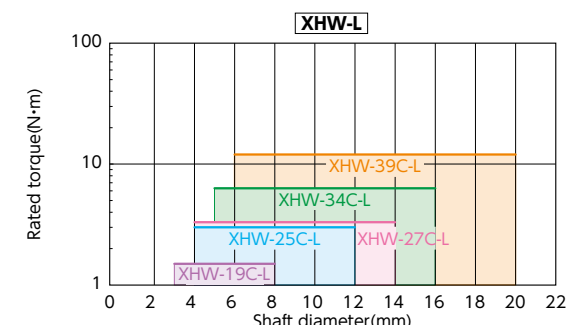
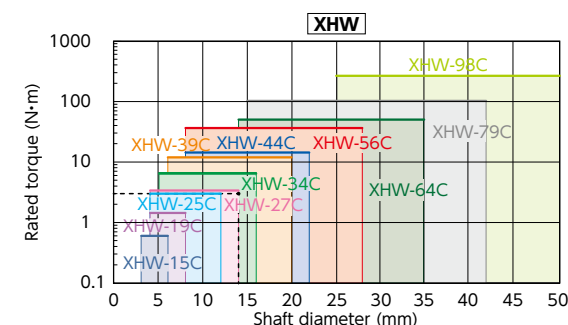
Additional Keyway at Shaft Hole → P.803	Cleanroom Wash & Packaging → P.807	Change to Stainless Steel Screw → P.805
Available / Add'l charge	Available / Add'l charge	Please feel free to contact us



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 14 and load torque of 3 N·m, the selected size is

XHW-27C.

- Selection based on the rated output of the servomotor

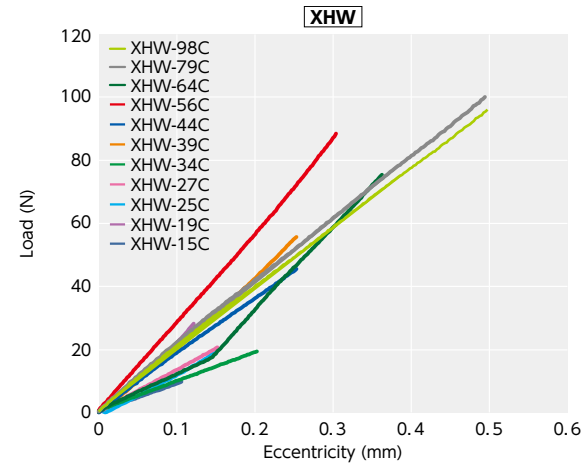
XHW supports the servomotor with instantaneous max. torque increased to 350% of the rated torque and the size can be more reduced than the size of conventional product **XBW**.

Rated Output (W)	Servomotor type				Servomotor Specifications*1			selection size	
	Mitsubishi Electric Corporation	YASKAWA Electric Corporation	SANYO DENKI Co., Ltd.	KEYENCE CORPORATION	Diameter of Motor Shaft (mm)	Rated Torque (N·m)	Instantaneous Max. Torque (N·m)	XHW-C	XBW-C
100					8	0.32	1.1	XHW-19C	XBW-25C
200					14	0.64	2.2	XHW-27C	XBW-34C
400	HG-KR	SGMJV	R2	SV	14	1.3	4.5	XHW-34C	XBW-39C
750					16 - 19	2.4	8.4	XHW-39C	XBW-44C

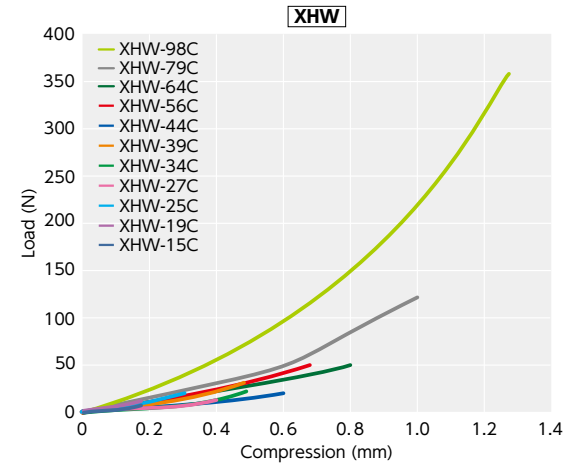
*1: Motor specifications are based on general values. For details, see the motor manufacturer's catalogs. This is the size for cases where devices such as reduction gears are not used.

Technical Information

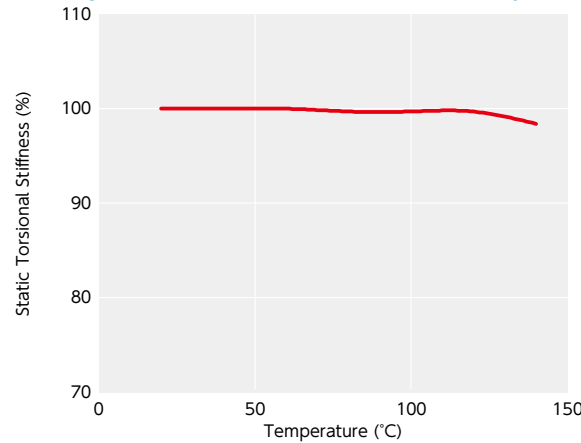
• Eccentric Reaction Force



• 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 **XHW** 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 table, please note that the shaft's slip torque is smaller than the rated torque of **XHW-C** **XHW-C-L**.

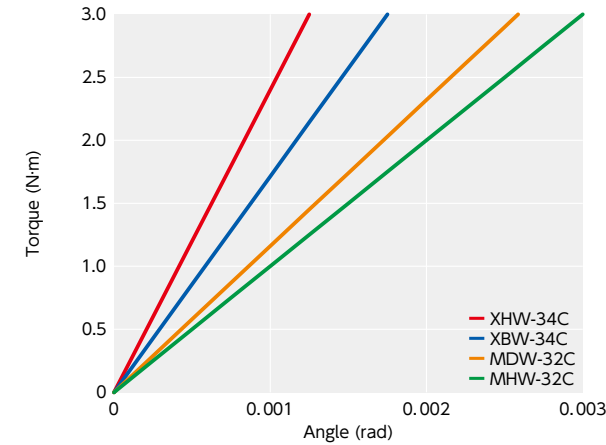
Part Number	Bore diameter (mm)								
	3	4	5	6	6.35	8	9.525	10	11
XHW-19C	0.7								
XHW-25C		2.5							
XHW-27C		2	2.9						
XHW-34C			3.5	4.9	5.5				
XHW-39C				6	8				
XHW-44C						8	13		
XHW-56C						22	34	37	
XHW-64C								23	42
XHW-19C-L	0.7								
XHW-25C-L		2.5							
XHW-27C-L		2	2.9						
XHW-34C-L			3.5	4.9	5.5				
XHW-39C-L				6	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 **XHW-C** **XHW-C-L** dimensional table.

• Comparison of static torsional stiffness (double disk-type)

XHW have high torsional stiffness and responsiveness.

Optimal for high-speed and precision positioning for servomotors, etc.



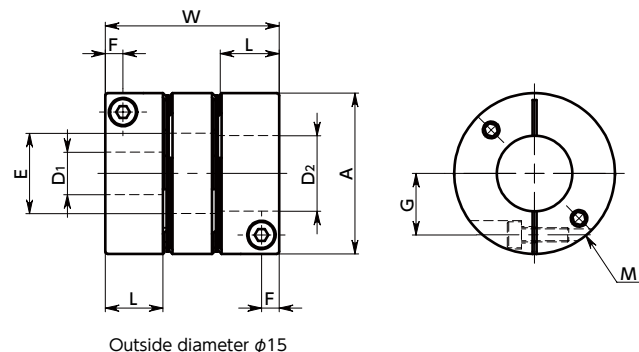
XHW-C / XHW-C-L Flexible Coupling - Disk - type Additional Size

WEB Selection Tool CAD Download Zero Backlash High torque High Rigidity

XHW-C



XHW-C-L



Outside diameter φ15

Dimensions

Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
XHW-15C	15	7.5	21.6	6.3	2.1	5	M2	0.45
XHW-19C	19	9.2	25.7	8.5	2.6	7	M2	0.5
XHW-25C	25	11	32.2	12.5	3.3	9.25	M2.5	1
XHW-27C	27	11	32.2	14.5	3.3	10.25	M2.5	1
XHW-34C	34	12.5	36.8	16.5	3.75	13	M3	1.5
XHW-39C	39	15.5	46.6	20.5	4.5	14.5	M4	3.5
XHW-44C	44	15.5	46.6	22.5	4.5	17	M4	3.5
XHW-56C	56	20.5	61.2	28.5	6	21	M5	8
XHW-64C	64	24	74.4	36	7	24	M6	13
XHW-79C	79	30	97.2	43	8.75	29	M8	28
XHW-98C	98	32	104	51	8.7	38	M8	28
XHW-19C-L	19	9.2	34	8.5	2.6	7	M2	0.5
XHW-25C-L	25	11	42	12.5	3.3	9.25	M2.5	1
XHW-27C-L	27	11	42	14.5	3.3	10.25	M2.5	1
XHW-34C-L	34	12.5	44	16.5	3.75	13	M3	1.5
XHW-39C-L	39	15.5	55	20.5	4.5	14.5	M4	3.5

Part Number	Standard Bore Diameter																												
	D1	D2																											
	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	50
XHW-15C	●	●	●	●																									
XHW-19C	●	●	●	●	●	●																							
XHW-25C		●	●	●	●	●	●	●	●	●																			
XHW-27C		●	●	●	●	●	●	●	●	●	●																		
XHW-34C			●	●	●	●	●	●	●	●	●	●	●																
XHW-39C				●	●	●	●	●	●	●	●	●	●	●	●	●	●												
XHW-44C						●	●	●	●	●	●	●	●	●	●	●	●	●	●										
XHW-56C							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
XHW-64C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
XHW-79C									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
XHW-98C										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XHW-19C-L	●	●	●	●	●	●																							
XHW-25C-L		●	●	●	●	●	●	●	●	●	●																		
XHW-27C-L		●	●	●	●	●	●	●	●	●	●	●																	
XHW-34C-L			●	●	●	●	●	●	●	●	●	●	●	●															
XHW-39C-L				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●											

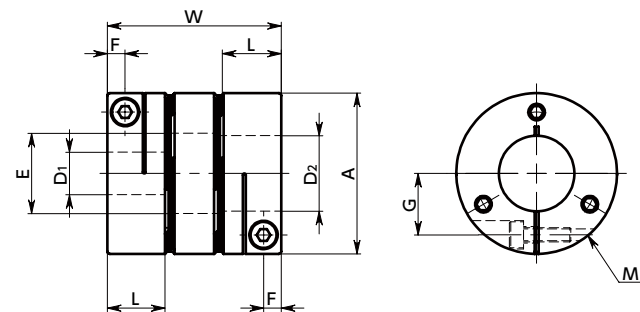
- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.258

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

Please feel free to contact us



Outside diameter φ19 - φ98

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)
XHW-15C	6	0.6	42000	3.0×10 ⁻⁷	100	0.1	1.4	±0.2	9.4
XHW-19C	8	1.5	33000	8.8×10 ⁻⁷	300	0.12	2	±0.2	17
XHW-25C	12	3	25000	3.4×10 ⁻⁶	1000	0.15	2	±0.3	35
XHW-27C	14	3.3	23000	4.4×10 ⁻⁶	1400	0.15	2	±0.4	39
XHW-34C	16	6.3	18000	1.3×10 ⁻⁵	2500	0.2	2	±0.5	75
XHW-39C	20	12	16000	2.9×10 ⁻⁵	4700	0.25	2	±0.5	123
XHW-44C	22	15	14000	4.7×10 ⁻⁵	6400	0.25	2	±0.6	156
XHW-56C	28	37.5	11000	1.7×10 ⁻⁴	12000	0.3	2	±0.7	340
XHW-64C	35	50	9800	3.3×10 ⁻⁴	15000	0.35	2	±0.9	490
XHW-79C	42	100	7900	1.0×10 ⁻³	22000	0.5	2	±1.1	1100
XHW-98C	50	280	6400	2.6×10 ⁻³	47000	0.5	2	±1.3	1740
XHW-19C-L	8	1.5	33000	1.2×10 ⁻⁶	300	0.25	2	±0.2	22
XHW-25C-L	12	3	25000	4.3×10 ⁻⁶	1000	0.3	2	±0.3	45
XHW-27C-L	14	3.3	23000	5.8×10 ⁻⁶	1400	0.3	2	±0.4	50
XHW-34C-L	16	6.3	18000	1.6×10 ⁻⁵	2500	0.3	2	±0.5	89
XHW-39C-L	20	12	16000	3.4×10 ⁻⁵	4700	0.4	2	±0.5	144

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

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

- Part number specification

XHW-25C-L-8-10

1

2

XHS Flexible Coupling - Single Disk Type Additional Size

WEB Selection Tool CAD Download Zero Backlash High torque High Rigidity

Structure

- Clamping type → P.75

XHS-C Short Type



- Recommended applicable motor

	XHS
Servomotor	○
Stepping Motor	○
General-Purpose Motor	△

○: Excellent ○: Very good △: Available

- Property

	XHS
Zero Backlash	○
High gain supported	○
High Torque	○
High Torsional Stiffness	○
Allowable Misalignment	○

○: Excellent ○: Very good

- This is a single disk type flexible coupling.
- High-torque specification with rated torque 1.5 times higher than conventional products.
- This is the most appropriate for a servomotor with the instantaneous max. torque of 350%.
- The stainless steel disk allows the eccentricity, angular misalignment, and end-play.

- Application

Actuator / Surface-mount machine / High precision XY stage / Index table

- Material/Finish



	XHS
Hub	A2017 Alumite Treatment
Disk fixing bolt	SCM435 Ferrosioferric Oxide Film (Black)
Disk	SUS304
Collar	SUS304
Hex Socket Head Cap Screw	SCM435 Ferrosioferric Oxide Film (Black)

- Part number specification

XHS-27C-10-11

Product code Size bore diameter

Please refer to dimensional table for part number specification.

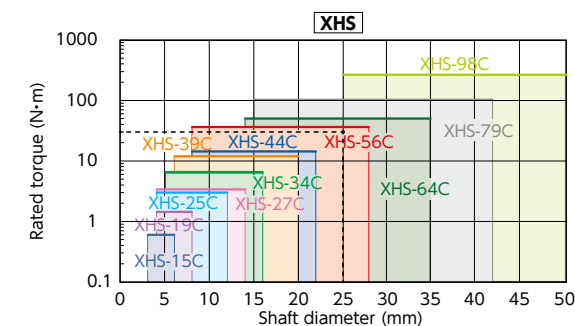
Additional Keyway at Shaft Hole → P.803 Cleanroom Wash & Packaging → P.807 Change to Stainless Steel Screw → P.805
Available / Add'l charge Available / Add'l charge Please feel free to contact us



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 25 and load torque of 30 N·m, the selected size is

XHS-56C.

- Selection based on the rated output of the servomotor

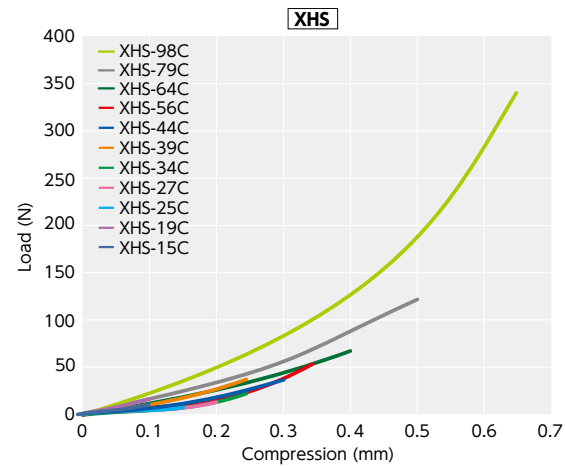
XHS supports the servomotor with instantaneous max. torque increased to 350% of the rated torque and the size can be more reduced than the size of conventional product **XBS**.

Rated Output (W)	Servomotor type				Servomotor Specifications*1			selection size	
	Mitsubishi Electric Corporation	YASKAWA Electric Corporation	SANYO DENKI Co., Ltd.	KEYENCE CORPORATION	Diameter of Motor Shaft (mm)	Rated Torque (N·m)	Instantaneous Max. Torque (N·m)	XHS-C	XBS-C
100					8	0.32	1.1	XHS-19C	XBS-25C
200					14	0.64	2.2	XHS-27C	XBS-34C
400	HG-KR	SGMJV	R2	SV	14	1.3	4.5	XHS-34C	XBS-39C
750					16 - 19	2.4	8.4	XHS-39C	XBS-44C

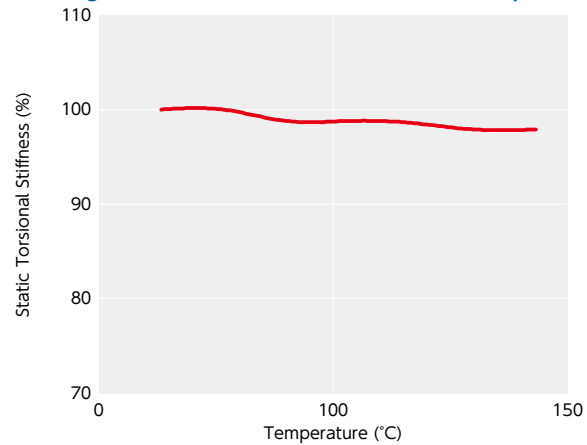
*1: Motor specifications are based on general values. For details, see the motor manufacturer's catalogs. This is the size for cases where devices such as reduction gears are not used.

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°C is 100%. The change of **XHS** 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

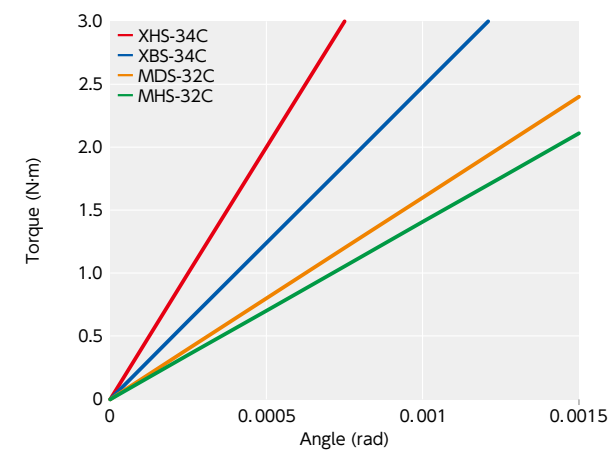
Concerning the sizes shown in the table, please note that the shaft's slip torque is smaller than the rated torque of **XHS-C**.

Part Number	Bore Diameter (mm)									Unit : N · m
	3	4	5	6	6.35	8	9.525	10	11	
XHS-19C	0.7									
XHS-25C		2.5								
XHS-27C		2	2.9							
XHS-34C			3.5	4.9	5.5					
XHS-39C				6	8					
XHS-44C						8	13			
XHS-56C						22	34	37		
XHS-64C								23	42	

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 **XHS-C** dimensional table.

Comparison of static torsional stiffness (single disk-type)

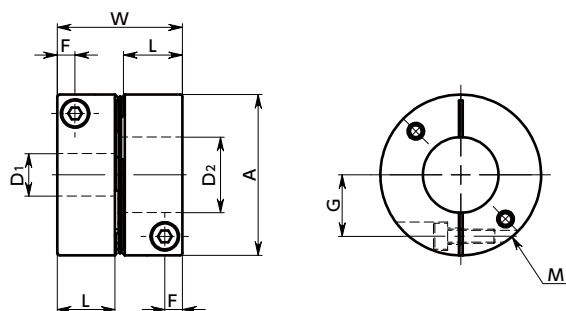
XHS have high torsional stiffness and responsiveness. Optimal for high-speed and precision positioning for servomotors, etc.



XHS-C Flexible Coupling - Single Disk Type Additional Size

WEB Selection Tool CAD Download Zero Backlash High torque High Rigidity

XHS-C

Outside diameter $\phi 15$

Dimensions

Unit : mm

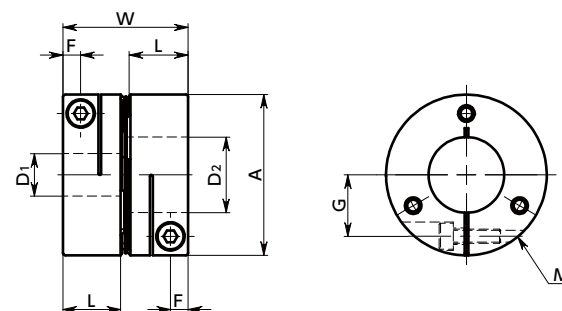
Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
XHS-15C	15	7.5	15.8	2.1	5	M2	0.45
XHS-19C	19	9.2	19.4	2.6	7	M2	0.5
XHS-25C	25	11	23.1	3.3	9.25	M2.5	1
XHS-27C	27	11	23.1	3.3	10.25	M2.5	1
XHS-34C	34	12.5	26.5	3.75	13	M3	1.5
XHS-39C	39	15.5	32.8	4.5	14.5	M4	3.5
XHS-44C	44	15.5	32.8	4.5	17	M4	3.5
XHS-56C	56	20.5	43.2	6	21	M5	8
XHS-64C	64	24	51.2	7	24	M6	13
XHS-79C	79	30	63.6	8.75	29	M8	28
XHS-98C	98	32	69	8.7	38	M8	28

Part Number	Standard Bore Diameter																												
	D1	D2																											
	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	50
XHS-15C	●	●	●	●																									
XHS-19C	●	●	●	●	●	●																							
XHS-25C		●	●	●	●	●	●	●	●	●																			
XHS-27C		●	●	●	●	●	●	●	●	●	●																		
XHS-34C			●	●	●	●	●	●	●	●	●	●	●																
XHS-39C				●	●	●	●	●	●	●	●	●	●	●	●	●	●												
XHS-44C						●	●	●	●	●	●	●	●	●	●	●	●	●	●										
XHS-56C						●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●							
XHS-64C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
XHS-79C											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XHS-98C																					●	●	●	●	●	●	●	●	●

- 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 Please feel free to contact us

Outside diameter $\phi 19 - \phi 98$

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)
XHS-15C	6	0.6	42000	2.2×10^{-7}	110	0.01	0.7		6.6
XHS-19C	8	1.5	33000	6.3×10^{-7}	330	0.02	1	±0.1	13
XHS-25C	12	3	25000	2.3×10^{-6}	1200	0.02	1	±0.15	25
XHS-27C	14	3.3	23000	3.1×10^{-6}	1800	0.02	1	±0.2	27
XHS-34C	16	6.3	18000	9.2×10^{-6}	3900	0.02	1	±0.25	52
XHS-39C	20	12	16000	2.0×10^{-5}	6000	0.02	1	±0.25	84
XHS-44C	22	15	14000	3.3×10^{-5}	7900	0.02	1	±0.3	107
XHS-56C	28	37.5	11000	1.1×10^{-4}	14000	0.02	1	±0.35	233
XHS-64C	35	50	9800	2.2×10^{-4}	16000	0.02	1		328
XHS-79C	42	100	7900	6.7×10^{-4}	23000	0.02	1		748
XHS-98C	50	280	6400	1.7×10^{-3}	52000	0.02	1	±0.65	1120

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

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

- Part number specification

XHS-27C-8-10

1

2

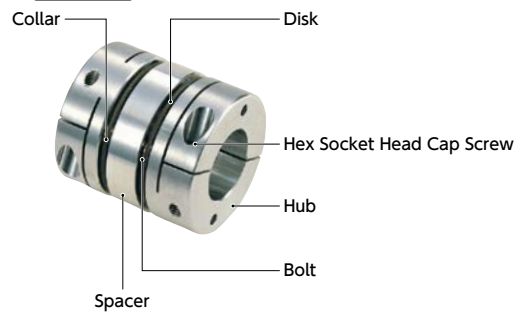
XBWS Flexible Coupling - Disk Type

WEB Selection Tool CAD Download 0 Zero Backlash High Rigidity SUS Stainless steel

Structure

- Clamping type → P.81

XBWS-C Made of all stainless steel



- Recommended applicable motor

	XBWS
Servomotor	○
Stepping motor	○
General-purpose motor	△

○: Excellent ○: Very good △: Available

- Property

	XBWS
Zero Backlash	○
High Torque	○
High Torsional Stiffness	○
Allowable Misalignment	○
Corrosion Resistance (All S.S.)	○

○: Excellent ○: Very good

- This is a disk type flexible coupling.
- The stainless steel disk allows the eccentricity, angular misalignment and end-play.
- Wide variation of outside diameter ϕ 15 - ϕ 104 and bore diameter ϕ 3 - ϕ 50.
- XBWS** is the all stainless steel type with stainless steel hubs.

- Application

Actuator/ Surface-mount machine/ High precision XY stage/ Index table

- Material/Finish



	XBWS-C
Hub	SUS303
Spacer	SUS303
Bolt	SUSXM7
Disk	SUS304
Collar	SUS304
Hex Socket Head Cap Screw	SUSXM7

Related Products

The Double-Disk type Flexible Coupling **XHW** is compatible with the servomotor with 350% instantaneous max. torque is available.

→ P.65



- Part number specification

XBWS-25C2A-8-8

Product Code Size Bore Diameter

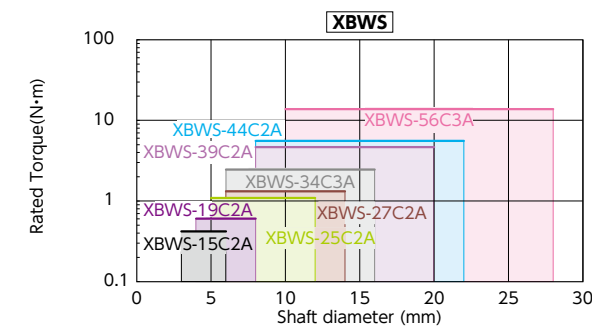
Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole → P.803	Cleanroom Wash & Packaging → P.807	SUS 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 the selection size.



- Selection example

In case of selected parameters of shaft diameter of ϕ 15 and load torque of 2 N·m, the selection size is

XBWS-34C3A.

- 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)	XBWS-C Made of all stainless steel
10	5 - 6	0.032	0.096	XBWS-15C
20	5 - 6	0.064	0.19	XBWS-15C
30	5 - 7	0.096	0.29	XBWS-19C
50	6 - 8	0.16	0.48	XBWS-19C
100	8	0.32	0.95	XBWS-25C
200	9 - 14	0.64	1.9	XBWS-34C
400	14	1.3	3.8	XBWS-39C
750	16 - 19	2.4	7.2	XBWS-56C

*1: Motor specifications are based on general values. For details, please refer to catalogs of each motor manufacturers. Recommended sizes are for the cases where reduction gears are not used.

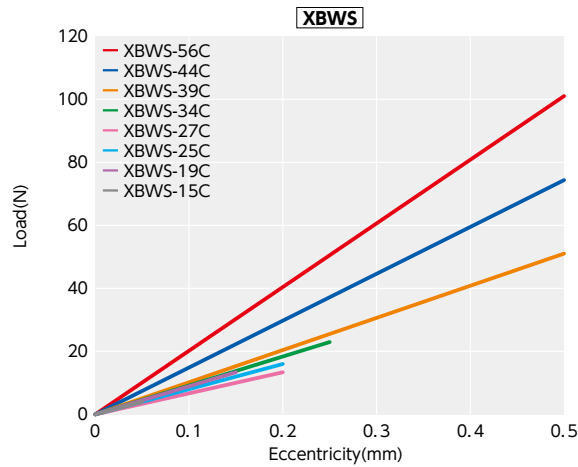


XBWS Flexible Coupling - Disk Type

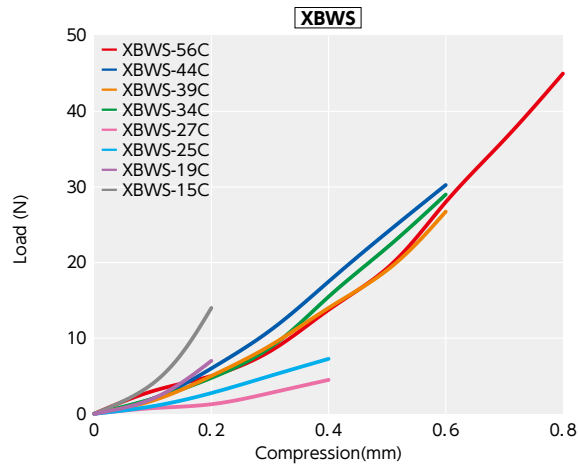
WEB Selection Tool CAD Download SUS Stainless steel 0 Zero Backlash High Rigidity

Technical Information

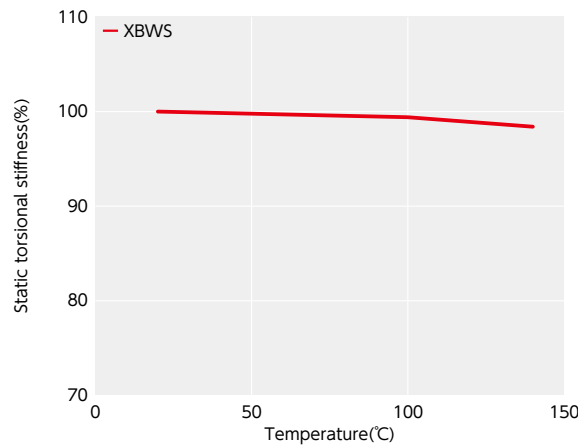
• Eccentric Reaction Force



• 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 **XBWS** 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 **XBWS-C**.

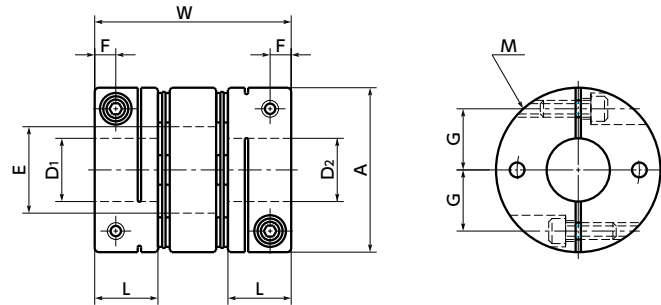
Part Number	Bore Diameter (mm)		
	8	10	11
XBWS-44C2A	4.5		
XBWS-56C3A		9	13

- 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 **XBWS-C** Dimension table.

XBWS-C Flexible Coupling - Disk Type

WEB Selection Tool WEB CAD Download 0 Zero Backlash High Rigidity

XBWS-C Made of all stainless steel



Dimensions

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N・m)
XBWS-15C2A	15	7.5	22	6.1	2.3	5.25	M2	0.5
XBWS-19C2A	19	9	25.5	8.5	2.5	7.1	M2	0.5
XBWS-25C2A	25	11	32.2	12.5	3.5	9.25	M2.5	1
XBWS-27C2A	27	11	32.2	14.5	3.5	10.25	M2.5	1
XBWS-34C3A	34	12	37.4	16.5	4	13	M3	1.5
XBWS-39C2A	39	15	46.6	20.5	5	14.5	M4	3.5
XBWS-44C2A	44	15	46.6	23	5	17	M4	3.5
XBWS-56C3A	56	20	60.4	29	6	21.25	M5	8

Part Number	Standard Bore Diameter																	
	D1・D2 																	
	3	4	5	6	8	10	11	12	14	15	16	18	19	20	22	24	25	28
XBWS-15C2A	●	●	●	●														
XBWS-19C2A		●	●	●	●													
XBWS-25C2A			●	●	●	●	●	●										
XBWS-27C2A				●	●	●	●	●	●									
XBWS-34C3A				●	●	●	●	●	●	●	●							
XBWS-39C2A					●	●	●	●	●	●	●	●	●	●				
XBWS-44C2A					●	●	●	●	●	●	●	●	●	●	●			
XBWS-56C3A						●	●	●	●	●	●	●	●	●	●	●	●	●

- 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

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1torque (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)
XBWS-15C2A	6	0.42	42000	5.0×10 ⁻⁷	300	0.05	1	±0.2	20
XBWS-19C2A	8	0.6	33000	1.6×10 ⁻⁶	550	0.15	2	±0.2	38
XBWS-25C2A	12	1.1	25000	6.1×10 ⁻⁶	1100	0.2	2	±0.4	71
XBWS-27C2A	14	1.3	23000	8.2×10 ⁻⁶	1300	0.2	2	±0.4	88
XBWS-34C3A	16	2.5	18000	2.5×10 ⁻⁵	1800	0.25	2	±0.6	160
XBWS-39C2A	20	4.8	16000	5.1×10 ⁻⁵	3500	0.3	2	±0.6	260
XBWS-44C2A	22	5.6	14000	8.9×10 ⁻⁵	5500	0.3	2	±0.6	400
XBWS-56C3A	28	14	11000	2.9×10 ⁻⁴	10000	0.3	2	±0.8	800

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

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

- Part number specification

XBWS-27C2A- 11-12



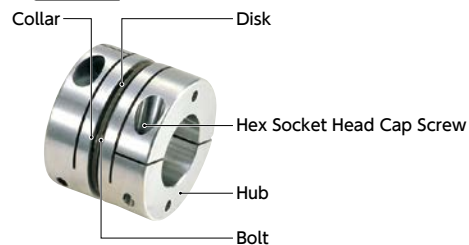
Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

XBSS Flexible Coupling - Single - Disk Type

WEB Selection Tool CAD Download 0 Zero Backlash High Rigidity SUS Stainless steel

Structure

- Clamping type → P.87
- XBSS-C** Made of all stainless steel



- Recommended applicable motor

	XBSS
Servomotor	○
Stepping motor	○
General-purpose motor	△

○: Excellent ○: Very good △: Available

- Property

	XBSS
Zero Backlash	○
High Torque	○
High Torsional Stiffness	○
Allowable Misalignment	○
Corrosion Resistance (All S.S.)	○

○: Excellent ○: Very good

- This is a disk type flexible coupling.
- It has compact design with short entire length.
- The stainless steel disk allows the eccentricity, angular misalignment and end-play.
- Wide variation of outside diameter ϕ 15 - ϕ 104 and bore diameter ϕ 3 - ϕ 50.
- XBSS** is the all stainless steel type with stainless steel hubs.

- Application

Actuator / Surface-mount machine / High precision XY stage / Index table

- Material/Finish



	XBSS-C
Hub	SUS303
Bolt	SUSXM7
Disk	SUS304
Collar	SUS304
Hex Socket Head Cap Screw	SUSXM7

Related Products

The Single-Disk type Flexible Coupling **XHS** is compatible with the servomotor with 350% instantaneous max. torque is available.

→ P.71



- Part number specification

XBSS-25C2A-8-8

Product Code Size Bore Diameter

Please refer to dimensional table for part number specification.

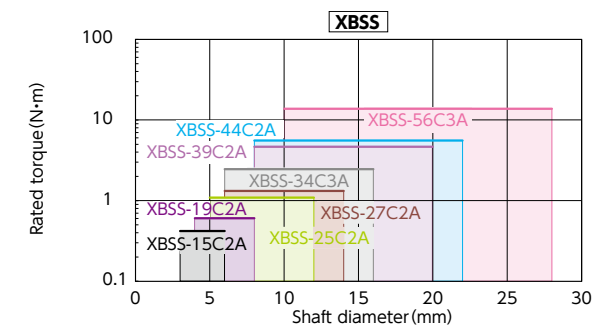
Additional Keyway at Shaft Hole → P.803 Available / Add'l charge

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



- Selection example

In case of selected parameters of shaft diameter of ϕ 15 and load torque of 2 N·m, the selected size is

XBSS-34C3A.

- 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)	XBSS-C Made of all stainless steel
10	5 - 6	0.032	0.096	XBSS-15C
20	5 - 6	0.064	0.19	XBSS-15C
30	5 - 7	0.096	0.29	XBSS-19C
50	6 - 8	0.16	0.48	XBSS-19C
100	8	0.32	0.95	XBSS-25C
200	9 - 14	0.64	1.9	XBSS-34C
400	14	1.3	3.8	XBSS-39C
750	16 - 19	2.4	7.2	XBSS-56C

*1: Motor specifications are based on general values. For details, please refer to catalogs of each motor manufacturers. Recommended sizes are for the cases where reduction gears are not used.

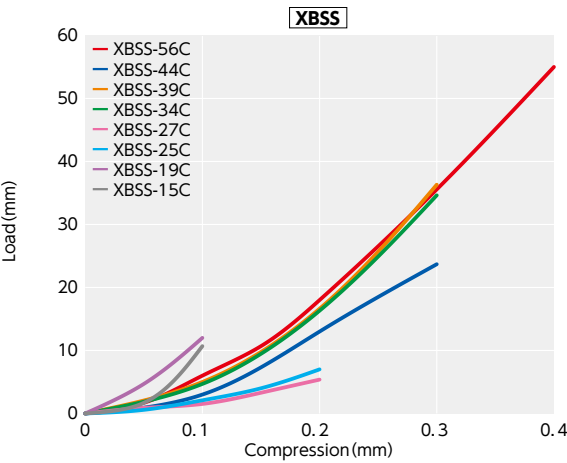


XBSS Flexible Coupling - Single - Disk Type

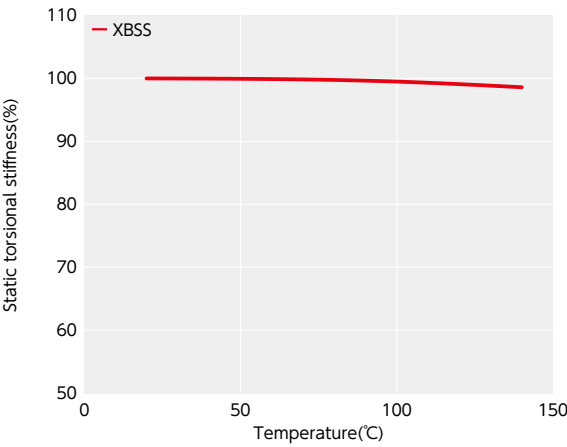
WEB Selection Tool WEB CAD Download SUS Stainless steel 0 Zero Backlash High Rigidity

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°C is 100%. The change of **XBSS** 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 **XBSS-C**

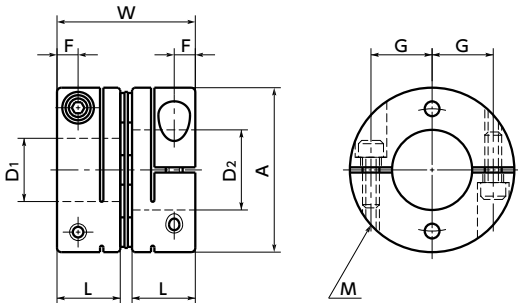
Part Number	Bore Diameter (mm)		
	8	10	11
XBSS-44C2A	4.5		
XBSS-56C3A		9	13

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 **XBSS-C** Dimension table.

XBSS-C Flexible Coupling - Single - Disk Type

WEB Selection Tool WEB CAD Download 0 Zero Backlash High Rigidity

XBSS-C Made of all stainless steel



Dimensions

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N・m)
XBSS-15C2A	15	7.5	16	2.3	5.25	M2	0.5
XBSS-19C2A	19	9	19	2.5	7.1	M2	0.5
XBSS-25C2A	25	11	23.6	3.5	9.25	M2.5	1
XBSS-27C2A	27	11	23.6	3.5	10.25	M2.5	1
XBSS-34C3A	34	12	26.2	4	13	M3	1.5
XBSS-39C2A	39	15	32.8	5	14.5	M4	3.5
XBSS-44C2A	44	15	32.8	5	17	M4	3.5
XBSS-56C3A	56	20	43.2	6	21.25	M5	8

Part Number	Stock Bores																		
	D1-D2 																		
	3	4	5	6	8	10	11	12	14	15	16	18	19	20	22	24	25	28	
XBSS-15C2A	●	●	●	●															
XBSS-19C2A		●	●	●	●														
XBSS-25C2A			●		●	●	●	●											
XBSS-27C2A				●	●	●	●	●	●										
XBSS-34C3A				●	●	●	●	●	●	●	●								
XBSS-39C2A					●	●	●	●	●	●	●	●	●	●					
XBSS-44C2A					●	●	●	●	●	●	●	●	●	●	●				
XBSS-56C3A						●	●	●	●	●	●	●	●	●	●	●	●	●	

- 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

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)
XBSS-15C2A	6	0.42	42000	2.3×10 ⁻⁷	500	0.02	0.5	±0.1	15
XBSS-19C2A	8	0.6	33000	7.4×10 ⁻⁷	1000	0.02	1	±0.1	29
XBSS-25C2A	12	1.1	25000	2.8×10 ⁻⁶	1500	0.02	1	±0.2	53
XBSS-27C2A	14	1.3	23000	3.8×10 ⁻⁶	2100	0.02	1	±0.2	67
XBSS-34C3A	16	2.5	18000	1.1×10 ⁻⁵	3800	0.02	1	±0.3	115
XBSS-39C2A	20	4.8	16000	2.3×10 ⁻⁵	5500	0.02	1	±0.3	185
XBSS-44C2A	22	5.6	14000	3.9×10 ⁻⁵	7000	0.02	1	±0.3	305
XBSS-56C3A	28	14	11000	1.4×10 ⁻⁴	15000	0.02	1	±0.4	610

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

- Part number specification

XBSS-39C2A-12-14

1

2

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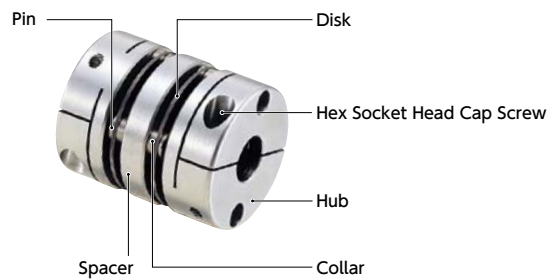
MDW Flexible Coupling - Disk Type

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

Structure

● Clamping type

MDW-C



● Applicable motors..

	MDW
Servomotor	○
Stepping motor	○
General-purpose motor	○

○: Excellent ○: Very good

● Property

	MDW
Zero Backlash	○
Allowable Misalignment	○

○: Excellent ○: Very good

● This is a disk type flexible coupling.

- The stainless steel disk allows the eccentricity, and angular misalignment, and end-play.

● Application

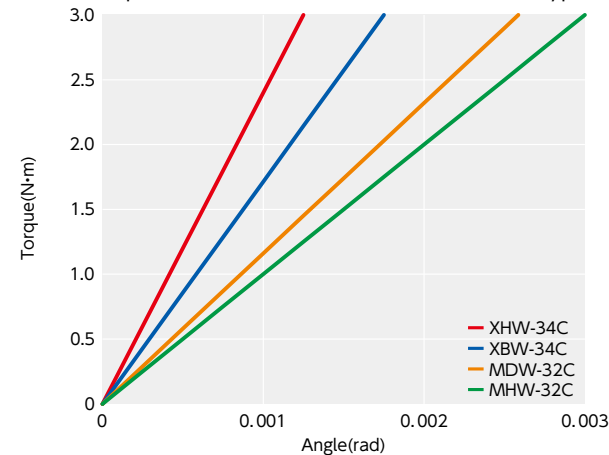
Actuator/XY stage

● Material/Finish

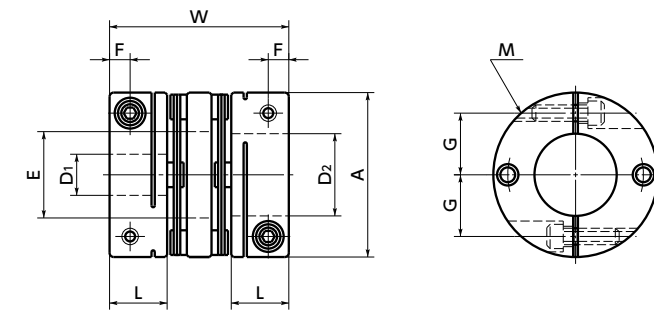
RoHS2 Compliant

	MDW-C
Hub	A2017 Alumite Treatment
Spacer	A2017 Alumite Treatment
Disk	SUS304
Pin	SUS303
Collar	SUS303
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film

● Comparison of static torsional stiffness (disk-type)



MDW-C



Dimensions

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
MDW-19C	19	8	27	8.5	2.5	6.5	M2	0.5
MDW-25C	25	10	31	12.5	3.5	9	M2.5	1
MDW-32C	32	12	40	16	4	11	M3	1.5
MDW-40C	40	14	44	21	5	15	M4	2.5
MDW-50C	50	18	57	26	6	18	M5	7
MDW-63C	63	20	61	35	7	24	M6	12

Unit : mm

Part Number	Standard Bore Diameter D1 • D2 2																					
	4	5	6	6.35	7	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30
MDW-19C	●	●	●		●	●																
MDW-25C			●	●		●	●	●	●	●												
MDW-32C						●		●	●	●	●	●										
MDW-40C						●		●	●	●	●	●	●	●	●	●	●					
MDW-50C											●	●	●	●	●	●	●	●	●	●	●	●
MDW-63C												●	●	●	●	●	●	●	●	●	●	●

● 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

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)
MDW-19C	8	0.7	33000	8.7×10^{-7}	200	0.12	1.5	±0.5	18
MDW-25C	12	1	25000	2.7×10^{-6}	450	0.12	1.5	±0.5	25
MDW-32C	15	2.5	19000	9.6×10^{-6}	1100	0.15	1.5	±0.5	60
MDW-40C	20	3.5	15000	1.9×10^{-5}	1400	0.15	1.5	±0.5	100
MDW-50C	25	9	12000	8.1×10^{-5}	2200	0.15	1.5	±0.5	210
MDW-63C	30	12.5	10000	2.1×10^{-4}	3000	0.15	1.5	±0.5	340

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

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

● Related Products

The Double-Disk type Flexible Coupling [XHW] is compatible with the servomotor with 350% instantaneous max. torque is available.
→ P.65



● Part number specification

MDW-25C - 6-8

1 2

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

MDS Flexible Coupling - Single - Disk Type

WEB Selection Tool WEB CAD Download 0 Zero Backlash

Structure

● Clamping type

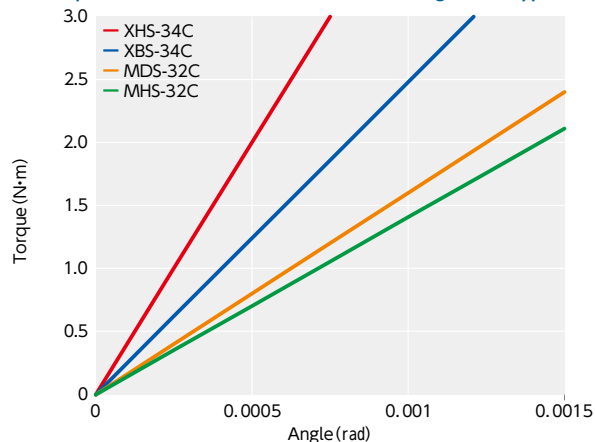


● Material/Finish

RoHS2 Compliant

	MDS-C
Hub	A2017 Alumite Treatment
Disk	SUS304
Pin	SUS303
Collar	SUS303
Hex Socket Head Cap Screw	SCM435 Ferrosferric oxide film

● Comparison of static torsional stiffness (single disk-type)



● Applicable motors

	MDS
Servomotor	○
Stepping motor	○
General-purpose motor	○

○: Excellent ○: Very good

● Property

	MDS
Zero Backlash	○
Allowable Misalignment	○

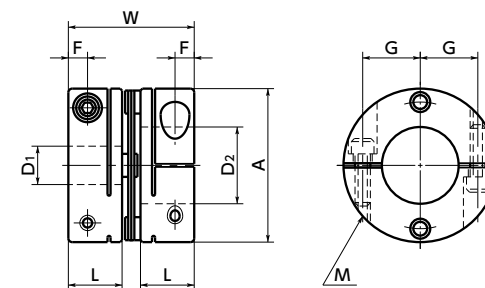
○: Excellent ○: Very good

- This is a disk type flexible coupling.
- It has compact design with short entire length.
- The stainless steel disk allows the eccentricity, and angular misalignment, and end-play.

● Application

Actuator/XY stage

MDS-C



Dimensions

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
MDS-19C	19	8	20	2.5	6.5	M2	0.5
MDS-25C	25	10	24	3.5	9	M2.5	1
MDS-32C	32	12	29	4	11	M3	1.5
MDS-40C	40	14	33	5	15	M4	2.5
MDS-50C	50	18	42	6	18	M5	7
MDS-63C	63	20	46	7	24	M6	12

Unit : mm

Part Number	Standard Bore Diameter																						
	D1 • D2 																						
	4	5	6	6.35	7	8	9	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	
MDS-19C	●	●	●		●	●																	
MDS-25C			●	●		●	●	●	●	●													
MDS-32C						●		●	●	●	●	●											
MDS-40C						●		●	●	●	●	●	●	●	●	●	●						
MDS-50C											●	●	●	●	●	●	●	●	●	●	●	●	
MDS-63C												●	●	●	●	●	●	●	●	●	●	●	

- 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

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)
MDS-19C	8	0.7	33000	6.3×10 ⁻⁷	280	0.02	0.7	±0.2	9
MDS-25C	12	1	25000	2.1×10 ⁻⁶	630	0.02	0.7	±0.2	19
MDS-32C	15	2.5	19000	7.2×10 ⁻⁶	1600	0.02	0.7	±0.2	41
MDS-40C	20	3.5	15000	1.3×10 ⁻⁵	2600	0.02	0.7	±0.2	68
MDS-50C	25	9	12000	6.1×10 ⁻⁵	3100	0.02	0.7	±0.2	140
MDS-63C	30	12.5	10000	1.7×10 ⁻⁴	4200	0.02	0.7	±0.2	250

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

● Related Products

The Single-Disk type Flexible Coupling [XHS] is compatible with the servomotor with 350% instantaneous max. torque is available.
→ P.71



● Part number specification

MDS-32C- 10-12

1 2

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

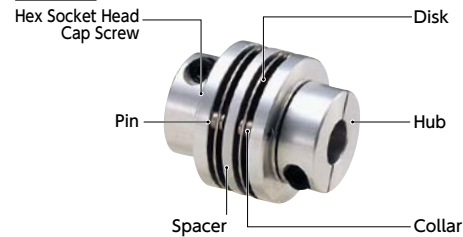
MHW Flexible Coupling - Disk Type

WEB Selection Tool WEB CAD Download 0 Zero Backlash

Structure

● Clamping type

MHW-C



● Applicable motors

	MHW
Servomotor	-
Stepping motor	○
General-purpose motor	○

○: Excellent ○: Very good

● Property

	MHW
Zero Backlash	○
Allowable Misalignment	○

○: Excellent ○: Very good

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

● Application

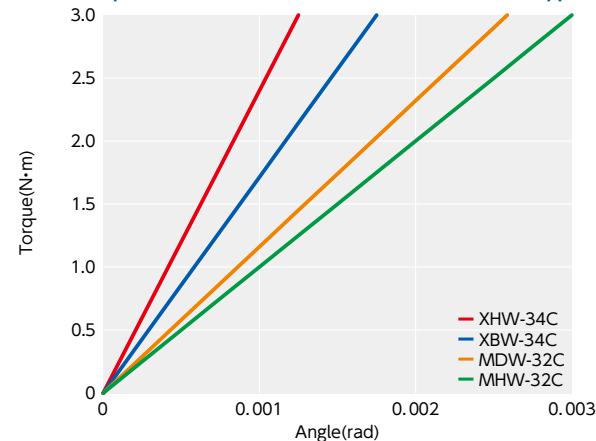
XY stage/Transport device

● Material/Finish

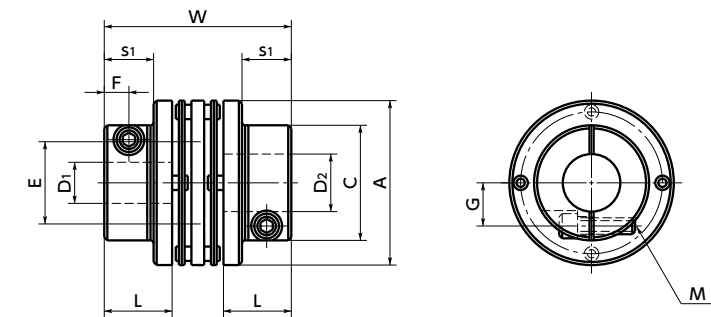
RoHS2 Compliant

	MHW-C
Hub	A2017 Alumite Treatment
Spacer	A2017 Alumite Treatment
Disk	SUS301
Pin	SUS303
Collar	SUS303
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film

● Comparison of static torsional stiffness (disk-type)



MHW-C



Dimensions

Part Number	A	L	W	C	s1	E	F	G	M	Screw Tightening Torque (N·m)
MHW-32C	32	13.7	40	22	9	15	4	8	M3	1.5
MHW-40C	40	16.5	46	28	12	20	6	10.5	M4	2.5
MHW-50C	50	19.4	52	39	15	25	7	14.75	M5	7
MHW-63C	63	22.3	58	45	18	32	8	17	M6	12

Unit: mm

Part Number	Standard Bore Diameter D1・D2											
	6	8	10	11	12	14	15	16	18	19	20	25
MHW-32C	●	●	●									
MHW-40C		●	●	●	●	●						
MHW-50C					●	●	●	●	●	●	●	
MHW-63C							●	●	●	●	●	●

- 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

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)
MHW-32C	10	2	19000	6.2×10 ⁻⁶	1000	0.15	2	±0.4	48
MHW-40C	14	4	15000	1.6×10 ⁻⁵	1500	0.2	2	±0.5	81
MHW-50C	20	7.5	12000	4.6×10 ⁻⁵	2000	0.2	2	±0.6	150
MHW-63C	25	10	10000	1.1×10 ⁻⁴	2500	0.3	2	±0.8	230

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

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

● Related Products

The Double-Disk type Flexible Coupling [XHW] is compatible with the servomotor with 350% instantaneous max. torque is available.
→ P.65



● Part number specification

MHW-32C-8-10

1 2

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

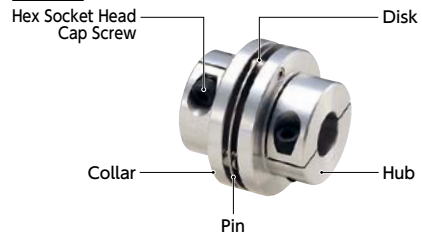
MHS Flexible Coupling - Single - Disk Type

WEB Selection Tool WEB CAD Download 0 Zero Backlash

Structure

● Clamping type

MHS-C



● Applicable motors

	MHS
Servomotor	-
Stepping motor	○
General-purpose motor	○
○: Excellent ○: Very good	

● Property

	MHS
Zero Backlash	○
Allowable Misalignment	○
○: Excellent ○: Very good	

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

● Application

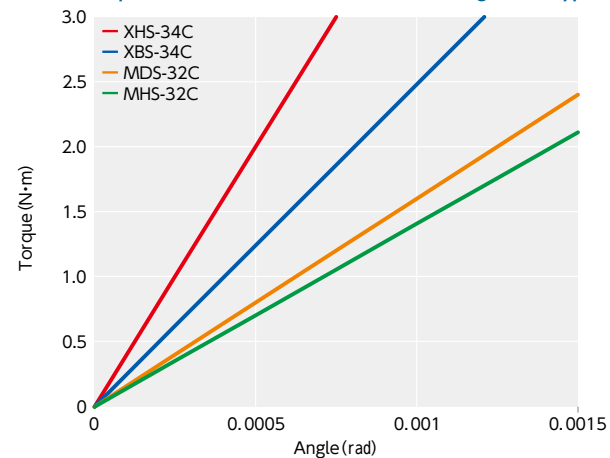
XY stage/Transport device

● Material/Finish

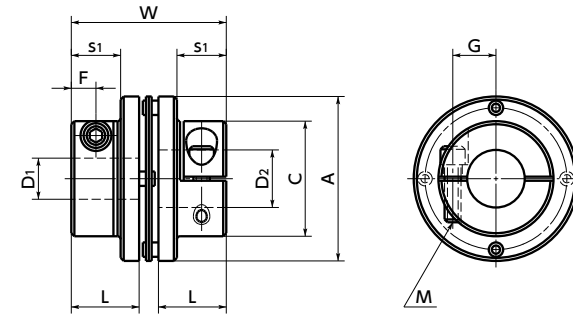
RoHS2 Compliant

	MHS-C
Hub	A2017 Alumite Treatment
Disk	SUS301
Pin	SUS303
Collar	SUS303
Hex Socket Head Cap Screw	SCM435 Ferrosferic oxide film

● Comparison of static torsional stiffness (single disk-type)



MHS-C



Dimensions

Part Number	A	L	W	C	s1	F	G	M	Screw Tightening Torque (N·m)
MHS-32C	32	13.7	32	22	9	4	8	M3	1.5
MHS-40C	40	16.5	38	28	12	6	10.5	M4	2.5
MHS-50C	50	19.4	44	39	15	7	14.75	M5	7
MHS-63C	63	22.3	50	45	18	8	17	M6	12

Unit : mm

Part Number	Standard Bore Diameter D1 • D2											
	6	8	10	11	12	14	15	16	18	19	20	25
MHS-32C	●	●	●									
MHS-40C		●	●	●	●	●						
MHS-50C					●	●	●	●	●	●	●	
MHS-63C							●	●	●	●	●	●

- 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

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)
MHS-32C	10	2	19000	4.5×10 ⁻⁶	1300	0.02	1	±0.2	38
MHS-40C	14	4	15000	1.2×10 ⁻⁵	2800	0.02	1	±0.2	66
MHS-50C	20	7.5	12000	3.7×10 ⁻⁵	3700	0.02	1	±0.2	120
MHS-63C	25	10	10000	8.4×10 ⁻⁵	5000	0.02	1	±0.2	190

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

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

● Related Products

The Single-Disk type Flexible Coupling [XHS] is compatible with the servomotor with 350% instantaneous max. torque is available.

→ P.71



● Part number specification

MHS-32C-8-10

1 2

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

MSX Flexible coupling - Slit - type

WEB Selection Tool CAD Download 0 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



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

Available / Add'l charge

Cleanroom Wash & Packaging → P.807

Available / Add'l charge

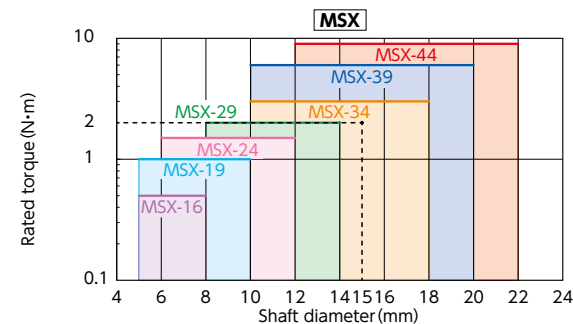
Change to Stainless Steel Screw → P.805

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 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

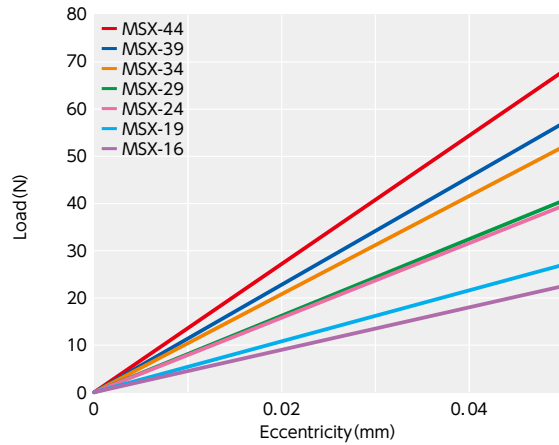
Rated output (W)	Servomotor Specifications*1			Selection size	
	Diameter of motor shaft (mm)	Rated torque (N·m)	Instantaneous max. torque (N·m)	MSX Set Screw Type	MSX-C Clamping type
10	5 - 6	0.032	0.096	MSX-16	MSX-16C
20	5 - 6	0.064	0.19	MSX-16	MSX-16C
30	5 - 7	0.096	0.29	MSX-19	MSX-19C
50	6 - 8	0.16	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.

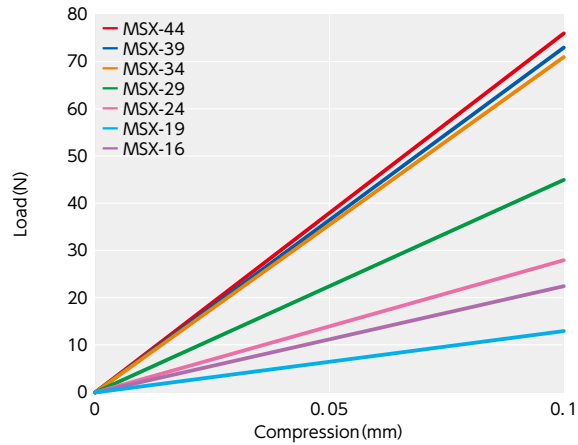


Technical Information

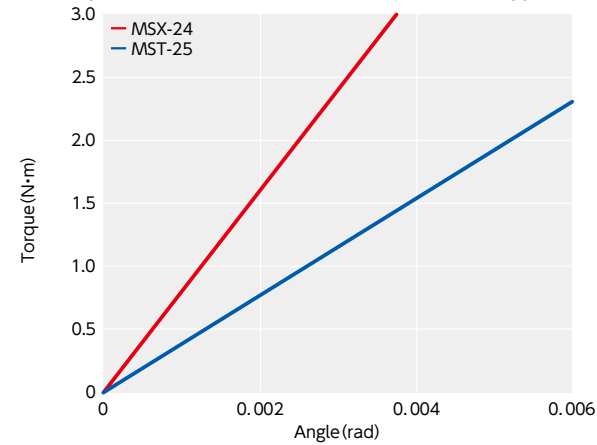
● Eccentric Reaction Force



● Thrust Reaction Force

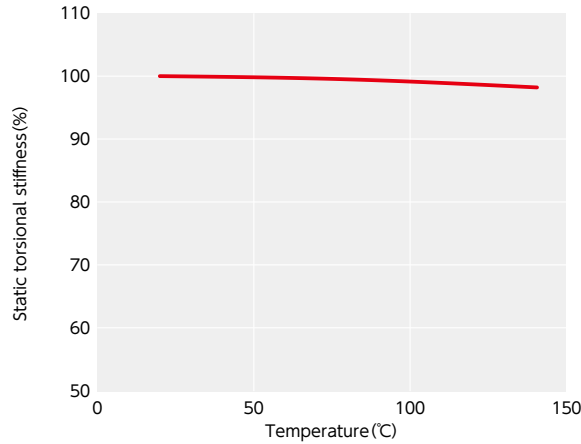


● Comparison of static torsional stiffness (slit-type)



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



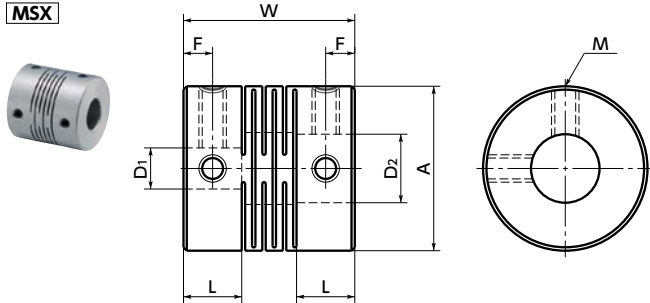
This is a value under the condition where the static torsional stiffness at 20°C is 100%.

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

WEB Selection Tool WEB CAD Download 0 Zero Backlash High Rigidity

MSX



Dimensions

Unit : mm

Part Number	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.

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

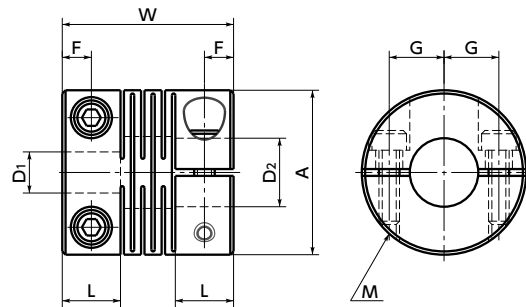
1 2

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

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

WEB Selection Tool WEB CAD Download 0 Zero Backlash High Rigidity

MSX-C Made of aluminum alloy



Dimensions

Unit : mm

Part Number	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 D1-D2							
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

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

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

MST/MSTS Flexible coupling - Slit - type

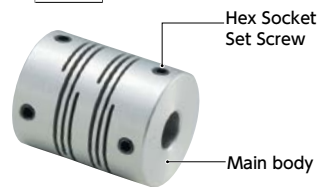
WEB Selection Tool CAD Download 0 Zero Backlash SUS Stainless steel

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 $\phi 40$ - $\phi 63$



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 Ferrosferric oxide film	SUSXM7
Hex Socket Head Cap Screw	SCM435 Ferrosferric 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

SUS Change to Stainless Steel Screw → P.805

Available / Add'l charge

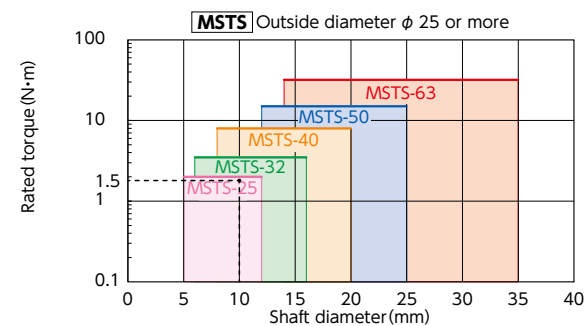
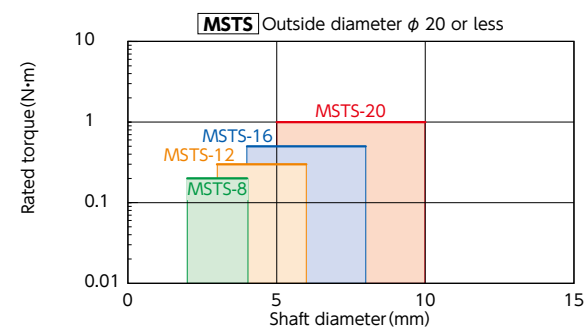
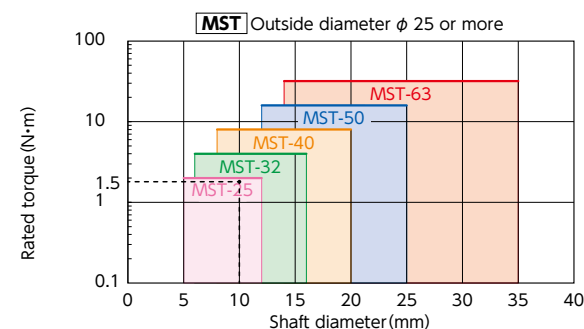
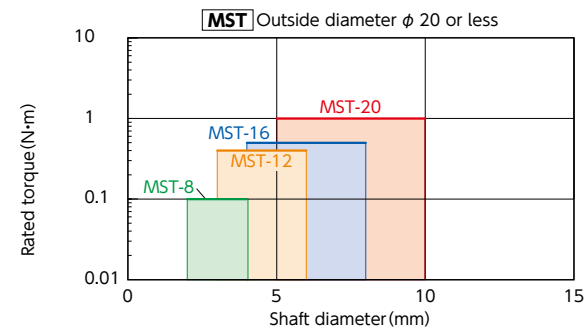
Available / Add'l charge

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 $\phi 10$ and load torque of 1.5 N·m, the selected size for

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

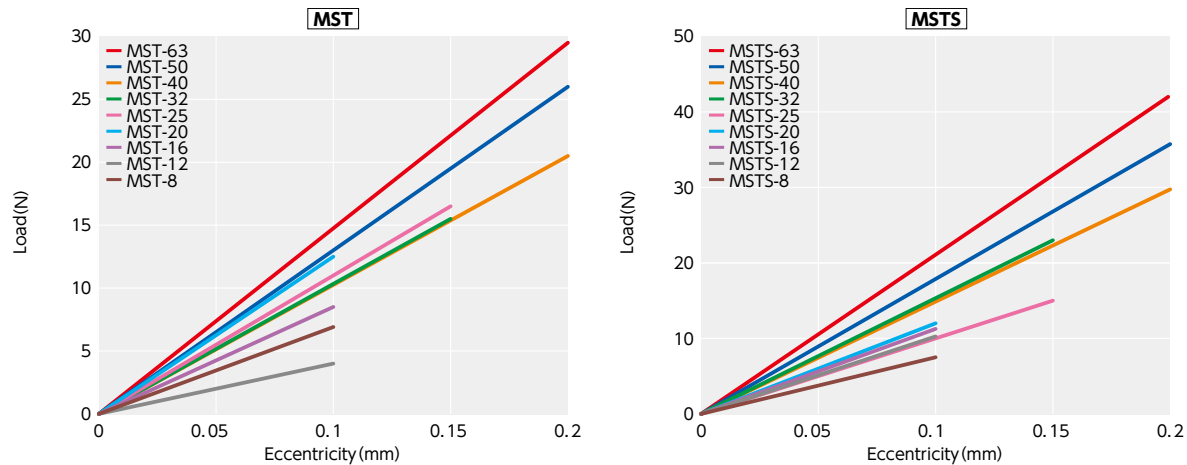


MST/MSTS Flexible coupling - Slit - type

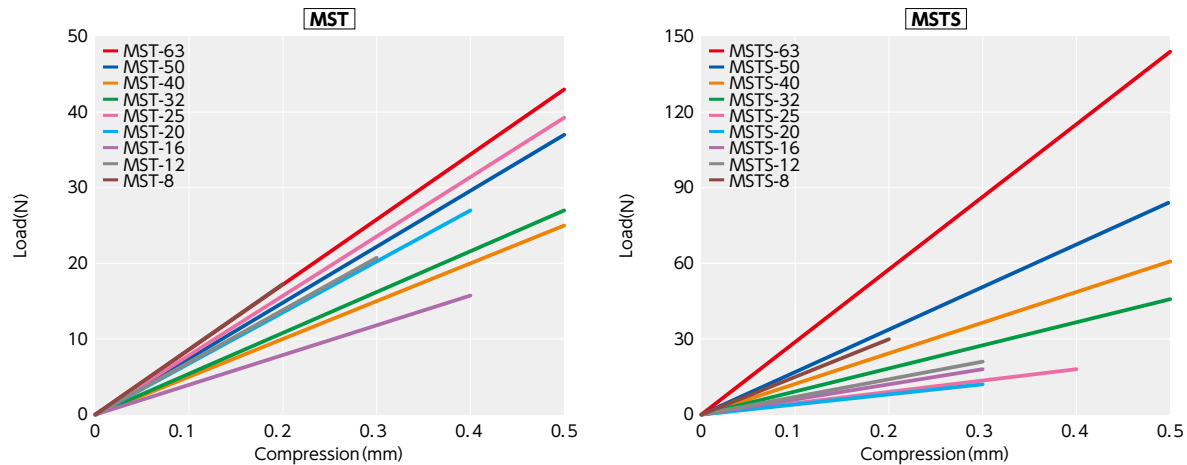
WEB Selection Tool CAD Download SUS Stainless steel 0 Zero Backlash

Technical Information

• Eccentric Reaction Force



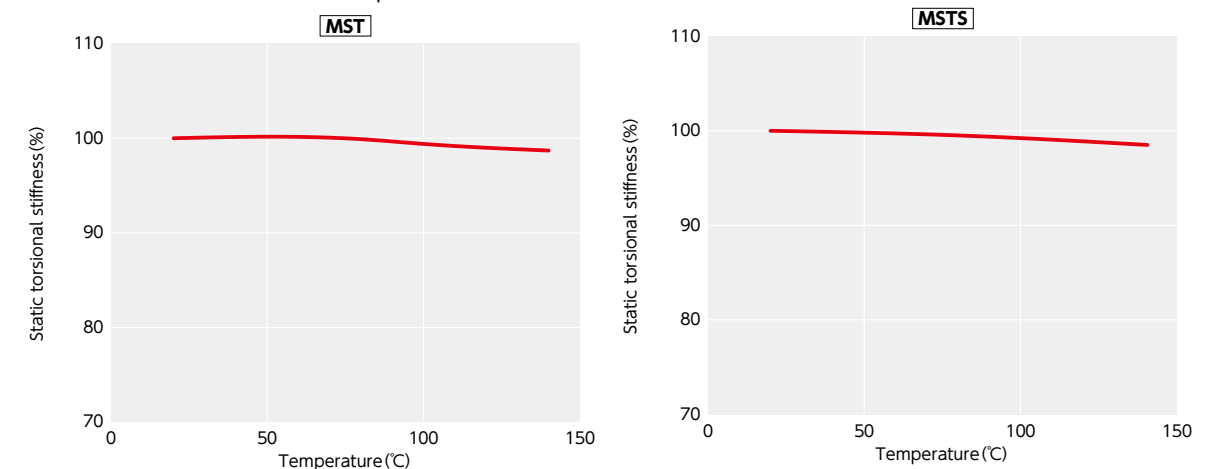
• Thrust Reaction Force



• Change in static torsional stiffness due to temperature

This is a value under the condition where the static torsional stiffness at 20°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**.

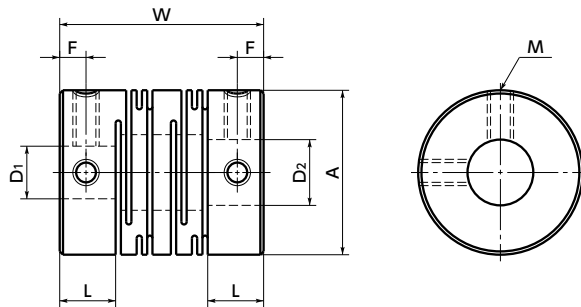
Part Number	Bore Diameter (mm)							
	5	6	6.35	8	9.525	10	11	14
MST-40C				7.1				
MSTS-25C	0.7	0.7	0.9	1.7				
MSTS-32C				1.2	2.1	2.7	2.9	
MSTS-63C								28.8

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

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

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

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)
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

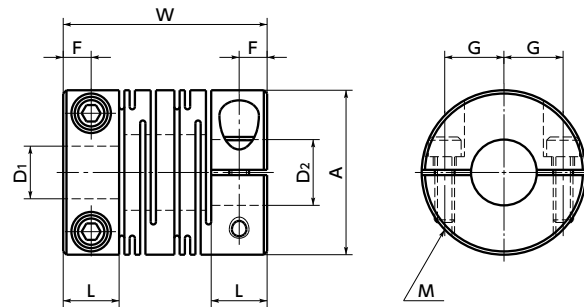
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2

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

WEB Selection Tool 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

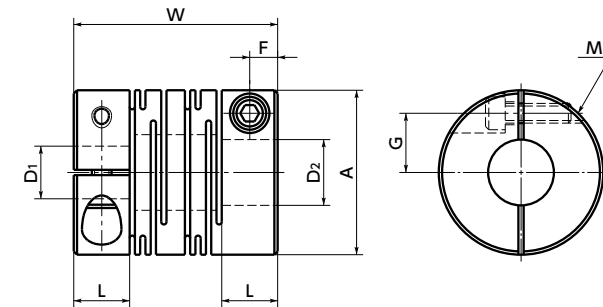
Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
MST-12C	12	5	18.5	2.5	4	M2	0.5
MST-16C	16	6.5	23	3.25	5	M2.5	1
MST-20C	20	7.5	26	3.75	6.5	M2.5	1
MST-25C	25	8.5	31	4.25	9	M3	1.5
MST-32C	32	12	41	6	11	M4	2.5
MST-40C	40	17	56	8.5	14	M5	4
MST-50C	50	21	71	10.5	18	M6	8
MST-63C	63	26	90	13	24	M8	16
MSTS-12C	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
MST-16C MSTS-16C	4.5 - 5
MST-20C MSTS-20C	5 - 6
MST-25C MSTS-25C	5 - 6
MST-32C MSTS-32C	8 - 8
MST-40C MSTS-40C	8 - 8
MST-50C MSTS-50C	10 - 10
MST-63C MSTS-63C	10 - 10

- 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 $\phi 12 - \phi 32$



Performance

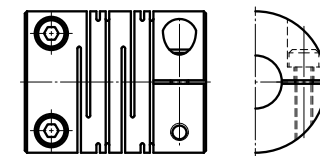
Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MST-12C	5	0.4	52000	7.8×10^{-8}	45	0.1	2	±0.3	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.

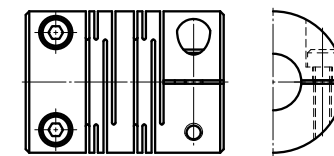
*2 : These are values with max. bore diameter.

Slit Details

MST-C



Outside diameter $\phi 12 - \phi 32$



Outside diameter $\phi 40 - \phi 63$

Part number specification

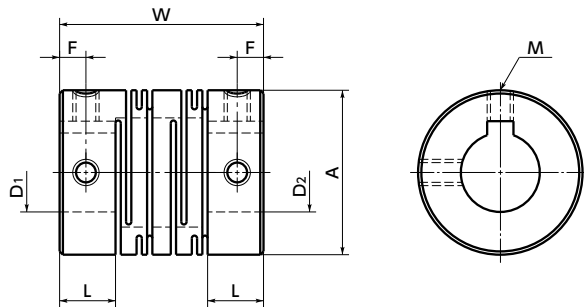
MST-40C - 12-14

1 2

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

WEB Selection Tool CAD Download 0 Zero Backlash SUS Stainless steel

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



Dimensions

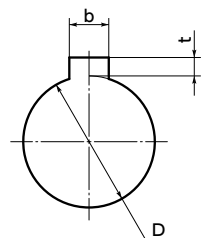
Unit : mm

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		
MST-40K	14 - 14		
MST-50K	16 - 16		
MST-63K	20 - 20		
MSTS-32K	12 - 12		
MSTS-40K	14 - 14		
MSTS-50K	16 - 16		
MSTS-63K	20 - 20		

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

Details of Shaft Hole



Standard bore diameter D	Keyway				Key Nominal Dimension b×h
	Standard Dimension	Allowance (JS9)	Standard Dimension	Allowance (JS9)	
12	4	±0.0150	1.8	$\begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	4×4
14・16	5	±0.0150	2.3	$\begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	5×5
18・20	6	±0.0150	2.8	$\begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	6×6
25・30	8	±0.0180	3.3	$\begin{smallmatrix} +0.2 \\ 0 \end{smallmatrix}$	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

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.

• Part number specification

MST-32K-12-12

1

2

MWS/MWSS Flexible coupling - Slit - type

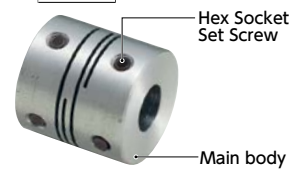
WEB Selection Tool CAD Download 0 Zero Backlash SUS Stainless steel

Structure

- Set Screw type → P.119

MWS Made of aluminum alloy

MWSS Made of all stainless steel

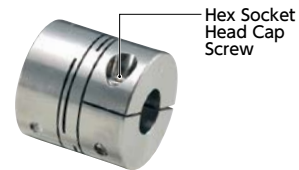


- Clamping type → P.121

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

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

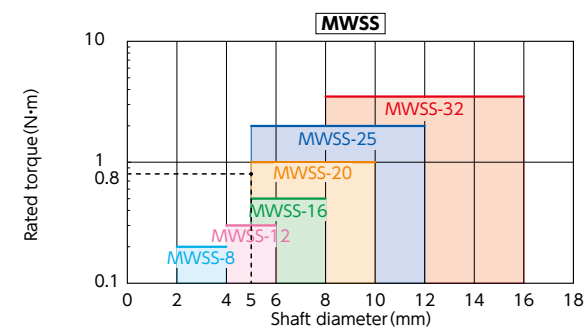
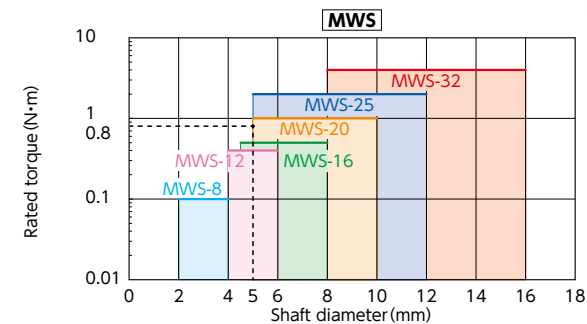
Please refer to dimensional table for part number specification.

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

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**.

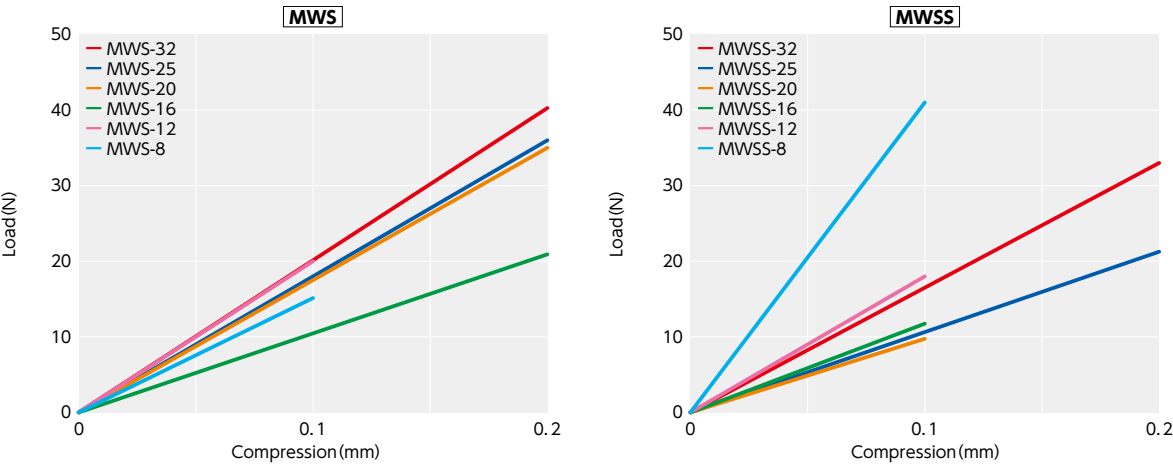


MWS/MWSS Flexible coupling - Slit - type

WEB Selection Tool CAD Download SUS Stainless steel 0 Zero Backlash

Technical Information

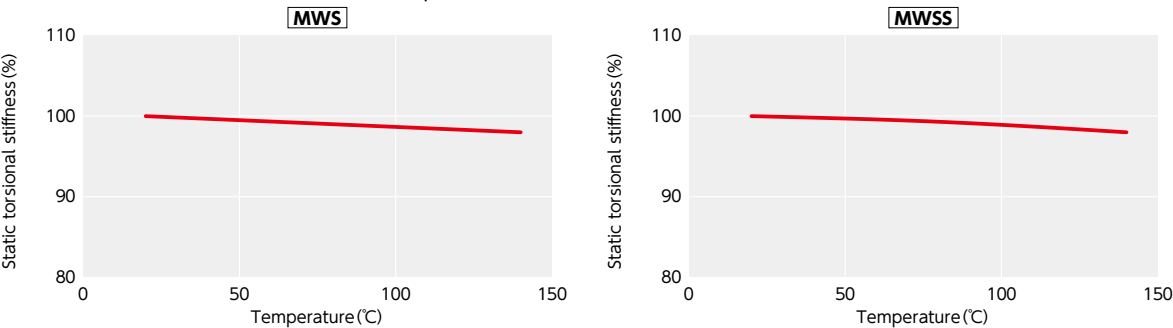
Thrust Reaction Force



Change in static torsional stiffness due to temperature

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

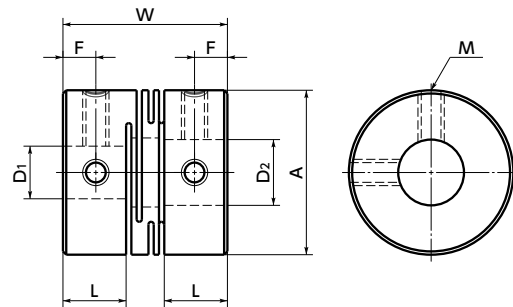


https://www.nbk1560.com/

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

WEB Selection Tool CAD Download 0 Zero Backlash SUS Stainless steel

MWS Made of aluminum alloy
MWSS Made of all stainless steel



Dimensions

Unit : mm

Part Number	A	L	W	F	M	Screw Tightening Torque (N·m)	Standard Bore Diameter (dimensional allowance H8)				
							D1-D2				
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
MWS-32	32	12.6	32	6	M4	1.7	8 - 8	8 - 10	10 - 10	10 - 12	12 - 12
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
MWSS-32	32	12.6	32	6	M4	1.7	8 - 8	8 - 10	10 - 10	10 - 12	12 - 12

- 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.

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-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

Additional Keyway at Shaft Hole → P.803 Available / Add'l charge

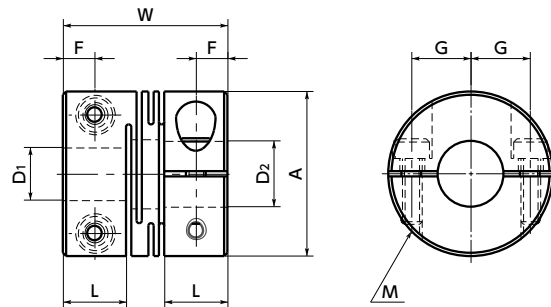
Cleanroom Wash & Packaging → P.807 Available / Add'l charge

SUS Change to Stainless Steel Screw → P.805 Available / Add'l charge

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

WEB Selection Tool WEB CAD Download 02 Zero Backlash SUS Stainless steel

MWS-C Made of aluminum alloy



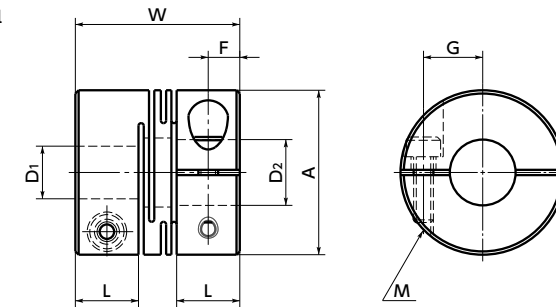
Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)	Standard Bore Diameter D1-D2					
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
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
MWSS-32C	32	12.6	32	6.3	11	M4	2.5	8 - 8	8 - 10	10 - 10	10 - 12	12 - 12	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

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

1 2

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

MSXP-C-W-SP Coupling for Vacuum Variable Capacitor NEW

[WEB Selection Tool](#)
[WEB CAD Download](#)
[Zero Backlash](#)
[Electrical Insulation](#)

Structure



- This is a resin spring coupling with single-piece construction. A slit is inserted into a cylindrical material.
- PEEK superior in physical properties and electrical insulation is adopted.
- A plate spring formed by a slit allows eccentricity, argument, and end-play to be accepted.

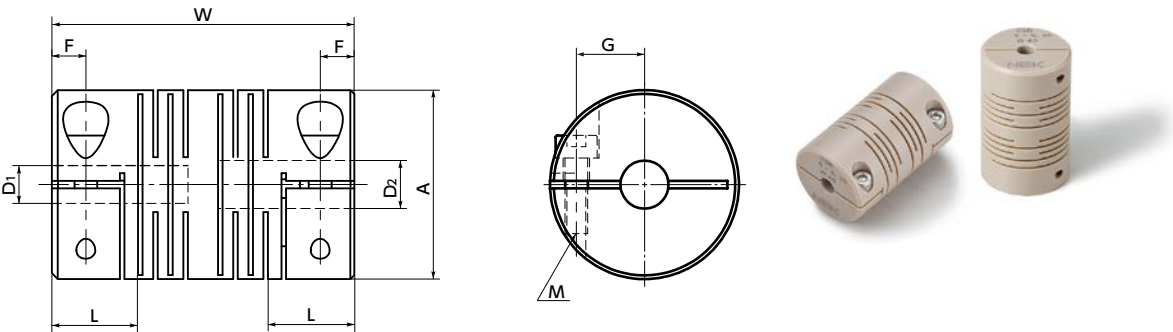
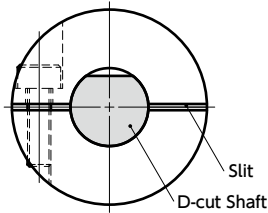
Property	MSXP-C-W-SP
Zero Backlash	⊙
Allowable Misalignment	○
Electrical Insulation	⊙
Allowable Operating Temperature	-20℃ to 120℃

Application
High frequency power / Matching box

Material/Finish	MSXP-C-W-SP
Main unit	PEEK (Polyether ether ketone)
Hex Socket Head Cap Screw	SUSXM7

RoHS2 Compliant

- ⚠ Precautions for Use**
- Mounting on D-cut shaft
In principle, use a round shaft.
If a D-cut shaft is used, an excessive load due to tightening by the hex socket head cap screw may damage the coupling, depending on the mounting position of the D-cut surface of the shaft.
When using a D-cut shaft, mount so that the D-cut surface of the shaft avoids contact with the coupling slit as much as possible.



Dimensions

Part Number	A	L	W	F	G	M	D ₁	D ₂	Screw Tightening Torque (N・m)
MSXP-25C-W40-5-6.35-SP3	25	11.4	40	4.5	9	M3	5	6.35	0.6

• All products are provided with hex socket head cap screw. ➔ P.258

Performance

Part Number	Rated torque*1 (N・m)	Max. torque*1 (N・m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia(kg・m ²)	Static Torsional Stiffness (N・m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment(°)	Max. Axial Misalignment (mm)	Mass(g)
MSXP-25C-W40-5-6.35-SP3	1.3	2.6	6000	1.9×10 ⁻⁶	50	0.3	1.2	±0.33	23

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

- Part number specification

MSXP-25C-W40-5-6.35-SP3

1

Additional Keyway at Shaft Hole ➔ P.803 Not Available	Cleanroom Wash & Packaging ➔ P.807 Available / Add'l charge	Change to Stainless Steel Screw ➔ P.805 Changed to the S.S. screw
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MJC Flexible Coupling - Jaw - type

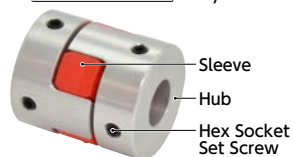
WEB Selection Tool CAD Download High torque Vibration absorption Electrical Insulation

Structure

● Set Screw Type → P.131

MJC-*-***** Tight Fit

MJC-*-E***** Easy Fit



● Clamping Type → P.133

MJC-*CS***** Tight Fit

MJC-*CS-E***** Easy Fit



● Set Screw + Key Type → P.135

MJC-*K***** Tight Fit

MJC-*K-E***** Easy Fit



● Clamping + Key Type → P.137

MJC-*CSK***** Tight Fit

MJC-*CSK-E***** Easy Fit



● Material/Finish

RoHS2 Compliant

	MJC / MJC-CS / MJC-K / MJC-CSK
Hub	A2017 Alumite Treatment
Sleeve	Polyurethane
Hex Socket Set Screw	SCM435 Ferrosoferric Oxide Film (Black)
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film (Black)

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

● Sleeve

Outside Diameter: $\phi 14 - \phi 30$



Tight Fit



Easy Fit

Outside Diameter: $\phi 40$



Tight Fit



Easy Fit

Outside Diameter: $\phi 55 - \phi 95$



Tight Fit



Easy Fit

● Part number specification

MJC-30CSK-ERD-10-11

Product Code Size Sleeve Type bore diameter

Please refer to dimensional table for part number specification.

● Applicable motors

	Tight Fit	Easy Fit
Servomotor	○	○
Stepping Motor	○	○
General-Purpose Motor	○	○

○: Excellent ○: Very good

● Property

	Tight Fit	Easy Fit
Zero Backlash	○	—
High Torque	○	○
Allowable Misalignment	○	○
Vibration Absorption	○	○
Electrical Insulation	○	○
Assembling	○	○
Allowable Operating Temperature	-20°C to 60°C	-20°C to 60°C

○: Excellent ○: Very good

● Sleeve Type

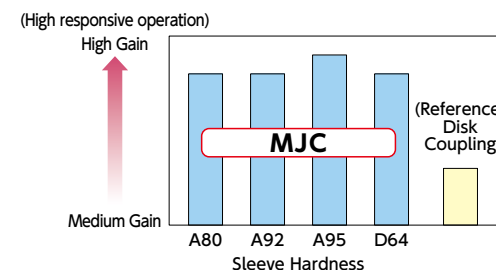
Sleeve Type	Sleeve Hardness (JIS)			
	A80	A92	A98	D64
Tight Fit				
Easy Fit				

Small ← Rated Torque / Max. Torque → Large
Large ← Allowable Misalignment → Small

● Tight Fit

The hub and sleeve are press-fit and can be used under zero backlash*1. Since the sleeve's vibration absorption can raise the gain of a servomotor, this unit can achieve high responsive operation exceeding the Disk coupling.

*1: For the torque used under zero backlash, please refer to dimensional table.



● Tight Fit Applications

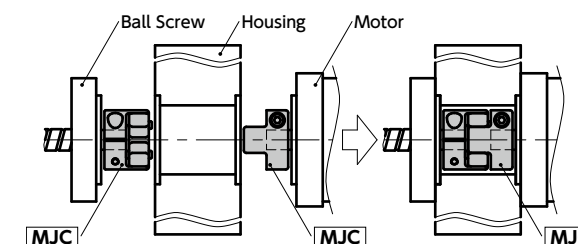
XY stage / Index table / Machine tool / Injection molding machine

● This is a jaw type flexible coupling.

- Tight Fit enables transmission with zero backlash at low torque.
- Easy fit allows you to assemble and partition the hub and sleeve smoothly.
- Excellent flexibility allows eccentricity, angular misalignment and twisting vibration to be accepted.
- It has electrical insulation. Resistance value: Not less than 2 MΩ
- There are four types of sleeve hardness. Please select desirable units according to usage conditions including torque and misalignment.

● Easy Fit

This unit allows you to easily assemble and partition the hub and sleeve. This allows you to reduce the time of assembling the unit and maintenance. It is possible to mount a hub on the shaft in advance and easily assemble the unit even in a location where the coupling is less-visible.



● Easy Fit Applications

Transport device / Mixer / Ventilator / Pump / Dispenser

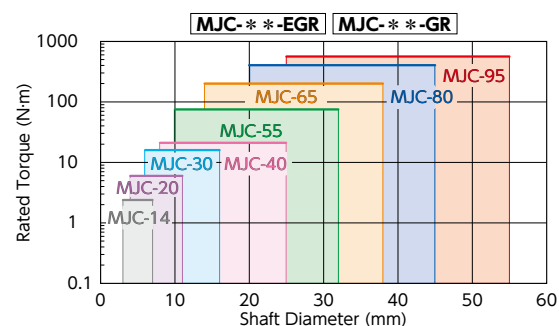
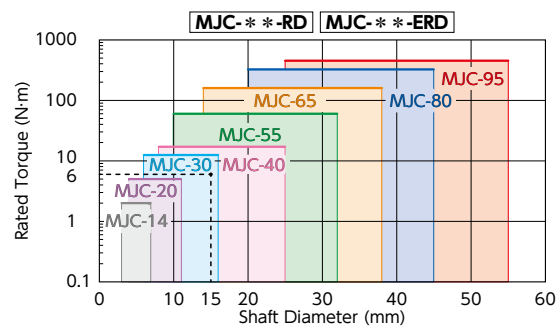
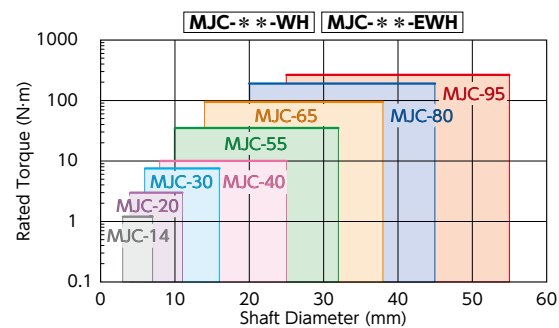
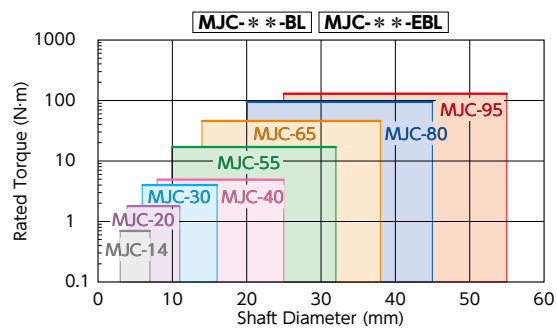
MJC Flexible Coupling - Jaw - type

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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 $\phi 15$ and load torque of 6 N·m, the selected size for

[MJC--RD], [MJC-**-ERD]** is **[MJC-30-RD], [MJC-30-ERD]**.

● Selection based on the rated output of the servomotor

Rated Output (W)	Servomotor Specifications			Selection Outside Diameter Size			
	Diameter of Motor Shaft (mm)	Rated Torque (N·m)	Instantaneous Max. Torque (N·m)	MJC-**-BL MJC-**-EBL	MJC-**-WH MJC-**-EWH	MJC-**-RD MJC-**-ERD	MJC-**-GR MJC-**-EGR
10	5 - 6	0.032	0.096	14	14	14	14
20	5 - 6	0.064	0.19	14	14	14	14
30	5 - 7	0.096	0.29	14	14	14	14
50	6 - 8	0.16	0.48	20	20	20	20
100	8	0.32	0.95	20	20	20	20
200	9 - 14	0.64	1.9	30	30	30	30
400	14	1.3	3.8	30	30	30	30
750	16 - 19	2.4	7.2	—	40	40	40

● 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.

● Selection Example

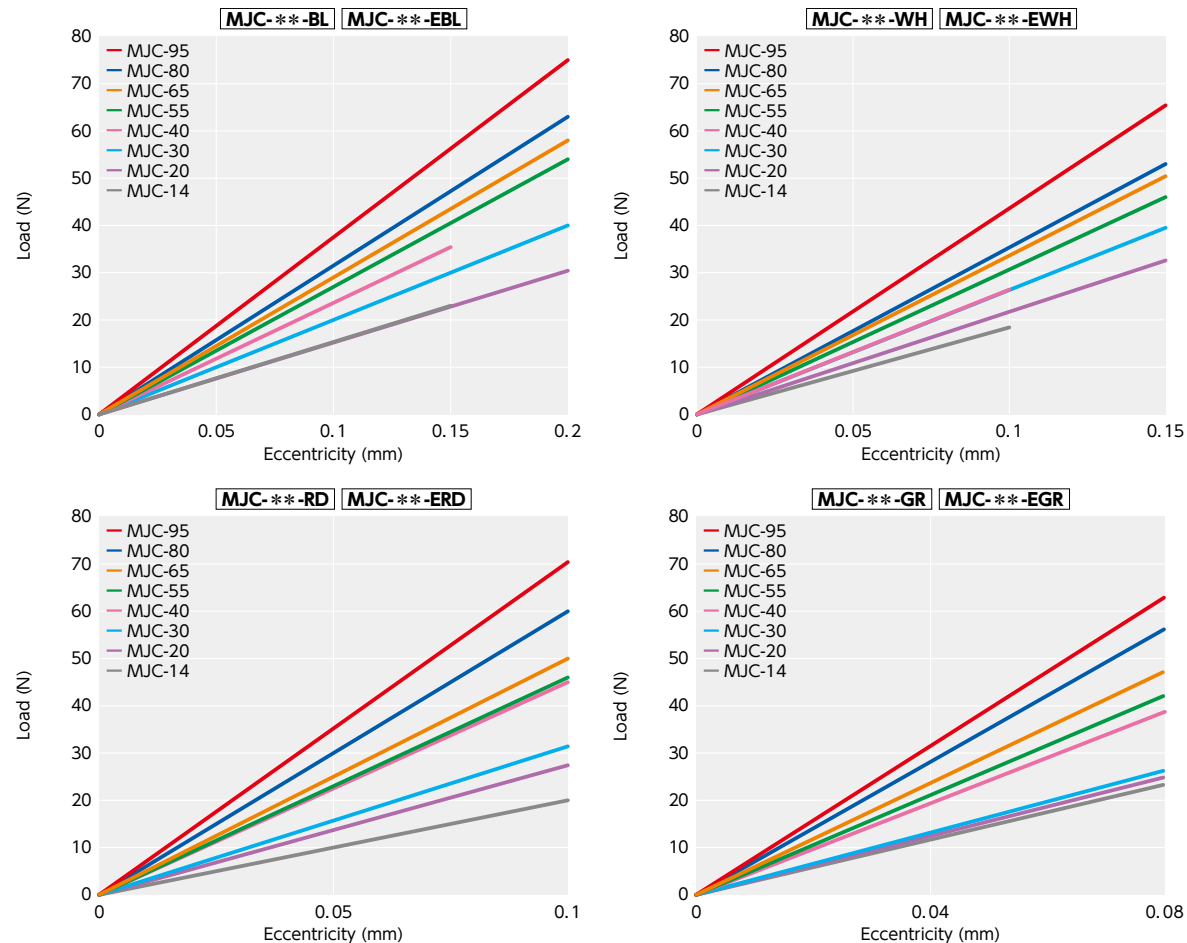
In case of motor specification of shaft diameter of $\phi 9$ and rated torque of 0.64 N·m, the selected size of

[MJC--BL]** is as follows.

- Set Screw Type — **[MJC-30-BL]**
- Clamping Type — **[MJC-30CS-BL]**
- Set Screw + Key Type — **[MJC-30K-BL]**
- Clamping + Key Type — **[MJC-30CSK-BL]**

Technical Information

● Eccentric Reaction Force



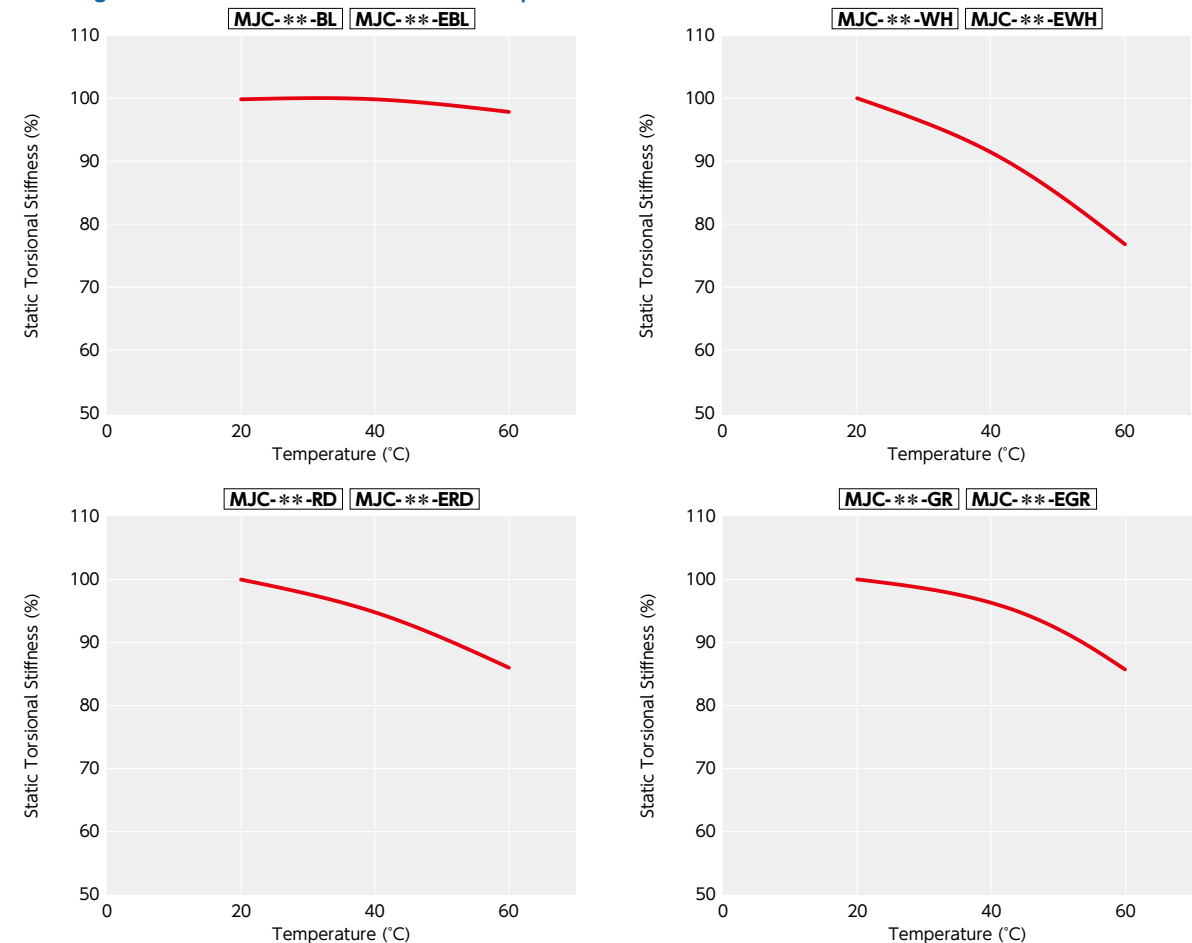
● Slip Torque

Concerning the sizes shown in the table, please note that the shaft's slip torque is smaller than the max. torque of **MJC-CS**.

Part Number	Bore Diameter (mm)																																	
	3	4	4.5	5	6	6.35	7	8	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	
MJC-14CS	0.8	1.4	1.7	2.1	1.3	1.4	1.5																											
MJC-20CS		3.4	4.1	4.9	6.4	6.9	7.9	9.4	5.1	6	8																							
MJC-30CS					4	4.9	6.6	9.3	13.4	14.6	17.3	20	15.3	21.2	27.2																			
MJC-40CS							18	23.2	24.8	28.2	31.7	38.5																						
MJC-55CS								29.9	33	39.5	46	59	65.5	72	78.5	85	91.5	98	111	124	130		117	124										
MJC-65CS													104	118	133	148	162	177	192	221	251	265	310	339	368	185	200							
MJC-80CS																			151	170	189	198	227	246	265	293	322	341	360	500				
MJC-95CS																						347	415	460	500	500	500	500	500	500	500	500	500	500

● 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 **MJC-CS** dimensional table.

● 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 torsional stiffness within the range of allowable operating temperature is as shown in the graph.
Before using the unit, be aware of the deterioration of responsiveness.

● Slip Torque

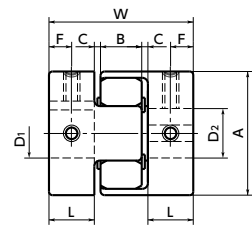
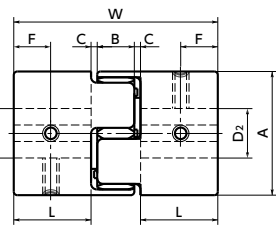
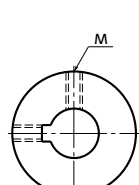
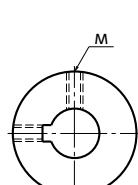
Concerning the sizes shown in the table, please note that the shaft's slip torque is smaller than the max. torque of **MJC-CS**.

Part Number	Bore Diameter (inch)																				
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4
MJC-14CS	0.9	1.9	1.4																		
MJC-20CS		4.5	6.9	9.3	5.1																
MJC-30CS			4.9	9.1	13.4	17.6	7.5	17	26.4												
MJC-40CS				17.7	23.2	28.6	34.1	39.5													
MJC-55CS					29.9	40.2	50.5	60.8	71.1	81.5	91.8	102	112	122	133	112	123				
MJC-65CS							85	108	131	155	178	201	225	248	271	318	365	184	200		
MJC-80CS								96	111	126	141	157	172	187	202	232	262	292	322	353	500
MJC-95CS												249	285	320	356	428	500	500	500	500	500

● 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 **MJC-CS** dimensional table.

MJC-K Flexible Coupling - Jaw - type - Set Screw + Key Type

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Outside Diameter: $\phi 30$ Outside Diameter: $\phi 40$ 

Dimensions

Unit : mm

Part Number	A	L	W	B	C*1	Sleeve E	F	M	Screw Tightening Torque (N·m)
MJC-30K	30	11	35	10	1.5	11	5.5	M4	1.7
MJC-40K	40	25	66	12	2	18	12.5	M5	4
MJC-55K	55	30	78	14	2	27.5	15	M6	7
MJC-65K	65	35	90	15	2.5	31	17.5	M8	15
MJC-80K	80	45	114	18	3	37	22.5	M8	15
MJC-95K	95	50	126	20	3	45.5	25	M8	15

Part Number	Standard Bore Diameter (dimensional allowance H8) D1 • D2															
	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35
MJC-30K	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJC-40K	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJC-55K	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJC-65K				●	●	●	●	●	●	●	●	●	●	●	●	●
MJC-80K					●	●	●	●	●	●	●	●	●	●	●	●
MJC-95K						●	●	●	●	●	●	●	●	●	●	●

Part Number	Standard Bore Diameter (dimensional allowance H7) D1 • D2 														
	1 / 2	9 / 16	5 / 8	11 / 16	3 / 4	13 / 16	7 / 8	15 / 16	1	1 1⁄8	1 1⁄4	1 3⁄8	1 1⁄2	1 5⁄8	1 3⁄4
MJC-30K	●	●	●												
MJC-40K	●	●	●	●	●										
MJC-55K	●	●	●	●	●	●	●	●	●						
MJC-65K	●	●	●	●	●	●	●	●	●	●	●	●	●		
MJC-80K					●	●	●	●	●	●	●	●	●	●	●
MJC-95K									●	●	●	●	●	●	●

- All products are provided with hex socket set screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with key type for one side and clamping type or other type for the other side is available upon request.

Part number specification

MJC-40K-EGR-11-12

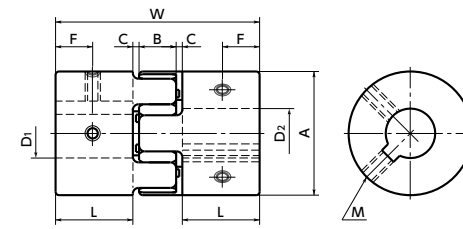
1 2 3

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

Outside Diameter: $\phi 55 - \phi 95$

Performance

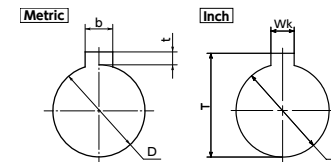
Part Number	Sleeve Tight Fit	Easy Fit	Max. Bore Diameter (mm)	Rated ^{*1} torque (N·m)	Max. ^{*1} torque (N·m)	Zero Backlash ^{*3} Allowable Transmission Torque(N·m)	Max. Rotational Frequency (min ⁻¹)	Moment ^{*2} of Inertia (kg·m ²)	Static Torsional Stiffness (N·m / rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass ^{*2} (g)	Sleeve Hardness (JIS)
MJC-30K	BL	EBL	16	4	8	0.5	21000	6.1 x 10 ⁻⁶	46	0.2	1	+1.0 0	43	A80
MJC-40K	BL	EBL	25	4.9	9.8	1.2	15000	3.6 x 10 ⁻⁵	380	0.15	1	+1.2 0	130	A92
MJC-55K	BL	EBL	32	17	34		11000	1.6 x 10 ⁻⁴	1400	0.2	1	+1.4 0	310	A98
MJC-65K	BL	EBL	38.1	46	92		9000	3.6 x 10 ⁻⁴	2800	0.2	1	+1.5 0	510	D64
MJC-80K	BL	EBL	45	95	190		7000	1.1 x 10 ⁻³	3200	0.2	1	+1.8 0	1000	
MJC-95K	BL	EBL	55	130	260		6000	2.3 x 10 ⁻³	3600	0.2	1	+2.0 0	1500	
MJC-30K	WH	EWL	16	7.5	15	0.5	21000	6.1 x 10 ⁻⁶	73	0.15	1	+1.0 0	43	
MJC-40K	WH	EWL	25	10	20	1.2	15000	3.6 x 10 ⁻⁵	570	0.1	1	+1.2 0	130	
MJC-55K	WH	EWL	32	35	70		11000	1.6 x 10 ⁻⁴	1600	0.15	1	+1.4 0	310	
MJC-65K	WH	EWL	38.1	95	190		9000	3.6 x 10 ⁻⁴	3000	0.15	1	+1.5 0	510	
MJC-80K	WH	EWL	45	190	380		7000	1.1 x 10 ⁻³	5300	0.15	1	+1.8 0	1000	
MJC-95K	WH	EWL	55	265	530		6000	2.3 x 10 ⁻³	6200	0.15	1	+2.0 0	1500	
MJC-30K	RD	ERD	16	12.5	25	0.5	21000	6.1 x 10 ⁻⁶	130	0.1	1	+1.0 0	43	
MJC-40K	RD	ERD	25	17	34	1.2	15000	3.6 x 10 ⁻⁵	1200	0.1	1	+1.2 0	130	
MJC-55K	RD	ERD	32	60	120		11000	1.6 x 10 ⁻⁴	2600	0.1	1	+1.4 0	310	
MJC-65K	RD	ERD	38.1	160	320		9000	3.6 x 10 ⁻⁴	4900	0.1	1	+1.5 0	510	
MJC-80K	RD	ERD	45	325	650		7000	1.1 x 10 ⁻³	6500	0.1	1	+1.8 0	1000	
MJC-95K	RD	ERD	55	450	900		6000	2.3 x 10 ⁻³	8900	0.1	1	+2.0 0	1500	
MJC-30K	GR	EGR	16	16	32	0.5	21000	6.1 x 10 ⁻⁶	200	0.08	1	+1.0 0	43	
MJC-40K	GR	EGR	25	21	42	1.2	15000	3.6 x 10 ⁻⁵	3000	0.08	1	+1.2 0	130	
MJC-55K	GR	EGR	32	75	150		11000	1.6 x 10 ⁻⁴	9000	0.08	1	+1.4 0	310	
MJC-65K	GR	EGR	38.1	200	400		9000	3.6 x 10 ⁻⁴	13000	0.08	1	+1.5 0	510	
MJC-80K	GR	EGR	45	405	810		7000	1.1 x 10 ⁻³	14000	0.08	1	+1.8 0	1000	
MJC-95K	GR	EGR	55	560	1120		6000	2.3 x 10 ⁻³	15000	0.08	1	+2.0 0	1500	

*1 : Correction of rated torque and max. torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the table. **MJC-K**'s allowable operating temperature is -20°C to 60°C.

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

*3 : For transmission with Zero Backlash, please use a tight fit sleeve.

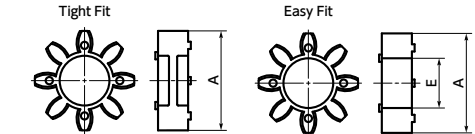
Details of Shaft Hole



Standard Bore Diameter D	keyway				Key
	Standard Dimension	allowance (JS9)	Standard Dimension	allowance	Nominal Dimension b x h
10 · 11 · 12	4	±0.0150	1.8	+0.1 0	4x4
14 · 15 · 16	5	±0.0150	2.3	+0.1 0	5x5
18 · 19 · 20 · 22	6	±0.0150	2.8	+0.1 0	6x6
24 · 25 · 28 · 30	8	±0.0180	3.3	+0.2 0	8x7
32 · 35 · 38	10	±0.0180	3.3	+0.2 0	10x8
40 · 42	12	±0.0215	3.3	+0.2 0	12x8
45 · 48 · 50	14	±0.0215	3.8	+0.2 0	14x9
55	16	±0.0215	4.3	+0.2 0	16x10

Unit : mm

Sleeve Details



Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70

MJS Flexible Coupling - Jaw - type (Short)

WEB Selection Tool CAD Download High torque Vibration absorption Electrical Insulation

Structure

● Clamping Type → P.143

MJS--CS-**-** Tight Fit

MJS--CS-E**-** Easy Fit



● Clamping + Key Type → P.145

MJS--CSK-**-** Tight Fit

MJS--CSK-E**-** Easy Fit



● Sleeve

Outside Diameter: $\phi 40$

Outside Diameter: $\phi 55 - \phi 95$



Tight Fit

Easy Fit

Tight Fit

Easy Fit

● Applicable motors

	Tight Fit	Easy Fit
Servomotor	○	○
Stepping Motor	○	○
General-Purpose Motor	○	○

○: Excellent ○: Very good

● Property

	Tight Fit	Easy Fit
Zero Backlash	○	—
High Torque	○	○
Allowable Misalignment	○	○
Vibration Absorption	○	○
Electrical Insulation	○	○
Assembling	○	○
Allowable Operating Temperature	-20°C to 60°C	-20°C to 60°C

○: Excellent ○: Very good

● This is a jaw type flexible coupling.

● It is a short type and more compact than **MJC**.

● Tight Fit enables transmission with zero backlash at low torque.

● Easy fit allows assembling and separation of hubs.

● Excellent flexibility allows eccentricity, angular misalignment and twisting vibration to be accepted.

● It has electrical insulation. Resistance value: Not less than 2 MΩ

● Sleeve Type

Sleeve Type	Sleeve Hardness (JIS)			
	A80	A92	A98	D64
Tight Fit	BL	WH	RD	GR
Easy Fit	EBL	EWH	ERD	EGR

Small → Rated Torque / Maximum Torque → Large
Large ← Allowable Misalignment ← Small

● Material/Finish

RoHS2 Compliant

	MJS-CS / MJS-CSK
Hub	A2017 Alumite Treatment
Sleeve	Polyurethane
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film (Black)

● Part number specification

MJS-40CSK-ERD-10-11

Product Code Size Sleeve Type Bore diameter

Please refer to dimensional table for part number specification.

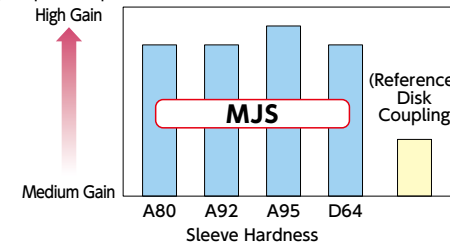
Additional Keyway at Shaft Hole → P.803	Cleanroom Wash & Packaging → P.807	Change to Stainless Steel Screw → P.805
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

● Tight Fit

The hub and sleeve are press-fit and can be used under zero backlash*1. Since the sleeve's vibration absorption can raise the gain of a servomotor, this unit can achieve high responsive operation exceeding the Disk coupling.

*1: For the torque used under zero backlash, please refer to Performance table.

(High responsive operation)



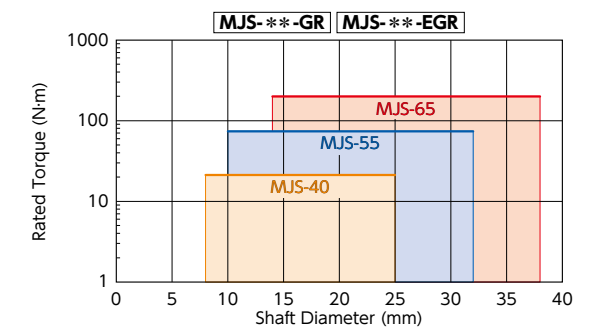
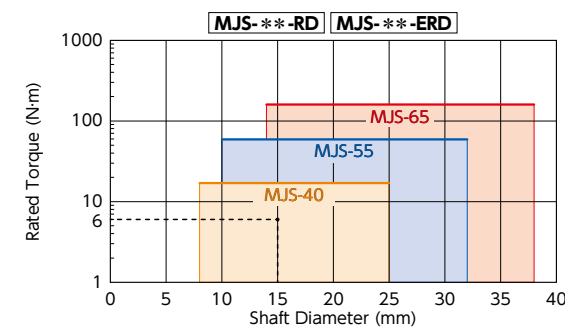
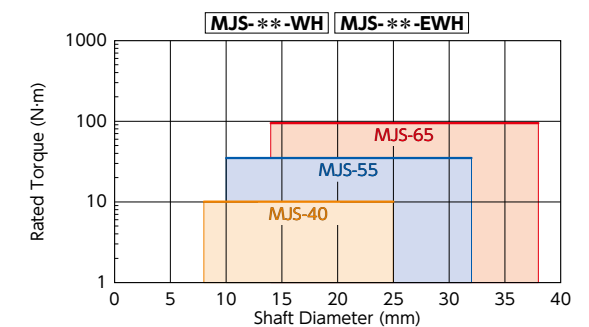
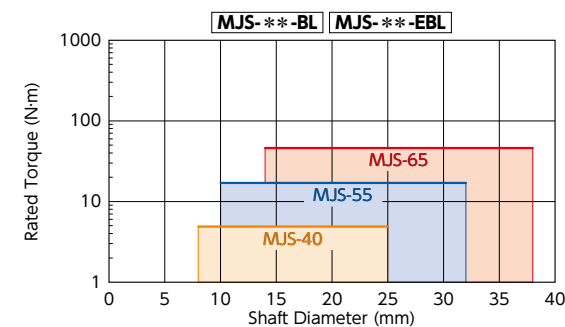
● Tight Fit Applications

XY stage / Index table / Machine tool / Injection molding machine

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 $\phi 15$ and load torque of 6 N·m, the selected size for

MJS--CS-RD**, **MJS-**-CS-ERD** is **MJS-40CS-RD**, **MJS-40CS-ERD**.



● Easy Fit

This unit allows you to easily assemble and partition the hub and sleeve.

This allows you to reduce the time of assembling the unit and maintenance.

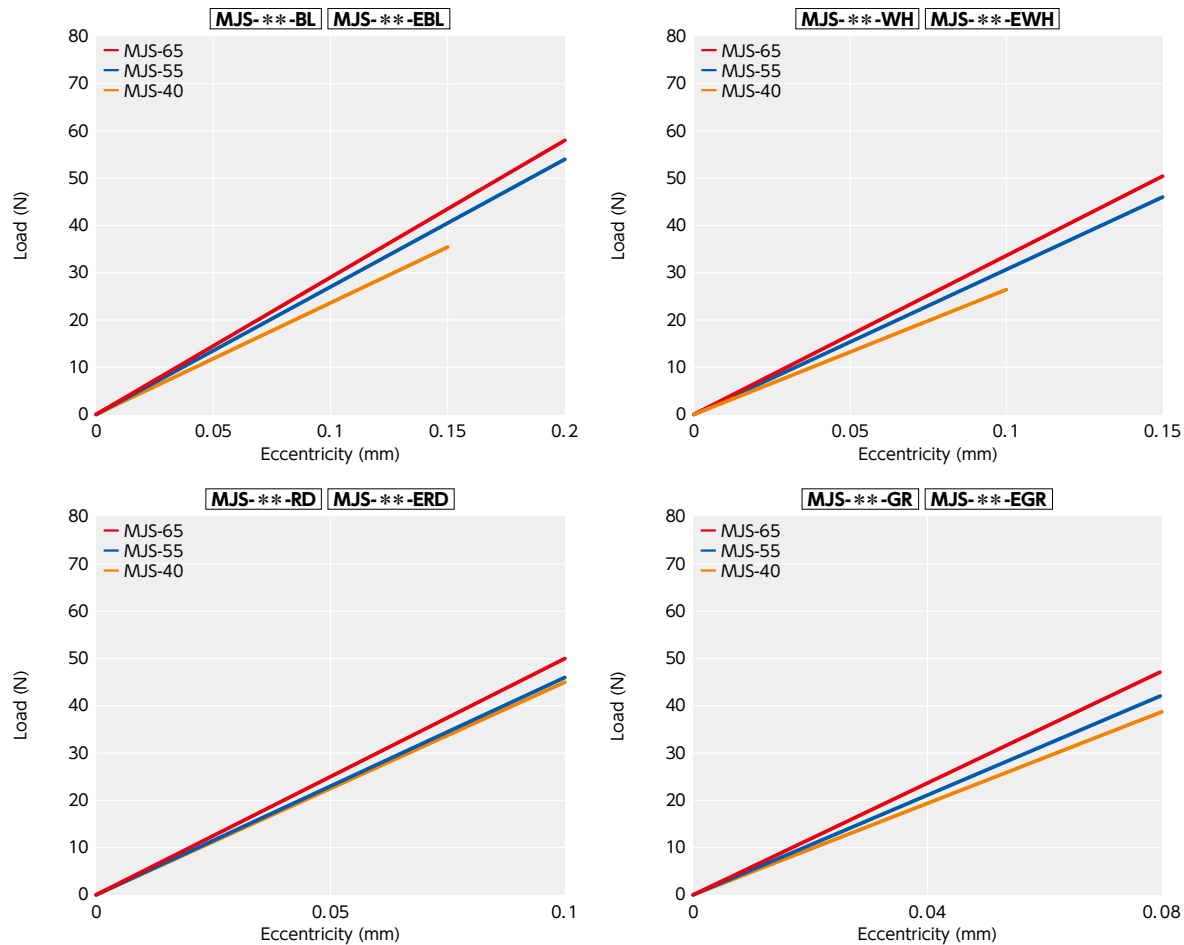
It is possible to mount a hub on the shaft in advance and easily assemble the unit even in a location where the coupling is less-visible.

● Easy Fit Applications

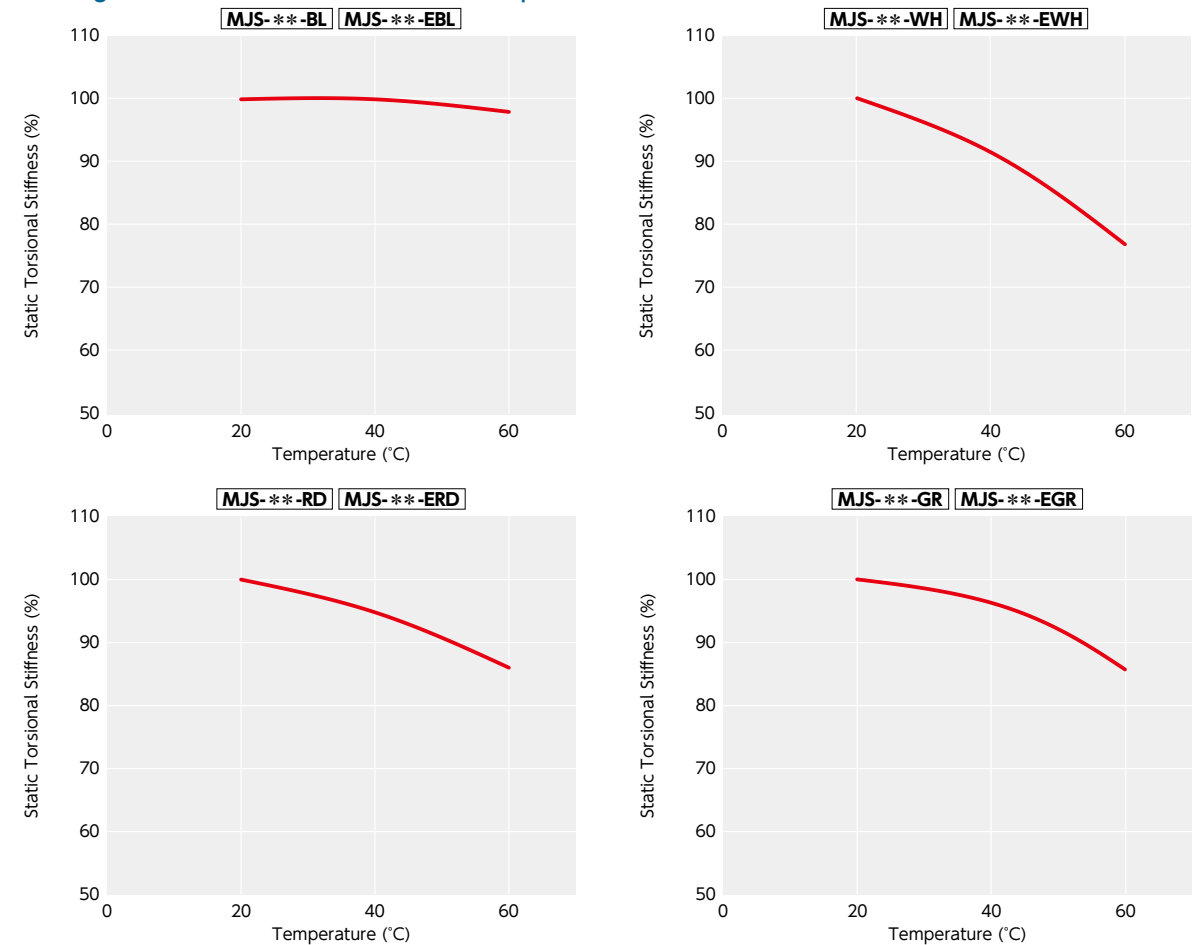
Transport device / Mixer / Ventilator / Pump / Dispenser

Technical Information

● Eccentric 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 torsional stiffness within the range of allowable operating temperature is as shown in the graph. Before using the unit, be aware of the deterioration of responsiveness.

● Slip Torque

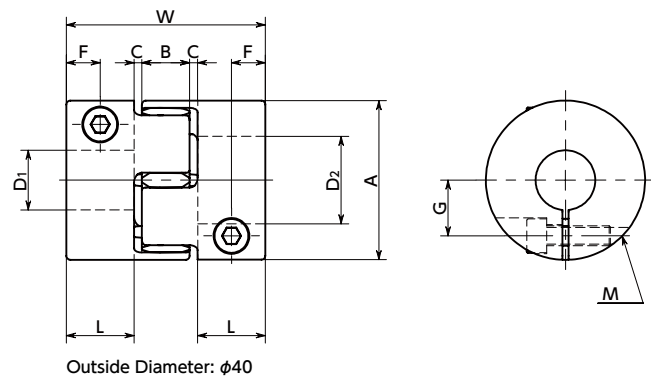
Concerning the sizes shown in the table, please note that the shaft's slip torque is smaller than the max. torque of **MJS-CS**.

Part Number	Bore Diameter (mm)																
	8	9.525	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32
MJS-40CS	28.9	35.6	37.7														
MJS-55CS			40.2	46.7	53.2	66.1	72.6	79	92	98.4	104	117	130	137		145	
MJS-65CS						113	123	134	155	165	176	197	218	228	260	281	302

● 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 **MJS-CS** dimensional table.

MJS-CS Flexible Coupling - Jaw - type (Short) - Clamping Type

WEB Selection Tool CAD Download High torque Vibration absorption Electrical Insulation



Dimensions

Unit : mm

Part Number	Bore Diameter	A	L	W	B	C*1	Sleeve E	F	G	M	Screw Tightening Torque (N·m)
MJS-40CS	8 - 20	40	17	50	12	2	18	8.5	14	M5	8
	22 - 25								15.75	M4	3.5
MJS-55CS	10 - 28	55	18	54	14	2	27.5	9	20	M6	13
	30 - 32								21	M5	8
MJS-65CS	14 - 32	65	21	62	15	2.5	31	10.5	24	M8	28
	35 - 38								25	M6	13

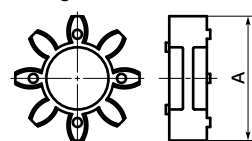
*1 : Use with C Dimension

Part Number	Standard Bore Diameter D1・D2																
	8	9.525	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32
MJS-40CS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJS-55CS			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJS-65CS						●	●	●	●	●	●	●	●	●	●	●	●

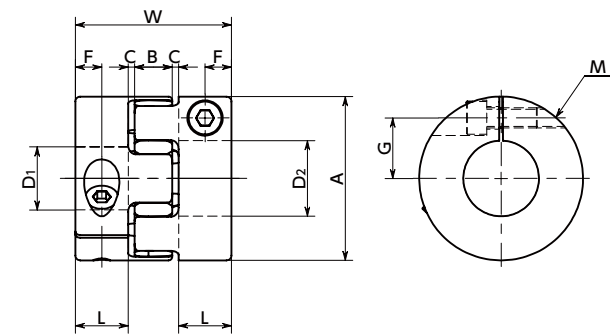
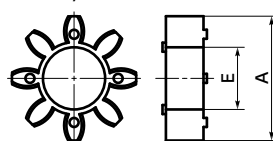
- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with clamping type for one side and clamping + key type for the other side is available upon request.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. ➡ P.258

● Sleeve Details

Tight Fit



Easy Fit



Outside Diameter: φ55 / φ65

Performance

Part Number	Sleeve	Tight Fit	Easy Fit	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*1 torque (N·m)	Zero Backlash*3 Allowable Transmission 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)	Sleeve Hardness (JIS)
MJS-40CS	BL	EBL		25	4.9	9.8	1.2	15000	2.7 x 10 ⁻⁵	380	0.15	1	+1.2 0	100	
MJS-55CS	BL	EBL		32	17	34		11000	1.1 x 10 ⁻⁴	1400	0.2	1	+1.4 0	210	A80
MJS-65CS	BL	EBL		38	46	92		9000	2.4 x 10 ⁻⁴	2800	0.2	1	+1.5 0	340	
MJS-40CS	WH	EWL		25	10	20	1.2	15000	2.7 x 10 ⁻⁵	570	0.1	1	+1.2 0	100	
MJS-55CS	WH	EWL		32	35	70		11000	1.1 x 10 ⁻⁴	1600	0.15	1	+1.4 0	210	A92
MJS-65CS	WH	EWL		38	95	190		9000	2.4 x 10 ⁻⁴	3000	0.15	1	+1.5 0	340	
MJS-40CS	RD	ERD		25	17	34	1.2	15000	2.7 x 10 ⁻⁵	1200	0.1	1	+1.2 0	100	
MJS-55CS	RD	ERD		32	60	120		11000	1.1 x 10 ⁻⁴	2600	0.1	1	+1.4 0	210	A98
MJS-65CS	RD	ERD		38	160	320		9000	2.4 x 10 ⁻⁴	4900	0.1	1	+1.5 0	340	
MJS-40CS	GR	EGR		25	21	42	1.2	15000	2.7 x 10 ⁻⁵	3000	0.08	1	+1.2 0	100	
MJS-55CS	GR	EGR		32	75	150		11000	1.1 x 10 ⁻⁴	9000	0.08	1	+1.4 0	210	D64
MJS-65CS	GR	EGR		38	200	400		9000	2.4 x 10 ⁻⁴	13000	0.08	1	+1.5 0	340	

*1 : Correction of rated torque and max. torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the table. **MJS-CS**'s allowable operating temperature is -20°C to 60°C.

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

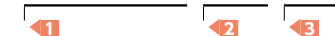
*3 : For transmission with Zero Backlash, please use a tight fit sleeve.

● Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70

● Part number specification

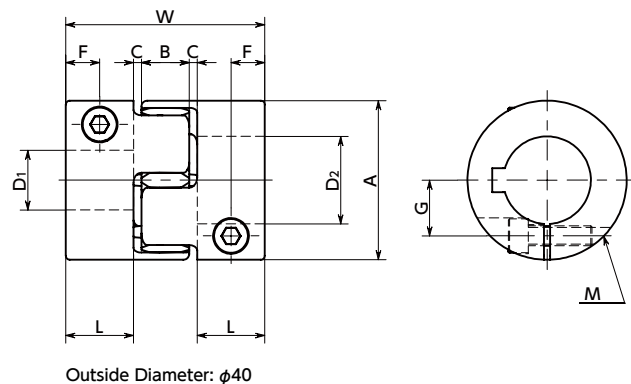
MJS-55CS-EGR-14-16



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

MJS-CSK Flexible Coupling - Jaw - type (Short) - Clamping + Key Type

WEB Selection Tool WEB CAD Download High torque Vibration absorption Electrical Insulation



Dimensions

Unit : mm

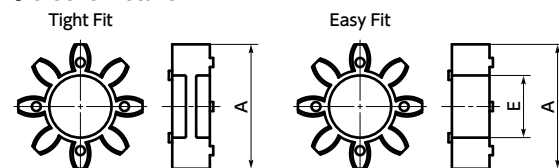
Part Number 	Bore Diameter	A	L	W	B	C*1	Sleeve E	F	G	M	Screw Tightening Torque (N・m)
MJS-40CSK	10 - 20	40	17	50	12	2	18	8.5	14	M5	8
	22 - 25								15.75	M4	3.5
MJS-55CSK	10 - 28	55	18	54	14	2	27.5	9	20	M6	13
	30 - 32								21	M5	8
MJS-65CSK	14 - 32	65	21	62	15	2.5	31	10.5	24	M8	28
	35 - 38								25	M6	13

*1 : Use with C Dimension

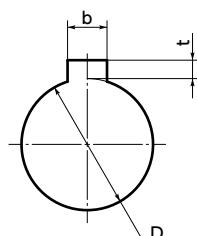
Part Number	Standard Bore Diameter D1・D2 3																
	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38
MJS-40CSK	●	●	●	●	●	●	●	●	●	●	●	●					
MJS-55CSK	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
MJS-65CSK				●	●	●	●	●	●	●	●	●	●	●	●	●	●

- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with clamping + key type for one side and clamping type for the other side is available upon request.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.258

Sleeve Details



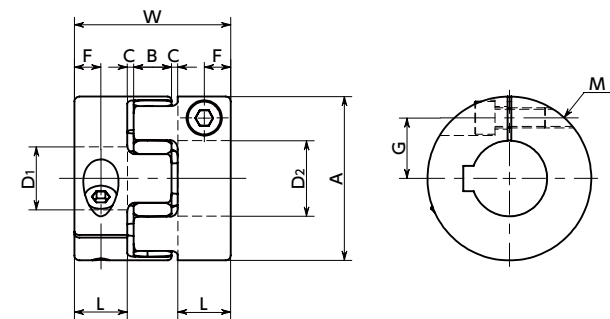
Details of Shaft Hole



Standard Bore Diameter D	Keyway				Unit: mm
	b		t		Nominal Dimension b x h
	Standard Dimension	Allowance (JS9)	Standard Dimension	Allowance	
10・11・12	4	±0.0150	1.8	+0.1 0	4×4
14・15・16	5	±0.0150	2.3	+0.1 0	5×5
18・19・20・22	6	±0.0150	2.8	+0.1 0	6×6
24・25・28・30	8	±0.0180	3.3	+0.2 0	8×7
32・35・38	10	±0.0180	3.3	+0.2 0	10×8

Unit : mm

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



Outside Diameter: φ55 / φ65

Performance

Part Number	Sleeve Fit	2	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*1 torque (N·m)	Zero Backlash*3 Allowable Transmission 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)	Sleeve Hardness (JIS)
MJS-40CSK	BL	EBL	25	4.9	9.8	1.2	15000	2.7 x 10 ⁻⁵	380	0.15	1	+1.2 0	96	A80
MJS-55CSK	BL	EBL	32	17	34		11000	1.0 x 10 ⁻⁴	1400	0.2	1	+1.4 0	210	A80
MJS-65CSK	BL	EBL	38	46	92		9000	2.3 x 10 ⁻⁴	2800	0.2	1	+1.5 0	330	A80
MJS-40CSK	WH	EWH	25	10	20	1.2	15000	2.7 x 10 ⁻⁵	570	0.1	1	+1.2 0	96	A92
MJS-55CSK	WH	EWH	32	35	70		11000	1.0 x 10 ⁻⁴	1600	0.15	1	+1.4 0	210	A92
MJS-65CSK	WH	EWH	38	95	190		9000	2.3 x 10 ⁻⁴	3000	0.15	1	+1.5 0	330	A92
MJS-40CSK	RD	ERD	25	17	34	1.2	15000	2.7 x 10 ⁻⁵	1200	0.1	1	+1.2 0	96	A98
MJS-55CSK	RD	ERD	32	60	120		11000	1.0 x 10 ⁻⁴	2600	0.1	1	+1.4 0	210	A98
MJS-65CSK	RD	ERD	38	160	320		9000	2.3 x 10 ⁻⁴	4900	0.1	1	+1.5 0	330	A98
MJS-40CSK	GR	EGR	25	21	42	1.2	15000	2.7 x 10 ⁻⁵	3000	0.08	1	+1.2 0	96	D64
MJS-55CSK	GR	EGR	32	75	150		11000	1.0 x 10 ⁻⁴	9000	0.08	1	+1.4 0	210	D64
MJS-65CSK	GR	EGR	38	200	400		9000	2.3 x 10 ⁻⁴	13000	0.08	1	+1.5 0	330	D64

*1 : Correction of rated torque and max. torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the table. **MJS-CSK**'s allowable operating temperature is -20°C to 60°C.

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

*3 : For transmission with Zero Backlash, please use a tight fit sleeve.

Ambient Temperature / Temperature Correction Factor

Ambient Temperature	Temperature Correction Factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70

Part number specification

MJS-40CSK-EBL-14-16

1 2 3

MJB Flexible Coupling - Jaw - type (Bushing)

WEB Selection Tool CAD Download High torque Vibration absorption Electrical Insulation

Structure

- Bushing type

MJB → P.153



- Sleeve

Outside diameter $\phi 40$



Tight Fit



Easy Fit

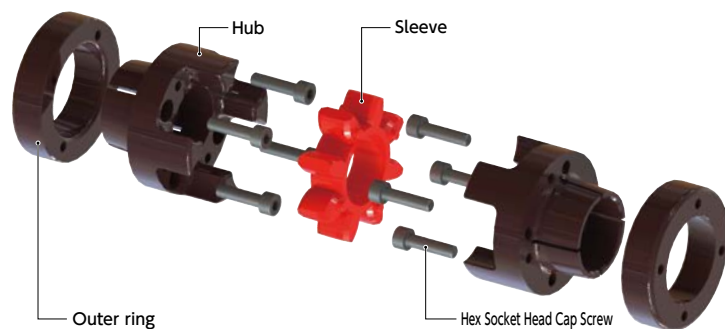
Outside diameter $\phi 55 - \phi 95$



Tight Fit



Easy Fit



Material/Finish

RoHS2 Compliant

	MJB
Hub	S45C Ferrosoferric Oxide Film (Black)
Outer ring	S45C Ferrosoferric Oxide Film (Black)
Sleeve	Polyurethane
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film

Part number specification

MJB-55-RD-10-10

Product Code Size Sleeve Bore Type 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
Please feel free to contact us	Not Available	Not Available

Applicable motors

	Tight fit	Easy Fit
Servomotor	○	○
Stepping Motor	○	○
General-purpose motor	○	○

○: Excellent ○: Very good

Property

	Tight fit	Easy Fit
High torque	○	○
Allowable Misalignment	○	○
Vibration absorption	○	○
Electrical insulation	○	○
Assembling	○	○
Allowable operating temperature	-20°C to 60°C	-20°C to 60°C

○: Excellent ○: Very good

- This is a jaw type flexible coupling.
- This superior high torque transmission is the most appropriate for the spindle of a machine tool.
- Excellent flexibility allows eccentricity, and angular misalignment and vibration to be accepted.
- It has electrical insulation. Resistance value: not less than 2 MΩ.
- There are four types of sleeve hardness. Please select desirable units according to usage conditions including torque and misalignment.
- Since the sleeve's vibration absorption can raise the gain of a servomotor, tight fit can achieve high responsive operation exceeding the Disk coupling.
- Easy fit allows you to assemble and partition the hub and sleeve smoothly. This allows you to reduce the time of assembling the unit and maintenance.

Application

Machine tool / Spindle

Sleeve type

Sleeve Type	Sleeve Hardness (JIS)			
	A80	A92	A98	D64
Tight Fit				
Easy Fit				

Small → Large Rated torque and max. torque
Large ← Small Allowable Misalignment



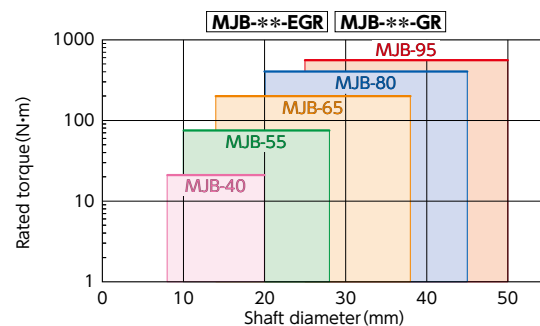
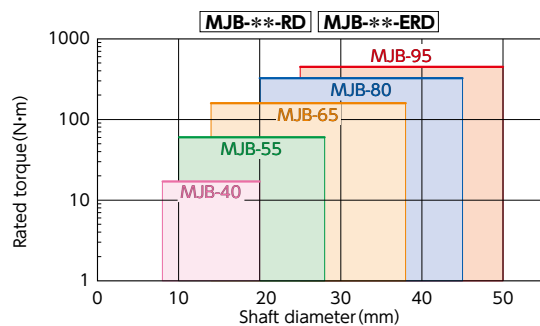
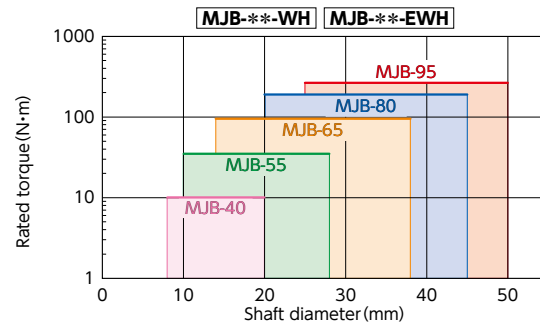
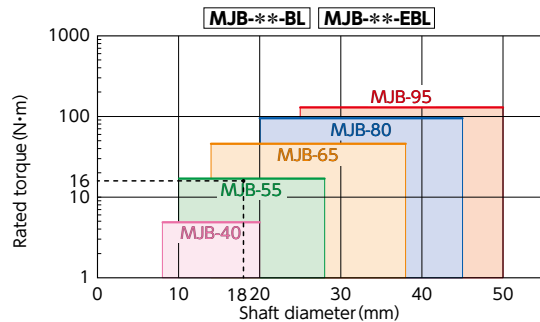
MJB Flexible Coupling - Jaw - type (Bushing)

[WEB Selection Tool](#)
[WEB CAD Download](#)
[High torque](#)
[Vibration absorption](#)
[Electrical Insulation](#)

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 18 and load torque of 16 N·m, the selected size for

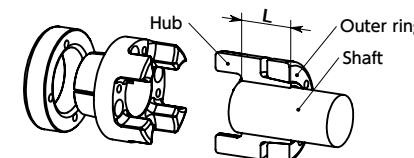
MJB--BL** **MJB-**-EBL** is **MJB-55-BL**

MJB-55-BL

Mounting / Removing

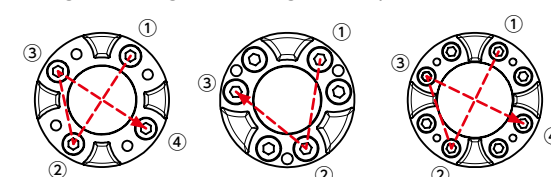
Mounting

- ① Clean up the fitting surfaces of hub, outer ring and shaft.
- ② Apply light oil thinly on the surfaces. Avoid molybdenum base oil as it reduces the fastening power seriously.
- ③ Insert the shaft to the dimension L. → **Table 1**



- ④ Tighten the hexagon socket head bolts with 50% of the tightening torque in **Table 1**, each for once, following the sequence in **Fig.1**
- ⑤ In the same sequence as in ④, tighten the hexagon socket head bolts with 100% of the tightening torque in **Table 1**, each for once.

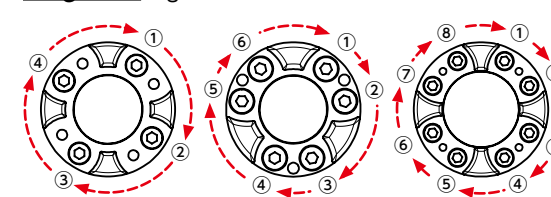
Diagram 1 Tighten in diagonal sequence



Number of bolts=4 Number of bolts=6 Number of bolts=8

- ⑥ Tighten all hexagon socket head bolts with the tightening torque in **Table 1**, following the sequence in **Fig.2**

Diagram 2 Tighten all bolts



Number of bolts=4 Number of bolts=6 Number of bolts=8

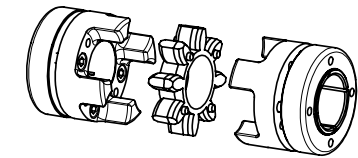
- ⑦ Repeat ⑥ until all hex socket head cap screws securely fixed.

As a guide, the rotation of a hex socket head screw, when tightened, should be less than 20 degrees.

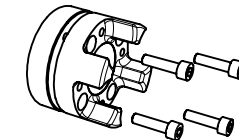
⚠ Use a torque wrench to tighten bolts.

Removal

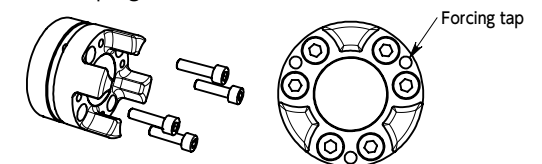
- ① Disassemble the hub and the sleeve.



- ② Confirm that there is no torque or thrust load, then loosen all hexagon socket head bolts completely and remove them.



- ③ Insert one of the removed bolts in ② to a forcing tap, and tighten little by little, avoiding uneven clamping.



- ④ Repeating ③ will lead to sharply reduced tightening torque. Remove the coupling from the shaft, as the fastening force from the tapered surface is reduced.

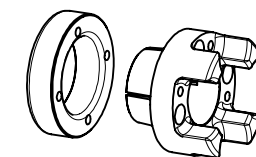


Table 1

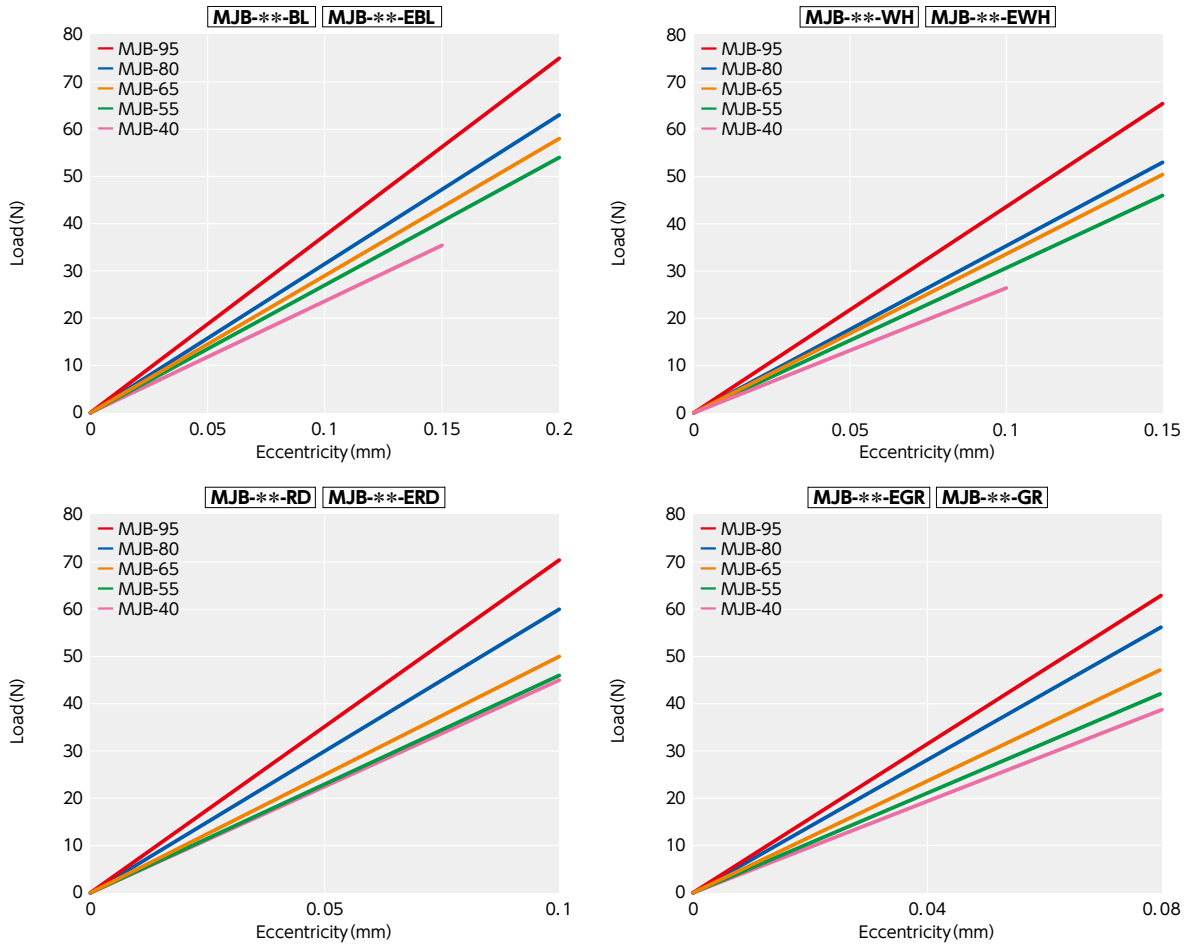
Part Number	L	Hex Socket Head Cap Screw		Screw Tightening Torque (N·m)
		Diameter of Thread	Number of bolts	
MJB-40	25	M4	6	4
MJB-55	30	M5	4	8.5
MJB-65	35	M5	8	8.5
MJB-80	45	M6	8	14
MJB-95	50	M8	8	35

MJB Flexible Coupling - Jaw - type (Bushing)

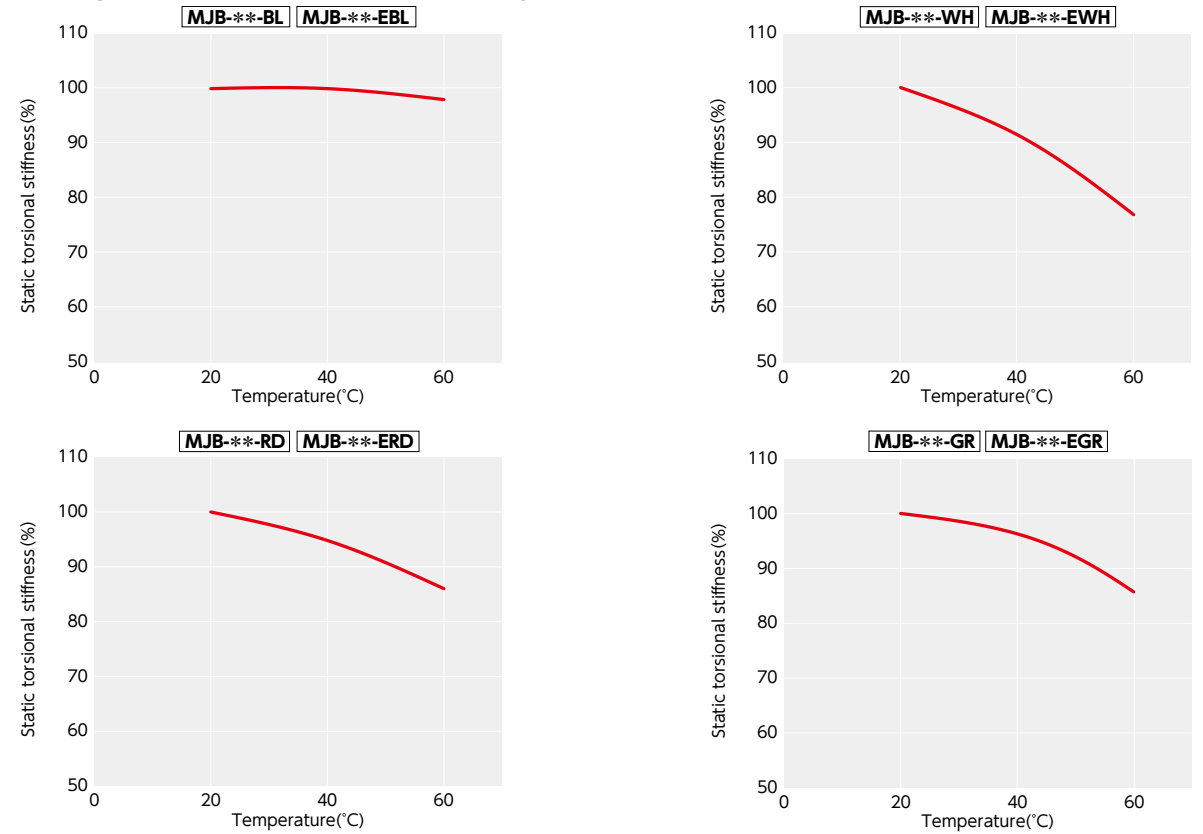
[WEB Selection Tool](#)
[WEB CAD Download](#)
[High torque](#)
[Vibration absorption](#)
[Electrical Insulation](#)

Technical Information

● Eccentric 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 torsional stiffness within the range of allowable operating temperature is as shown in the graph.

Before using the unit, be aware of the deterioration of responsiveness.

● Slip Torque

Concerning the sizes shown in the following table, please note that the shaft's slip torque is smaller than the max. torque of **MJB** .

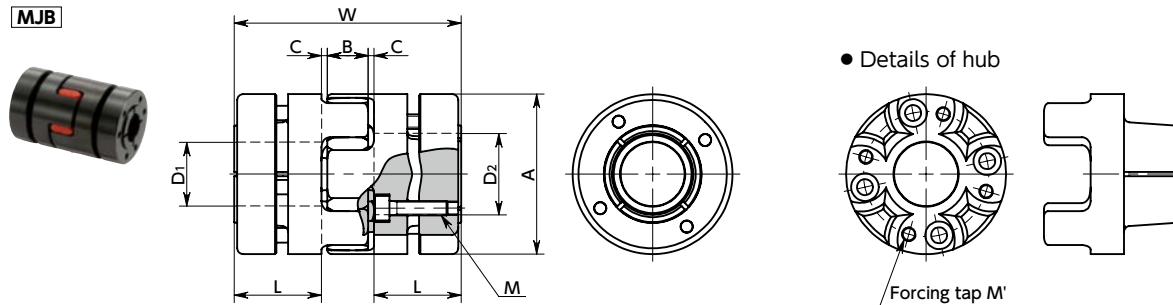
Part Number	Bore (mm)																				Unit : N · m	
	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50
MJB-55	32.8	54	75.2	117	138																	
MJB-65				161	171	181	202	212	222	243	264	274	305	325	346	377						
MJB-80									285	335	385	411	486	500	500	500	500	500	500	500		
MJB-95												500	500	500	500	500	500	500	500	500	500	500

● 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 **MJB** Dimension table.

MJB Flexible Coupling - Jaw - type (Bushing)

WEB Selection Tool CAD Download High torque Vibration absorption Electrical Insulation

MJB



Dimensions

Unit : mm

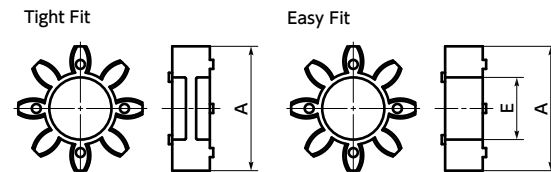
Part Number	A	L	W	B	C*1	Sleeve E	M	Number of bolts	Forcing tap M'	Screw Tightening Torque (N·m)
MJB-40	40	25	66	12	2	17	M4	6	M4	4
MJB-55	55	30	78	14	2	26	M5	4	M5	8.5
MJB-65	65	35	90	15	2.5	29.5	M5	8	M5	8.5
MJB-80	80	45	114	18	3	35.5	M6	8	M6	14
MJB-95	95	50	126	20	3	44	M8	8	M8	35

*1 : Use with C Dimension

Part Number	Standard Bore Diameter D1・D2																			
	8	9.525	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40
MJB-40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJB-55			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJB-65				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJB-80						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
MJB-95											●	●	●	●	●	●	●	●	●	●

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

Sleeve Details



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

Not Available

Not Available

Performance

Part Number	Sleeve Tight Fit	Sleeve Easy Fit	Max. Bore Diameter (mm)	Rated*1 Torque (N·m)	Max.*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)	Sleeve Hardness (JIS)
MJB-40	BL	EBL	20	4.9	9.8	23000	3.9×10 ⁻⁵	380	0.15	1	+1.2 0	400	A80
MJB-55	BL	EBL	28	17	34	17000	1.6×10 ⁻⁴	1400	0.2	1	+1.4 0	800	
MJB-65	BL	EBL	38	46	92	14000	3.8×10 ⁻⁴	2800	0.2	1	+1.5 0	1100	
MJB-80	BL	EBL	45	95	190	11000	1.0×10 ⁻³	3200	0.2	1	+1.8 0	2300	
MJB-95	BL	EBL	50	130	260	10000	2.3×10 ⁻³	3600	0.2	1	+2.0 0	4000	A92
MJB-40	WH	EWL	20	10	20	23000	3.9×10 ⁻⁵	570	0.1	1	+1.2 0	400	
MJB-55	WH	EWL	28	35	70	17000	1.6×10 ⁻⁴	1600	0.15	1	+1.4 0	800	
MJB-65	WH	EWL	38	95	190	14000	3.8×10 ⁻⁴	3000	0.15	1	+1.5 0	1100	
MJB-80	WH	EWL	45	190	380	11000	1.0×10 ⁻³	5300	0.15	1	+1.8 0	2300	A98
MJB-95	WH	EWL	50	265	530	10000	2.3×10 ⁻³	6200	0.15	1	+2.0 0	4000	
MJB-40	RD	ERD	20	17	34	23000	3.9×10 ⁻⁵	1200	0.1	1	+1.2 0	400	
MJB-55	RD	ERD	28	60	120	17000	1.6×10 ⁻⁴	2600	0.1	1	+1.4 0	800	
MJB-65	RD	ERD	38	160	320	14000	3.8×10 ⁻⁴	4900	0.1	1	+1.5 0	1100	D64
MJB-80	RD	ERD	45	325	650	11000	1.0×10 ⁻³	6500	0.1	1	+1.8 0	2300	
MJB-95	RD	ERD	50	450	900	10000	2.3×10 ⁻³	8900	0.1	1	+2.0 0	4000	
MJB-40	GR	EGR	20	21	42	23000	3.9×10 ⁻⁵	3000	0.08	1	+1.2 0	400	D64
MJB-55	GR	EGR	28	75	150	17000	1.6×10 ⁻⁴	9000	0.08	1	+1.4 0	800	
MJB-65	GR	EGR	38	200	400	14000	3.8×10 ⁻⁴	13000	0.08	1	+1.5 0	1100	
MJB-80	GR	EGR	45	405	810	11000	1.0×10 ⁻³	14000	0.08	1	+1.8 0	2300	
MJB-95	GR	EGR	50	560	1120	10000	2.3×10 ⁻³	15000	0.08	1	+2.0 0	4000	

*1 : Correction of rated torque and max. torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of **MJB** is -20°C to 60°C.

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

Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70

Part number specification

MJB-65-EWH-16-20 (1 set)

1 2 3

MJ-40 - RD-SLV (Single Sleeve)

Sleeve Symbol Outside Diameter (A Dimension) 2 Sleeve Symbol

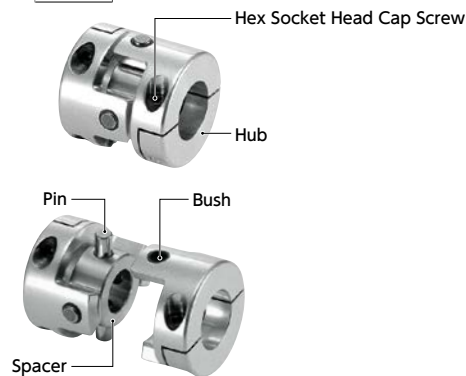
XUT Flexible Coupling - Cross joint - type

WEB Selection Tool CAD Download High Rigidity Vibration absorption

Structure

Clamping type

XUT-C → P.159



The high accuracy fitting of pin and bush allows the extremely small backlash.

For the bush of **XUT** the polyimide resin with excellent abrasion-resistance is adopted.

The backlash at the initial stage is maintained for a long period.

Recommended applicable motor

	XUT
Servomotor	○
Stepping Motor	○
General-purpose motor	△

○: Excellent ○: Very good △: Available

Property

	XUT
Zero Backlash	○
High torque	○
High Torsional Stiffness	○
Allowable Misalignment	○
Vibration absorption	○

○: Excellent ○: Very good

- This is a Cross joint-type flexible coupling.
- Slippage of the bush built in the hubs and the pins of the spacer allows eccentricity and angular misalignment to be accepted.
- The high accuracy fitting of pin and bush allows the extremely small backlash.
- The load on the shaft generated by misalignment is small and the burden on the shaft is reduced.

Application

Actuator/XY stage/Index table

Material/Finish

RoHS2 Compliant

	XUT-C
Hub	A2017*1
Spacer	SUS304
Pin	SUJ2
Bush	Polyimide
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film

*1: Manufacturing alumite treatment products is also possible.
Please feel free to contact our customer service.

Part number specification

XUT-25C-6-8

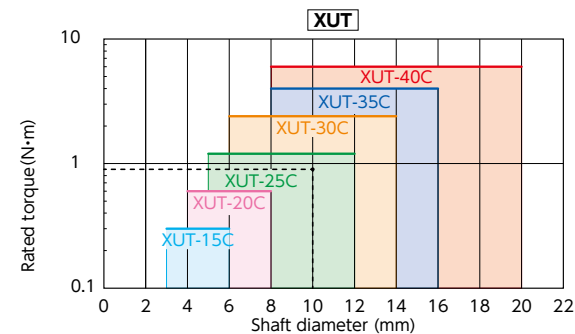
Product Code Size Bore Diameter

Please refer to dimensional table for part number specification.

Selection

Selection based on shaft diameter and rated torque

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



Selection example

In case of selected parameters of shaft diameter of ϕ 10 and load torque of 0.9 N·m, the selected size is

XUT-25C

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 maximum torque (N·m)	
10	5 - 6	0.032	0.096	XUT-15C
20	5 - 6	0.064	0.19	XUT-15C
30	5 - 7	0.096	0.29	XUT-20C
50	6 - 8	0.16	0.48	XUT-20C
100	8	0.32	0.95	XUT-25C
200	9 - 14	0.64	1.9	XUT-30C
400	14	1.3	3.8	XUT-35C
750	16 - 19	2.4	7.2	—

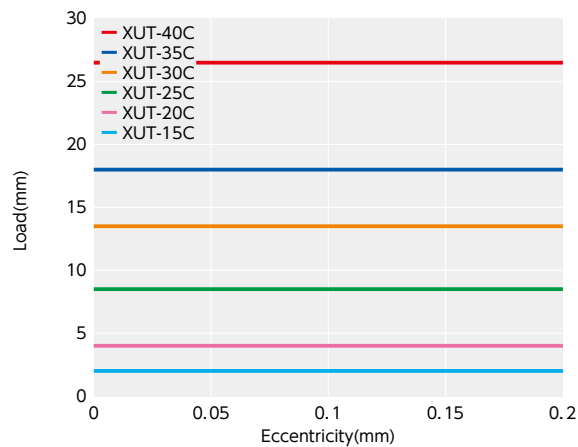
*1: Motor specifications are based on general values. For details, see the motor manufacturer's catalogs. This is the size for cases where devices such as reduction gears are not used.



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

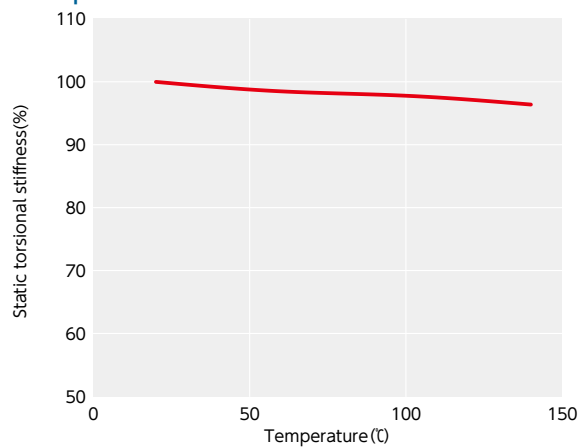
Technical Information

● Eccentric Reaction Force



XUT has small eccentric reaction force and an extremely small shaft load generated by misalignment. This reduces the load to such components as shaft bearings.

● 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%.

XUT '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.

Selection Navigator



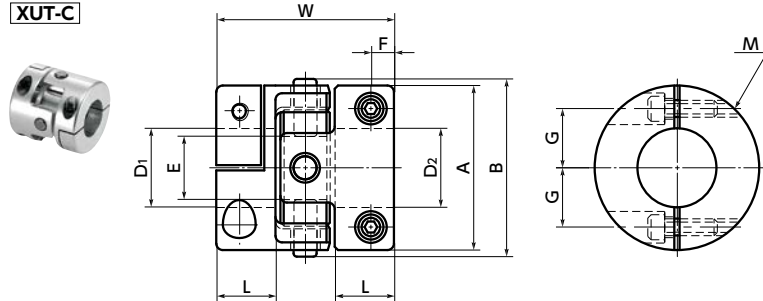
CAD Data Download

<https://www.nbk1560.com/>

XUT-C Flexible coupling - Cross joint - type - Clamping type

WEB Selection Tool WEB CAD Download High Rigidity Vibration absorption

XUT-C



Dimensions

Unit : mm

Part Number	A	B	L	W	E	F	G	M	Screw Tightening Torque (N・m)
XUT-15C	15	16	6	18	4	2.5	5.2	M2	0.5
XUT-20C	20	22	7	20	7	2.7	6.5	M2	0.5
XUT-25C	25	27	9	27	10	3.5	9	M2.5	1
XUT-30C	30	32	9.5	30	10	4	10.5	M3	1.5
XUT-35C	35	37	11.5	35	13	5	12.5	M4	2.5
XUT-40C	40	42	12.5	40	15	5.5	15	M4	2.5

Part Number	Standard Bore Diameter D1・D2													
	3	4	5	6	8	10	11	12	14	15	16	18	19	20
XUT-15C	●	●	●	●										
XUT-20C		●	●	●	●									
XUT-25C			●	●	●	●	●	●						
XUT-30C				●	●	●	●	●	●					
XUT-35C					●	●	●	●	●	●				
XUT-40C					●	●	●	●	●	●	●	●	●	●

- 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

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 (°)	Mass*2 (g)
XUT-15C	6	0.3	42000	2.3×10^{-7}	200	0.2	1	8
XUT-20C	8	0.6	31000	8.1×10^{-7}	400	0.2	1	16
XUT-25C	12	1.2	25000	2.7×10^{-6}	900	0.2	1	33
XUT-30C	14	2.4	21000	6.2×10^{-6}	1300	0.2	1	53
XUT-35C	16	4	18000	1.3×10^{-5}	2200	0.2	1	81
XUT-40C	20	6	15000	2.6×10^{-5}	2300	0.2	1	120

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

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

- Part number specification

XUT-30C-10-12

1

2

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

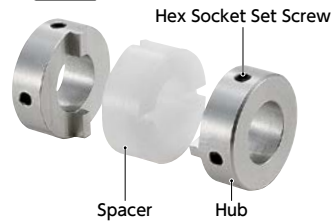
MOR Flexible coupling - Oldham - type

WEB Selection Tool CAD Download High torque Electrical Insulation High Allowable Misalignment Small Eccentric Reaction Force

Structure

• Set Screw type

MOR → P.165



• Clamping type

MOR-C → P.167



• Set Screw + Key type

MOR-K → P.169



• Clamping + Key type

MOR-CK → P.171



• Applicable motors

	MOR
Servomotor	-
Stepping Motor	○
General-purpose motor	◎

◎: Excellent ○: Very good

• Property

	MOR
High torque	◎
Allowable Misalignment	◎
Small eccentric reaction force	◎
Electrical insulation	◎
Allowable operating temperature	-20°C to 80°C

◎: Excellent ○: Very good

- This is an oldham-type flexible coupling.
- Slippage of hubs and a spacer allows large eccentricity and angular misalignment to be accepted.
- The eccentric reaction force generated by misalignment is small and the burden on the shaft is reduced.
- The simple structure allows the unit to be easily assembled.

• Application

Sputtering device / Parts feeder / Industrial sewing machine / Amusement device

• Material/Finish

RoHS2 Compliant

	MOR / MOR-C / MOR-K / MOR-CK
Hub	A2017 Alumite Treatment
Spacer	Polyacetal
Hex Socket Set Screw	SCM435 Ferrosferric oxide film
Hex Socket Head Cap Screw	SCM435 Ferrosferric oxide film

• Related Products

Oldham-type couplings with metal spacers are available.
→ P.173



• Part number specification

MOR - 20CK - 6-10

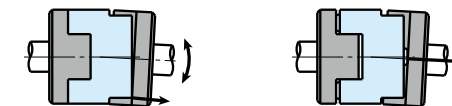
Product Code Size Bore Diameter

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
Change to Stainless Steel Screw → P.805 Available / Add'l charge

• Spacer's projection structure

Spacer's projection structure allows large angular to be effortlessly accepted. It reduces burden on the shaft.



(Without projection)

(With projection)

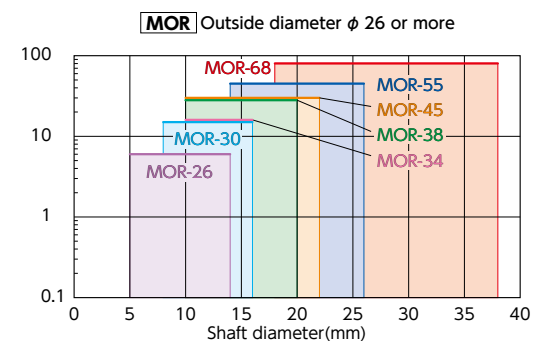
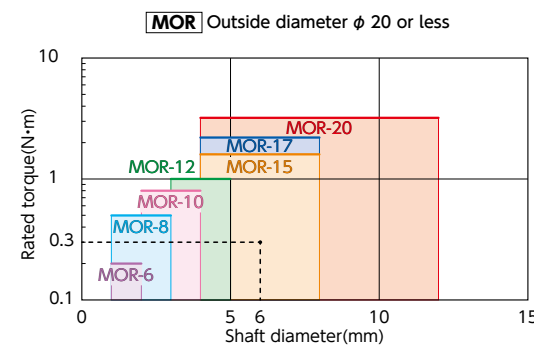
In the oldham-type coupling whose spacer has no projection, the spacer and hubs interfere with each other near outside diameter, so that the max. angular misalignment is small (1° - 1.5°) and that the bending moment arises on the shaft.

NBK's oldham type coupling allows the angular misalignment to be easily accepted since the projection serves as support. Bending moment does not arise. Therefore, the max. angular misalignment is large (3°) and the burden on the shaft is reduced.

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 6 and load torque of 0.3 N·m, the selected size is

MOR-15.

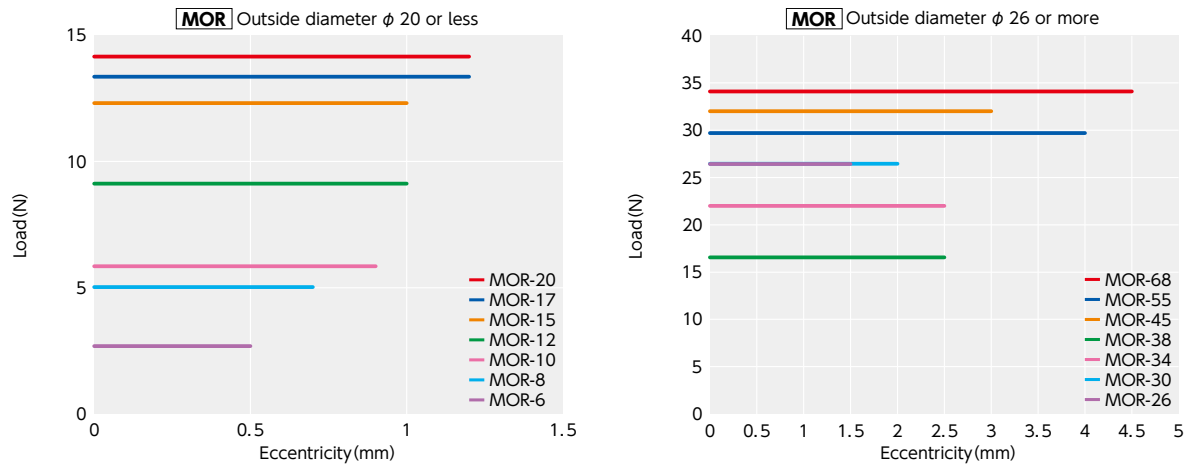


MOR Flexible coupling - Oldham - type

WEB Selection Tool CAD Download High torque Electrical Insulation High Allowable Misalignment Small Eccentric Reaction Force

Technical Information

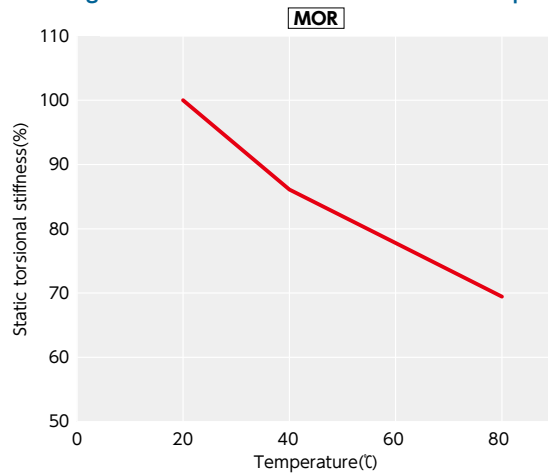
• Eccentric reaction force



These are initial slippage load values of hubs and a spacer.

After running-in operation, the slippage load becomes small, the load on the shaft due to misalignment becomes lowered, and the burden on the shaft bearing is reduced.

• 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 torsional stiffness within the range of allowable operating temperature is as shown in the graph.

Before using the unit, be aware of the deterioration of responsiveness.

• Spacer's physical property (Polyacetal)

	Test method	unit	Polyacetal
Density	ISO 1183	g/cm ³	1.36
Water Absorption (23°C, dipped for 24 hr)	ISO 62	%	0.7
Tensile strength	ISO 527 - 1, 2	N/mm ²	52
Bending Strength	ISO 178	N/mm ²	72
Charpy impact strength (with notch)	ISO 179/1eA	kJ/m ²	5.9
Deflection temperature under load(1.8 MPa)	ISO 75 - 1, 2	°C	85
Insulation breakdown strength (3 mm)	IEC 60243 - 1	kV/mm	20
Volume Resistivity	IEC 60093	Ω·cm	1×10 ¹⁴
Combustibility	UL94	—	HB

• Spacer's chemical resistance (Polyacetal)

	Effect
Weather Resistance	Slight change in color
Weak Acid Resistance	Minor effect
Strong Acid Resistance	Effect
Weak Alkali Resistance	Minor effect
Strong Alkali Resistance	Minor effect
Organic Solvent Resistance	Includes resistance

• Slip Torque

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

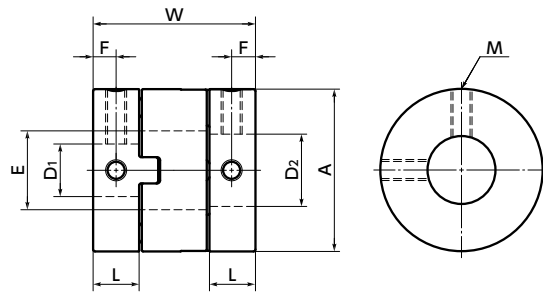
Part Number	Bore diameter																			Unit : N·m
	3	4	5	6	6.35	8	9.525	10	12	14	15	16	18	20	22	25	28	30	35	
MOR-12C	0.8	1.9	2.4																	
MOR-15C		2.3	3.5	4.8																
MOR-17C			2.7	3.6	4															
MOR-20C			3.7	4.2	4.3	5.7	6.1													
MOR-26C				4	6.4	9.3	11.8													
MOR-30C						7.5	13.6	13.9	17.2	20.4										
MOR-34C								16.5	18.6	23.3	30.9									
MOR-38C								19.4	20.2	24	30	34.1	37.8	38.8						
MOR-45C									34.5	41.8	42.6	44.5	48.4							
MOR-55C												73.2	75.9	88.1						
MOR-68C															101.5	104.3	104.9	105.4	110.5	115.4

• 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 **MOR-C** Dimension table.

MOR Flexible coupling - Oldham - type - Set screw type

WEB Selection Tool CAD Download High torque Electrical Insulation High Allowable Misalignment Small Eccentric Reaction Force

MOR



Dimensions

Unit : mm

Part Number	A	L	W	E	F	M	Screw Tightening Torque (N·m)
MOR-6	6	2.5	8.4	2.1	1.3	M2	0.3
MOR-8	8	2.5	9.6	3.1	1.3	M2	0.3
MOR-10	10	2.9	10.2	4.1	1.4	M2	0.3
MOR-12	12	3.9	14.2	5.2	2	M3	0.7
MOR-15	15	4.4	16	8.2	2.2	M3	0.7
MOR-17	17	4.9	19.8	8.2	2.5	M3	0.7
MOR-20	20	5.8	21.4	12.2	2.9	M4	1.7
MOR-26	26	7.3	25.6	14.2	3.7	M4	1.7
MOR-30	30	10	32.5	16.2	5	M4	1.7
MOR-34	34	11.1	34	16.2	5.6	M5	4
MOR-38	38	12.1	40	20.3	6.1	M5	4
MOR-45	45	13.8	46	22.3	6.9	M6	7
MOR-55	55	18.7	57	26.5	9.4	M8	15
MOR-68	68	24	77	38.5	12	M10	30

Part Number	Standard Bore Diameter D1 • D2 (dimensional allowance H8) 2																							
	1	1.5	2	3	4	5	6	6.35	8	9.525	10	12	14	15	16	18	20	22	25	28	30	35	38	
MOR-6	●	●	●																					
MOR-8	●		●	●																				
MOR-10			●	●	●																			
MOR-12				●	●	●																		
MOR-15					●	●	●	●	●															
MOR-17					●	●	●	●	●															
MOR-20					●	●	●	●	●	●	●	●												
MOR-26						●	●	●	●	●	●	●	●											
MOR-30								●	●	●	●	●	●	●	●									
MOR-34										●	●	●	●	●	●	●								
MOR-38											●	●	●	●	●	●	●	●						
MOR-45											●	●	●	●	●	●	●	●	●					
MOR-55													●	●	●	●	●	●	●	●				
MOR-68																	●	●	●	●	●	●	●	

- 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.
- A set of hubs with set screw type for one side and clamping type or other type for the other side is available upon request.

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

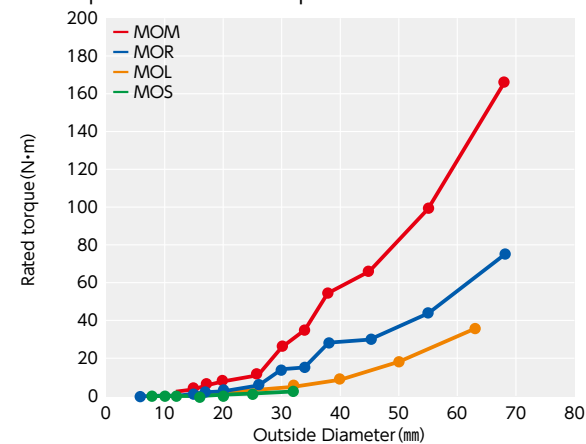
Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*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 (°)	Mass*2 (g)
MOR-6	2	0.2	0.4	100000	2.2×10^{-9}	5	0.5	3	0.4
MOR-8	3	0.5	1	78000	7.4×10^{-9}	12	0.7	3	0.8
MOR-10	4	0.8	1.6	63000	1.9×10^{-8}	23	0.9	3	1
MOR-12	5	1	2	52000	5.3×10^{-8}	60	1	3	3
MOR-15	8	1.6	3.2	42000	1.4×10^{-7}	80	1	3	4
MOR-17	8	2.2	4.4	37000	2.8×10^{-7}	120	1.2	3	7
MOR-20	12	3.2	6.4	31000	5.7×10^{-7}	120	1.2	3	9
MOR-26	14	6	12	24000	2.1×10^{-6}	300	1.5	3	20
MOR-30	16	15	30	21000	5.4×10^{-6}	530	2	3	38
MOR-34	16	16	32	18000	9.1×10^{-6}	1000	2.5	3	52
MOR-38	20	28	56	16000	1.6×10^{-5}	1500	2.5	3	69
MOR-45	22	30	60	14000	3.3×10^{-5}	2400	3	3	110
MOR-55	26	45	90	11000	1.0×10^{-4}	4100	4	3	230
MOR-68	38	80	160	9000	3.7×10^{-4}	6400	4.5	3	430

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin. If ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of MOR is -20°C to 80°C.

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

Comparison of rated torque



Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

Part number specification

MOR-20-6-12 1 set

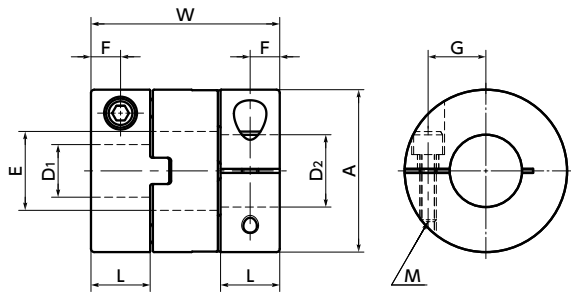
MOR - 20 - SPCR Single Spacer

Product Code Outside Diameter (A Dimension) Single Spacer

MOR-C Flexible coupling - Oldham - type - Clamping type

WEB Selection Tool
 WEB CAD Download
 High torque
 Electrical Insulation
 High Allowable Misalignment
 Small Eccentric Reaction Force

MOR-C



Dimensions

Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
MOR-12C	12	5	16.5	5.2	2.5	4	M2	0.5
MOR-15C	15	5.8	18.8	8.2	2.9	5	M2.5	1
MOR-17C	17	7.3	24.5	8.2	3.7	6	M2.5	1
MOR-20C	20	8.8	27.4	12.2	4.4	7.5	M3	1.5
MOR-26C	26	9.7	30.4	14.2	4.9	9.5	M3	1.5
MOR-30C	30	10	32.5	16.2	5	11.1	M4	2.5
MOR-34C	34	11.1	34	16.2	5.6	12.6	M4	2.5
MOR-38C	38	12.1	40	20.3	6	14.2	M5	4
MOR-45C	45	13.8	46	22.3	6.9	16	M5	4
MOR-55C	55	18.7	57	26.5	9.4	20	M6	8
MOR-68C	68	24	77	38.5	12	26	M8	16

Part Number	Standard Bore Diameter D1 • D2																		
	3	4	5	6	6.35	8	9.525	10	12	14	15	16	18	20	22	25	28	30	35
MOR-12C	●	●	●																
MOR-15C		●	●	●															
MOR-17C			●	●	●														
MOR-20C			●	●	●	●	●	●											
MOR-26C				●	●	●	●	●	●	●									
MOR-30C						●	●	●	●	●	●								
MOR-34C								●	●	●	●	●							
MOR-38C								●	●	●	●	●	●						
MOR-45C									●	●	●	●	●	●					
MOR-55C											●	●	●	●	●	●			
MOR-68C												●	●	●	●	●	●	●	●

- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with clamping type for one side and set screw type or other type for the other side is available upon request.
- 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

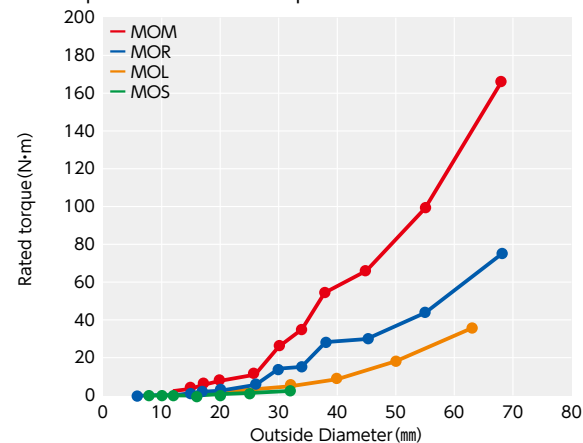
Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*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 (°)	Mass*2 (g)
MOR-12C	5	1	2	52000	6.6×10 ⁻⁸	60	1	3	3
MOR-15C	6	1.6	3.2	42000	1.7×10 ⁻⁷	80	1	3	5
MOR-17C	6.35	2.2	4.4	37000	3.8×10 ⁻⁷	120	1.2	3	9
MOR-20C	10	3.2	6.4	31000	8.0×10 ⁻⁷	120	1.2	3	13
MOR-26C	14	6	12	24000	2.5×10 ⁻⁶	300	1.5	3	24
MOR-30C	14	15	30	21000	5.3×10 ⁻⁶	530	2	3	39
MOR-34C	16	16	32	18000	8.6×10 ⁻⁶	1000	2.5	3	50
MOR-38C	20	28	56	16000	1.5×10 ⁻⁵	1500	2.5	3	67
MOR-45C	20	30	60	14000	3.2×10 ⁻⁵	2400	3	3	110
MOR-55C	25	45	90	11000	1.0×10 ⁻⁴	4100	4	3	230
MOR-68C	35	80	160	9000	3.3×10 ⁻⁴	6400	4.5	3	440

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin. If ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of **MOR-C** is -20°C to 80°C.

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

Comparison of rated torque



Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

Part number specification

MOR-55C - 18-20

1 set

1 2

MOR - 20 - SPCR

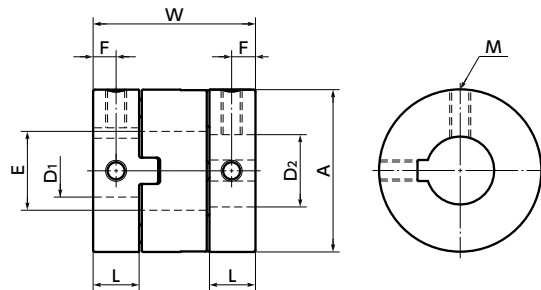
Single Spacer

Product Code Outside Diameter (A Dimension) Single Spacer

MOR-K Flexible coupling - Oldham - type - Set screw + Key type

WEB Selection Tool CAD Download High torque Electrical Insulation High Allowable Misalignment Small Eccentric Reaction Force

MOR-K



Dimensions

Unit : mm

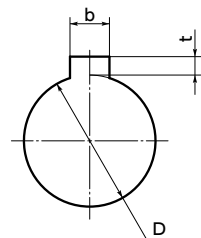
Part Number	A	L	W	E	F	M	Screw Tightening Torque (N·m)
MOR-15K	15	4.4	16	8.2	2.2	M3	0.7
MOR-17K	17	4.9	19.8	8.2	2.5	M3	0.7
MOR-20K	20	5.8	21.4	12.2	2.9	M4	1.7
MOR-26K	26	7.3	25.6	14.2	3.7	M4	1.7
MOR-30K	30	10	32.5	16.2	5	M4	1.7
MOR-34K	34	11.1	34	16.2	5.6	M5	4
MOR-38K	38	12.1	40	20.3	6.1	M5	4
MOR-45K	45	13.8	46	22.3	6.9	M6	7
MOR-55K	55	18.7	57	26.5	9.4	M8	15
MOR-68K	68	24	77	38.5	12	M10	30

Part Number	Standard Bore Diameter (dimensional allowance H8) D1 · D2 														
	6	8	10	12	14	15	16	18	20	22	25	28	30	35	38
MOR-15K	●	●													
MOR-17K	●	●													
MOR-20K	●	●	●	●											
MOR-26K	●	●	●	●	●										
MOR-30K		●	●	●	●	●	●								
MOR-34K			●	●	●	●	●								
MOR-38K			●	●	●	●	●	●	●						
MOR-45K			●	●	●	●	●	●	●	●					
MOR-55K					●	●	●	●	●	●	●				
MOR-68K								●	●	●	●	●	●	●	●

- All products are provided with hex socket set screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with key type for one side and clamping type or other type for the other side is available upon request.

Unit : mm

Details of Shaft Hole



Standard bore diameter D	Keyway				Key Nominal dimension b×h
	Standard Dimension	Allowance (JS9)	Standard Dimension	Allowance	
6	2	±0.0125	1.0	+0.1 0	2×2
8	3	±0.0125	1.4	+0.1 0	3×3
10 · 12	4	±0.0150	1.8	+0.1 0	4×4
14 · 15 · 16	5	±0.0150	2.3	+0.1 0	5×5
18 · 20 · 22	6	±0.0150	2.8	+0.1 0	6×6
25 · 28	8	±0.0180	3.3	+0.2 0	8×7
30 · 35 · 38	10	±0.0180	3.3	+0.2 0	10×8

● 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

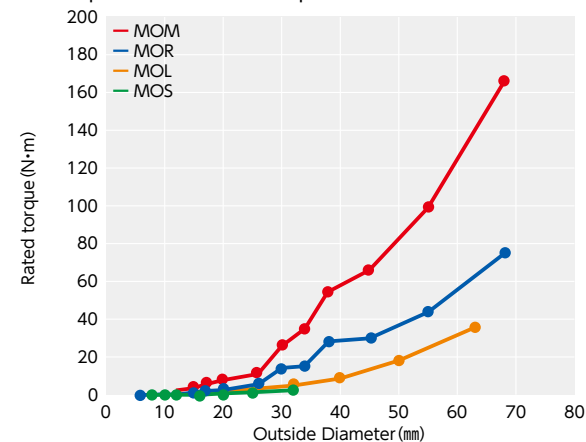
Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*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 (°)	Mass*2 (g)
MOR-15K	8	1.6	3.2	42000	1.4×10 ⁻⁷	80	1	3	4
MOR-17K	8	2.2	4.4	37000	2.8×10 ⁻⁷	120	1.2	3	7
MOR-20K	12	3.2	6.4	31000	5.6×10 ⁻⁷	120	1.2	3	8
MOR-26K	14	6	12	24000	2.0×10 ⁻⁶	300	1.5	3	19
MOR-30K	16	15	30	21000	5.4×10 ⁻⁶	530	2	3	37
MOR-34K	16	16	32	18000	9.0×10 ⁻⁶	1000	2.5	3	51
MOR-38K	20	28	56	16000	1.5×10 ⁻⁵	1500	2.5	3	68
MOR-45K	22	30	60	14000	3.2×10 ⁻⁵	2400	3	3	110
MOR-55K	26	45	90	11000	1.0×10 ⁻⁴	4100	4	3	230
MOR-68K	38	80	160	9000	3.3×10 ⁻⁴	6400	4.5	3	430

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin. If ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of **MOR-K** is -20°C to 80°C.

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

Comparison of rated torque



Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

Part number specification

MOR-26K-8-10 1 set

1 2

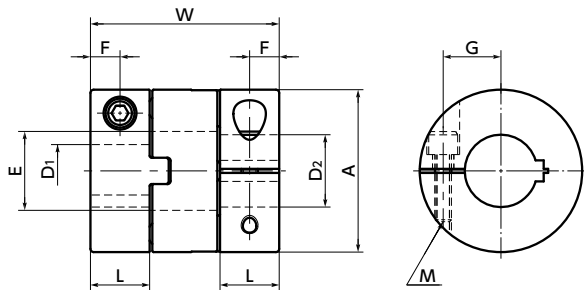
MOR - 20 - SPCR Single Spacer

Product Code Outside Diameter (A Dimension) Single Spacer

MOR-CK Flexible coupling - Oldham - type - Clamping + Key type

WEB Selection Tool CAD Download High torque Electrical Insulation High Allowable Misalignment Small Eccentric Reaction Force

MOR-CK



Dimensions

Unit : mm

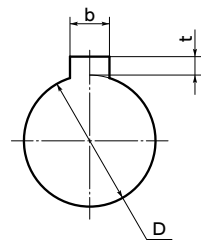
Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
MOR-15CK	15	5.8	18.8	8.2	2.9	5	M2.5	1
MOR-17CK	17	7.3	24.5	8.2	3.7	6	M2.5	1
MOR-20CK	20	8.8	27.4	12.2	4.4	7.5	M3	1.5
MOR-26CK	26	9.7	30.4	14.2	4.9	9.5	M3	1.5
MOR-30CK	30	10	32.5	16.2	5	11.1	M4	2.5
MOR-34CK	34	11.1	34	16.2	5.6	12.6	M4	2.5
MOR-38CK	38	12.1	40	20.3	6	14.2	M5	4
MOR-45CK	45	13.8	46	22.3	6.9	16	M5	4
MOR-55CK	55	18.7	57	26.5	9.4	20	M6	8
MOR-68CK	68	24	77	38.5	12	26	M8	16

Part Number	Standard Bore Diameter D1 • D2												
	6	8	10	12	14	15	16	18	20	22	25	28	30
MOR-15CK	●												
MOR-17CK	●												
MOR-20CK	●	●	●										
MOR-26CK	●	●	●	●	●								
MOR-30CK		●	●	●	●	●	●						
MOR-34CK			●	●	●	●	●	●	●				
MOR-38CK				●	●	●	●	●	●	●	●		
MOR-45CK				●	●	●	●	●	●	●	●	●	
MOR-55CK							●	●	●	●	●	●	●
MOR-68CK								●	●	●	●	●	●

- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with clamping + key type for one side and clamping type or other types for the other side is available upon request.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. ➔ P.258

Unit : mm

Details of Shaft Hole



Standard bore diameter D	Keyway				Key
	b	t	Standard Dimension	Allowance (JS9)	
6	2	±0.0125	1.0	+0.1 0	2×2
8	3	±0.0125	1.4	+0.1 0	3×3
10・12	4	±0.0150	1.8	+0.1 0	4×4
14・15・16	5	±0.0150	2.3	+0.1 0	5×5
18・20・22	6	±0.0150	2.8	+0.1 0	6×6
25・28	8	±0.0180	3.3	+0.2 0	8×7
30・35	10	±0.0180	3.3	+0.2 0	10×8

• 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

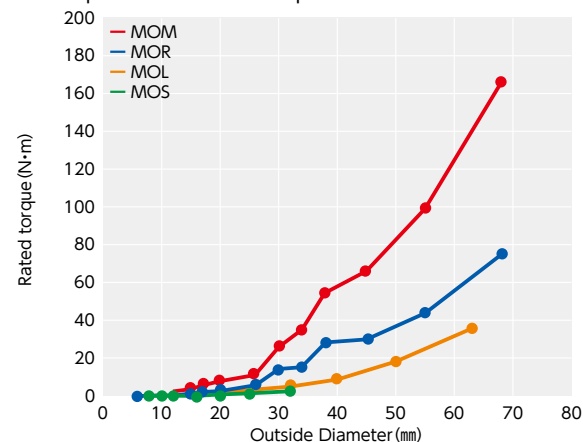
Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*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 (°)	Mass*2 (g)
MOR-15CK	6	1.6	3.2	42000	1.8×10 ⁻⁷	80	1	3	5
MOR-17CK	6.35	2.2	4.4	37000	3.8×10 ⁻⁷	120	1.2	3	9
MOR-20CK	10	3.2	6.4	31000	8.0×10 ⁻⁷	120	1.2	3	13
MOR-26CK	14	6	12	24000	2.5×10 ⁻⁶	300	1.5	3	23
MOR-30CK	14	15	30	21000	5.2×10 ⁻⁶	530	2	3	38
MOR-34CK	16	16	32	18000	8.6×10 ⁻⁶	1000	2.5	3	49
MOR-38CK	20	28	56	16000	1.5×10 ⁻⁵	1500	2.5	3	64
MOR-45CK	20	30	60	14000	3.2×10 ⁻⁵	2400	3	3	110
MOR-55CK	25	45	90	11000	1.0×10 ⁻⁴	4100	4	3	230
MOR-68CK	35	80	160	9000	3.3×10 ⁻⁴	6400	4.5	3	440

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin. If ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of **MOR** is -20°C to 80°C.

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

Comparison of rated torque



Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

Part number specification

MOR-38CK - 14-15 1 set

1 2

MOR - 20 - SPCR Single Spacer

Product Code Outside Diameter (A Dimension) Single Spacer

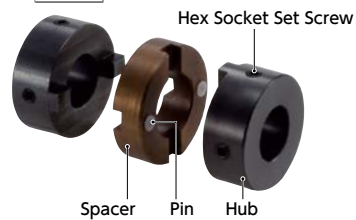
MOM Flexible coupling - Oldham - type

WEB Selection Tool WEB CAD Download High torque High Rigidity

Structure

Set Screw type

MOM → P.179



Clamping type

MOM-C → P.181



Set Screw + Key type

MOM-K → P.183



Clamping + Key type

MOM-CK → P.185



Material/Finish

RoHS2 Compliant

	MOM / MOM-C / MOM-K / MOM-CK
Hub	S45C Ferrosoferric Oxide Film (Black)
Spacer	FCD400 Ferrosoferric oxide film
Pin	Polyacetal
Hex Socket Set Screw	SCM435 Ferrosoferric oxide film
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film

Applicable motors

	MOM
Servomotor	—
Stepping Motor	—
General-purpose motor	○

○: Excellent ○: Very good

Property

	MOM
High torque	○
High Torsional Stiffness	○
Allowable Misalignment	○

○: Excellent ○: Very good

- This is an oldham-type flexible coupling.
- FCD400 is adopted in the spacer. Suitable for low-speed and high-torque specification.
- High performance grease is applied in the gap between hubs and the spacer in order to prevent sticking.
- Slippage of hubs and a spacer allows large eccentricity and angular misalignment to be accepted.
- A projection placed in the spacer (resin pin) allows angular misalignment to be effortlessly accepted.
- Long-term maintenance free. The grease accumulated in a grease hole will gradually seep out during operation, thereby maintaining the lubrication property over a long period.



Application

Mixer / Pump / Small power press / Grinder



Precautions for Use

Please apply grease periodically in order to prevent sticking of hubs and a spacer.

Part number specification

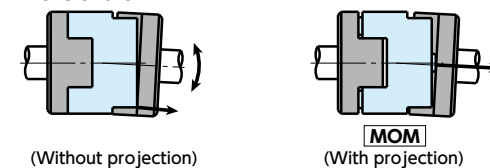
MOM-30K-12-14

Product Code Size Bore Diameter

Please refer to dimensional table for part number specification.

Spacer's projection structure

Spacer's projection structure allows large angular to be effortlessly accepted. It reduces burden on the shaft.

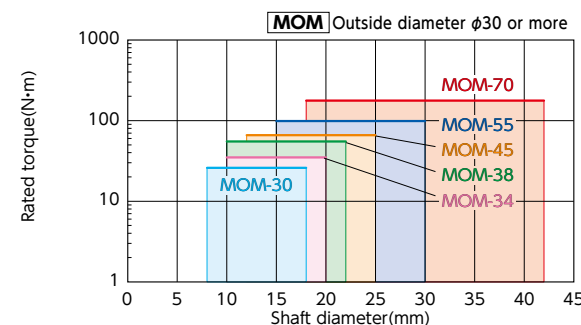
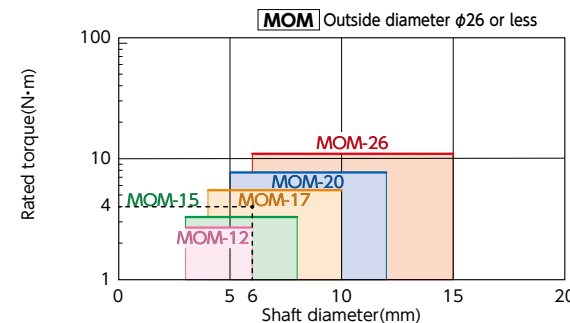


In the oldham-type coupling whose spacer has no projection, the spacer and hubs interfere with each other near outside diameter, so that the max. angular misalignment is small (1° - 1.5°) and that the bending moment arises on the shaft. NBK's oldham type coupling allows the angular misalignment to be easily accepted since the projection serves as support. Bending moment does not arise. Therefore, the max. angular misalignment is large (2°) and the burden on the shaft is reduced. **MOM** is provided with a projection by inserting a resin pin into the spacer.

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 6 and load torque of 4N·m, the selected size is

MOM-17.

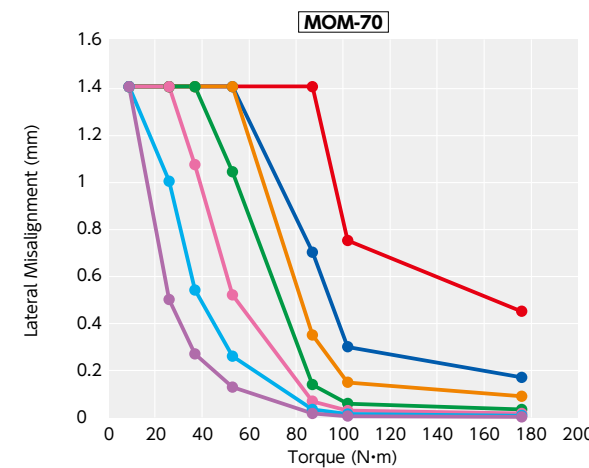
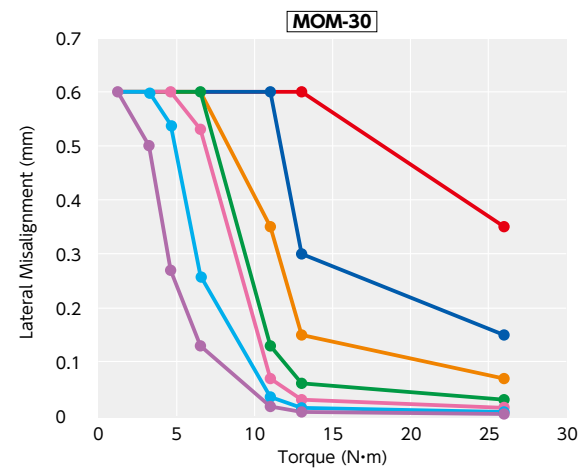
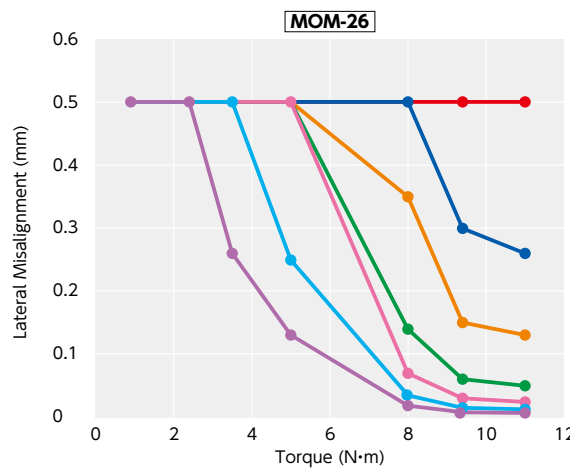
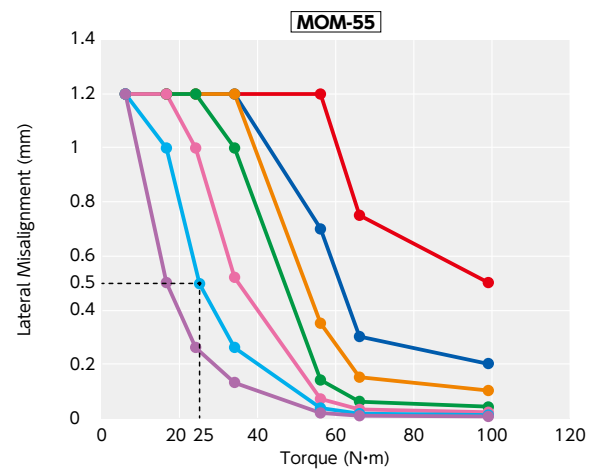
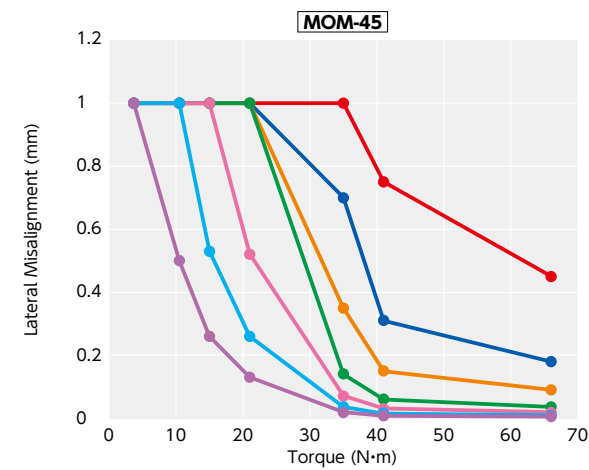
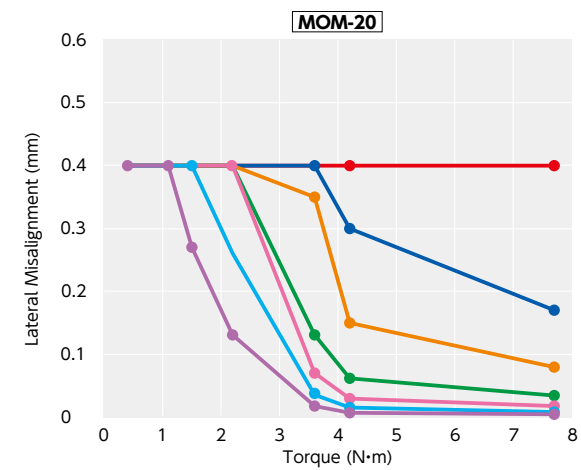
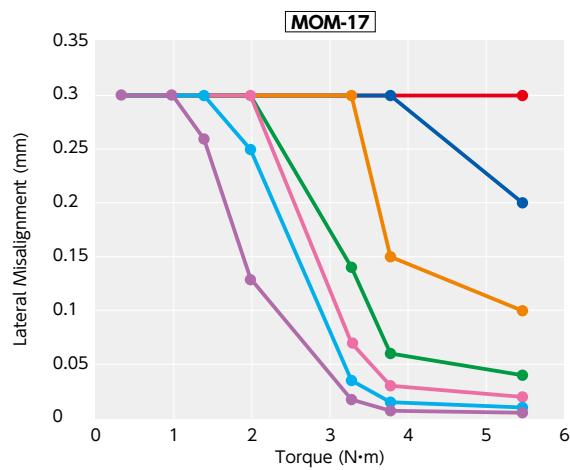
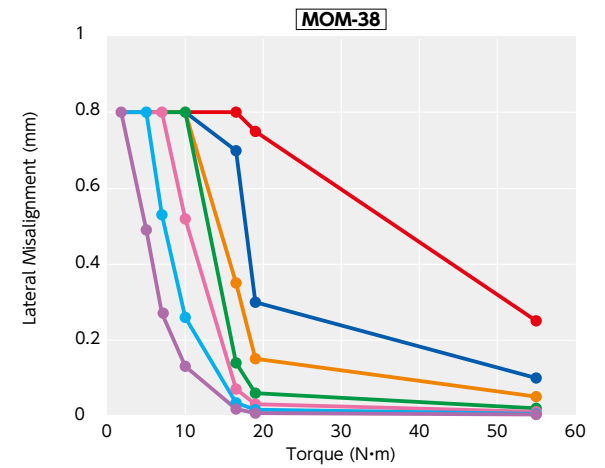
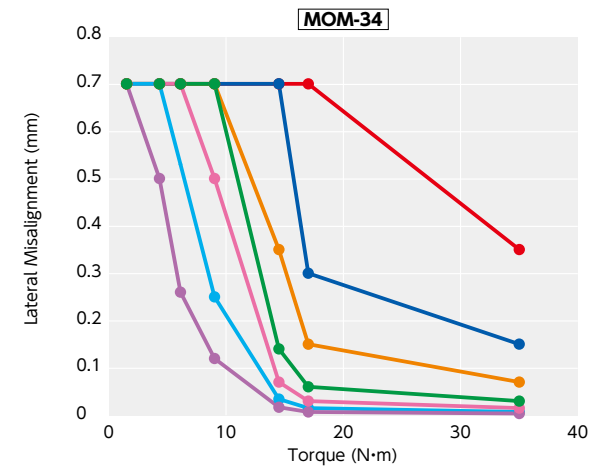
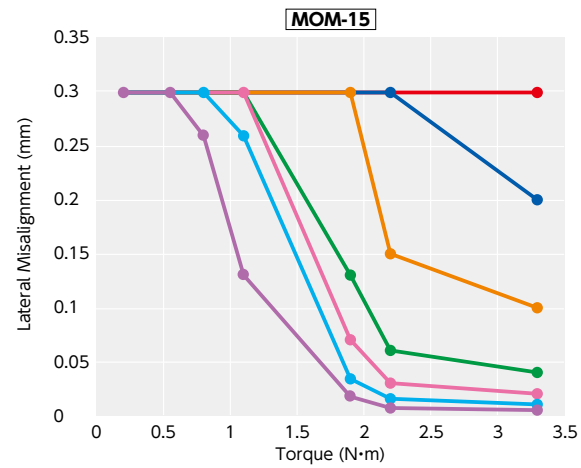
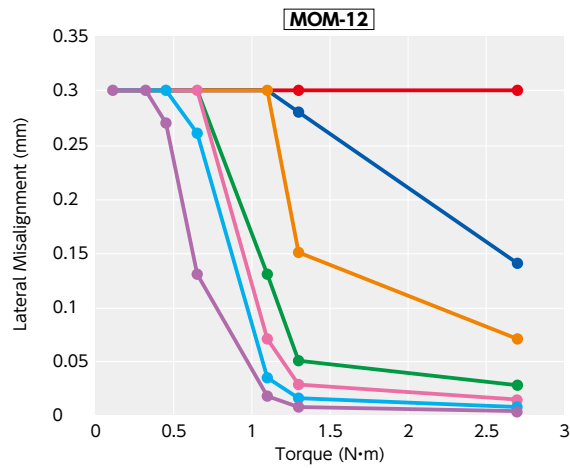


Additional Keyway at Shaft Hole → P.803 Cleanroom Wash & Packaging → P.807 Change to Stainless Steel Screw → P.805
Available / Add'l charge Available / Add'l charge Available / Add'l charge

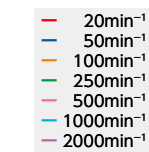
Technical Information

Max. Lateral Misalignment

MOM's max. lateral misalignment varies depending on the load torque and revolution.



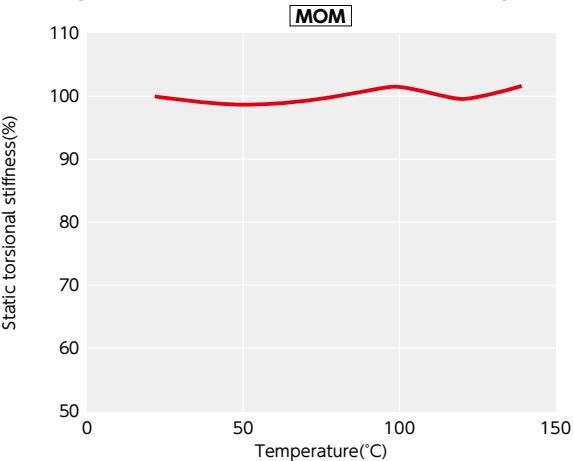
● Example
When load torque is 25 N·m and revolution is 1000 min⁻¹, the max. lateral misalignment of **MOM-55** is 0.5 mm.



MOM Flexible coupling - Oldham - type

WEB Selection Tool WEB CAD Download High torque High Rigidity

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%.
MOM'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 max. torque of MOM-C.

Part Number	Bore Diameter																	Unit : N · m	
	3	4	5	6	6.35	8	10	12	14	15	16	18	20	22	24	25	28	30	35
MOM-15C	0.3	0.5	0.8	1															
MOM-17C		2.1	3.5	3.7															
MOM-20C			3.8	6	6	6.8	7.5												
MOM-26C				5.4	5.4	5.8	6.6	8.7											
MOM-30C						7.4	12.6	14.4	15.1										
MOM-34C							13	13.2	15.8	16.1	16.8								
MOM-38C							16.4	18.4	20.9	23.1	25.1	28.3	31.6						
MOM-45C								47.9	48.9	56.1	56.8	57.5	62.8						
MOM-55C										42.9	54.1	55.3	56.2	89.3	93.4	97.5			
MOM-70C												62.6	92.9	95.5	97.6	103.9	119	122.1	130

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 MOM-C Dimension table.

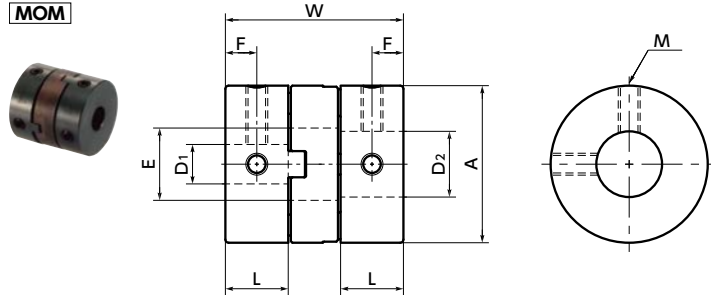


https://www.nbk1560.com/

MOM Flexible coupling - Oldham - type - Set screw type

WEB Selection Tool CAD Download High torque High Rigidity

MOM



Dimensions

Unit : mm

Part Number	A	L	W	E	F	M	Screw Tightening Torque (N·m)
MOM-12	12	5.2	15	5.9	2.6	M2.5	0.5
MOM-15	15	5.4	16.6	6.9	2.7	M3	0.7
MOM-17	17	6.7	20.4	7.3	3.35	M3	0.7
MOM-20	20	7	22	11.1	3.5	M3	0.7
MOM-26	26	9	26.6	13.3	4.5	M4	1.7
MOM-30	30	12	34	15.5	6	M4	1.7
MOM-34	34	13	35	17.5	6.5	M5	4
MOM-38	38	15	40.5	21.5	7.5	M5	4
MOM-45	45	15	45.2	24.3	7.5	M5	4
MOM-55	55	17	51	27.7	8.5	M6	7
MOM-70	70	20	58.6	38.5	10	M8	15

Part Number	Standard Bore Diameter (dimensional allowance H8)																		
	D1 • D2	3	4	5	6	6.35	8	10	12	14	15	16	18	20	22	24	25	28	30
MOM-12		●	●	●	●														
MOM-15		●	●	●	●														
MOM-17			●	●	●														
MOM-20				●	●														
MOM-26					●														
MOM-30						●													
MOM-34							●												
MOM-38								●											
MOM-45									●										
MOM-55										●									
MOM-70											●								

- 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.
- A set of hubs with set screw type for one side and clamping type for the other side is available upon request.

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

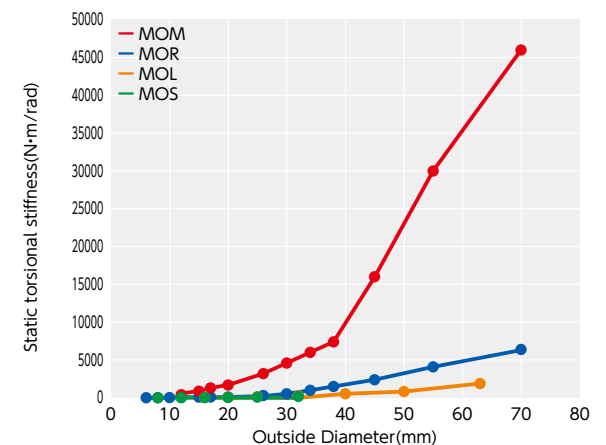
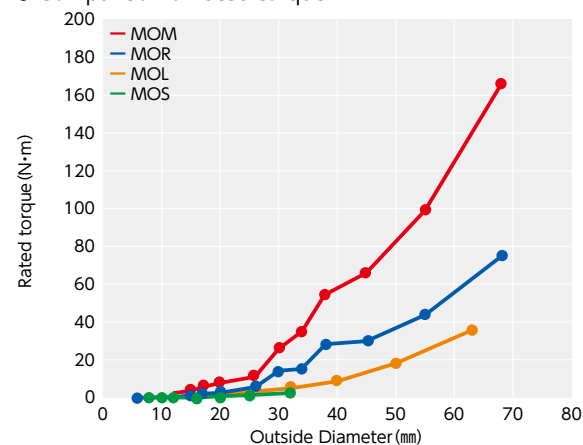
Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*1 torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. lateral*3 misalignment (mm) → P.175	Max. Angular Misalignment (°)	Mass*2 (g)
MOM-12	6	2.7	5.4	2000	2.0×10^{-7}	420	0.3	2	9
MOM-15	8	3.3	6.6	2000	5.5×10^{-7}	870	0.3	2	15
MOM-17	10	5.5	11	2000	1.1×10^{-6}	1300	0.3	2	24
MOM-20	12	7.7	15.4	2000	2.3×10^{-6}	1700	0.4	2	34
MOM-26	15	11	22	2000	8.1×10^{-6}	3200	0.5	2	72
MOM-30	18	26	52	2000	1.8×10^{-5}	4600	0.6	2	119
MOM-34	20	35	70	2000	3.1×10^{-5}	6000	0.7	2	159
MOM-38	22	55	110	2000	5.5×10^{-5}	7400	0.8	2	230
MOM-45	25	66	132	2000	1.2×10^{-4}	16000	1	2	364
MOM-55	30	99	198	2000	3.0×10^{-4}	30000	1.2	2	636
MOM-70	42	176	352	2000	8.9×10^{-4}	46000	1.4	2	1090

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin.

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

*3 : The max. lateral misalignment varies depending on the load torque and revolution. → P.175

Comparison of rated torque



Part number specification

MOM-26-6.35-10

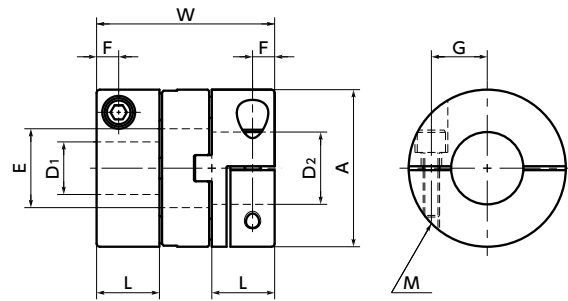
1

2

MOM-C Flexible coupling - Oldham - type - Clamping type

WEB Selection Tool CAD Download High torque High Rigidity

MOM-C



Outside Diameter: $\phi 15 - \phi 38$

Dimensions

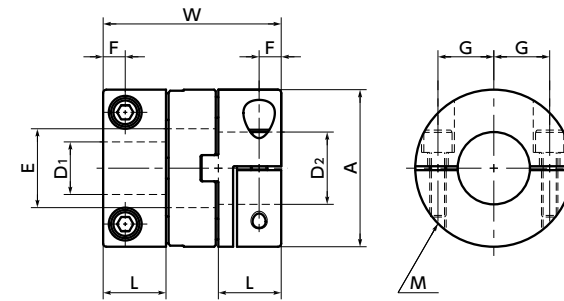
Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
MOM-15C	15	6.6	19	6.9	2.15	5.2	M1.6	0.25
MOM-17C	17	9	25	7.3	2.65	5.5	M2	0.5
MOM-20C	20	10	28	11.1	3.25	7.25	M2.5	1
MOM-26C	26	11.5	31.6	13.3	4	9	M3	1.5
MOM-30C	30	12	34	15.5	4	11	M3	1.5
MOM-34C	34	13	35	17.5	4.5	12	M4	3.5
MOM-38C	38	15	40.5	21.5	4.75	14	M4	3.5
MOM-45C	45	16.2	47.6	24.3	6.2	16	M5	8
MOM-55C	55	20.8	58.6	27.7	7.9	20	M6	13
MOM-70C	70	25	68.6	38.5	8.9	26	M6	13

Part Number	Standard Bore Diameter																
	D1 • D2	3	4	5	6	6.35	8	10	12	14	15	16	18	20	22	24	25
MOM-15C		●	●	●	●												
MOM-17C			●	●	●												
MOM-20C				●	●	●	●	●									
MOM-26C					●	●	●	●	●	●							
MOM-30C						●	●	●	●	●	●						
MOM-34C							●	●	●	●	●	●					
MOM-38C								●	●	●	●	●	●	●			
MOM-45C									●	●	●	●	●	●	●		
MOM-55C											●	●	●	●	●	●	
MOM-70C													●	●	●	●	●

- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with clamping type for one side and set screw type or other type for the other side is available upon request.
- 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



Outside Diameter: $\phi 45 - \phi 70$

Performance

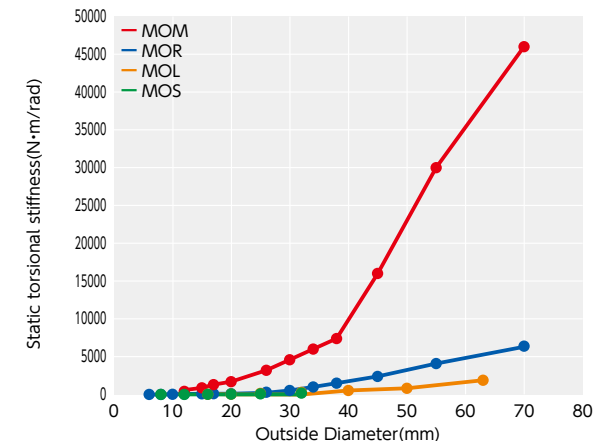
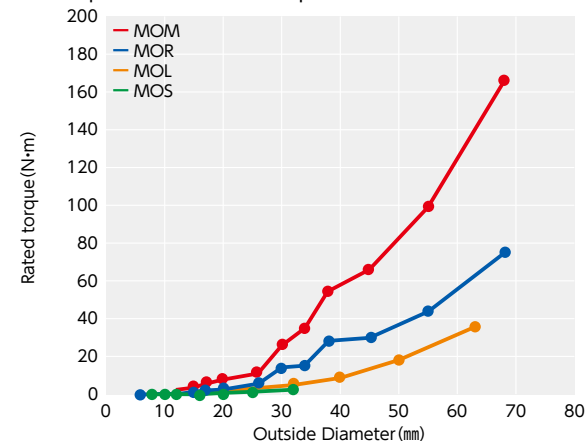
Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*1 torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. Lateral*3 Misalignment (mm) → P.175	Max. Angular Misalignment (°)	Mass*2 (g)
MOM-15C	6	3.3	6.6	2000	6.2×10^{-7}	870	0.3	2	19
MOM-17C	6.35	5.5	11	2000	1.4×10^{-6}	1300	0.3	2	34
MOM-20C	10	7.7	15.4	2000	3.0×10^{-6}	1700	0.4	2	47
MOM-26C	12	11	22	2000	9.6×10^{-6}	3200	0.5	2	92
MOM-30C	14	26	52	2000	1.8×10^{-5}	4600	0.6	2	131
MOM-34C	16	35	70	2000	3.1×10^{-5}	6000	0.7	2	173
MOM-38C	20	55	110	2000	5.5×10^{-5}	7400	0.8	2	235
MOM-45C	22	66	132	2000	1.2×10^{-4}	16000	1	2	387
MOM-55C	25	99	198	2000	3.4×10^{-4}	30000	1.2	2	752
MOM-70C	35	176	352	2000	1.0×10^{-3}	46000	1.4	2	1370

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin.

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

*3 : The max. lateral misalignment varies depending on the load torque and revolution. → P.175

Comparison of rated torque



Part number specification

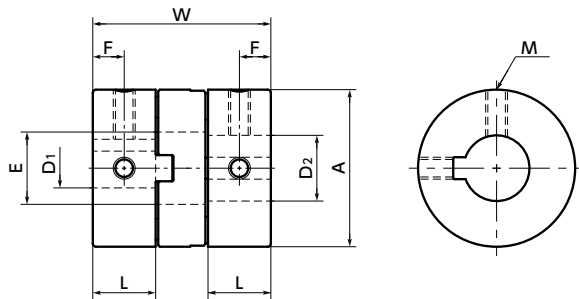
MOM-55C-15-16

1 2

MOM-K Flexible coupling - Oldham - type - Set screw + Key type

WEB Selection Tool WEB CAD Download High torque High Rigidity

MOM-K



Dimensions

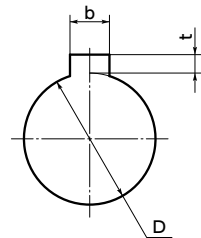
Unit : mm

Part Number	A	L	W	E	F	M	Screw Tightening Torque (N·m)
MOM-15K	15	5.4	16.6	6.9	2.7	M3	0.7
MOM-17K	17	6.7	20.4	7.3	3.35	M3	0.7
MOM-20K	20	7	22	11.1	3.5	M3	0.7
MOM-26K	26	9	26.6	13.3	4.5	M4	1.7
MOM-30K	30	12	34	15.5	6	M4	1.7
MOM-34K	34	13	35	17.5	6.5	M5	4
MOM-38K	38	15	40.5	21.5	7.5	M5	4
MOM-45K	45	15	45.2	24.3	7.5	M5	4
MOM-55K	55	17	51	27.7	8.5	M6	7
MOM-70K	70	20	58.6	38.5	10	M8	15

Part Number	Standard Bore Diameter (dimensional allowance H8)																
	D1 · D2 	6	6.35	8	10	12	14	15	16	18	20	22	24	25	28	30	35
MOM-15K		●															
MOM-17K		●		●													
MOM-20K		●	●	●	●												
MOM-26K		●	●	●	●	●											
MOM-30K				●	●	●	●	●									
MOM-34K					●	●	●	●	●								
MOM-38K					●	●	●	●	●	●	●						
MOM-45K						●	●	●	●	●	●	●					
MOM-55K								●	●	●	●	●	●	●	●	●	
MOM-70K										●	●	●	●	●	●	●	●

- All products are provided with hex socket set screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with key type for one side and clamping type or other type for the other side is available upon request.

Details of Shaft Hole



Standard bore diameter D	Keyway				Key Nominal dimension b×h
	b Standard Dimension	Allowance (JS9)	t Standard Dimension	Allowance	
6 · 6.35	2	±0.0125	1.0	+0.1 0	2×2
8	3	±0.0125	1.4	+0.1 0	3×3
10 · 12	4	±0.0150	1.8	+0.1 0	4×4
14 · 15 · 16	5	±0.0150	2.3	+0.1 0	5×5
18 · 20 · 22	6	±0.0150	2.8	+0.1 0	6×6
24 · 25 · 28 · 30	8	±0.0180	3.3	+0.2 0	8×7
35	10	±0.0180	3.3	+0.2 0	10×8

● 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

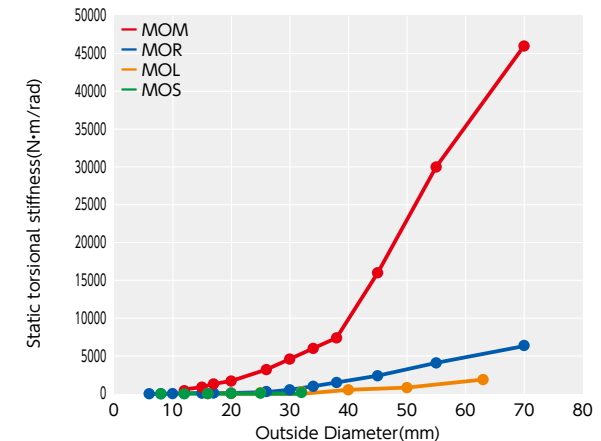
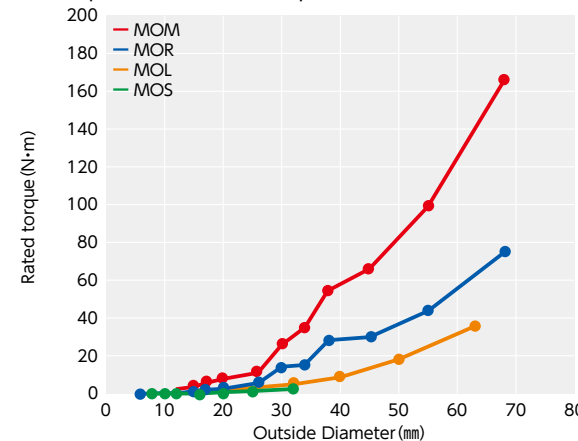
Available / Add'l charge

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*1 torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. lateral*3 misalignment (mm) → P.175	Max. Angular Misalignment (°)	Mass*2 (g)
MOM-15K	7	3.3	6.6	2000	5.7×10 ⁻⁷	870	0.3	2	17
MOM-17K	8	5.5	11	2000	1.1×10 ⁻⁶	1300	0.3	2	26
MOM-20K	10	7.7	15.4	2000	2.4×10 ⁻⁶	1700	0.4	2	37
MOM-26K	12	11	22	2000	8.4×10 ⁻⁶	3200	0.5	2	78
MOM-30K	15	26	52	2000	1.8×10 ⁻⁵	4600	0.6	2	130
MOM-34K	16	35	70	2000	3.2×10 ⁻⁵	6000	0.7	2	178
MOM-38K	20	55	110	2000	5.7×10 ⁻⁵	7400	0.8	2	241
MOM-45K	22	66	132	2000	1.2×10 ⁻⁴	16000	1	2	384
MOM-55K	28	99	198	2000	3.1×10 ⁻⁴	30000	1.2	2	650
MOM-70K	35	176	352	2000	9.3×10 ⁻⁴	46000	1.4	2	1200

- *1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin.
- *2 : These are values with max. bore diameter.
- *3 : The max. lateral misalignment varies depending on the load torque and revolution. → P.175

Comparison of rated torque



Part number specification

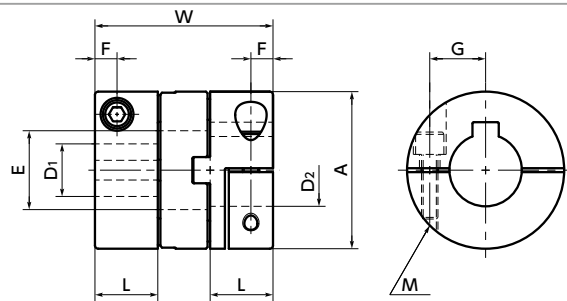
MOM-15K-6-6

1 2

MOM-CK Flexible coupling - Oldham - type - Clamping + Key type

WEB Selection Tool WEB CAD Download High torque High Rigidity

MOM-CK



Outside Diameter: $\phi 15 - \phi 38$

Unit : mm

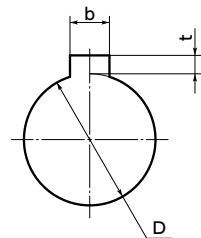
Dimensions

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
MOM-15CK	15	6.6	19	6.9	2.15	5.2	M1.6	0.25
MOM-17CK	17	9	25	7.3	2.65	5.5	M2	0.5
MOM-20CK	20	10	28	11.1	3.25	7.25	M2.5	1
MOM-26CK	26	11.5	31.6	13.3	4	9	M3	1.5
MOM-30CK	30	12	34	15.5	4	11	M3	1.5
MOM-34CK	34	13	35	17.5	4.5	12	M4	3.5
MOM-38CK	38	15	40.5	21.5	4.75	14	M4	3.5
MOM-45CK	45	16.2	47.6	24.3	6.2	16	M5	8
MOM-55CK	55	20.8	58.6	27.7	7.9	20	M6	13
MOM-70CK	70	25	68.6	38.5	8.9	26	M6	13

Part Number	Standard Bore Diameter D1 • D2 															
	6	6.35	8	10	12	14	15	16	18	20	22	24	25	28	30	35
MOM-15CK	●															
MOM-17CK	●															
MOM-20CK	●	●	●	●												
MOM-26CK	●	●	●	●	●											
MOM-30CK			●	●	●	●										
MOM-34CK				●	●	●	●	●								
MOM-38CK				●	●	●	●	●	●	●						
MOM-45CK					●	●	●	●	●	●	●					
MOM-55CK							●	●	●	●	●	●	●			
MOM-70CK									●	●	●	●	●	●	●	●

- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with clamping + key type for one side and clamping type or other type for the other side is available upon request.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.258

Details of Shaft Hole



Standard bore diameter D	Keyway				Key
	b	t	Standard Dimension	Allowance	
6 · 6.35	2	±0.0125	1.0	+0.1 0	2×2
8	3	±0.0125	1.4	+0.1 0	3×3
10 · 12	4	±0.0150	1.8	+0.1 0	4×4
14 · 15 · 16	5	±0.0150	2.3	+0.1 0	5×5
18 · 20 · 22	6	±0.0150	2.8	+0.1 0	6×6
24 · 25 · 28 · 30	8	±0.0180	3.3	+0.2 0	8×7
35	10	±0.0180	3.3	+0.2 0	10×8

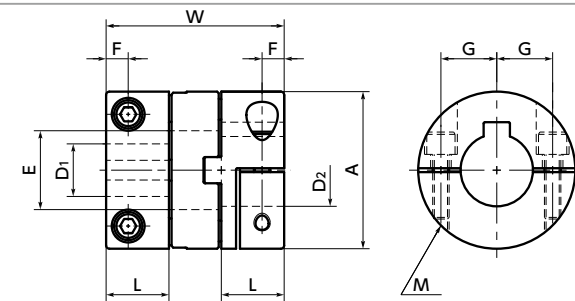
● Excerpt from JIS B 1301

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



Outside Diameter: $\phi 45 - \phi 70$

Performance

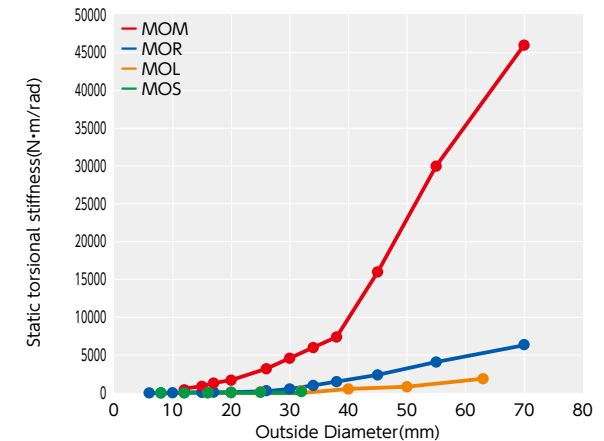
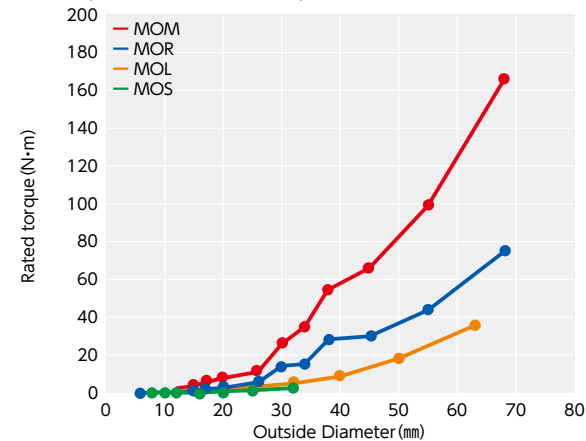
Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*1 torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment*2 of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. lateral*3 misalignment (mm) → P.175	Max. Angular Misalignment (°)	Mass*2 (g)
MOM-15CK	6	3.3	6.6	2000	6.1×10^{-7}	870	0.3	2	18
MOM-17CK	6.35	5.5	11	2000	1.4×10^{-6}	1300	0.3	2	33
MOM-20CK	10	7.7	15.4	2000	2.9×10^{-6}	1700	0.4	2	45
MOM-26CK	12	11	22	2000	9.5×10^{-6}	3200	0.5	2	90
MOM-30CK	14	26	52	2000	1.8×10^{-5}	4600	0.6	2	128
MOM-34CK	16	35	70	2000	3.0×10^{-5}	6000	0.7	2	170
MOM-38CK	20	55	110	2000	5.4×10^{-5}	7400	0.8	2	231
MOM-45CK	22	66	132	2000	1.2×10^{-4}	16000	1	2	383
MOM-55CK	25	99	198	2000	3.4×10^{-4}	30000	1.2	2	743
MOM-70CK	35	176	352	2000	1.0×10^{-3}	46000	1.4	2	1350

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin.

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

*3 : The max. lateral misalignment varies depending on the load torque and revolution. → P.175

Comparison of rated torque



Part number specification

MOM-38CK - 16-18

1

2

MOL/MOS Flexible coupling - Oldham - type

WEB Selection Tool CAD Download High Allowable Misalignment Small Eccentric Reaction Force

Structure

Set Screw type

MOL Outside diameter $\phi 16 - \phi 32 \rightarrow$ P.189

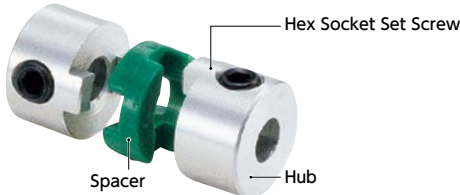
Hex Socket Set Screw



MOL Outside diameter $\phi 40 - \phi 63$

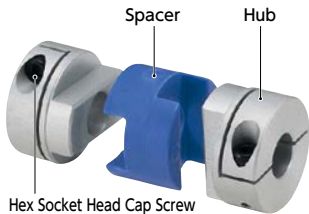


MOS $\rightarrow$ P.191



Clamping type

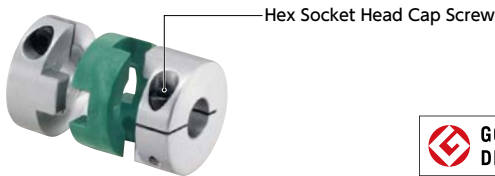
MOL-C Outside diameter $\phi 16 - \phi 32 \rightarrow$ P.189



MOL-C Outside diameter $\phi 40 - \phi 63$



MOS-C $\rightarrow$ P.191



Applicable motors

	MOL	MOS
Servomotor	—	—
Stepping Motor	○	○
General-purpose motor	◎	◎

◎: Excellent ○: Very good

Property

	MOL	MOS
Allowable Misalignment	◎	◎
Electrical insulation	◎	◎
Allowable operating temperature	-20°C to 80°C	-20°C to 80°C

◎: Excellent ○: Very good

- This is an oldham-type flexible coupling.
- Slippage of hubs and a spacer allows large eccentricity and angular misalignment to be accepted.
- The load on the shaft generated by misalignment is small and the burden on the shaft is reduced.
- It has electrical insulation.
- Standard type **MOL** and short type **MOS** are available.

Application

Parts feeder/Transport device

Material/Finish

RoHS2 Compliant

	MOL / MOL-C / MOS / MOS-C
Hub	A2017 Alumite Treatment
Spacer	Polyacetal
Hex Socket Set Screw	SCM435 Ferrosferric oxide film
Hex Socket Head Cap Screw	SCM435 Ferrosferric oxide film

Related Products

Oldham-type coupling with high torque specification **MOR** is available.

$\rightarrow$ P.161



Oldham-type couplings **MOM** with metal spacers are available.

$\rightarrow$ P.173



Part number specification

MOL-20C-6-8

Product Code Size Bore Diameter

Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole $\rightarrow$ P.803

Available / Add'l charge

Cleanroom Wash & Packaging $\rightarrow$ P.807

Available / Add'l charge

Change to Stainless Steel Screw $\rightarrow$ P.805

Available / Add'l charge

Selection Navigator

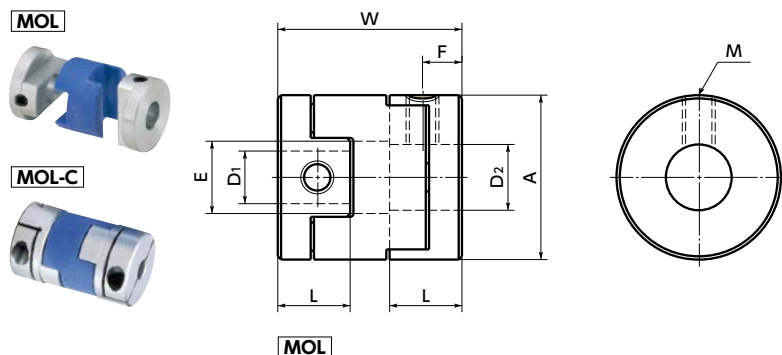


CAD Data Download

<https://www.nbk1560.com/>

MOL/MOL-C Flexible coupling - Oldham - type - Set screw type/Clamping type

WEB Selection Tool CAD Download High Allowable Misalignment Small Eccentric Reaction Force



Dimensions

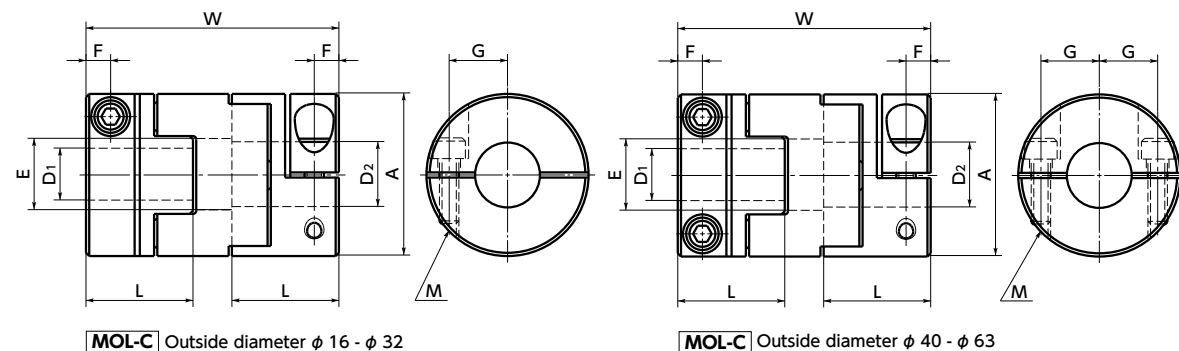
Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
MOL-16	16	7	18	7	3.5		M3	0.7
MOL-20	20	9	23	9	4.5		M4	1.7
MOL-25	25	11	28.2	11	5.5		M5	4
MOL-32	32	12.7	32.7	14.5	6.5		M6	7
MOL-40	40	14	32	17	7		M6	7
MOL-50	50	17	38.2	23	8.5		M8	15
MOL-63	63	21	46.6	28	10.5		M10	30
MOL-16C	16	12.5	29	7	3	5	M2.5	1
MOL-20C	20	14.4	33.8	9	3	6.5	M2.5	1
MOL-25C	25	16.5	39.2	11	3.8	9	M3	1.5
MOL-32C	32	18.7	44.7	14.5	4.5	11	M4	2.5
MOL-40C	40	23	50	17	7	13	M5	4
MOL-50C	50	27	58.2	23	8	16	M6	8
MOL-63C	63	33	70.6	28	10	21	M8	16

Part Number	Standard Bore Diameter D1 • D2 															
	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	18	20	25
MOL-16	●	●	●	●	●											
MOL-20		●	●	●	●	●										
MOL-25			●	●	●	●	●	●								
MOL-32						●		●		●	●					
MOL-40								●		●	●	●	●			
MOL-50											●	●	●	●	●	
MOL-63													●	●	●	●
MOL-16C			●	●												
MOL-20C				●	●	●										
MOL-25C					●	●		●								
MOL-32C						●		●	●	●	●					
MOL-40C										●	●	●	●			
MOL-50C													●	●	●	
MOL-63C														●	●	●

- All products are provided with hex socket set screw **MOL** or hex socket head cap screw **MOL-C**.
- The dimensional allowance for bore diameter of a set screw type **MOL** is H8.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- A set of hubs with set screw type for one side and clamping type for the other side is available upon request.
- 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



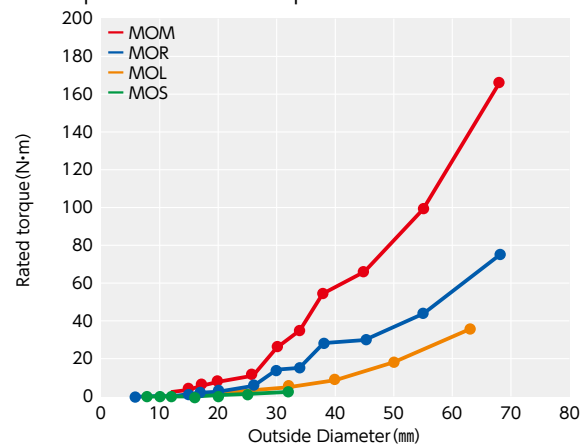
Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*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 (°)	Mass*2 (g)
MOL-16	6.35	0.7	1.4	39000	3.2×10 ⁻⁷	31	1	3	7
MOL-20	8	1.2	2.4	31000	1.0×10 ⁻⁶	60	1.5	3	14
MOL-25	10	2	4	25000	3.0×10 ⁻⁶	140	2	3	27
MOL-32	14	4.5	9	19000	9.5×10 ⁻⁶	280	2.5	3	50
MOL-40	16	9	18	15000	2.3×10 ⁻⁵	540	3	3	80
MOL-50	20	18	36	12000	6.7×10 ⁻⁵	820	3.5	3	150
MOL-63	25	36	72	10000	2.2×10 ⁻⁴	1900	4	3	300
MOL-16C	6	0.7	1.4	39000	5.8×10 ⁻⁷	31	1	3	12
MOL-20C	8	1.2	2.4	31000	1.5×10 ⁻⁶	60	1.5	3	19
MOL-25C	10	2	4	25000	4.4×10 ⁻⁶	140	2	3	36
MOL-32C	14	4.5	9	19000	1.4×10 ⁻⁵	280	2.5	3	69
MOL-40C	16	9	18	15000	4.1×10 ⁻⁵	540	3	3	130
MOL-50C	20	18	36	12000	1.2×10 ⁻⁴	820	3.5	3	230
MOL-63C	25	36	72	10000	3.7×10 ⁻⁴	1900	4	3	450

*1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin. If ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of **MOL** **MOL-C** is -20°C to 80°C.

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

Comparison of rated torque



Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

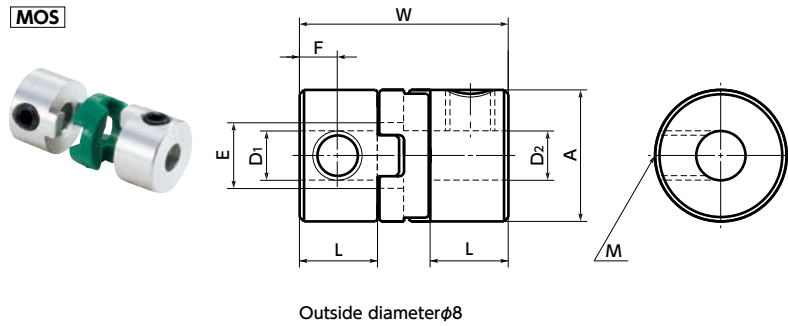
Part number specification

MOL-40C-14-15 1 set
MOL - 40 - SPCR Single Spacer
 Product Code Outside Diameter (A Dimension) Single Spacer

MOS/MOS-C Flexible coupling - Oldham - type - Set screw type/Clamping type

WEB Selection Tool CAD Download High Allowable Misalignment Small Eccentric Reaction Force

MOS



Outside diameterφ8

Dimensions

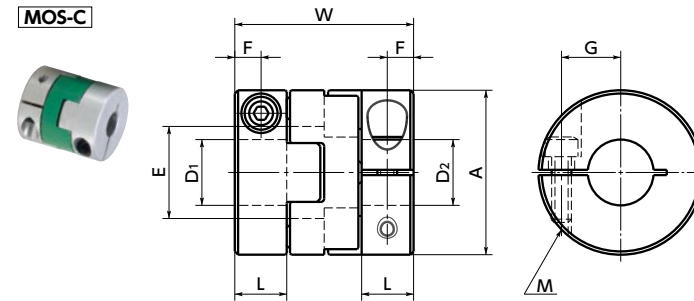
Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
MOS-8	8	4.8	12.7	4	2.3		M3	0.7
MOS-12C	12	5	14.9	6	2.5	4	M2	0.5
MOS-16C	16	7	21	8	3.5	5	M2.5	1
MOS-20C	20	7	22.1	10	3.5	6.5	M2.5	1
MOS-25C	25	8	27.2	14	4	9	M3	1.5
MOS-32C	32	10	33.3	18	5	11	M4	2.5

Part Number	Standard Bore Diameter D1・D2													
	1	2	2.5	3	4	5	6	6.35	7	8	10	11	12	14
MOS-8	●	●	●	●										
MOS-12C				●	●	●								
MOS-16C				●	●	●	●							
MOS-20C						●	●	●	●	●				
MOS-25C							●	●	●	●	●			
MOS-32C								●		●	●	●	●	●

- All products are provided with hex socket set screw (**MOS-8**) or hex socket head cap screw (**MOS-C**)
- The dimensional allowance for bore diameter of **MOS-8** is H8.
- 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

MOS-C



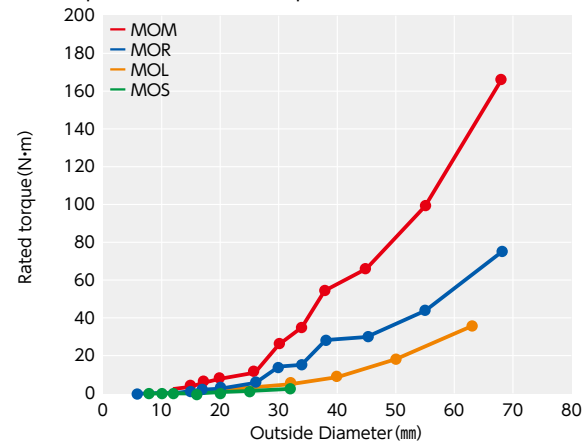
Outside diameterφ12 - φ32

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*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 (°)	Mass*2 (g)
MOS-8	3	0.08	0.16	78000	1.2×10 ⁻⁸	2	0.5	2	2
MOS-12C	5	0.2	0.4	52000	7.1×10 ⁻⁸	9	0.6	2	3
MOS-16C	6	0.4	0.8	39000	3.0×10 ⁻⁷	30	1	2	8
MOS-20C	8	0.7	1.4	31000	7.4×10 ⁻⁷	47	1.3	2	13
MOS-25C	10	1.2	2.4	25000	2.2×10 ⁻⁶	85	1.5	2	24
MOS-32C	14	2.8	5.6	19000	7.3×10 ⁻⁶	190	2	2	48

- *1 : Values with no load fluctuation and rotation in a single direction. If there is large load fluctuation, or both normal and reverse rotation, select a size with some margin. If ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of **MOS** **MOS-C** is -20°C to 80°C.
- *2 : These are values with max. bore diameter.

● Comparison of rated torque



● Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
-20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70
60°C to 80°C	0.55

● Part number specification

MOS-20C-6.35-8 1 set

MOS - 40 - SPCR Single Spacer

Product Code Outside Diameter (A Dimension) Single Spacer

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

MBB Flexible Couplings - Bellows Type

WEB Selection Tool CAD Download 0 Zero Backlash High torque High Rigidity

Structure

Clamping Type

MBB-C Aluminum alloy hub

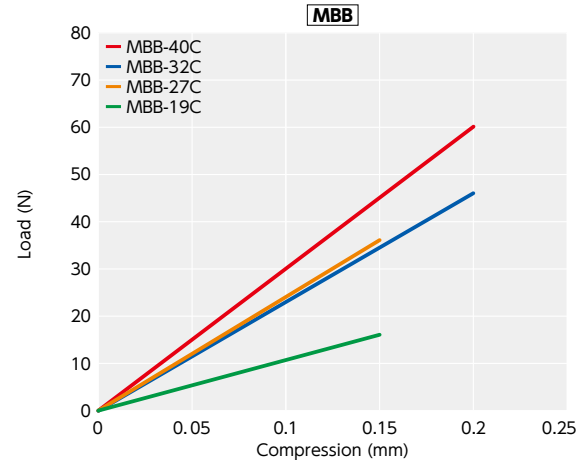


Material/Finish

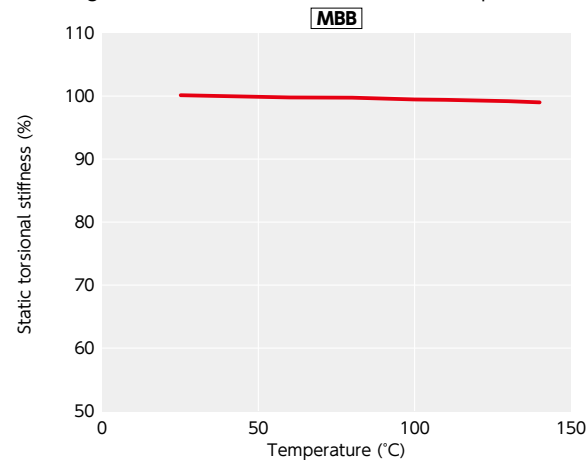
RoHS2 Compliant

	MBB
Hub	A2017 Alumite Treatment
Bellows	SUS304
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film (Black)

Eccentric Reaction Force



Change in static torsional stiffness due to temperature



Applicable motors

	MBB
Servomotor	○
Stepping Motor	○
General-purpose Motor	-

○: Excellent ○: Very good

Property

	MBB
Zero Backlash	○
Allowable Misalignment	○

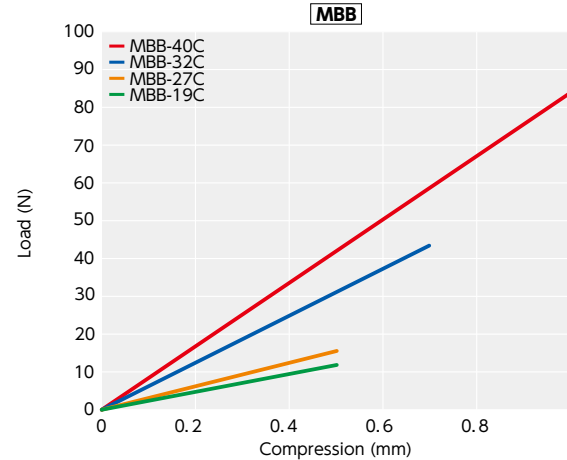
○: Excellent ○: Very good

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

Application

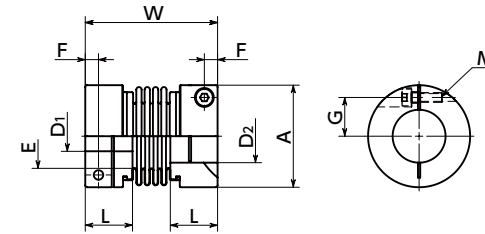
Actuator / High precision XY stage / Semiconductor devices / Encoder

Thrust Reaction Force



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

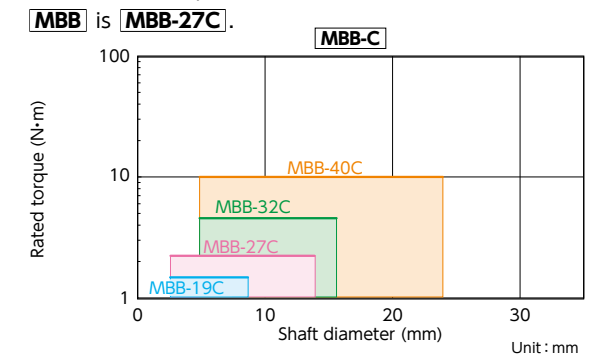
The change of **MBB** in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. If the unit is used under higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.



Selection

Selection Example

In case of selected parameters of shaft diameter of $\phi 10$ 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	WrenchTorque(N·m)
MBB-19C	3 - 8	19	10.5	30	12	3	6.75	M2	0.5
MBB-27C	3 - 14	27	12.5	35	17	3.5	10.25	M2.5	0.9
MBB-32C	5 - 16	32	15.5	46	22	4.25	12	M3	1.5
MBB-40C	5 - 20	40	16	51	28	5	15	M4	3.5
	22 - 24							M3	1.5

Part Number	Standard Bore Diameter D1·D2												
	3	4	5	6	8	10	12	14	15	16	17	19	20
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				●	●	●	●			●		●	●

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**.

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.803 Cleanroom Wash & Packaging → P.807 Change to Stainless Steel Screw → P.805

Please feel free to contact us

Not Available

Please feel free to contact us

MFB Flexible Coupling - Bellows - type

WEB Selection Tool CAD Download 0 Zero Backlash SUS Stainless steel

Structure

- Set Screw type

MFB Aluminum alloy hub → P.199



MFBS Made of all stainless steel → P.199



- Clamping type

MFB-C Aluminum alloy hub → P.199



MFBS-C Made of all stainless steel → P.199



- Recommended applicable motor

	MFB	MFBS
Servomotor	—	—
Stepping motor	○	○
General-purpose motor	—	—

○: Excellent ○: Very good △: Available

- Property

	MFB	MFBS
Zero Backlash	○	○
Allowable Misalignment	○	○
Corrosion Resistance (All S.S.)	—	○

○: Excellent ○: Very good

- This is a bellows type flexible coupling.
- The bellows allow the eccentricity, and angular misalignment, and end-play.
- Even if there is misalignment, the constant revolution is performed.
- There are two types of bellows: phosphor bronze type and stainless steel type.

- Application

Encoder

- Material/Finish

RoHS2 Compliant

	MFB / MFB-C	MFBS / MFBS-C
Hub	A2017 Alumite Treatment	SUS303
Bellows	C5191	SUS316L
Hex Socket Set Screw	SCM435 Ferrosoferric Oxide Film	SUSXM7
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film	SUSXM7

- Part number specification

MFB-20C-6-8

Product Code Size Bore Diameter

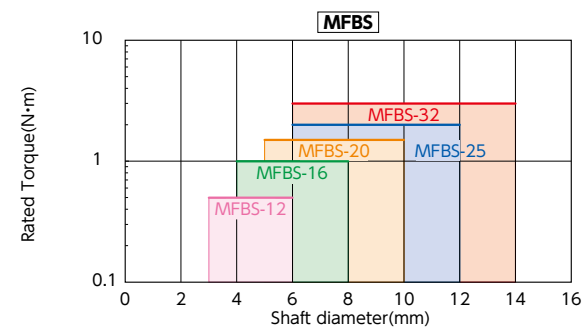
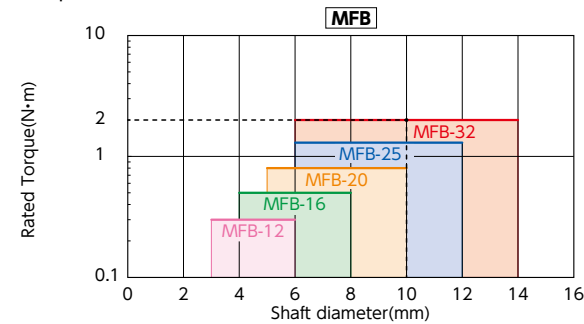
Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole → P.803 Available / Add'l charge
Cleanroom Wash & Packaging → P.807 Available / Add'l charge
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 ϕ 10 and load torque of 2 N·m, the selected size for

MFB **MFB-32**.

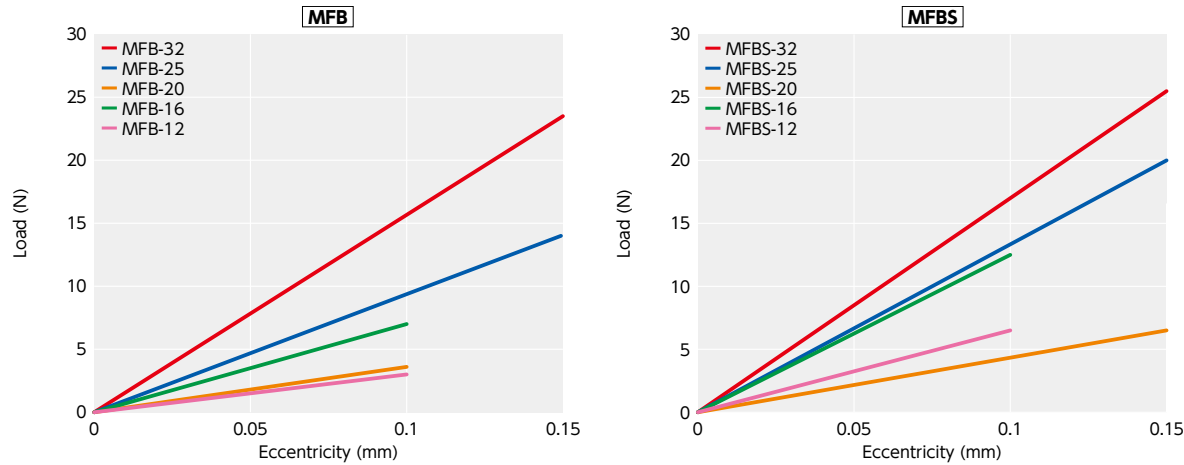


MFB Flexible Coupling - Bellows - type

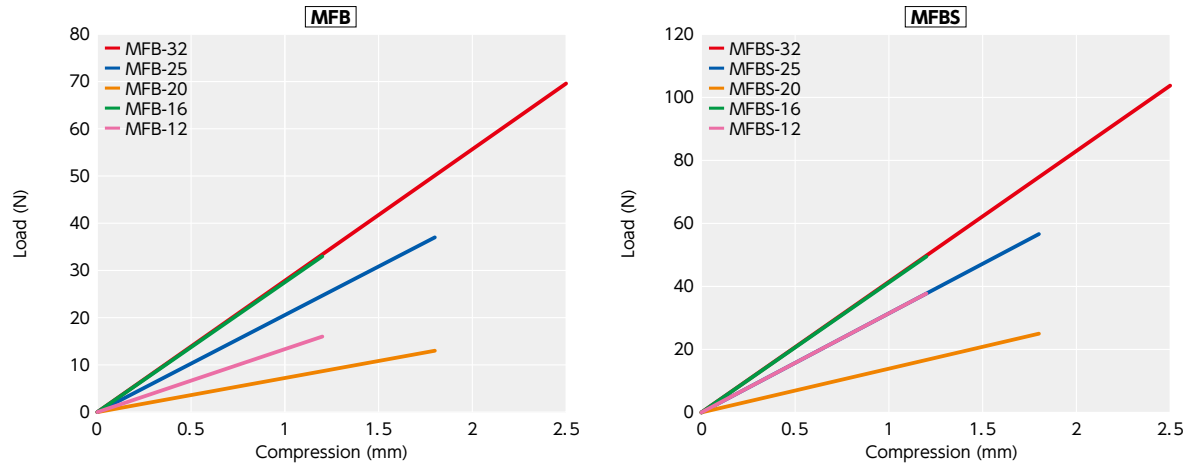
WEB Selection Tool CAD Download SUS Stainless steel 0 Zero Backlash

Technical Information

● Eccentric reaction force



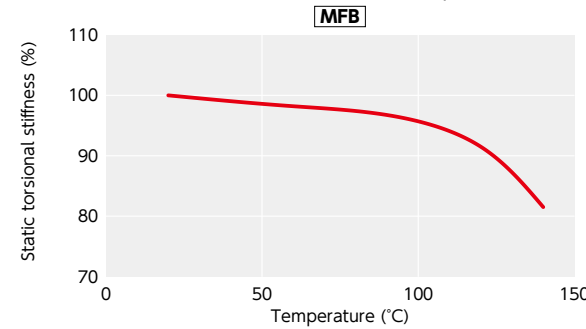
● Thrust Reaction Force (N)



● 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 **MFB** **MFBS** 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 cautious 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 **MFBS-C**.

Unit : N · m

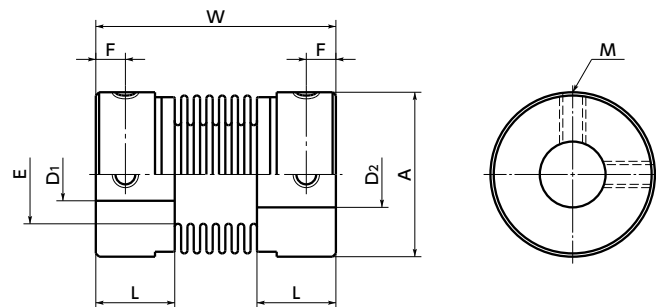
Part Number	Bore Diameter (mm)	
	4	5
MFBS-12C	0.4	
MFBS-16C		0.9

● 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 **MFBS-C** Dimension table.

MFB/MFBS/MFB-C/MFBS-C Flexible Coupling - Bellows - type

WEB Selection Tool CAD Download 0 Zero Backlash SUS Stainless steel

MFB Aluminum alloy hub
MFBS Made of all stainless steel



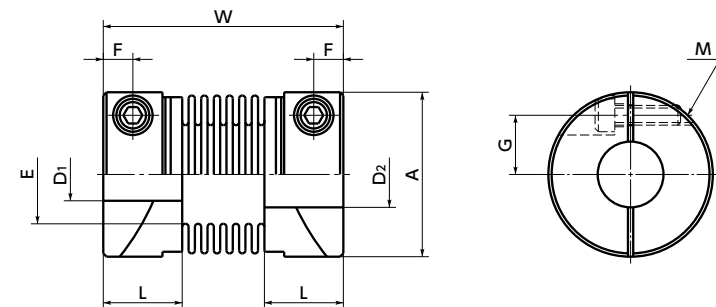
Dimensions

Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)	Standard Bore Diameter							
									D1 • D2							
									3	4	5	6	8	10	12	14
MFB-12	12	7.5	23.5	7	2.5		M2.5	0.5	●	●	●	●				
MFB-16	16	9	26.5	9.5	3		M3	0.7		●	●	●	●			
MFB-20	20	10	33	12.5	3.5		M3	0.7			●	●	●	●		
MFB-25	25	12	36.5	15	4.5		M4	1.7				●	●	●	●	
MFB-32	32	13.5	42	21	5.5		M4	1.7				●	●	●	●	●
MFBS-12	12	7.5	23.5	7	2.5		M2.5	0.5	●	●	●	●				
MFBS-16	16	9	26.5	9.5	3		M3	0.7		●	●	●	●			
MFBS-20	20	10	32	12.5	3.5		M3	0.7			●	●	●	●		
MFBS-25	25	12	36.5	15	4.5		M4	1.7				●	●	●	●	
MFBS-32	32	13.5	42	21	5.5		M4	1.7				●	●	●	●	●
MFB-12C	12	7.5	23.5	7	2.25	4	M2	0.5		●	●					
MFB-16C	16	9	26.5	9.5	3	5	M2.5	1			●	●				
MFB-20C	20	10	33	12.5	3.5	6.5	M2.5	1				●	●			
MFB-25C	25	12	36.5	15	4.5	9	M3	1.5					●	●		
MFB-32C	32	13.5	42	21	5	11	M4	2.5					●	●	●	●
MFBS-12C	12	7.5	23.5	7	2.25	4	M2	0.5		●	●					
MFBS-16C	16	9	26.5	9.5	3	5	M2.5	1			●	●				
MFBS-20C	20	10	32	12.5	3.5	6.5	M2.5	1				●	●			
MFBS-25C	25	12	36.5	15	4.5	9	M3	1.5					●	●		
MFBS-32C	32	13.5	42	21	5	11	M4	2.5					●	●	●	●

- All products are provided with hex socket set screws (**MFB**, **MFBS**) and hex socket head cap screws (**MFB-C**, **MFBS-C**).
- In a case where the bore diameter is $\phi 4$ or less, the set screw is used in only one place.
- The dimensional allowance for bore diameter of a set screw type is H8.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- In case of mounting a clamping type **MFB-C**, **MFBS-C** on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.258

MFB-C Aluminum alloy hub
MFBS-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. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
MFB-12	6.35	0.3	52000	9.0×10^{-8}	82	0.1	1.5	$+0.4$ -1.2	4.1
MFB-16	8	0.5	39000	3.5×10^{-7}	110	0.1	1.5	$+0.4$ -1.2	9
MFB-20	10	0.8	31000	9.9×10^{-7}	180	0.15	2	$+0.6$ -1.8	16
MFB-25	12	1.3	25000	3.1×10^{-6}	240	0.15	2	$+0.6$ -1.8	32
MFB-32	16	2	19000	9.2×10^{-6}	330	0.2	2	$+0.8$ -2.5	57
MFBS-12	6.35	0.5	52000	2.1×10^{-7}	100	0.1	1.5	$+0.4$ -1.2	9.1
MFBS-16	8	1	39000	8.0×10^{-7}	150	0.1	1.5	$+0.4$ -1.2	20
MFBS-20	10	1.5	31000	2.3×10^{-6}	220	0.15	2	$+0.6$ -1.8	37
MFBS-25	12	2	25000	7.0×10^{-6}	330	0.15	2	$+0.6$ -1.8	73
MFBS-32	16	3	19000	2.1×10^{-5}	490	0.2	2	$+0.8$ -2.5	130
MFB-12C	5	0.3	52000	9.7×10^{-8}	82	0.1	1.5	$+0.4$ -1.2	3.8
MFB-16C	6.35	0.5	39000	3.7×10^{-7}	110	0.1	1.5	$+0.4$ -1.2	9.8
MFB-20C	8	0.8	31000	1.0×10^{-6}	180	0.15	2	$+0.6$ -1.8	16
MFB-25C	10	1.3	25000	3.1×10^{-6}	240	0.15	2	$+0.6$ -1.8	32
MFB-32C	14	2	19000	9.6×10^{-6}	330	0.2	2	$+0.8$ -2.5	58
MFBS-12C	5	0.5	52000	2.1×10^{-7}	100	0.1	1.5	$+0.4$ -1.2	9.2
MFBS-16C	6.35	1	39000	8.1×10^{-7}	150	0.1	1.5	$+0.4$ -1.2	22
MFBS-20C	8	1.5	31000	2.3×10^{-6}	220	0.15	2	$+0.6$ -1.8	38
MFBS-25C	10	2	25000	6.9×10^{-6}	330	0.15	2	$+0.6$ -1.8	74
MFBS-32C	14	3	19000	2.1×10^{-5}	490	0.2	2	$+0.8$ -2.5	130

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

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

● Part number specification

MFB-12C-4-5

1

2

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

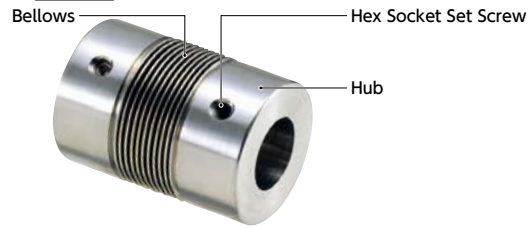
MWBS Flexible coupling - Bellows - type (high precision welding)

WEB Selection Tool CAD Download 0 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

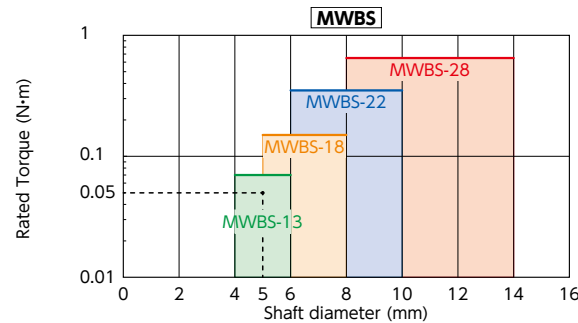
RoHS2 Compliant

	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 SUS Change to Stainless Steel Screw → P.805

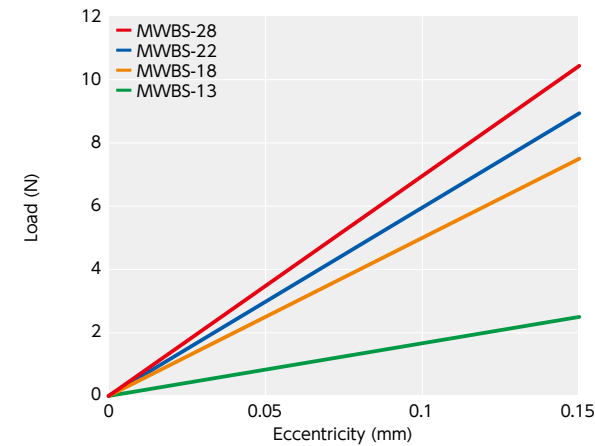
Please feel free to contact us

Available / Add'l charge

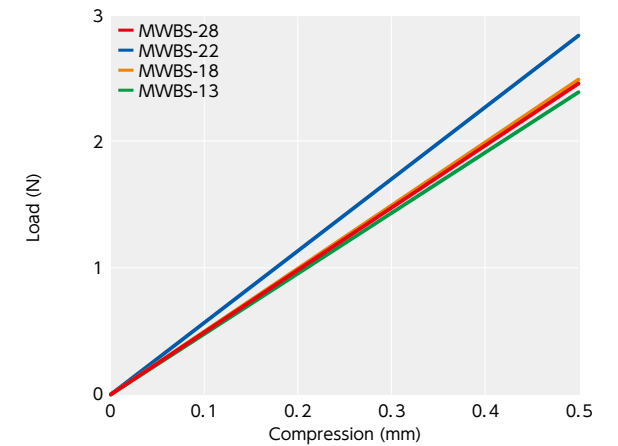
Changed to the S.S. screw

Technical Information

Eccentric reaction force



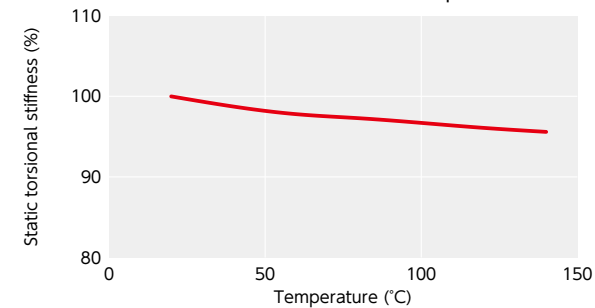
Thrust Reaction Force



Change in static torsional stiffness due to temperature

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

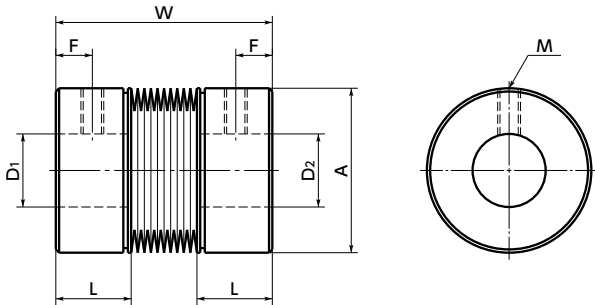
MWBS's change in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. However, if the unit is used under higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.



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

WEB Selection Tool WEB CAD Download 02 Zero Backlash High Allowable Misalignment SUS Stainless steel

MWBS Made of all stainless steel



Dimensions

Unit : mm

Part Number	A	L	W	F	M	Screw Tightening Torque (N・m)	Standard Bore Diameter (dimensional allowance H8) D1・D2							
							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・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.



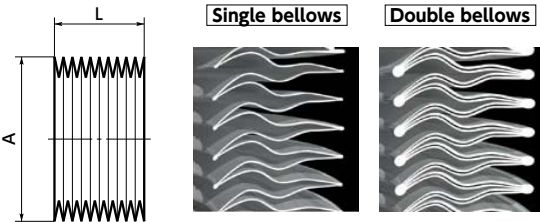
- Part number specification

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



- 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.

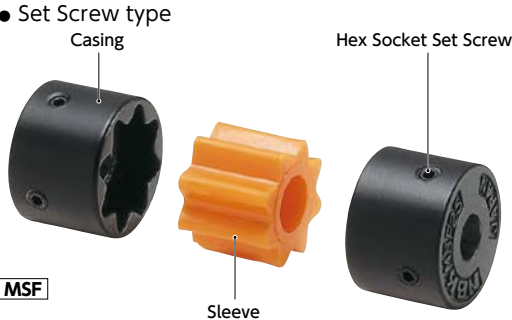
Dimensions・Performance

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

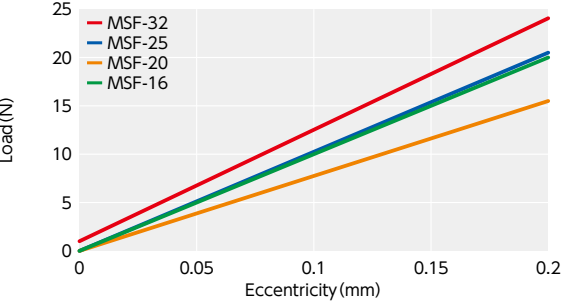
MSF Flexible coupling - Serration - type

WEB Selection Tool CAD Download Electrical Insulation SUS Stainless steel

Structure

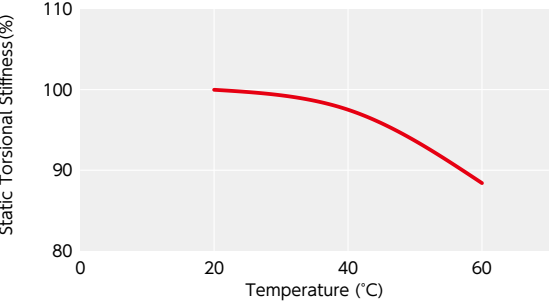


- Technical Information
- Eccentric reaction force



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%. If the unit is used under higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.



- Applicable motors

	MSF
Servomotor	—
Stepping Motor	—
General-purpose motor	○

○: Excellent ○: Very good

- Property

	MSF
Allowable Misalignment	○
Vibration absorption	○
Electrical insulation	○
Allowable operating temperature	−20°C to 60°C

○: Excellent ○: Very good

- The engagement of serration transmits torque. This is a simple structure flexible coupling.

- It has excellent flexibility. Its max. lateral misalignment and max. angular misalignment are large, absorbing torsional vibration.

- Application

Mixer/Gaming device

- Material/Finish

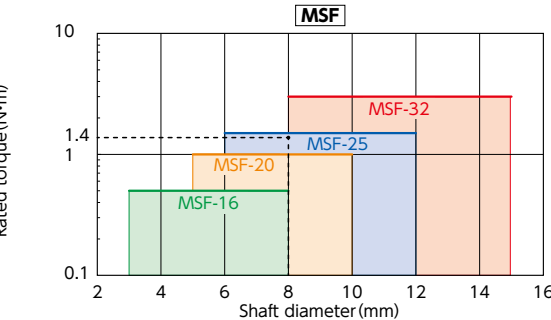
	MSF-16-MSF-25	MSF-32
Casing	ZDC2 Cathodic electrodeposition coating	SMF4040 Steam treatment
Sleeve	Polyurethane	Polyurethane
Hex Socket Set Screw	SCM435 Ferrosioferric oxide film	SCM435 Ferrosioferric oxide film

RoHS2 Compliant

Selection

- Selection based on shaft diameter and rated torque

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

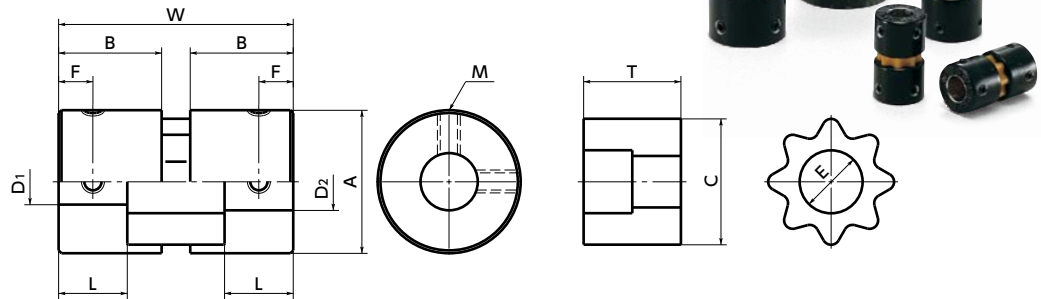


- Selection example

In case of selected parameters of shaft diameter of φ 8 and load torque of 1.4 N·m, the selected size is

MSF-25.

MSF



Dimensions

Part Number	A	B	L	W	F	M	Screw Tightening Torque (N・m)	Sleeve			Standard Bore Diameter (dimensional allowance H8) D1・D2									
								T	C	E	3	4	5	6	6.35	8	10	12	14	
MSF-16	16	12	8	27	4	M3	0.7	11	14	6 / 6	●	●	●	●	●	●	●	●	●	
MSF-20	20	15	10	34	5	M3	0.7	14	18	8 / 8			●	●	●	●	●			
MSF-25	25	18	12	41	6	M4	1.7	17	22	10 / 10				●	●	●	●	●		
MSF-32	32	21	14	48	7	M4	1.7	20	29	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.

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*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 (°)	Mass*2 (g)
MSF-16	8	0.5	1	39000	9.0×10 ⁻⁷	4.4	0.20	2	22
MSF-20	10	1	2	31000	2.7×10 ⁻⁶	9.5	0.20	2	42
MSF-25	12	1.5	3	25000	8.1×10 ⁻⁶	20	0.20	2	81
MSF-32	15	3	6	19000	2.5×10 ⁻⁵	52	0.20	2	150

- *1: Correction of rated torque and max. torque due to load fluctuation is not required. However, if ambient temperature exceeds 30°C, be sure to correct the rated torque and max. torque with temperature correction factor shown in the following table. The allowable operating temperature of MSF is −20°C to 60°C.
- *2: These are values with max. bore diameter.

- Ambient Temperature / Temperature Correction Factor

Ambient temperature	Temperature correction factor
−20°C to 30°C	1.00
30°C to 40°C	0.80
40°C to 60°C	0.70

- Part number specification

MSF-16-6-6.35 1 set

1 2

MSF-16-SLV Single Sleeve

1 Single Sleeve

XRP Rigid Coupling

WEB Selection Tool CAD Download 0 Zero Backlash High Rigidity

Structure

- Clamping type

XRP-C → P.209



- Material/Finish

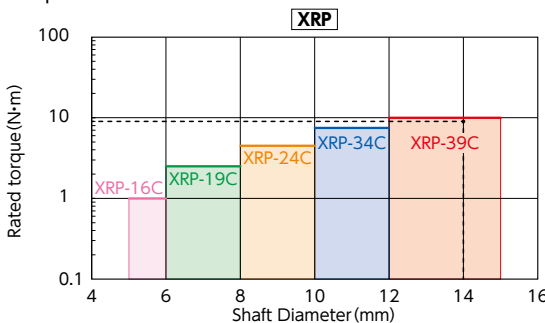
RoHS2 Compliant

	XRP-C
Main Body	A7075
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film

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 14 and load torque of 9 N·m, the selected size is

XRP-39C.

- Recommended applicable motor

	XRP-C
Servomotor	○
Stepping motor	○
General-purpose motor	—

○: Excellent ○: Very good △: Available

- Property

	XRP-C
Zero Backlash	○
High Torque	○
High Torsional Stiffness	○

○: Excellent ○: Very good

- This is a high precision rigid coupling.
- Coaxiality, bore diameter, and run out have been pursued to the ultimate level.
- An inspection report is attached to all products before shipment.
- Light weight and ultra small moment of inertia. High response.
- This is a shaft fastening structure with consideration of rotational balance and unbalance is ultra small.
- Extra super duralumin (A7075) featuring the highest strength among aluminum alloy is adopted.

- Application

High precision measurement device/High precision XY stage/Encoder

- Part number specification

XRP-19C-6-8

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

Please feel free to contact us

Available / Add'l charge

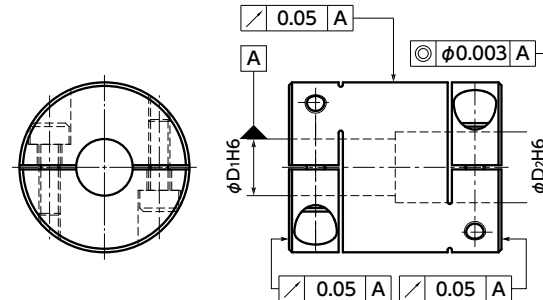
Available / Add'l charge



GOOD DESIGN

- Commitment to high precision

- The coaxiality of both bores is not more than 3 μ m.
- Bore diameter tolerance is H6.
- Radial run out and run out of end face against bore are not more than 50 μ m.



- Precision assurance by total inspection

- The inspection is conducted in an environment of constant temperature and humidity.
- Inspection item:
 - Bore diameters D1 and D2
 - Coaxiality of bores D1 and D2
 - Radial run out and run out of end face against bore

- 3D measurement device:

UPMC850CARAT SuperAcc made by Carl Zeiss
Measurement precision Max. allowable instruction error 0.7+L/600 μ m
Max. allowable probing error 0.6 μ m
Measurement environment Temperature 20 $\pm$ 1°C
Humidity 50 $\pm$ 10%



- Concentricity tolerance and coaxiality tolerance

Property symbol	Definition of tolerance zone
○	If the symbol ϕ is attached to the tolerance value, the tolerance zone is regulated by a circle of diameter t. The center of circular tolerance zone coincides with datum A.
○	If the symbol ϕ is attached to the tolerance value, the tolerance zone is regulated by a cylinder of diameter t. The axis line of cylindrical tolerance zone coincides with datum A.
Example and explanation of instruction method	
○	The actual (reproduced) center of the outside circle must be within the circle concentric with datum circle A and of 0.1 in diameter.
○	The actual (reproduced) shaft line of inside cylinder must be within a cylindrical tolerance area coaxial with common datum axis line A-B and of 0.08 in diameter.

Excerpt from JIS B 0021

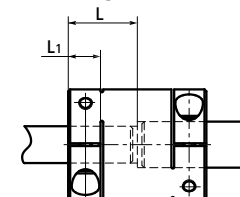
- Shaft insertion length

The shaft insertion length should be not less than L₁ (clamp portion) and not more than L.

The insertion length of a shaft to maintain the high precision should be L dimension if possible.

However, be careful so that both shaft ends do not interfere with each other.

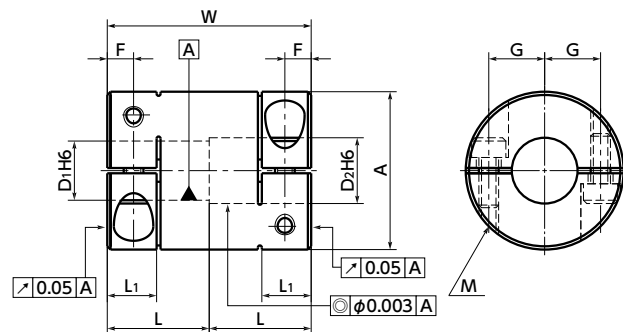
If the shaft insertion length is less than L₁, it may derange the coaxiality or generate vibration when fastening the shaft.



XRP Rigid Coupling - Clamping Type

WEB Selection Tool WEB CAD Download Zero Backlash High Rigidity

XRP-C



Dimensions

Unit : mm

Part Number	A	L	L1	W	F	G	M	Screw Tightening Torque (N·m)
XRP-16C	16	10	5	20	2.6	5	M2	0.5
XRP-19C	19	13	6.5	26	3.5	6.25	M2.5	1
XRP-24C	24	15	7	30	3.75	7.75	M3	1.5
XRP-34C	34	20	8	40	4	12	M3	1.5
XRP-39C	39	24	10	48	5	14.5	M4	2.5

Part Number	Standard Bore Diameter D1・D2		
XRP-16C	5 - 5	5 - 6	6 - 6
XRP-19C	6 - 6	6 - 8	8 - 8
XRP-24C	8 - 8	8 - 10	10 - 10
XRP-34C	10 - 10	10 - 12	12 - 12
XRP-39C	12 - 12	12 - 14	15 - 15

- All products are provided with hex socket head cap screws.
- Recommended tolerance of applicable shaft diameter is h6.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.258

Performance

Part Number	Max. Bore Diameter (mm)	Rated torque*1 (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia*2 (kg·m ²)	Mass*2 (g)
XRP-16C	6	1	39000	3.1×10^{-7}	9
XRP-19C	8	2.5	33000	8.0×10^{-7}	15
XRP-24C	10	4.5	26000	2.7×10^{-6}	32
XRP-34C	15	7.5	18000	1.4×10^{-5}	87
XRP-39C	18	10	16000	3.9×10^{-5}	140

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

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

- Part number specification

XRP-24C-8-10

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	Available / Add'l charge

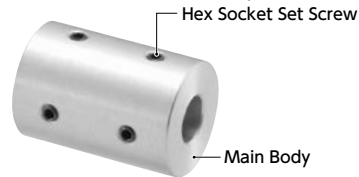
MRG / MRGS Rigid Coupling

WEB Selection Tool CAD Download 0 Zero Backlash High torque High Rigidity SUS Stainless steel

Structure

Set screw type

MRG Aluminum alloy hub → P.213



MRGS Made of all stainless steel → P.213



Clamping type

MRG-C Aluminum alloy hub → P.215



MRGS-C Made of all stainless steel → P.215



Split type

MRG-W Aluminum alloy hub → P.217



MRGS-W Made of all stainless steel → P.217



Related Products

Rigid coupling with high precision **XRP** is available.
→ P.207



Recommended applicable motor

	MRG	MRGS
Servomotor	○	○
Stepping motor	○	○
General-purpose motor	—	—

○: Excellent ○: Very good △: Available

Property

	MRG	MRGS
Zero Backlash	○	○
High Torque	○	○
High Torsional Stiffness	○	○
Corrosion Resistance (All S.S.)	—	○

○: Excellent ○: Very good

- These are rigid-type couplings.
- Light weight and ultra small moment of inertia. High response.
- There are two types of units made of aluminum alloy or all stainless steel.
- There are three attachment methods: set screw type, clamping type, and split type.
- Sizes of $\phi 40$ - $\phi 65$ in outside diameter have been added.

Application

High precision XY stage/Machine tool/Cleaning equipment

Material/Finish

RoHS2 Compliant

	MRG / MRG-C / MRG-W	MRGS / MRGS-C / MRGS-W
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

Part number specification

MRG - 16W - 5-6

Product Code size Bore Diameter

Please refer to dimensional table for part number specification.

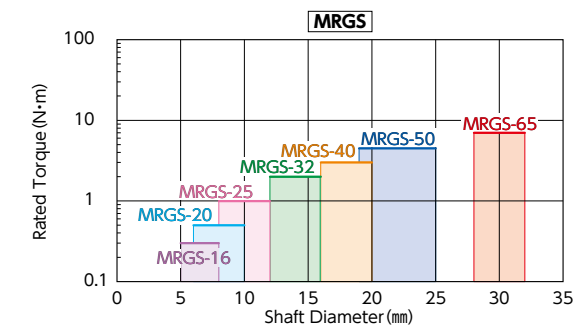
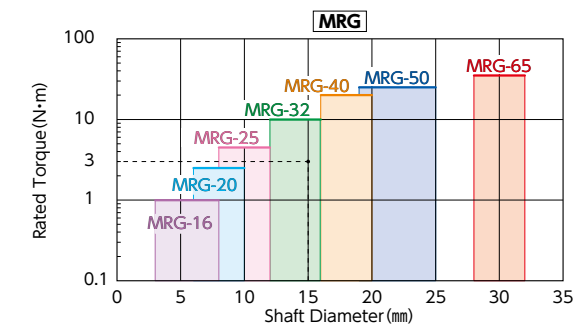
Additional Keyway at Shaft Hole → P.803 Cleanroom Wash & Packaging → P.807 SUS Change to Stainless Steel Screw → P.805
Please feel free to contact us Available / Add'l charge Available / Add'l charge



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 $\phi 15$ and load torque of $3 \text{ N} \cdot \text{m}$, the selected size is

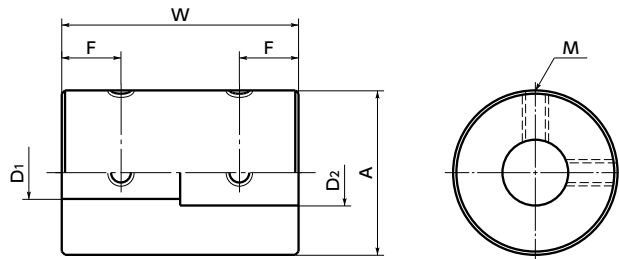
MRG-32.

MRG / MRGS Rigid coupling - Set screw type

WEB Selection Tool
 WEB CAD Download
 Zero Backlash
 High torque
 High Rigidity
 SUS Stainless steel

MRG Made of aluminum alloy

MRGS Made of all stainless steel

**Dimensions • Performance**

Unit : mm

Part Number 	A	W	F	M	Screw Tightening Torque (N·m)	Standard Bore Diameter (dimensional allowance H8) D1・D2 															
						3	4	5	6	8	10	12	15	16	18	19	20	25	28	30	32
MRG-16	16	24	6	M3	0.7	●	●	●	●												
MRG-20	20	30	7	M3	0.7				●	●	●										
MRG-25	25	36	9	M4	1.7					●	●	●									
MRG-32	32	41	10	M4	1.7							●	●	●							
MRG-40	40	44	10.5	M5	4									●	●	●	●				
MRG-50	50	53	12	M6	7											●	●	●			
MRG-65	65	65	16	M8	15														●	●	●
MRGS-16	16	24	6	M3	0.7			●	●												
MRGS-20	20	30	7	M3	0.7				●	●	●										
MRGS-25	25	36	9	M4	1.7					●	●	●									
MRGS-32	32	41	10	M4	1.7							●	●	●							
MRGS-40	40	44	10.5	M5	4									●	●	●	●				
MRGS-50	50	53	12	M6	7											●	●	●			
MRGS-65	65	65	16	M8	15														●	●	●

- All products are provided with hex socket set screws.
- 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.

Performance

Part Number	Max. Bore Diameter (mm)	Rated torque*1 (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia*2 (kg·m ²)	Mass*2 (g)
MRG-16	8	1	39000	4.4×10^{-7}	11
MRG-20	10	2.5	31000	1.3×10^{-6}	20
MRG-25	12	4.5	25000	3.9×10^{-6}	39
MRG-32	16	10	19000	1.2×10^{-5}	71
MRG-40	20	20	15000	2.8×10^{-5}	114
MRG-50	25	25	12000	8.4×10^{-5}	215
MRG-65	32	35	9000	2.9×10^{-4}	450
MRGS-16	8	0.3	39000	1.2×10^{-6}	28
MRGS-20	10	0.5	31000	3.5×10^{-6}	54
MRGS-25	12	1	25000	1.0×10^{-5}	100
MRGS-32	16	2	19000	3.1×10^{-5}	190
MRGS-40	20	3	15000	8.1×10^{-5}	326
MRGS-50	25	4.5	12000	2.4×10^{-4}	658
MRGS-65	32	7	9000	8.4×10^{-4}	1290

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

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

- Part number specification

MRGS-40 - 18-20

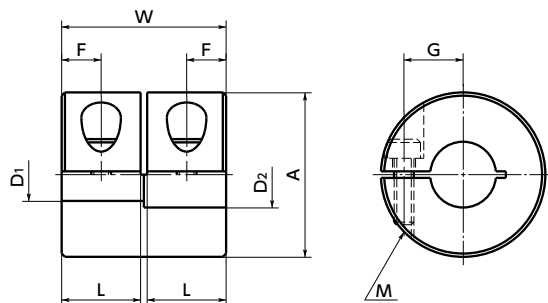
Additional Keyway at Shaft Hole → P.803
 Cleanroom Wash & Packaging → P.807
 SUS Change to Stainless Steel Screw → P.805

Please feel free to contact us Available / Add'l charge Available / Add'l charge

MRG-C / MRGS-C Rigid coupling - Clamping type

WEB Selection Tool
 WEB CAD Download
 Zero Backlash
 High torque
 High Rigidity
 SUS Stainless steel

MRG-C Made of aluminum alloy
MRGS-C Made of all stainless steel

**Dimensions • Performance**

Unit : mm

Part Number	A	W	L	F	G	M	Screw Tightening Torque (N·m)	Standard Bore Diameter D1 • D2															
								5	6	8	10	12	14	15	16	18	19	20	25	28	30		
MRG-16C	16	16	7.5	3.75	5	M2.5	1	●	●														
MRG-20C	20	20	9.5	4.75	6.5	M2.5	1		●	●													
MRG-25C	25	25	12	6	9	M3	1.5			●	●												
MRG-32C	32	32	15.5	7.75	11	M4	2.5				●	●	●										
MRG-40C	40	40	19.5	9.5	14	M5	4							●	●	●							
MRG-50C	50	50	24.4	12	18	M6	8										●	●					
MRG-65C	65	65	31.9	16	23	M8	16												●	●	●		
MRGS-16C	16	16	7.5	3.75	5	M2.5	1	●	●														
MRGS-20C	20	20	9.5	4.75	6.5	M2.5	1		●	●													
MRGS-25C	25	25	12	6	9	M3	1.5			●	●												
MRGS-32C	32	32	15.5	7.75	11	M4	2.5				●	●	●										
MRGS-40C	40	40	19.5	9.5	14	M5	4							●	●	●							
MRGS-50C	50	50	24.4	12	18	M6	8										●	●					
MRGS-65C	65	65	31.9	16	23	M8	16												●	●	●		

- All products are provided with hex socket head cap screws.
- 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

Performance

Part Number	Max. Bore Diameter (mm)	Rated torque*1 (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia*2 (kg·m ²)	Mass*2 (g)
MRG-16C	6	1	39000	3.0×10^{-7}	8.3
MRG-20C	8	2.5	31000	8.7×10^{-7}	15
MRG-25C	10	4.5	25000	2.7×10^{-6}	29
MRG-32C	14	10	19000	7.1×10^{-6}	51
MRG-40C	18	20	15000	2.4×10^{-5}	104
MRG-50C	24	25	12000	7.5×10^{-5}	197
MRG-65C	30	35	9000	2.8×10^{-4}	446
MRGS-16C	6	0.3	39000	8.0×10^{-7}	22
MRGS-20C	8	0.5	31000	2.4×10^{-6}	41
MRGS-25C	10	1	25000	7.3×10^{-6}	80
MRGS-32C	14	2	19000	2.5×10^{-5}	160
MRGS-40C	18	3	15000	7.0×10^{-5}	297
MRGS-50C	24	4.5	12000	2.1×10^{-4}	563
MRGS-65C	30	7	9000	8.1×10^{-4}	1270

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

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

- Part number specification

MRG-32C- 12-14

1

2

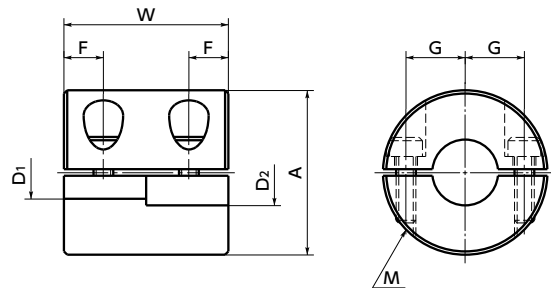
Additional Keyway at Shaft Hole → P.803
 Cleanroom Wash & Packaging → P.807
 Change to Stainless Steel Screw → P.805

Please feel free to contact us Available / Add'l charge Available / Add'l charge

MRG-W / MRGS-W Rigid coupling - Split type

[WEB Selection Tool](#)
[CAD Download](#)
[Zero Backlash](#)
[High torque](#)
[High Rigidity](#)
[SUS Stainless steel](#)

MRG-W Made of aluminum alloy
MRGS-W Made of all stainless steel



Dimensions • Performance

Unit : mm

Part Number	A	W	F	G	M	Screw Tightening Torque (N・m)	Standard Bore Diameter															
							D1・D2	5	6	8	10	12	14	15	16	18	19	20	25	28	30	
MRG-16W	16	16	4	5	M2.5	1	●	●														
MRG-20W	20	20	5	6.5	M2.5	1		●	●													
MRG-25W	25	25	6	9	M3	1.5			●	●												
MRG-32W	32	32	8	11	M4	2.5				●	●	●										
MRG-40W	40	40	9.5	14	M5	4							●	●	●							
MRG-50W	50	50	12	18	M6	8										●	●					
MRG-65W	65	65	16	23	M8	16												●	●	●		
MRGS-16W	16	16	4	5	M2.5	1	●	●														
MRGS-20W	20	20	5	6.5	M2.5	1		●	●													
MRGS-25W	25	25	6	9	M3	1.5			●	●												
MRGS-32W	32	32	8	11	M4	2.5				●	●	●										
MRGS-40W	40	40	9.5	14	M5	4							●	●	●							
MRGS-50W	50	50	12	18	M6	8										●	●					
MRGS-65W	65	65	16	23	M8	16												●	●	●		

- All products are provided with hex socket head cap screws.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.

Performance

Part Number	Max. Bore Diameter (mm)	Rated torque*1 (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia*2 (kg·m ²)	Mass*2 (g)
MRG-16W	6	1	39000	3.2×10 ⁻⁷	8.8
MRG-20W	8	2.5	31000	8.7×10 ⁻⁷	15
MRG-25W	10	4.5	25000	2.7×10 ⁻⁶	29
MRG-32W	14	10	19000	9.3×10 ⁻⁶	61
MRG-40W	18	20	15000	2.3×10 ⁻⁵	99
MRG-50W	24	25	12000	7.1×10 ⁻⁵	189
MRG-65W	30	35	9000	2.7×10 ⁻⁴	428
MRGS-16W	6	0.3	39000	8.2×10 ⁻⁷	22
MRGS-20W	8	0.5	31000	2.4×10 ⁻⁶	41
MRGS-25W	10	1	25000	7.3×10 ⁻⁶	80
MRGS-32W	14	2	19000	2.5×10 ⁻⁵	160
MRGS-40W	18	3	15000	6.7×10 ⁻⁵	285
MRGS-50W	24	4.5	12000	2.0×10 ⁻⁴	541
MRGS-65W	30	7	9000	7.7×10 ⁻⁴	1220

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

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

- Part number specification

MRGS-25W-8-8

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
 Available / Add'l charge

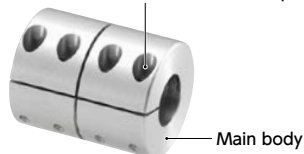
MLR / MLRS Rigid Coupling

WEB Selection Tool CAD Download 0 Zero Backlash High Rigidity SUS Stainless steel

Structure

Clamping type

MLR-C Made of aluminum alloy → P.221
Hex Socket Head Cap Screw



MLRS-C Made of all stainless steel → P.221



Semi-split type

MLR-V Made of aluminum alloy → P.223



MLRS-V Made of all stainless steel → P.223



Recommended applicable motor

	MLR	MLRS
Servomotor	○	○
Stepping motor	○	○
General-purpose motor	—	—

○: Excellent ○: Very good △: Available

Property

	MLR	MLRS
Zero Backlash	○	○
High Torque	○	○
High Torsional Stiffness	○	○
Corrosion Resistance (All S.S.)	—	○

○: Excellent ○: Very good

- This is a long type rigid coupling.
- This can also be used as a joint for extending a shaft.
- There are two types of units made of aluminum alloy or stainless steel.
- There are clamping type and semi-split type.

Application

Cleaning equipment/Transport device

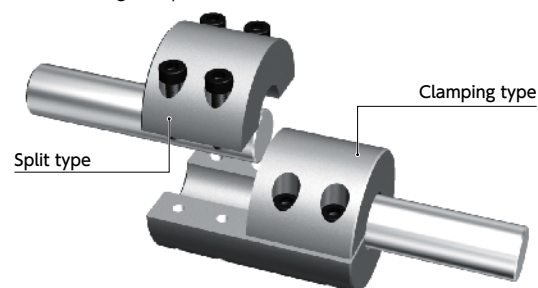
Material/Finish

RoHS2 Compliant

	MLR-C / MLR-V	MLRS-C / MLRS-V
Main Body	A2017 Alumite Treatment	SUS303
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film	SUSXM7

Semi-split type

Semi-split type is an attachment method in which one side of the hubs is clamping type and the other side is split type. While keeping one shaft attached on clamping side, the other shaft can be mounted or removed on split side, thus easier assembling set up.



Related Products

Rigid coupling with high precision **XRP** is available.
→ P.207



Part number specification

MLR-16V-6-6

Product Code size Bore Diameter

Please refer to dimensional table for part number specification.

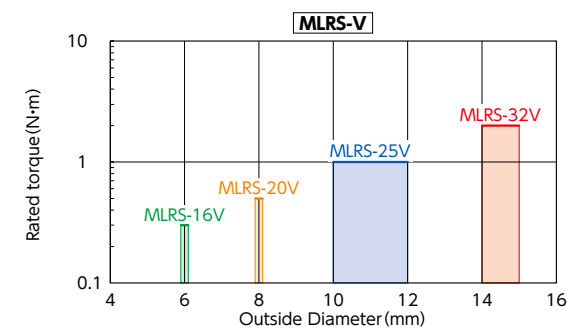
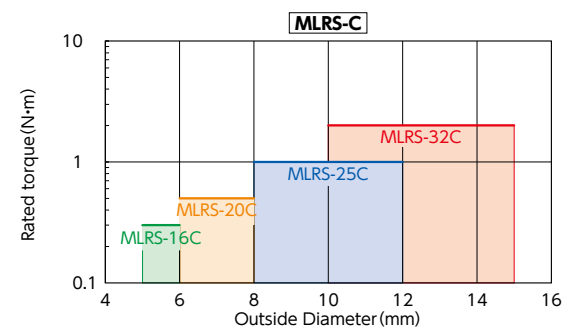
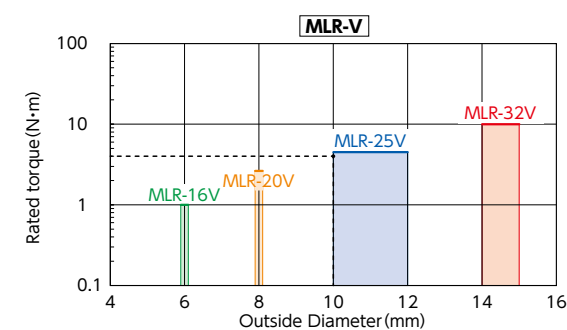
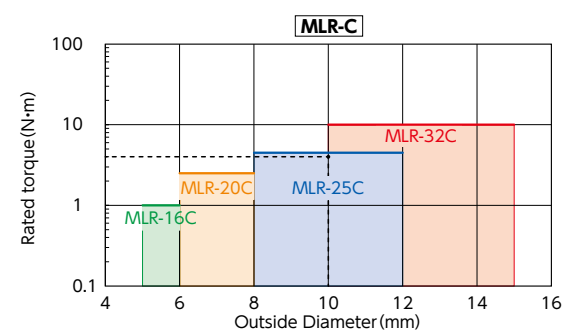
Additional Keyway at Shaft Hole → P.803 Cleanroom Wash & Packaging → P.807 SUS Change to Stainless Steel Screw → P.805
Please feel free to contact us Available / Add'l charge Available / Add'l charge



Selection

Selection based on shaft diameter and rated torque

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



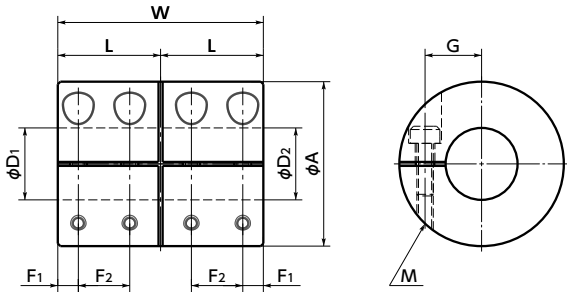
Selection example

In case of selected parameters of shaft diameter of $\phi 10$ and load torque of 4 N·m, the selected size is **MLR-25C** or **MLR-25V**.

MLR-C / MLRS-C Rigid coupling - Clamping type

WEB Selection Tool WEB CAD Download 0 Zero Backlash High Rigidity SUS Stainless steel

MLR-C Made of aluminum alloy
MLRS-C Made of all stainless steel



Dimensions

Unit : mm

Part Number	A	L	W	F1	F2	G	M	Screw Tightening Torque (N・m)	Standard Bore Diameter D1-D2						
									5 - 5	5 - 6	6 - 6				
MLR-16C	16	11	22	2.5	5.5	5	M2	0.5	5 - 5	5 - 6	6 - 6				
MLR-20C	20	12	24	2.5	6	7	M2	0.5	6 - 6	6 - 8	8 - 8				
MLR-25C	25	18	36	4.5	9	9	M2.5	1	8 - 8	8 - 10	10 - 10	12 - 12			
MLR-32C	32	20	40	4	10	11	M3	1.5	10 - 10	10 - 12	10 - 14	12 - 12	12 - 14	14 - 14	15 - 15
MLRS-16C	16	11	22	2.5	5.5	5	M2	0.5	5 - 5	5 - 6	6 - 6				
MLRS-20C	20	12	24	2.5	6	7	M2	0.5	6 - 6	6 - 8	8 - 8				
MLRS-25C	25	18	36	4.5	9	9	M2.5	1	8 - 8	8 - 10	10 - 10	12 - 12			
MLRS-32C	32	20	40	4	10	11	M3	1.5	10 - 10	10 - 12	10 - 14	12 - 12	12 - 14	14 - 14	15 - 15

- All products are provided with hex socket head cap screws.
- 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

Performance

Part Number	Max. Bore Diameter (mm)	Rated torque*1 (N・m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia*2 (kg・m ²)	Mass*2 (g)
MLR-16C	6	1	39000	3.4×10 ⁻⁷	10
MLR-20C	8	2.5	31000	9.2×10 ⁻⁷	18
MLR-25C	12	4.5	25000	3.4×10 ⁻⁶	38
MLR-32C	15	10	19000	1.0×10 ⁻⁵	70
MLRS-16C	6	0.3	39000	8.9×10 ⁻⁷	25
MLRS-20C	8	0.5	31000	2.5×10 ⁻⁶	45
MLRS-25C	12	1	25000	9.2×10 ⁻⁶	100
MLRS-32C	15	2	19000	2.7×10 ⁻⁵	180

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

- Part number specification

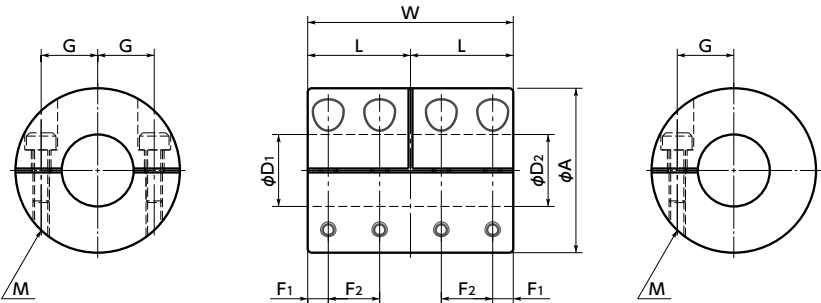
MLR-16C-5-5
1 2

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

MLR-V / MLRS-V Rigid coupling - Semi - split type

WEB Selection Tool WEB CAD Download 0 Zero Backlash High Rigidity SUS Stainless steel

MLR-V Made of aluminum alloy
MLRS-V Made of all stainless steel



Dimensions

Unit : mm

Part Number 1	A	L	W	F1	F2	G	M	Screw Tightening Torque (N・m)	Standard Bore Diameter D1-D2 2	
MLR-16V	16	11	22	2.5	5.5	5	M2	0.5	6 - 6	
MLR-20V	20	12	24	2.5	6	7	M2	0.5	8 - 8	
MLR-25V	25	18	36	4.5	9	9	M2.5	1	10 - 10	12 - 12
MLR-32V	32	20	40	4	10	11	M3	1.5	14 - 14	15 - 15
MLRS-16V	16	11	22	2.5	5.5	5	M2	0.5	6 - 6	
MLRS-20V	20	12	24	2.5	6	7	M2	0.5	8 - 8	
MLRS-25V	25	18	36	4.5	9	9	M2.5	1	10 - 10	12 - 12
MLRS-32V	32	20	40	4	10	11	M3	1.5	14 - 14	15 - 15

- All products are provided with hex socket head cap screws.
- 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

Performance

Part Number	Max. Bore Diameter (mm)	Rated torque*1 (N・m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia*2 (kg・m ²)	Mass*2 (g)
MLR-16V	6	1	39000	3.5×10 ⁻⁷	10
MLR-20V	8	2.5	31000	9.5×10 ⁻⁷	18
MLR-25V	12	4.5	25000	3.4×10 ⁻⁶	38
MLR-32V	15	10	19000	1.0×10 ⁻⁵	70
MLRS-16V	6	0.3	39000	9.1×10 ⁻⁷	25
MLRS-20V	8	0.5	31000	2.6×10 ⁻⁶	45
MLRS-25V	12	1	25000	9.3×10 ⁻⁶	100
MLRS-32V	15	2	19000	2.8×10 ⁻⁵	180

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

- Part number specification

MLRS-20V - 8-8
1 2

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

Type	Slit Coupling			Oldham Coupling		Disk Coupling	
Part Number	XSTS	XWSS	MSXP	MOHS	MOP	XBWS	XBSS
Page	P.227	P.227	P.231	P.237	P.243	P.77	P.83
Shape							
Material	SUS316L	SUS316L	PEEK	SUS303 Vespe [®] *2 SUSXM7	A2017 PEEK SUSXM7	SUS303 SUSXM7	SUS303 SUSXM7
Cleaning method	Ultrasonic cleaning	Ultrasonic cleaning	Ultrasonic cleaning	Ultrasonic cleaning	Ultrasonic cleaning	Ultrasonic cleaning*1	Ultrasonic cleaning*1
Low particle	●	●	●	△	△	○	○
Vacuum-supported	○	○	○	●	●	○	○
Less outgas	○	○	○	○	○	○	○
Heat resistant	○	○	○	●	●	○	○
Chemical resistant	●	●	●	○	○	○	○
Zero Backlash	●	●	●			●	●
High torque	○	○				○	○
High torsional rigidity						●	●
Allowable Misalignment	○		○	●	●	○	○

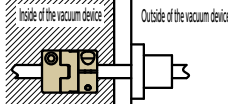
● : Excellent ○ : Very good △ : Abrasion powder may be produced
*1 **[XBWS]** **[XBSS]** are uncleaned products. Clean washing and clean packaging are available upon request. For details, please refer to the Service page. ➡ P.807
*2 VESPEL is a registered trademark of U.S. company DuPont.

Low particle

The amount of attached particle is ultra low.
This is directly available in a cleanroom. This does not bring contaminated matters into a cleanroom.

Vacuum-supported

A material with which outgas production in a vacuum environment is small is used.
If misalignment becomes larger due to vacuum pressure difference, **[MOHS]** **[MOP]**, for which larger misalignment is permitted, are recommended.



Less outgas

Materials with which production of outgas that causes chemical contamination under atmospheric environment is small are used.

Heat resistant

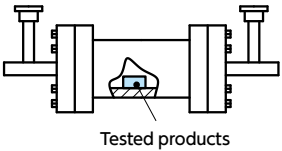
This is available even in an environment of high temperature (80°C or higher)
Elongation or deflection of a shaft associated with thermal expansion may increase misalignment. If misalignment becomes larger, **[MOHS]** **[MOP]**, for which larger misalignment is permitted, is recommended.

Chemical resistant

Materials superior in chemical resistance are used.

Analysis of outgas Vacuum-supported Less outgas

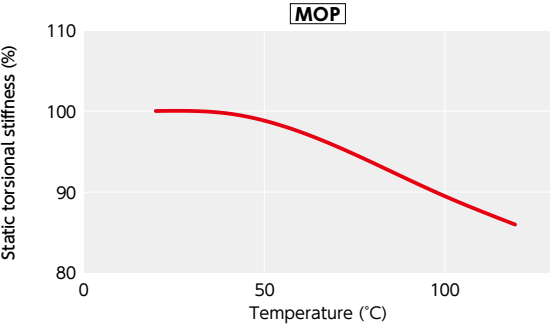
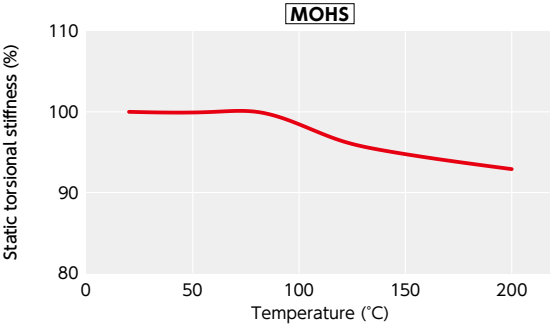
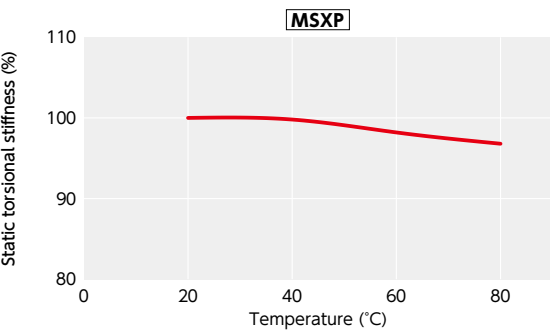
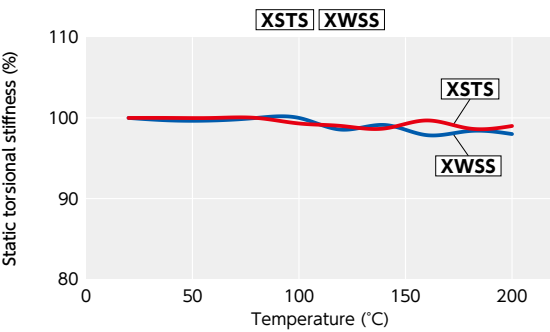
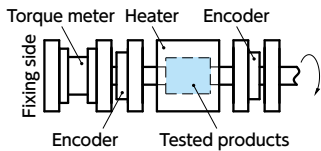
Target product: **[MOHS]** **[MOP]** **[MSXP]**
Measurement method: Inorganic gas — Gas chromatography (TCD)
Organic gas — Gas chromatography (FID)
Measurement condition: Heating temperature — 100°C



Component		Content
Inorganic gas	Hydrogen	500 or less
	Carbon monoxide	500 or less
	Carbon dioxide	500 or less
Organic gas	Methane	5 or less
	Ethane	5 or less
	Ethylene	5 or less
	Propane	5 or less
	Acetylene	5 or less
	i-butane	5 or less
	n-butane	5 or less
	Propylene	5 or less

*Both inorganic gas and organic gas are not more than the lower limit of determined amount and are not detected.

Change in static torsional stiffness due to temperature Heat resistant



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

The data described in this catalog are just for your reference and are not guaranteed values.

XSTS/XWSS Cleanroom / Vacuum / Heat Resistant Coupling - Slit - type (SUS316L)

WEB Selection Tool CAD Download Zero Backlash Cleanroom Chemical-proof SUS Stainless steel

Structure

Clamping type

XSTS-C → P.229

Outside Diameter $\phi 25/\phi 32$



XSTS-C

Outside Diameter $\phi 40 - \phi 63$

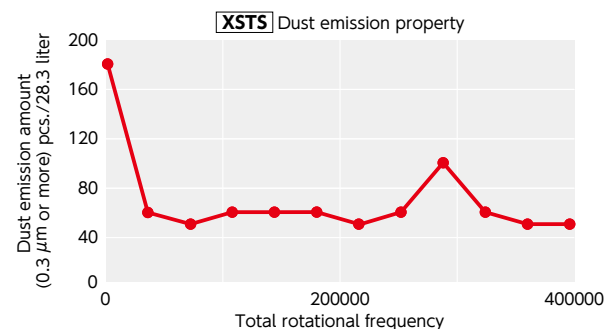
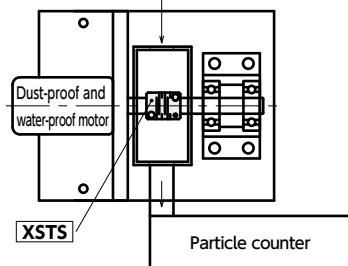


XWSS-C → P.229



Dust emission property

Cleanroom (class 500 or lower) Clean bench (class 10 or lower)



Property

	XSTS	XWSS
Low Particle	○	○
Vacuum-supported	○	○
Low Outgas	○	○
Heat-resistance	○	○
Chemical Resistance	○	○
Zero Backlash	○	○
High Torque	○	○
Allowable Misalignment	○	—
Corrosion resistance (all stainless steel)	○	○

○: Excellent ○: Very good

- This is an all stainless steel spring coupling with single-piece construction. A slit is inserted into a cylindrical material.
- Clean washing and clean packaging are completed. It can be used in an environment where chemical resistance is required, such as FPD manufacturing device and semiconductor manufacturing device.
- High flexibility type **XSTS** and short type **XWSS** are standardized.
- In **XSTS**, a plate spring formed by a slit allows eccentricity, angular misalignment, and end-play to be accepted.

Application

FPD manufacturing device/Semiconductor manufacturing device/Offshore instrument

Material/Finish

	XSTS-C / XWSS-C
Main body	SUS316L Shot Blast
Hex Socket Head Cap Screw	SUS316L HiMo

RoHS2 Compliant

Related Products

There is a slit-type flexible coupling **MSX** made of extra super duralumin (A7075).
→ P.97



Part number specification

XSTS-32C-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

Please feel free to contact us

Cleanroom washed and packed

Changed to the S.S. screw

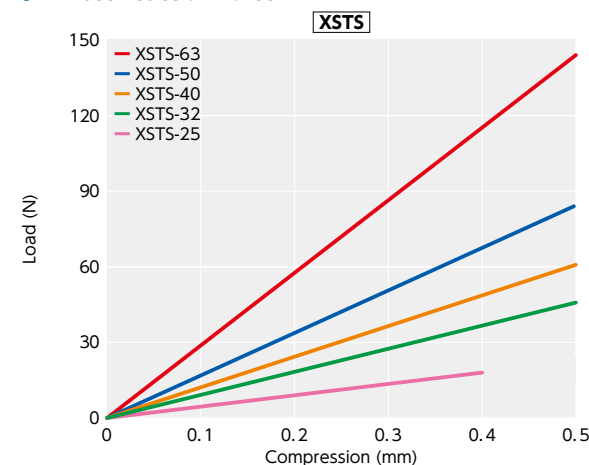
Technical Information

Made of SUS316L superior in corrosion resistance

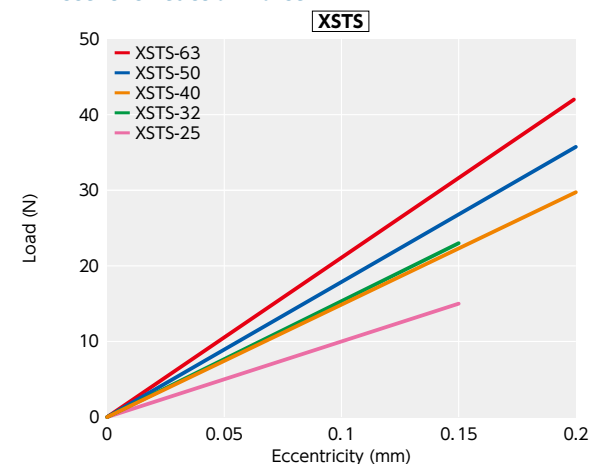
Characteristics

Material code	Characteristics
SUS304	This features smaller amount of carbon and is superior in corrosion resistance and weldability. This is the most standard product among austenitic stainless steel.
SUS316	This has good corrosion resistance and acid resistance as well as high-temperature strength due to addition of Mo and is used as heat resistant steel.
SUS316L	Carbon content is lower than that of SUS316 and the grain boundary corrosivity and weldability are improved.

Thrust Reaction Force



Eccentric Reaction Force

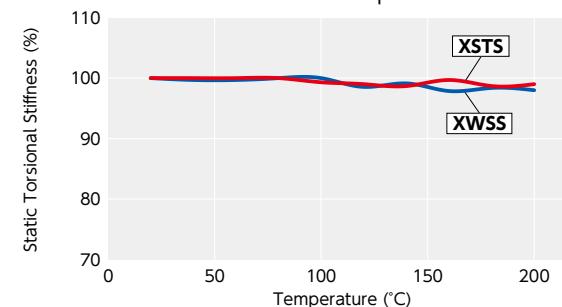


Chemical component

Material code	Chemical components (%)				
	C	Si / Mn / P / S	Ni	Cr	Mo
SUS304	0.08 or less	Equivalent	8.00-10.50	18.00-20.00	—
SUS316	0.08 or less		10.00-14.00	16.00-18.00	2.00-3.00
SUS316L	0.03 or less		12.00-15.00	16.00-18.00	2.00-3.00

Change in static torsional stiffness due to temperature

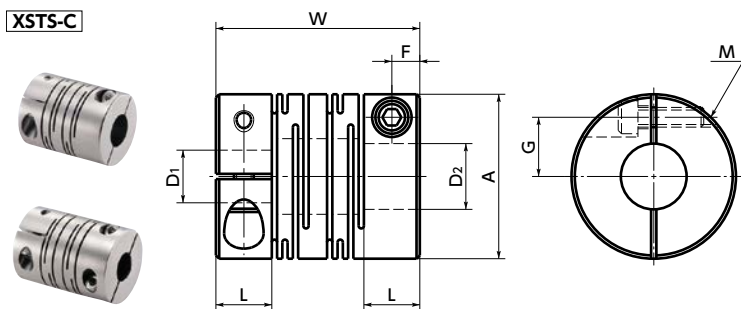
This is a value under the condition where the static torsional stiffness at 20°C is 100%. The change of **XSTS** **XWSS** in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. However, if the unit is used at higher temperature, be careful about misalignment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



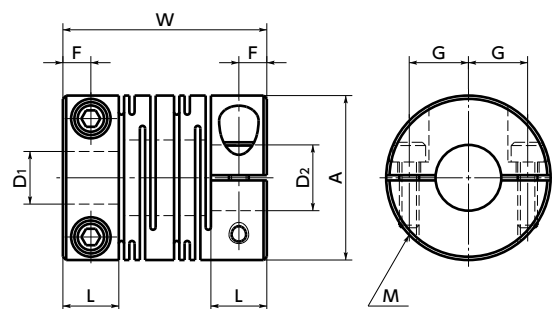
XSTS-C / XWSS-C Cleanroom / Vacuum / Heat Resistant Coupling - Slit-type (SUS316L) - Clamping Type

WEB Selection Tool CAD Download 02 Zero Backlash Cleanroom Chemical-proof SUS Stainless steel

XSTS-C



Outside diameter $\phi 25, \phi 32$



Outside diameter $\phi 40 - \phi 63$

Dimensions

Unit : mm

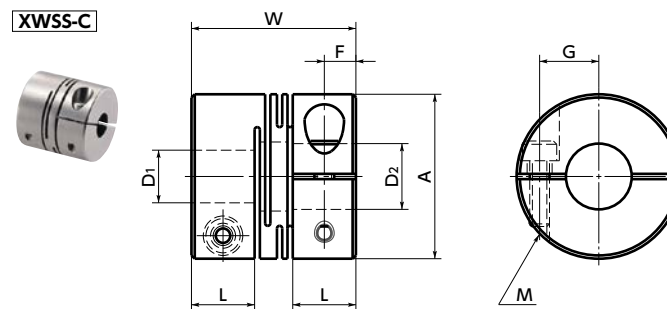
Part Number	A	L	W	F	G	M	Screw Tightening Torque*1 (N·m)
XSTS-25C	25	8.5	31	4.25	9	M3	1.5
XSTS-32C	32	12	41	6	11	M4	2.5
XSTS-40C	40	17	56	8.5	14	M5	4
XSTS-50C	50	21	71	10.5	18	M6	8
XSTS-63C	63	26	90	13	24	M8	16
XWSS-25C	25	9.6	25	4.8	9	M3	1.5
XWSS-32C	32	12.6	32	6.3	11	M4	2.5

Part Number	Standard Bore Diameter D1・D2														
	5	6	8	10	11	12	14	15	16	18	19	20	22	24	25
XSTS-25C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XSTS-32C			●	●	●	●	●	●	●	●	●	●	●	●	●
XSTS-40C			●	●	●	●	●	●	●	●	●	●	●	●	●
XSTS-50C						●	●	●	●	●	●	●	●	●	●
XSTS-63C							●	●	●	●	●	●	●	●	●
XWSS-25C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XWSS-32C			●	●	●	●	●	●	●	●	●	●	●	●	●

- 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
- *1 : This is a screw tightening torque when inserting a degreased shaft.

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 Cleanroom washed and packed Changed to the S.S. screw

XWSS-C



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)
XSTS-25C	10	2	25000	7.1×10^{-6}	330	0.15	2	±0.4	78
XSTS-32C	14	3.5	19000	2.7×10^{-5}	850	0.15	2	±0.5	170
XSTS-40C	18	8	15000	9.0×10^{-5}	1000	0.2	2	±0.5	370
XSTS-50C	22	15	12000	2.8×10^{-4}	1400	0.2	2	±0.5	750
XSTS-63C	30	35	10000	8.8×10^{-4}	1800	0.2	2	±0.5	1400
XWSS-25C	10	2	25000	6.3×10^{-6}	720		1	±0.2	69
XWSS-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

XWSS-25C-8-10

1 2

MSXP Cleanroom / Vacuum / Heat Resistant Coupling - Slit - type (PEEK)

WEB Selection Tool CAD Download Zero Backlash Cleanroom Electrical Insulation Chemical-proof SUS Stainless steel

Structure

- Clamping type MSXP-C → P.235



Property

	MSXP
Low Particle	⦿
Vacuum-supported	○
Low Outgas	○
Heat-resistance	○
Chemical Resistance	⦿
Zero Backlash	⦿
Allowable Misalignment	○
Electrical Insulation	⦿
Cleanroom Specification	⦿
Allowable Operating Temperature	-20℃ to 80℃

⦿: Excellent ○: Very good

- This is a resin spring coupling with single-piece construction. A slit is inserted into a cylindrical material.
- It can be used in an environment or cleanroom where heat resistance and chemical resistance are required, such as FPD manufacturing device.
- PEEK superior in physical and chemical properties is adopted. The amount of outgas is ultralow.
- A plate spring formed by a slit allows eccentricity, angular misalignment, and end-play to be accepted.

Application

FPD manufacturing device/Semiconductor manufacturing device

Material/Finish

RoHS2 Compliant

	MSXP-C
Main body	PEEK (Polyether ether ketone)
Hex Socket Head Cap Screw	PEEK (Polyether ether ketone)

PEEK's color may vary depending on the lot or other matters.

Related Products

There is a slit-type flexible coupling MSX made of extra super duralumin (A7075). → P.97



Part number specification

MSXP-25C-6-8

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
Please feel free to contact us	Cleanroom washed and packed	Not Available

Selection Navigator



CAD Data Download

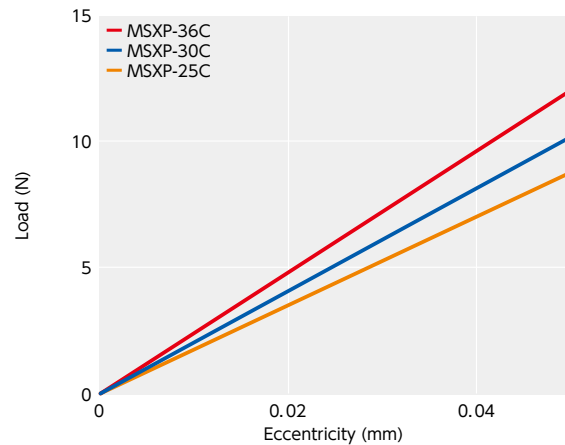
https://www.nbk1560.com/

MSXP Cleanroom / Vacuum / Heat Resistant Coupling - Slit - type (PEEK)

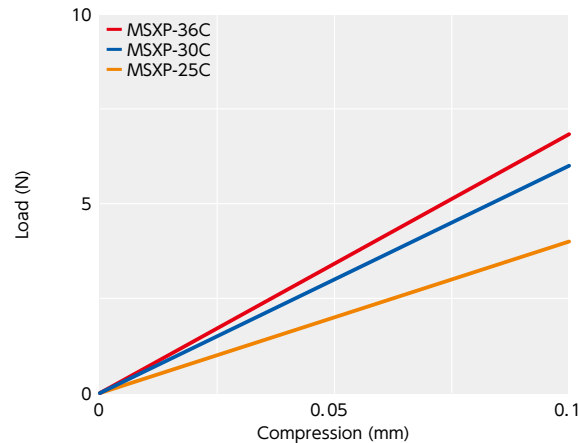
WEB Selection Tool CAD Download 02 Zero Backlash Cleanroom Electrical Insulation Chemical-proof

Technical Information

● Eccentric Reaction Force



● Thrust Reaction Force



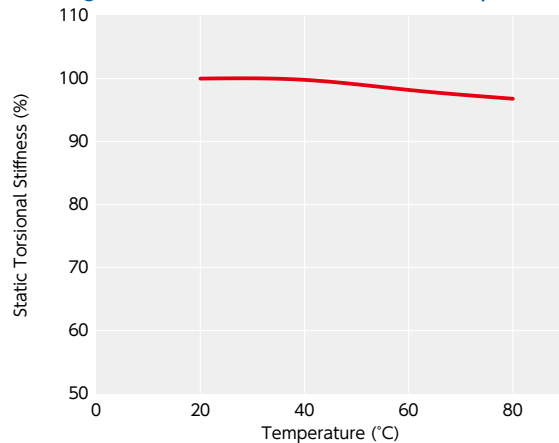
● Analysis of outgas

Unit: (v/v ppm)

Component	Content
Inorganic gas	Hydrogen
	Carbon monoxide
	Carbon dioxide
Organic gas	Methane
	Ethane
	Ethylene
	Propane
	Acetylene
	i-butane
	n-butane
	Propylene

- Both inorganic gas and organic gas are not more than the lower limit of determined amount and are not detected.

● Change in static torsional stiffness due to temperature



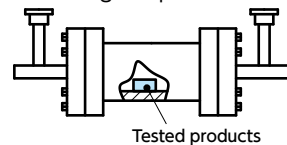
● Measurement Methods

Inorganic gas — Gas chromatography (TCD)

Organic gas — Gas chromatography (FID)

● Measurement Conditions

Heating temperature — 100°C



Technical Information

● PEEK's physical property

Property	Test Method	unit	PEEK
Tensile Strength	D638	N/mm ²	97
Tensile elongation	D638	%	65
Bending Strength	D790	N/mm ²	156
Bending elastic modulus	D790	GPa	4.1
Izod impact value (with notch)	D256	J/m	94
Rockwell hardness	D785	R / M Scale	M99
Deflection Temperature Under Load (1.82MPa)	D648	°C	152
Combustibility	UL94	—	V-0
Dielectric Constant (10 ⁶ Hz)	D150	—	3.3
Dielectric loss tangent (10 ⁶ Hz)	D150	—	0.003
Volume resistivity (x10 ¹⁴)	D257	Ω·m	4.9
Insulation Breakdown Strength	D149	MV/m	17
Arc resistance	D495	sec	23
Specific gravity	D792	—	1.30
Water absorption (in 23°C water x 24 h)	D570	%	0.500
Content by percentage of glass fiber	—	%	0

● PEEK's chemical resistance

Chemical name	PEEK
10% hydrochloric acid	○
10% sulfuric acid	○
50% sulfuric acid	×
10% nitric acid	○
50% nitric acid	×
50% hydrofluoric acid	×
10% phosphoric acid	○
Formic acid	△
10% acetic acid	○
Citric acid	○
Chromic acid	○
Boric acid	○
Methyl alcohol	○
Glycol	○
Ammonia	○
10% sodium hydroxide	○
10% potassium hydroxide	○
Calcium hydroxide	○
Hydrogen sulfide (gas)	○
Sulfur dioxide	○
Ammonium nitrate	○
Sodium nitrate	○
Calcium carbonate	○
Calcium chloride	○
Magnesium chloride	○
Magnesium sulfate	○
Zinc sulfate	○
Hydrogen peroxide	○

○: Available △: Fair pending on condition

×: Not available

● This is test data with a specimen used at room temperature (23°C). The chemical resistance varies depending on the usage conditions. Be sure to perform a test under the same usage conditions as in actual usage in advance.

● Slip Torque

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

Unit: N·m

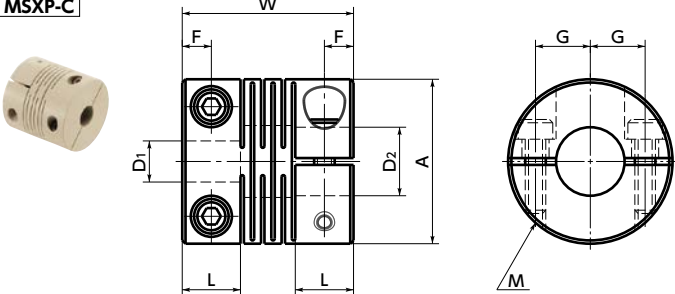
Part Number	Bore Diameter (mm)			
	6	8	10	12
MSXP-25C	0.5	0.6		
MSXP-30C		0.8		
MSXP-36C			0.7	1.2

- 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 **MSXP-C** dimensional table.

MSXP-C Cleanroom / Vacuum / Heat Resistant Coupling - Slit - type (PEEK) - Clamping Type

WEB Selection Tool WEB CAD Download 0 Zero Backlash Cleanroom Electrical Insulation Chemical-proof

MSXP-C



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N・m)
MSXP-25C	25	8.5	25	4.25	8	M3	0.15
MSXP-30C	30	10.2	30	5.1	9	M3	0.15
MSXP-36C	36	12	35	6	11	M3	0.15

Part Number	Standard Bore Diameter D1-D2				
MSXP-25C	6 - 8		6 - 10		10 - 10
MSXP-30C	8 - 8		8 - 10		
MSXP-36C	10 - 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

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)
MSXP-25C	10	0.7	25000	3.0×10 ⁻⁷	110	0.05	0.5	±0.1	3.8
MSXP-30C	12	1	21000	7.8×10 ⁻⁷	180	0.05	0.5	±0.1	6.8
MSXP-36C	16	1.5	17000	1.8×10 ⁻⁶	280	0.05	0.5	±0.1	10

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

- Part number specification

MSXP-36C- 14-15

1 2

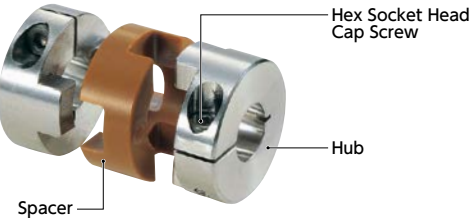
Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Please feel free to contact us	Cleanroom washed and packed	Not Available

MOHS Cleanroom / Vacuum / Heat Resistant Coupling - Oldham - Type (VESPEL)

WEB Selection Tool WEB CAD Download Cleanroom Electrical Insulation Heat-resistance Chemical-proof High Allowable Misalignment

Structure

- clamping type
MOHS-C → P.241



● Application

FPD manufacturing device/Semiconductor manufacturing device

● Material/Finish

RoHS2 Compliant

	MOHS-C
Hub	SUS303
Spacer	VESPEL*1
Hex Socket Head Cap Screw	SUSXM7 Molybdenum Disulfide Coating

- *1 : VESPEL is a registered trademark of U.S. company DuPont.
- The color may vary depending on the lot or other matters.

● Spacer's projection structure

Spacer's projection structure allows large angular to be effortlessly accepted. It reduces burden on the shaft.



(Without projection) (With projection)

In the Oldham-type coupling whose spacer has no projection, the spacer and hubs interfere with each other near outside diameter, so that the max. angular misalignment is small (1° - 1.5°) and that the bending moment arises on the shaft.

NBK's oldham type coupling allows the angular misalignment to be easily accepted since the projection serves as support. Bending moment does not arise. Therefore, the max. angular misalignment is large (2°) and the burden on the shaft is reduced.



● Property

	MOHS
Low Particle	△
Vacuum-supported	◎
Low Outgas	○
Heat-resistance	◎
Chemical Resistance	○
Allowable Misalignment	◎
Electrical Insulation	◎
Cleanroom Specification	◎
Allowable Operating Temperature	-20℃ to 200℃

- ◎: Excellent ○: Very good △: Abrasion powder may be produced
- This is an oldham-type flexible coupling.
- Clean washing and clean packaging are completed. It can be used in an environment or cleanroom where heat resistance and chemical resistance are required, such as FPD manufacturing device.
- VESPEL SPC5000 is adopted in the spacer. This is superior in heat resistance and chemical resistance, and the amount of outgas at high temperature is ultralow.
- Slippage of hubs and a spacer allows eccentricity and angular misalignment to be accepted.
- The load on the shaft generated by misalignment is small and the burden on the shaft is reduced.

● Part number specification

MOHS-19C-6-6

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	Cleanroom washed and packed	Changed to the S.S. screw

Selection Navigator



CAD Data Download

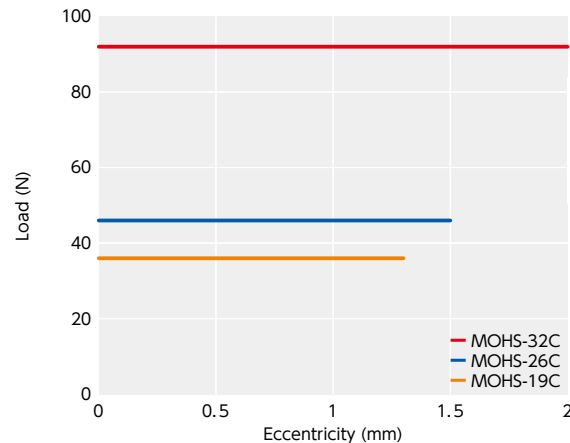
<https://www.nbk1560.com/>

MOHS Cleanroom / Vacuum / Heat Resistant Coupling - Oldham - Type (VESPEL)

WEB Selection Tool
 CAD Download
 Cleanroom
 Electrical Insulation
 Heat-resistance
 Chemical-proof
 High Allowable Misalignment

Technical Information

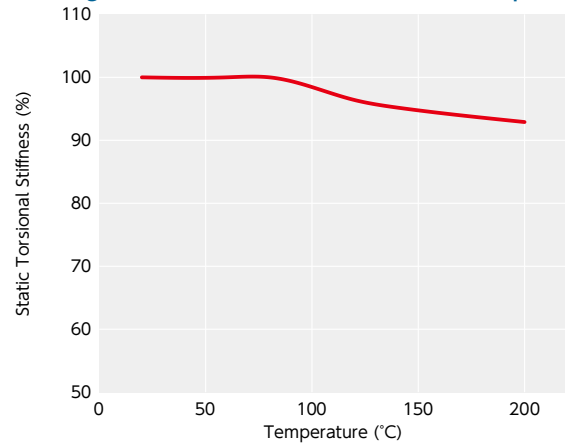
● Eccentric Reaction Force



These are initial slippage load values of hubs and a spacer.

After running-in operation, the slippage load becomes small, the load on the shaft due to misalignment becomes lowered, and the burden on the shaft bearing is reduced.

● 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 **MOHS** 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.

● Analysis of outgas

Unit: (v/v ppm)

Component	Content
Inorganic gas	Hydrogen
	Carbon monoxide
	Carbon dioxide
Organic gas	Methane
	Ethane
	Ethylene
	Propane
	Acetylene
	i-butane
	n-butane
	Propylene

● Both inorganic gas and organic gas are not more than the lower limit of determined amount and are not detected.

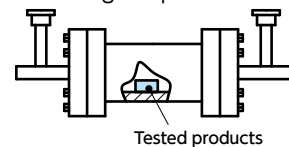
● Measurement Methods

Inorganic gas — Gas chromatography (TCD)

Organic gas — Gas chromatography (FID)

● Measurement Conditions

Heating temperature — 100°C



Technical Information

● VESPEL's physical property

Property	Test Method	Unit	VESPEL
Tensile Strength	D1708	N/mm ²	160
Tensile elongation	D1708	%	7
Bending Strength	D790	N/mm ²	247
Bending elastic modulus	D790	GPa	5.7
Izod impact value (with notch)	D256	J/m	—
Rockwell hardness	D785	R / M Scale	M100
Deflection Temperature Under Load (1.82MPa)	D648	°C	350
Combustibility	UL94	—	V-0
Dielectric Constant (10 ⁶ Hz)	D150	—	3.3
Dielectric loss tangent (10 ⁶ Hz)	D150	—	0.001
Volume resistivity (x10 ¹⁴)	D257	Ω · m	1
Insulation Breakdown Strength	D149	MV/m	—
Specific gravity	D792	—	1.43
Water absorption (in 23°C water x 24 h)	D570	%	0.08
Content by percentage of glass fiber	—	%	—

● VESPEL's chemical resistance

Property	VESPEL
10% hydrochloric acid	○
10% sulfuric acid	○
50% sulfuric acid	△
10% nitric acid	△
50% nitric acid	×
10% hydrofluoric acid	△
50% hydrofluoric acid	×
Formic acid	△
10% acetic acid	○
Citric acid	○
Boric acid	○
Methyl alcohol	△
Glycol	○
Ammonia	△

○: Available △: Fair pending on condition

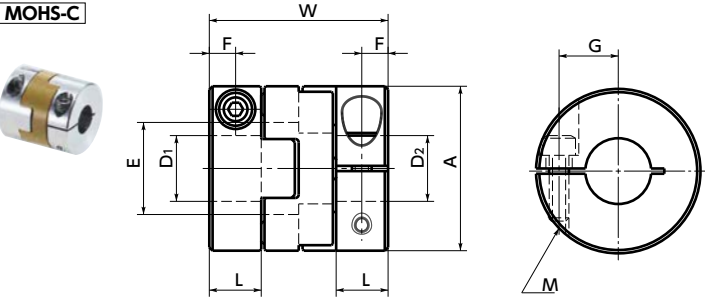
×: Not available

● This is test data with a specimen used at room temperature (23°C). The chemical resistance varies depending on the usage conditions. Be sure to perform a test under the same usage conditions as in actual usage in advance.

MOHS-C Cleanroom / Vacuum / Heat Resistant Coupling - Oldham Type (VESPEL) - Clamping Type

[WEB Selection Tool](#)
[WEB CAD Download](#)
[Cleanroom](#)
[Electrical Insulation](#)
[Heat-resistance](#)
[Chemical-proof](#)
[High Allowable Misalignment](#)

MOHS-C



Dimensions

Unit : mm

Part Number 1	A	L	W	E	F	G	M	Screw Tightening Torque (N・m)
MOHS-19C	19	7	22.1	10	3.5	6.5	M2.5	0.5
MOHS-26C	25.4	8	27.2	14	4	9	M3	0.7
MOHS-32C	31.7	10	33.3	18	5	11	M4	1.2

Part Number	Standard Bore Diameter D1・D2 2						
	5	6	8	10	11	12	14
MOHS-19C	●	●	●				
MOHS-26C			●	●			
MOHS-32C			●	●	●	●	●

- 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

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N・m)	Max.*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 (°)	Mass*2 (g)
MOHS-19C	8	0.4	0.8	900	1.4×10 ⁻⁶	160	1.3	2	28
MOHS-26C	10	1.2	2.4	900	5.5×10 ⁻⁶	220	1.5	2	61
MOHS-32C	14	2.2	4.4	900	1.6×10 ⁻⁵	600	2	2	110

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

- Part number specification

MOHS-32C-10-12 (1 set)

1 2

MOHS-SPCR (Single Spacer)

1 Single Spacer

Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Available / Add'l charge	Cleanroom washed and packed	Changed to the S.S. screw

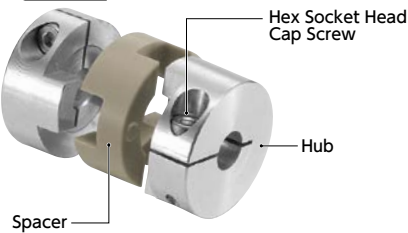
MOP Cleanroom / Vacuum / Heat Resistant Coupling - Oldham - Type (PEEK)

WEB Selection Tool WEB CAD Download Cleanroom Electrical Insulation Heat-resistance Chemical-proof High Allowable Misalignment

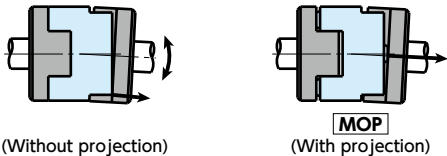
Structure

- clamping type

MOP-C → P.247



- Spacer's projection structure
Spacer's projection structure allows large angular to be effortlessly accepted. It reduces burden on the shaft.



In the Oldham-type coupling whose spacer has no projection, the spacer and hubs interfere with each other near outside diameter, so that the max. angular misalignment is small (1° - 1.5°) and that the bending moment arises on the shaft.
NBK's oldham type coupling allows the angular misalignment to be easily accepted since the projection serves as support. Bending moment does not arise. Therefore, the max. angular misalignment is large (2°) and the burden on the shaft is reduced.

Property

	MOP
Low Particle	△
Vacuum-supported	○
Low Outgas	○
Heat-resistance	○
Chemical Resistance	○
Allowable Misalignment	○
Electrical Insulation	○
Cleanroom Specification	○
Allowable Operating Temperature	-20℃ to 120℃

○: Excellent ○: Very good

△: Abrasion powder may be produced

- This is an oldham-type flexible coupling.
- Clean washing and clean packaging are completed.
It can be used in an environment or cleanroom where heat resistance and chemical resistance are required, such as FPD manufacturing device and semiconductor manufacturing device.
- PEEK is adopted in the spacer. This is superior in heat resistance and chemical resistance, and the amount of outgas is ultralow.
- Slippage of hubs and a spacer allows eccentricity and angular misalignment to be accepted.
- The load on the shaft generated by misalignment is small and the burden on the shaft is reduced.

Application

FPD manufacturing device/Semiconductor manufacturing device

Material/Finish



	MOP-C
Hub	A2017
Spacer	PEEK (Polyether ether ketone)
Hex Socket Head Cap Screw	SUSXM7

PEEK's color may vary depending on the lot or other matters.

Part number specification

MOP-25C-8-8

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

Cleanroom washed and packed

Changed to the S.S. screw

Selection Navigator



CAD Data Download

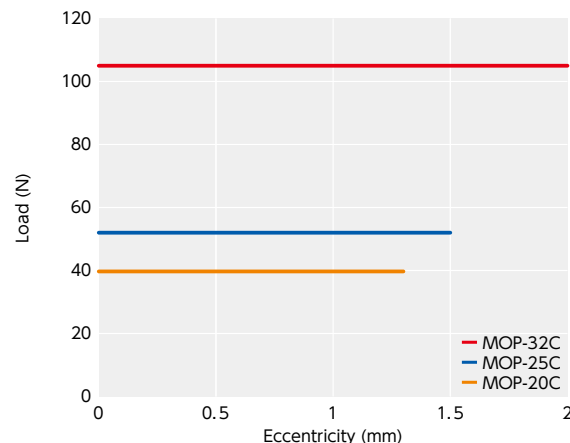
https://www.nbk1560.com/

MOP Cleanroom / Vacuum / Heat Resistant Coupling - Oldham - Type (PEEK)

WEB Selection Tool CAD Download Cleanroom Electrical Insulation Heat-resistance Chemical-proof High Allowable Misalignment

Technical Information

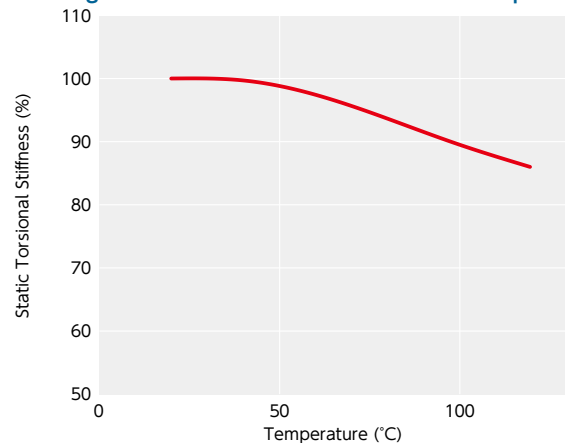
● Eccentric Reaction Force



These are initial slippage load values of hubs and a spacer.

After running-in operation, the slippage load becomes small, the load on the shaft due to misalignment becomes lowered, and the burden on the shaft bearing is reduced.

● 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 **MOP** 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.

● Analysis of outgas

Unit: (v/v ppm)		
Component	Content	
Inorganic gas	Hydrogen	500 or less
	Carbon monoxide	500 or less
	Carbon dioxide	500 or less
Organic gas	Methane	5 or less
	Ethane	5 or less
	Ethylene	5 or less
	Propane	5 or less
	Acetylene	5 or less
	i-butane	5 or less
	n-butane	5 or less
	Propylene	5 or less

● Both inorganic gas and organic gas are not more than the lower limit of determined amount and are not detected.

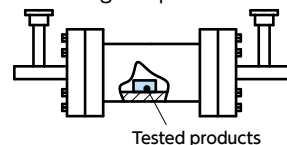
● Measurement Methods

Inorganic gas — Gas chromatography (TCD)

Organic gas — Gas chromatography (FID)

● Measurement Conditions

Heating temperature — 100°C



Technical Information

● PEEK's physical property

Property	Test Method	unit	PEEK
Tensile Strength	D638	N/mm ²	97
Tensile elongation	D638	%	65
Bending Strength	D790	N/mm ²	156
Bending elastic modulus	D790	GPa	4.1
Izod impact value (with notch)	D256	J/m	94
Rockwell hardness	D785	R / M Scale	M99
Deflection Temperature Under Load (1.82MPa)	D648	°C	152
Combustibility	UL94	—	V-0
Dielectric Constant (10 ⁶ Hz)	D150	—	3.3
Dielectric loss tangent (10 ⁶ Hz)	D150	—	0.003
Volume resistivity (x10 ¹⁴)	D257	Ω·m	4.9
Insulation Breakdown Strength	D149	MV/m	17
Arc resistance	D495	sec	23
Specific gravity	D792	—	1.30
Water absorption (in 23°C water x 24 h)	D570	%	0.500
Content by percentage of glass fiber	—	%	0

● PEEK's chemical resistance

Chemical name	PEEK
10% hydrochloric acid	○
10% sulfuric acid	○
50% sulfuric acid	×
10% nitric acid	○
50% nitric acid	×
50% hydrofluoric acid	×
10% phosphoric acid	○
Formic acid	△
10% acetic acid	○
Citric acid	○
Chromic acid	○
Boric acid	○
Methyl alcohol	○
Glycol	○
Ammonia	○
10% sodium hydroxide	○
10% potassium hydroxide	○
Calcium hydroxide	○
Hydrogen sulfide (gas)	○
Sulfur dioxide	○
Ammonium nitrate	○
Sodium nitrate	○
Calcium carbonate	○
Calcium chloride	○
Magnesium chloride	○
Magnesium sulfate	○
Zinc sulfate	○
Hydrogen peroxide	○

○: Available △: Fair pending on condition

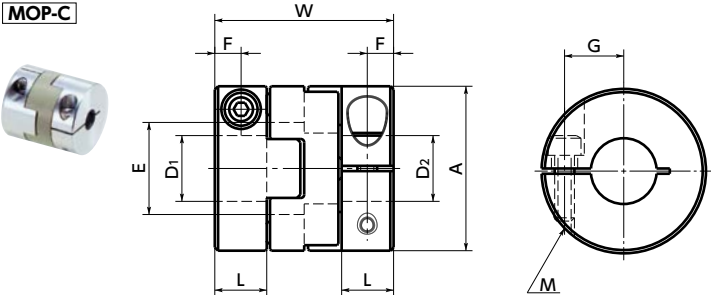
×: Not available

● This is test data with a specimen used at room temperature (23°C). The chemical resistance varies depending on the usage conditions. Be sure to perform a test under the same usage conditions as in actual usage in advance.

MOP-C Cleanroom / Vacuum / Heat Resistant Coupling - Oldham - Type (PEEK) - Clamping Type

WEB Selection Tool WEB CAD Download Cleanroom Electrical Insulation Heat-resistance Chemical-proof High Allowable Misalignment

MOP-C



Dimensions

Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N・m)
MOP-20C	20	7	22.1	10	3.5	6.5	M2.5	1
MOP-25C	25	8	27.2	14	4	9	M3	1.5
MOP-32C	32	10	33.3	18	5	11	M4	2.5

Part Number	Standard Bore Diameter D1・D2						
	5	6	8	10	11	12	14
MOP-20C	●	●	●				
MOP-25C			●	●			
MOP-32C				●	●	●	●

- 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

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N・m)	Max.*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 (°)	Mass*2 (g)
MOP-20C	8	0.7	1.4	31000	7.4×10 ⁻⁷	93	1.3	2	13
MOP-25C	10	1.2	2.4	25000	2.2×10 ⁻⁶	140	1.5	2	24
MOP-32C	14	2.8	5.6	19000	7.3×10 ⁻⁶	350	2	2	48

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

- Part number specification

MOP-25C - 8-8 (1 set)

1 2

MOP-25 - SPCR (Single Spacer)

Product Code Outside Diameter (A Dimension) Single Spacer

Additional Keyway at Shaft Hole ➡ P.803 Cleanroom Wash & Packaging ➡ P.807 Change to Stainless Steel Screw ➡ P.805 Available / Add'l charge Cleanroom washed and packed Changed to the S.S. screw