

CATALOG No. **CM-01**

**NBK**<sup>®</sup>

Nabeya Bi-tech Kaisha

# Couplicon·mini

Miniature Couplings



Optimum Power Transmission and Control P.2-5



**MSX** P.7-9



**MST** P.11-16



**MWS** P.17-19



**MTD** P.24



**MHS** P.23



**MHW** P.22



**MDW** P.20-21





 **MOS** P.38~39



**MOL** P.35~37



**MCT** P.40~41



 **MKM** P.28~30




**MFB** P.25~27



 **MWBS** P.31~33



 **MLR** P.58~59



**MJT** P.42~51



**MRG** P.55~57

**MSF** P.52~53



**MPF** P.64



**Flexus**® P.62~63



 **MDR** P.60~61

















**Note** P.65




# Optimum Power Transmission and Control










## Selecting Couplicon® mini Couplings

- 1 Couplicon® mini couplings are mechanical components for transmitting torque and rotational angle. Each type has its own unique characteristics. Select a type which best fits your requirement in the table below.
- 2 Refer to the specification and the stock bore size tables of the type you have selected for deciding which product you exactly need.
- 3 Confirm that rated torque, max. rotational frequency, and dimensions of the coupling type you have selected are adequate for the equipment you intend to use it with. Max. torque of the Couplicon® mini is two-fold of the rated torque. Select a type in which torque generated during continuous operation does not exceed the rated torque of the Couplicon® mini.

Characteristics	Flexible Coupling									
	MSX NEW	MST NEW ADDITIONS IN SIZE	MSTS NEW ADDITIONS IN SIZE	MWS NEW ADDITIONS IN SIZE	MWSS NEW ADDITIONS IN SIZE	MDW NEW	MHW	MHS	MTD	MFB NEW ADDITIONS IN SIZE
										
	(P.7~9)	(P.11~16)	(P.11~16)	(P.17~19)	(P.17~19)	(P.20~21)	(P.22)	(P.23)	(P.24)	(P.25~27)
Zero Backlash	●	●	●	●	●	●	●	●	●	●
High Torsional Stiffness	●	●	●	●	●	●	●	●	●	●
High Torque	●		●		●	●	●	●		
Flexibility		●	●			●	●		●	
Compactness	●			●	●			●		
All Stainless Steel			●		●					
Absorption of Vibration										
Electrical Insulation										
Constant Velocity										●
Setscrew Type	●	●	●	●	●				●	●
Clamp Type	●	●	●	●	●	●	●	●		●
Keyway Type		●	●							

Characteristics	Rigid Coupling			
	MRG	MRGS	MLR NEW	MLRS NEW
				
	(P.55~57)	(P.55~57)	(P.58~59)	(P.58~59)
All Stainless Steel		●		●
Setscrew Type	●	●		
Clamp Type	●	●	●	●
Split Type	●	●		
Semi-Split Type			●	●

Usage	Mechanical Parts		
	MDR NEW	Flexus®	MPF
			
	(P.60~61)	(P.62~63)	(P.64)
Damper Roll	●		
Flexus®		●	
Photo Sensor Flange			●

Flexible Coupling									Characteristics
MFBS <small>NEW ADDITIONS IN SIZE</small>	MKM <small>NEW</small>	MWBS <small>NEW</small>	MOL <small>NEW ADDITIONS IN SIZE</small>	MOS <small>NEW</small>	MCT <small>NEW ADDITIONS IN SIZE</small>	MJT <small>NEW ADDITIONS IN SIZE</small>	MSF	MSFH	
 (P.25~27)	 (P.28~30)	 (P.31~33)	 (P.35~37)	 (P.38~39)	 (P.40~41)	 (P.42~51)	 (P.52~53)	 (P.52~53)	
●	●	●				●			Zero Backlash
●	●	●	●	●	●	●			High Torsional Stiffness
●	●	●	●	●	●	●		●	High Torque
		●	●	●	●	●	●	●	Flexibility
				●					Compactness
●		●							All Stainless Steel
			●	●		●	●	●	Absorption of Vibration
			●	●		●	●	●	Electrical Insulation
●	●	●					●	●	Constant Velocity
●		●	●		●	●	●	●	Setscrew Type
●	●		●	●	●	●			Clamp Type
						●			Keyway Type

## Customized Couplings

In case standard couplings do not fit your application, customized couplings are available.

We are ready to manufacture customized couplings to satisfy your application requirements, such as special bores, keyways, surface treatment, dimensional, configurational and material specifications. Please contact NBK directly for inquiries on customized couplings at [info@nbk1560.com](mailto:info@nbk1560.com) or fax : +81-575-23-1129.



# Optimum Power Transmission and Control

## Attachment

The following five types of couplings are available for attachment on a shaft. Select a coupling matching your application.

Setscrews or socket head cap screws should be properly tightened using a torque driver or a torque wrench. Refer to wrench torque as shown in the specification table on each product.

### ① Setscrew Type

This low-cost type features the most conventional attachment. However, the point of setscrew may cause damage to the shaft and may be difficult to remove.



### ② Clamp Type

This type is clamped on the shaft by tightening the socket head cap screws. Attachment and removal is easy, and no shaft damage results.



### ③ Split Type

The split type features separate hubs completely. It can provide easy attachment and removal without sliding your equipment.



### ④ Semi-Split Type

This type features the combination of one clamp type hub and one split type hub. Equipment can be installed by placing one shaft in the split type hub, with the other shaft being fixed in the clamp type hub.



### ⑤ Keyway Type

This type, like the setscrew type, features the most conventional attachment and is used for transmitting relatively high torque. Setscrew / Clamp type hubs are applied for preventing shift towards the axial direction.



## Alignment Adjustment

- ❶ Flexible couplings transmit torque and rotational angle while absorbing misalignment. When the misalignment exceeds allowable values, vibration may result or the life of the coupling may become shortened. Make sure to adjust the alignment accordingly.
- ❷ There are three types of shaft misalignment, namely in terms of parallel misalignment, angular misalignment and shaft end-play. Adjust the alignment to be below allowable values listed in the specification table of each product provided in this catalog.
- ❸ The maximum misalignment listed in this catalog is the allowable value when only one of the misalignments exists. In case two or more misalignments exist at the same time, the allowable values will be less than 1/2 of the maximum misalignment listed in the specification tables.
- ❹ Misalignments are sometimes caused not only by equipment assembly, but also by vibration, heat expansion, wear of bearings, etc. during operation. Therefore, it is recommended to adjust the shaft misalignment to be below 1/3 of maximum values.

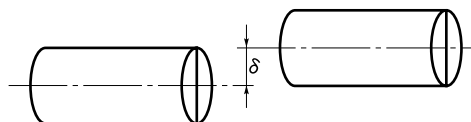
## Adjustment of Torque Capacity in High Temperature Applications

MJT, MOL, MOS, and MSF include elastomer or plastic parts. These models must be used in the operational temperature range of each model as indicated in this catalog.

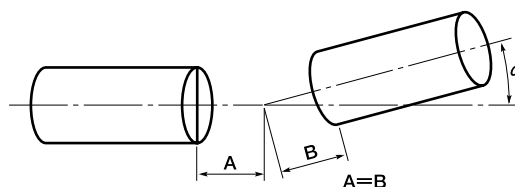
If the ambient temperature exceeds 30°C (86°F), the values of max. torque and rated torque should be multiplied by the values of the service factors listed in the table below.

Ambient Temperature	Service Factor
-20°C~ 30°C	1.00
30°C~ 40°C	0.80
40°C~ 60°C	0.70
60°C~100°C	0.55

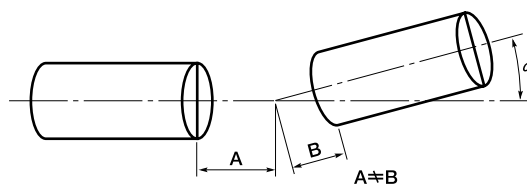
### ● Parallel Offset Misalignment



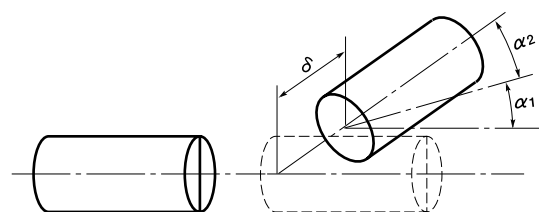
### ● Symmetrical Angular Misalignment



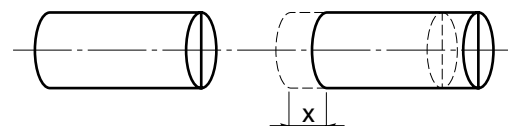
### ● Non-Symmetrical Angular Misalignment



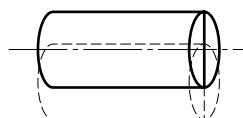
### ● Combined Angular-Offset Misalignment



### ● End-Play



### ● Run Out



# Beauty Created by Functional Extremes

## Radial Slits on Cylinder Bar

### Complete One-piece Construction

### Metallic Spring Couplings ————— Couplicon 1 & 2

Flexibility-torque capacity-torsional stiffness-light weight-compactness —

Pursuing the ultimate in performance and function required for precision miniature shaft couplings.

Cylindrical in shape, these flexible couplings have slits forming a metallic spring and

feature two kinds of slit patterns based on our clear design concept — Couplicon® 1 & 2.

These uniquely designed flexible couplings have been realized.

## Couplicon 1

**MST** (P.11~16)



**MWS** (P.17~19)



Torsional stiffness and flexibility —  
Good balance between these inconsistent functions has been achieved.  
These are the flexible couplings suitable for stepping motor applications.

## Couplicon 2

**MSX** (P.7~9)



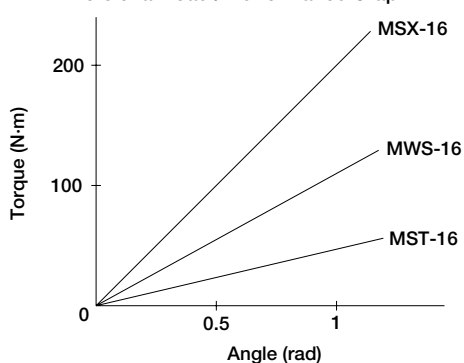
High torsional stiffness, light weight and compactness —

This is the flexible coupling suitable for servomotor applications.

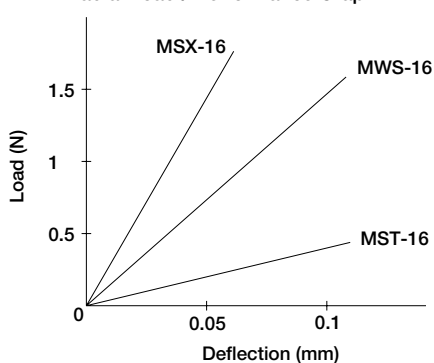


### Characteristics Comparison

• Torsional Load / Performance Graph



• Radial Load / Performance Graph



The simple configuration of slit type couplings allows free modification in the number of slits, clearance between slits, and width and depth of the slits to best match specific performance parameters.

NBK designs and manufactures the most suitable couplings for each customer's application requirement from our accumulated technical expertise on custom-made products.





# MSX Couplicon 2

Miniature Slit Type Flexible Coupling

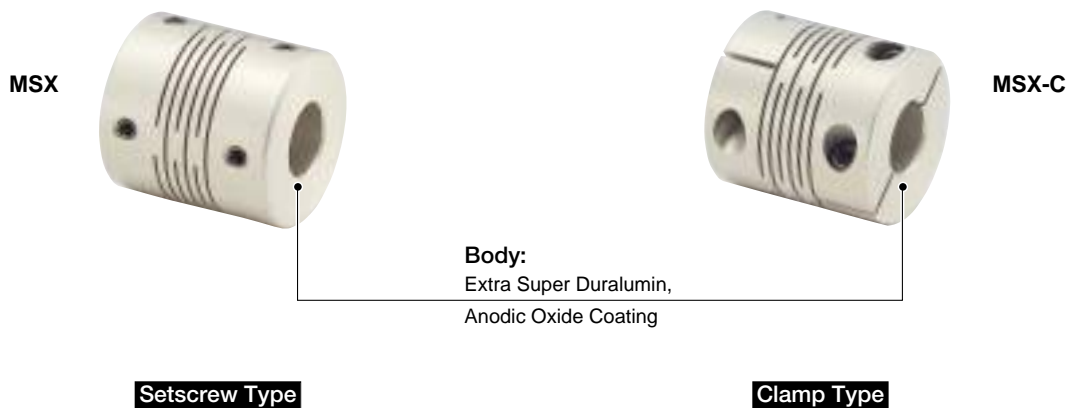


## Features

- One-piece metallic spring coupling
- Extremely high torsional stiffness, low inertia and excellent response
- Manufactured from extra super duralumin - the highest strength aluminum alloy
- Zero backlash
- Absorption of parallel, angular misalignments and shaft end-play by spring action
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance-free, oil and chemical resistant
- Finished bore product-Models featuring two different end bores also in stock

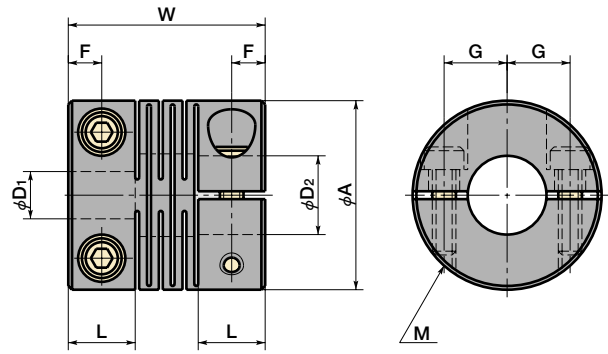
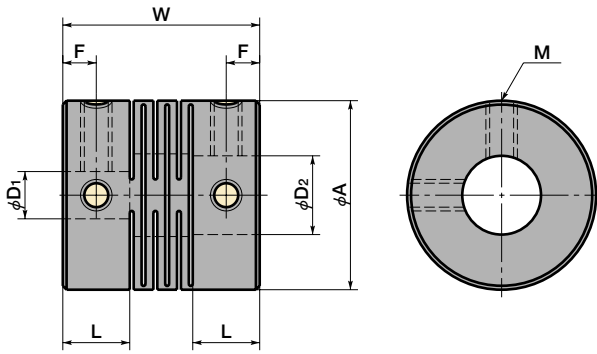


## Configuration & Material



**MSX** Setscrew Type

**MSX-C** Clamp Type



**Dimensions**

unit:mm

Catalog Number	A	L	W	F	G	M	Wrench 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-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

Catalog Number	Stock Bores							
	D1×D2							
MSX-16	5 × 5	5 × 6	6 × 6					
MSX-19	5 × 5	5 × 6	5 × 7	5 × 8	6 × 6	6 × 6.35	6× 7	6× 8
	6.35× 6.35	6.35× 8	8 × 8	8 ×10	10 ×10			
MSX-24	6 × 6	6 × 8	6 ×10	6.35× 6.35	6.35× 8	6.35×10	7× 8	8× 8
	8 × 9.525	8 ×10	9.525×10	10 ×10	10 ×11	10 ×12	11×12	12×12
MSX-29	8 × 8	8 ×10	8 ×11	8 ×12	10 ×10	10 ×11	10×12	10×14
	11 ×12	11 ×14	12 ×12	12 ×14				
MSX-34	10 ×14	11 ×14	12 ×12	12 ×14	12 ×16	14 ×14	14×15	14×16
	15 ×15	15 ×16	16 ×16					
MSX-16C	5 × 5	5 × 6	6 × 6					
MSX-19C	5 × 5	5 × 6	5 × 7	5 × 8	6 × 6	6 × 6.35	6× 7	6× 8
	6.35× 6.35	6.35× 8	8 × 8					
MSX-24C	6 × 6	6 × 8	6 ×10	6.35× 6.35	6.35× 8	6.35×10	7× 8	8× 8
	8 × 9.525	8 ×10	9.525×10	10 ×10				
MSX-29C	8 × 8	8 ×10	8 ×11	8 ×12	10 ×10	10 ×11	10×12	11×12
	12 ×12							
MSX-34C	10 ×14	11 ×14	12 ×12	12 ×14	12 ×16	14 ×14	14×15	14×16
	15 ×15	15 ×16	16 ×16					

- All products come with setscrews (MSX) or cap screws (MSX-C).
- Tolerance on shaft bores of setscrew type coupling is H8.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass*
MSX-16	8	0.5	1	24000	$2.8 \times 10^{-7}$	200	0.05	0.5	±0.1	7
MSX-19	10	1	2	20000	$6.2 \times 10^{-7}$	270	0.05	0.5	±0.1	10
MSX-24	12	1.5	3	16000	$2.0 \times 10^{-6}$	790	0.05	0.5	±0.1	22
MSX-29	14	2	4	13000	$5.2 \times 10^{-6}$	1400	0.05	0.5	±0.1	40
MSX-34	18	3	6	11000	$1.1 \times 10^{-5}$	2200	0.05	0.5	±0.1	64
MSX-16C	6	0.5	1	9500	$2.5 \times 10^{-7}$	200	0.05	0.5	±0.1	7
MSX-19C	8	1	2	8000	$5.8 \times 10^{-7}$	270	0.05	0.5	±0.1	12
MSX-24C	10	1.5	3	6300	$1.8 \times 10^{-6}$	790	0.05	0.5	±0.1	23
MSX-29C	12	2	4	5200	$4.7 \times 10^{-6}$	1400	0.05	0.5	±0.1	41
MSX-34C	16	3	6	4400	$1.1 \times 10^{-5}$	2200	0.05	0.5	±0.1	62

\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

MSX-19C- $\phi 5 \times \phi 6$

Product No.      D1      D2



You can download the most current CAD data on Couplicon® mini couplings directly from our website. The file is available in DXF format.

\* DXF is the registered trademark of Autodesk, Inc.



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

e-mail : [info@nbk1560.com](mailto:info@nbk1560.com)

# MST Couplicon 1

Miniature Slit Type Flexible Coupling



## Features

- One-piece metallic spring coupling
- Zero backlash
- Absorption of parallel, angular misalignments and shaft end-play by spring action
- High torsional stiffness and response
- Identical clockwise and anti-clockwise rotational characteristics
- Maintenance-free, oil and chemical resistant
- Available in aluminum alloy and stainless steel
- Outside diameter ranging from  $\phi 8$  to  $\phi 63$  - Wide variation
- Finished bore product-Models featuring two different end bores also in stock



Recipient of  
1988 MITI  
Good Design Award



Award for good  
industrial design 1991

## Configuration & Material

**MST**  
Outside Dia.  $\phi 8$ ~ $\phi 63$



**MST-C**  
Outside Dia.  $\phi 12$ ~ $\phi 32$



**MST-C**  
Outside Dia.  $\phi 40$ ~ $\phi 63$



**MST-K**  
Outside Dia.  $\phi 32$ ~ $\phi 63$



Body: Aluminum Alloy, Anodic Oxide Coating

**MSTS**  
Outside Dia.  $\phi 8$ ~ $\phi 63$



**MSTS-C**  
Outside Dia.  $\phi 12$ ~ $\phi 32$



**MSTS-C**  
Outside Dia.  $\phi 40$ ~ $\phi 63$



**MSTS-K**  
Outside Dia.  $\phi 32$ ~ $\phi 63$



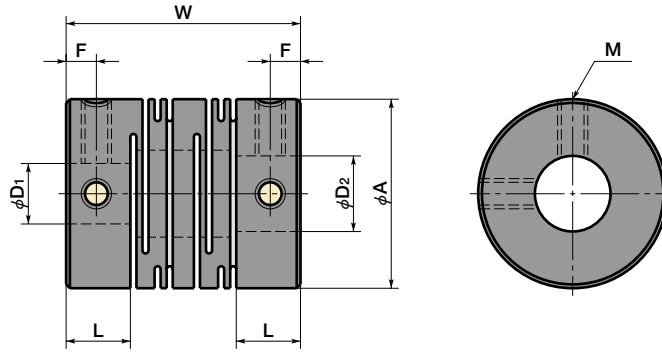
Body: Stainless Steel

### Setscrew Type

### Clamp Type

### Keyway Type

Material	Attachment		
	Setscrew Type	Clamp Type	Keyway Type
Aluminum Alloy	MST -**	MST -**C	MST -**K
Stainless Steel	MSTS-**	MSTS -**C	MSTS -**K



## Dimensions

unit:mm

Catalog Number	A	L	W	F	M	Wrench 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

Catalog Number	Stock Bores							
	D1×D2 (Tolerance H8)							
MST - 8	2 × 2	2 × 3	3 × 3					
MSTS- 8								
MST -12	3 × 3	3 × 4	4 × 4	4 × 5	4.5 × 5	5 × 5	5 × 6	
MSTS-12								
MST -16	4 × 4	4 × 5	4 × 6	4.5 × 5	4.5 × 6	5 × 5	5 × 6	5 × 7
MSTS-16	5 × 8	6 × 6	6 × 6.35	6 × 7	6 × 8	6.35 × 8		
MST -20	5 × 5	5 × 6	5 × 7	6 × 6	6 × 6.35	6 × 7	6 × 8	6 × 10
MSTS-20	6.35 × 8	8 × 8	8 × 9.525	8 × 10	9.525 × 10	10 × 10		
MST -25	5 × 6	6 × 6	6 × 6.35	6 × 8	6 × 10	6.35 × 8	6.35 × 10	8 × 8
MSTS-25	8 × 9.525	8 × 10	8 × 12	9.525 × 10	10 × 10	10 × 11	10 × 12	12 × 12
MST -32	6 × 8	6.35 × 8	8 × 8	8 × 9.525	8 × 10	8 × 12	9.525 × 10	9.525 × 12
MSTS-32	10 × 10	10 × 11	10 × 12	10 × 14	12 × 12	12 × 14	14 × 14	14 × 16
MST -40	8 × 9.525	9.525 × 10	9.525 × 12	10 × 10	12 × 12	14 × 14	14 × 16	14 × 18
MSTS-40	15 × 15	16 × 16	16 × 18	18 × 18				
MST -50	12 × 12	12 × 14	14 × 14	14 × 16	15 × 15	16 × 16	16 × 18	18 × 18
MSTS-50								
MST -63	14 × 14	15 × 15	16 × 16	18 × 18				
MSTS-63								

- All products come with setscrews.
- Hubs with shaft bore diameters of φ4 or less have one setscrew.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass*
MST - 8	4	0.1	0.2	48000	$1.2 \times 10^{-8}$	25	0.10	2	±0.2	1.4
MST -12	6	0.2	0.4	32000	$8.3 \times 10^{-8}$	35	0.10	2	±0.3	3.7
MST -16	8	0.3	0.6	24000	$3.3 \times 10^{-7}$	47	0.10	2	±0.4	8.1
MST -20	10	0.5	1	19000	$9.0 \times 10^{-7}$	120	0.10	2	±0.4	14
MST -25	12	1	2	15000	$2.6 \times 10^{-6}$	170	0.15	2	±0.5	27
MST -32	16	2	4	12000	$9.6 \times 10^{-6}$	280	0.15	2	±0.5	60
MST -40	20	5	10	9600	$3.2 \times 10^{-5}$	350	0.20	2	±0.5	130
MST -50	25	10	20	7700	$1.0 \times 10^{-4}$	590	0.20	2	±0.5	260
MST -63	35	20	40	6100	$3.2 \times 10^{-4}$	850	0.20	2	±0.5	490
MSTS- 8	4	0.2	0.4	48000	$3.1 \times 10^{-8}$	50	0.10	2	±0.2	3
MSTS-12	6	0.3	0.6	32000	$2.1 \times 10^{-7}$	64	0.10	2	±0.3	9.3
MSTS-16	8	0.5	1	24000	$8.4 \times 10^{-7}$	85	0.10	2	±0.3	21
MSTS-20	10	1	2	19000	$2.4 \times 10^{-6}$	250	0.10	2	±0.3	38
MSTS-25	12	2	4	15000	$6.8 \times 10^{-6}$	330	0.15	2	±0.4	71
MSTS-32	16	3.5	7	12000	$2.6 \times 10^{-5}$	850	0.15	2	±0.5	160
MSTS-40	20	8	16	9600	$8.7 \times 10^{-5}$	1000	0.20	2	±0.5	350
MSTS-50	25	15	30	7700	$2.7 \times 10^{-4}$	1400	0.20	2	±0.5	700
MSTS-63	35	35	70	6100	$8.4 \times 10^{-4}$	1800	0.20	2	±0.5	1300

\* Moment of inertia and mass figures based on the maximum shaft bores.

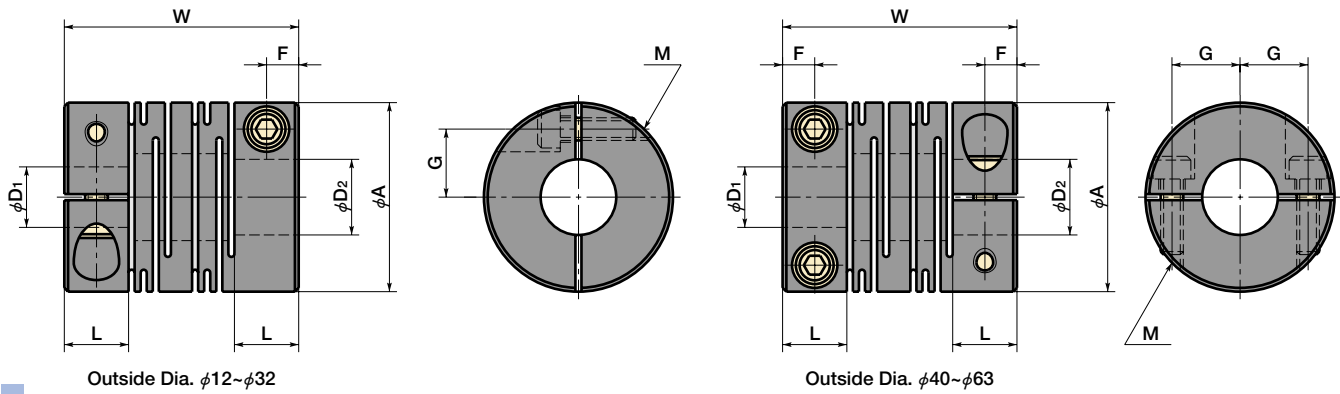
## When Ordering

- Specify product No. and both bore diameters.

**MST-25- $\phi$ 8 $\times$  $\phi$ 10**

Product No.      D1      D2

**MST-C | MSTS-C** Clamp Type



**Dimensions**

unit:mm

Catalog Number	A	L	W	F	G	M	Wrench 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

Catalog Number	Stock Bores							
	D1×D2							
MST -12C	4 × 4	4 × 5	4.5 × 5	5 × 5				
MSTS-12C								
MST -16C	4.5 × 5	4.5 × 6	5 × 5	5 × 6	6 × 6			
MSTS-16C								
MST -20C	5 × 6	5 × 6.35	5 × 7	5 × 8	6 × 6	6 × 6.35	6 × 7	6 × 8
MSTS-20C	6.35 × 8	8 × 8						
MST -25C	5 × 6	6 × 6	6 × 6.35	6 × 8	6 × 10	6.35 × 8	6.35 × 10	8 × 8
MSTS-25C	8 × 9.525	8 × 10	9.525 × 10	10 × 10				
MST -32C	8 × 8	8 × 9.525	8 × 10	8 × 12	9.525 × 10	9.525 × 12	10 × 10	10 × 11
MSTS-32C	10 × 12	10 × 14	12 × 12	12 × 14				
MST -40C	8 × 8	12 × 12	12 × 14	14 × 14	14 × 16	15 × 15	16 × 16	
MSTS-40C								
MST -50C	12 × 14	14 × 14	14 × 16	15 × 15	16 × 16	18 × 18		
MSTS-50C								
MST -63C	14 × 14	15 × 15	16 × 16	18 × 18				
MSTS-63C								

- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.



## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass*
MST -12C	5	0.2	0.4	12000	$7.8 \times 10^{-8}$	35	0.10	2	±0.3	3.6
MST -16C	6	0.3	0.6	9500	$3.4 \times 10^{-7}$	47	0.10	2	±0.4	9.2
MST -20C	8	0.5	1	7600	$9.1 \times 10^{-7}$	120	0.10	2	±0.4	16
MST -25C	10	1	2	6100	$2.6 \times 10^{-6}$	170	0.15	2	±0.5	28
MST -32C	14	2	4	4800	$9.7 \times 10^{-6}$	280	0.15	2	±0.5	64
MST -40C	18	5	10	3800	$3.3 \times 10^{-5}$	350	0.20	2	±0.5	140
MST -50C	22	10	20	3100	$1.0 \times 10^{-4}$	590	0.20	2	±0.5	270
MST -63C	30	20	40	2400	$3.2 \times 10^{-4}$	850	0.20	2	±0.5	530
MSTS-12C	5	0.3	0.6	12000	$2.2 \times 10^{-7}$	64	0.10	2	±0.2	10
MSTS-16C	6	0.5	1	9500	$9.0 \times 10^{-7}$	85	0.10	2	±0.3	25
MSTS-20C	8	1	2	7600	$2.5 \times 10^{-6}$	250	0.10	2	±0.3	43
MSTS-25C	10	2	4	6100	$7.1 \times 10^{-6}$	330	0.15	2	±0.4	78
MSTS-32C	14	3.5	7	4800	$2.7 \times 10^{-5}$	850	0.15	2	±0.5	170
MSTS-40C	18	8	16	3800	$9.0 \times 10^{-5}$	1000	0.20	2	±0.5	370
MSTS-50C	22	15	30	3100	$2.8 \times 10^{-4}$	1400	0.20	2	±0.5	750
MSTS-63C	30	35	70	2400	$8.8 \times 10^{-4}$	1800	0.20	2	±0.5	1400

\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

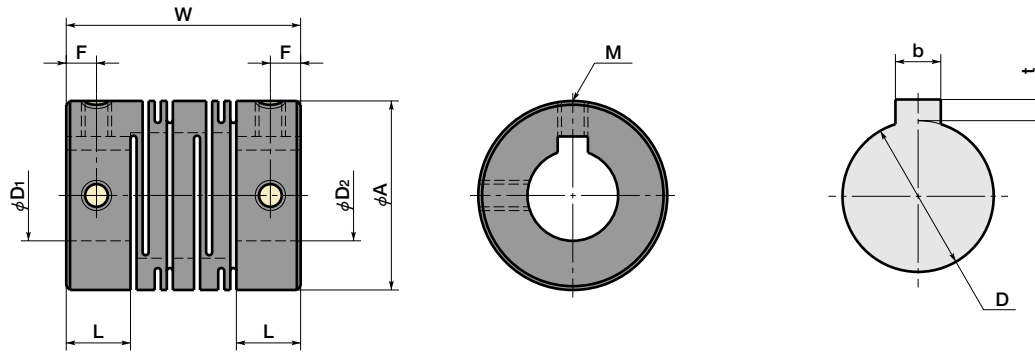
**MST-25C- $\phi$ 8 $\times$  $\phi$ 9.525**

Product No.

D1

D2

**MST-K MSTS-K** Keyway Type



**Dimensions**

unit:mm

Catalog Number	A	L	W	F	M	Wrench Torque (N·m)	Stock Bores		
							D <sub>1</sub> ×D <sub>2</sub> (Tolerance H8)		
MST -32K	32	12	41	6	M4	1.7	12×12	14×14	
MST -40K	40	17	56	8.5	M5	4	14×14	16×16	18×18
MST -50K	50	21	71	10.5	M6	7	16×16	18×18	20×20
MST -63K	63	26	90	13	M8	15	20×20	25×25	30×30
MSTS-32K	32	12	41	6	M4	1.7	12×12	14×14	
MSTS-40K	40	17	56	8.5	M5	4	14×14	16×16	18×18
MSTS-50K	50	21	71	10.5	M6	7	16×16	18×18	20×20
MSTS-63K	63	26	90	13	M8	15	20×20	25×25	30×30

- All products come with setscrews.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

**Specifications**

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MST -32K	14	2	4	4800	9.6×10 <sup>-6</sup>	280	0.15	2	±0.5	59
MST -40K	18	5	10	3800	3.2×10 <sup>-5</sup>	350	0.20	2	±0.5	130
MST -50K	20	10	20	3100	1.0×10 <sup>-4</sup>	590	0.20	2	±0.5	270
MST -63K	30	20	40	2400	3.2×10 <sup>-4</sup>	850	0.20	2	±0.5	490
MSTS-32K	14	3.5	7	4800	2.6×10 <sup>-5</sup>	850	0.15	2	±0.5	160
MSTS-40K	18	8	16	3800	8.6×10 <sup>-5</sup>	1000	0.20	2	±0.5	340
MSTS-50K	20	15	30	3100	2.8×10 <sup>-4</sup>	1400	0.20	2	±0.5	730
MSTS-63K	30	35	70	2400	8.5×10 <sup>-4</sup>	1800	0.20	2	±0.5	1300

\* Moment of inertia and mass figures based on the maximum shaft bores.

Stock Bores D	Keyways				Keys b×h
	b		t		
	Basic Size	Tolerance (JS9)	Basic Size	Tolerance	
12	4	±0.0150	1.8	+0.1 0	4×4
14 16	5	±0.0150	2.3	+0.1 0	5×5
18 20	6	±0.0150	2.8	+0.1 0	6×6
25 30	8	±0.0180	3.3	+0.2 0	8×7

**When Ordering**

- Specify product No. and both bore diameters.



**MWS** NEW ADDITIONS TO THE

Miniature Slit Type Flexible Coupling



## Features

- One-piece metallic spring coupling
- Zero backlash
- Absorption of angular misalignment and shaft end-play by spring action
- Parallel misalignment is not absorbed
- High torsional stiffness and response
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free and excellent resistance to oil and chemicals
- Available in aluminum alloy and stainless steel
- Finished bore product-Models featuring two different end bores also in stock

## Configuration & Material

MWS



MWS-C



Body: Aluminum Alloy, Anodic Oxide Coating

MWSS



MWSS-C

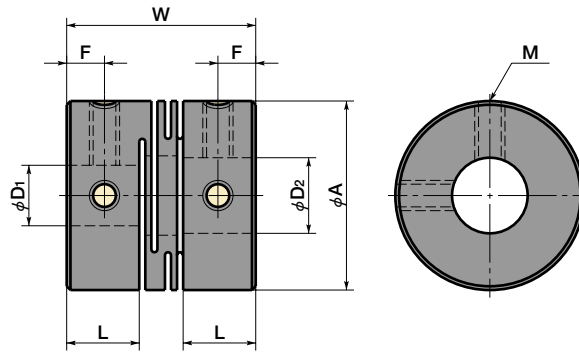


Body: Stainless Steel

**Setscrew Type**

**Clamp Type**

Material	Attachment	
	Setscrew Type	Clamp Type
Aluminum Alloy	MWS -**	MWS -**C
Stainless Steel	MWSS-**	MWSS-**C



## Dimensions

unit:mm

Catalog Number	A	L	W	F	M	Wrench Torque (N·m)	Stock Bores							
							D <sub>1</sub> ×D <sub>2</sub> (Tolerance H8)							
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	4.5× 6	5 × 5	5× 6	6× 6			
MWS -20	20	7.65	20	3	M3	0.7	5 × 6	5 × 7	5 × 8	6× 6	6× 7	6× 8	8× 8	
MWS -25	25	9.6	25	4	M4	1.7	5 × 6	6 × 6	6 × 8	6×10	8× 8	8×10	10×10	
MWS -32	32	12.6	32	6	M4	1.7	8 × 8	8 × 10	10 × 10	10×12	12×12	12×14		
MWSS- 8	8	3.4	10	1.7	M2	0.3	2 × 2	3 × 3						
MWSS-12	12	5.2	14	2.5	M2.5	0.5	4 × 4	4 × 5	4.5× 5	5× 5				
MWSS-16	16	6.8	18	3	M3	0.7	4.5×5	4.5× 6	5 × 5	5× 6	6× 6			
MWSS-20	20	7.65	20	3	M3	0.7	5 × 6	5 × 7	5 × 8	6× 6	6× 7	6× 8	8× 8	
MWSS-25	25	9.6	25	4	M4	1.7	5 × 6	6 × 6	6 × 8	6×10	8× 8	8×10	10×10	
MWSS-32	32	12.6	32	6	M4	1.7	8 × 8	8 × 10	10 × 10	10×12	12×12	12×14		

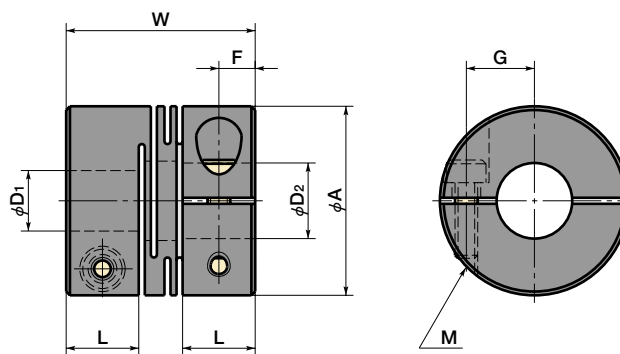
- All products come with setscrews.
- Hubs with shaft bore diameters of φ4 or less have one setscrew.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MWS - 8	4	0.1	0.2	48000	1.0×10 <sup>-8</sup>	24	1	±0.1	1
MWS -12	6	0.2	0.4	32000	7.0×10 <sup>-8</sup>	60	1	±0.1	3.1
MWS -16	8	0.3	0.6	24000	2.8×10 <sup>-7</sup>	110	1	±0.2	7.4
MWS -20	10	0.5	1	19000	7.5×10 <sup>-7</sup>	130	1	±0.2	12
MWS -25	12	1	2	15000	2.3×10 <sup>-6</sup>	350	1	±0.2	24
MWS -32	16	2	4	12000	8.0×10 <sup>-6</sup>	650	1	±0.2	50
MWSS- 8	4	0.2	0.4	48000	2.4×10 <sup>-8</sup>	49	1	±0.1	2.7
MWSS-12	6	0.3	0.6	32000	1.8×10 <sup>-7</sup>	140	1	±0.1	7.8
MWSS-16	8	0.5	1	24000	7.2×10 <sup>-7</sup>	240	1	±0.1	18
MWSS-20	10	1	2	19000	2.0×10 <sup>-6</sup>	330	1	±0.1	32
MWSS-25	12	2	4	15000	6.1×10 <sup>-6</sup>	720	1	±0.2	63
MWSS-32	16	3.5	7	12000	2.1×10 <sup>-5</sup>	1300	1	±0.2	130

\* Moment of inertia and mass figures based on the maximum shaft bores.

**MWS-C MWSS-C** Clamp Type



## Dimensions

unit: mm

Catalog Number	A	L	W	F	G	M	Wrench Torque (N·m)	Stock Bores							
								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	4.5× 6	5 × 5	5× 6	6× 6			
MWS -20C	20	7.65	20	3.8	6.5	M2.5	1.5	5 × 6	5 × 7	5 × 8	6× 6	6× 7	6× 8	8× 8	
MWS -25C	25	9.6	25	4.8	9	M3	1.5	5 × 6	6 × 6	6 × 8	6×10	8× 8	8×10	10×10	
MWS -32C	32	12.6	32	6.3	11	M4	2.5	8 × 8	8 × 10	10 × 10	10×12	12×12	12×14		
MWSS-12C	12	5.2	14	2.6	4	M2	0.5	4 × 4	4 × 5	4.5× 5	5× 5				
MWSS-16C	16	6.8	18	3.4	5	M2.5	1	4.5×5	4.5× 6	5 × 5	5× 6	6× 6			
MWSS-20C	20	7.65	20	3.8	6.5	M2.5	1.5	5 × 6	5 × 7	5 × 8	6× 6	6× 7	6× 8	8× 8	
MWSS-25C	25	9.6	25	4.8	9	M3	1.5	5 × 6	6 × 6	6 × 8	6×10	8× 8	8×10	10×10	
MWSS-32C	32	12.6	32	6.3	11	M4	2.5	8 × 8	8 × 10	10 × 10	10×12	12×12	12×14		

- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MWS -12C	5	0.2	0.4	12000	6.4×10 <sup>-8</sup>	60	1	±0.1	3
MWS -16C	6	0.3	0.6	9500	2.9×10 <sup>-7</sup>	110	1	±0.2	8
MWS -20C	8	0.5	1	7600	7.5×10 <sup>-7</sup>	130	1	±0.2	13
MWS -25C	10	1	2	6100	2.3×10 <sup>-6</sup>	350	1	±0.2	25
MWS -32C	14	2	4	4800	8.1×10 <sup>-6</sup>	650	1	±0.2	53
MWSS-12C	5	0.3	0.6	12000	1.8×10 <sup>-7</sup>	140	1	±0.1	8.5
MWSS-16C	6	0.5	1	9500	7.8×10 <sup>-7</sup>	240	1	±0.1	21
MWSS-20C	8	1	2	7600	2.1×10 <sup>-6</sup>	330	1	±0.1	36
MWSS-25C	10	2	4	6100	6.3×10 <sup>-6</sup>	720	1	±0.2	69
MWSS-32C	14	3.5	7	4800	2.2×10 <sup>-5</sup>	1300	1	±0.2	150

\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

**MWS-20C-φ5×φ6**

Product No.      D1      D2

# MDW



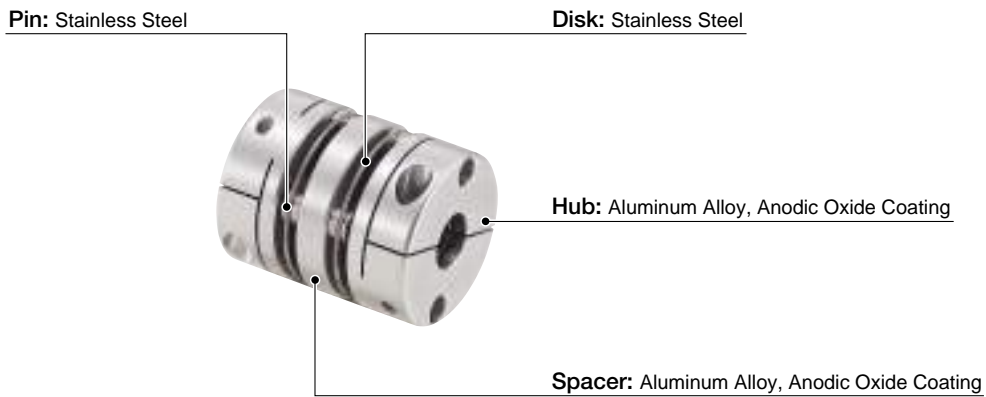
Miniature Double Disk Flexible Coupling



## Features

- Disk type flexible coupling
- High torque capacity, torsional stiffness and excellent response
- Zero backlash
- Double stainless steel disks absorb parallel, angular misalignments and shaft end-play
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free and excellent resistance to oil and chemicals
- Finished bore product-Models featuring two different end bores also in stock

## Configuration & Material

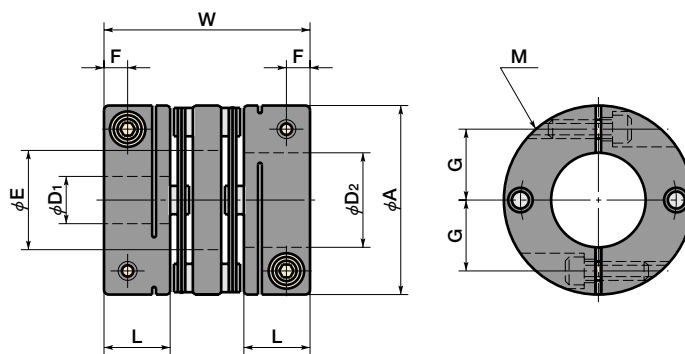


## When Ordering

- Specify product No. and both bore diameters.

**MDW-25C- $\phi$ 6 $\times$  $\phi$ 8**

Product No.      D1      D2



## Dimensions

unit: mm

Catalog Number	A	L	W	E	F	G	M	Wrench 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

Catalog Number	Stock Bores																					
	D1-D2																					
	5	6	6.35	7	8	9	9.525	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 come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MDW-19C	8	0.7	1.5	10000	8.7×10 <sup>-7</sup>	200	0.12	1.5	±0.5	18
MDW-25C	12	1	2	8000	2.7×10 <sup>-6</sup>	450	0.12	1.5	±0.5	25
MDW-32C	15	2.5	5	6000	9.6×10 <sup>-6</sup>	1100	0.15	1.5	±0.5	60
MDW-40C	20	3.5	7	5000	1.9×10 <sup>-5</sup>	1400	0.15	1.5	±0.5	100
MDW-50C	25	9	18	4000	8.1×10 <sup>-5</sup>	2200	0.15	1.5	±0.5	210
MDW-63C	30	12.5	25	3000	2.1×10 <sup>-4</sup>	3000	0.15	1.5	±0.5	340

\* Moment of inertia and mass figures based on the maximum shaft bores.

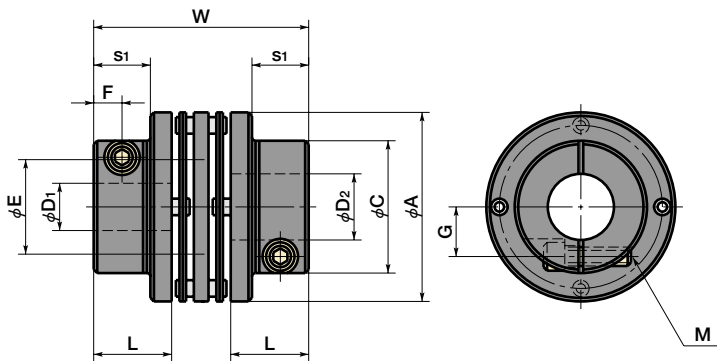
# MHW

## Miniature Double Disk Flexible Coupling

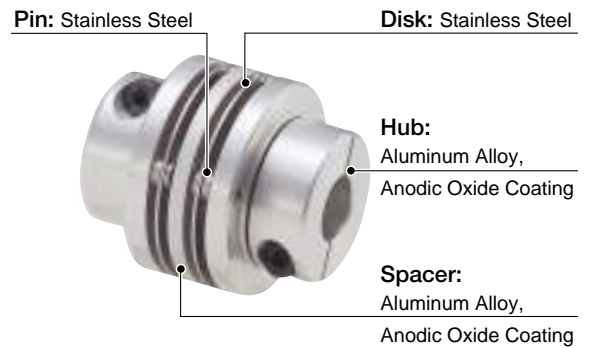


### Features

- Disk type flexible coupling
- High torque capacity, torsional stiffness and excellent response
- Zero backlash
- Stainless steel disks absorb parallel, angular misalignments and shaft end-play
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free and excellent resistance to oil and chemicals
- Finished bore product-Models featuring two different end bores also in stock



### Configuration & Material



### When Ordering

- Specify product No. and both bore diameters.

**MHW-32C-φ8×φ10**

Product No.                      D1                      D2

### Dimensions

unit: mm

Catalog Number	A	L	W	C	s1	E	F	G	M	Wrench Torque (N-m)	Stock Bores													
											D1-D2													
											6	7	8	10	11	12	14	15	16	18	19	20	25	
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							●	●	●	●	●	●	●	●

- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

### Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N-m)	Max. Torque (N-m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg-m <sup>2</sup> )	Static Torsional Stiffness (N-m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MHW-32C	10	2	4	4800	6.2×10 <sup>-6</sup>	1000	0.15	2	±0.4	48
MHW-40C	14	4	8	3800	1.6×10 <sup>-5</sup>	1500	0.20	2	±0.5	81
MHW-50C	20	7.5	15	3100	4.6×10 <sup>-5</sup>	2000	0.20	2	±0.6	150
MHW-63C	25	10	20	2400	1.1×10 <sup>-4</sup>	2500	0.30	2	±0.8	230

\* Moment of inertia and mass figures based on the maximum shaft bores.



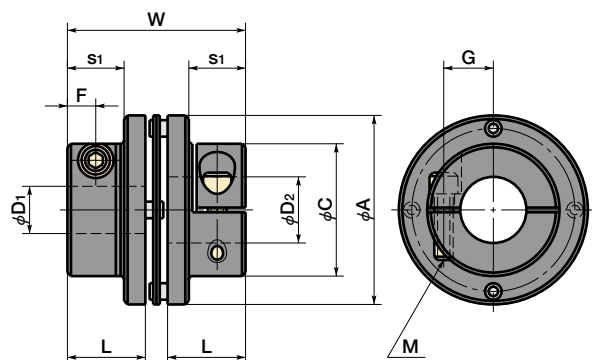
# MHS

Miniature Single Disk Flexible Coupling



## Features

- Disk type flexible coupling
- High torque capacity, torsional stiffness and excellent response
- Zero backlash
- Stainless steel disks absorb angular misalignments and shaft end-play
- Parallel misalignment is not absorbed
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free and excellent resistance to oil and chemicals
- Finished bore product-Models featuring two different end bores also in stock



## Configuration & Material



## When Ordering

- Specify product No. and both bore diameters.

**MHS-32C- $\phi$ 8 $\times$  $\phi$ 10**

Product No.                      D1                      D2

## Dimensions

unit: mm

Catalog Number	A	L	W	C	s1	F	G	M	Wrench Torque (N-m)	Stock Bores													
										D1-D2													
										6	7	8	10	11	12	14	15	16	18	19	20	25	
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							●	●	●	●	●	●	●	●

- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N-m)	Max. Torque (N-m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg-m <sup>2</sup> )	Static Torsional Stiffness (N-m/rad)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MHS-32C	10	2	4	4800	4.5×10 <sup>-6</sup>	1300	1	±0.2	38
MHS-40C	14	4	8	3800	1.2×10 <sup>-5</sup>	2800	1	±0.2	66
MHS-50C	20	7.5	15	3100	3.7×10 <sup>-5</sup>	3700	1	±0.2	120
MHS-63C	25	10	20	2400	8.4×10 <sup>-5</sup>	5000	1	±0.2	190

\* Moment of inertia and mass figures based on the maximum shaft bores.

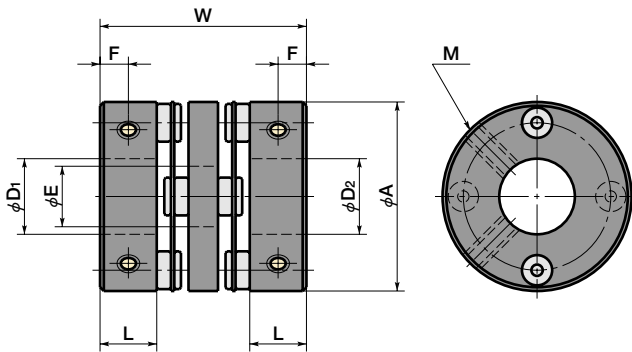
# MTD

Miniature Double Disk Flexible Coupling

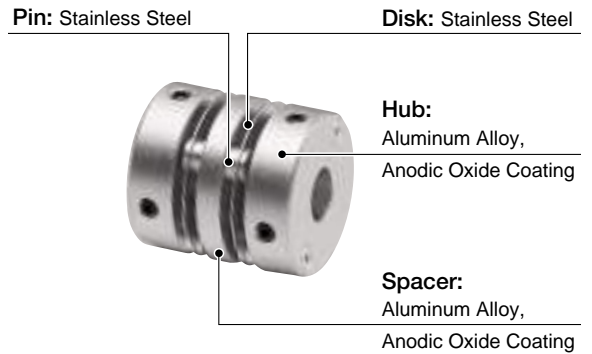


## Features

- Disk type flexible coupling
- High torsional stiffness, light weight and excellent response
- Zero backlash
- Identical clockwise and anticlockwise rotational characteristics
- Stainless steel disks absorb parallel, angular misalignments and shaft end-play
- Finished bore product-Models featuring two different end bores also in stock



## Configuration & Material



## When Ordering

- Specify product No. and both bore diameters.

**MTD-25-φ8×φ10**

Product No.      D1      D2

## Dimensions

unit: mm

Catalog Number	A	L	W	E	F	M	Wrench Torque (N·m)	Stock Bores													
								D1·D2 (Tolerance H8)													
								3	4	5	6	6.35	8	9.525	10	11	12	14			
MTD-20	20	7.5	27.3	6	3.7	M3	0.7	●	●	●	●	●									
MTD-25	25	7.5	27.4	10	3.7	M3	0.7				●	●	●	●	●	●	●	●			
MTD-32	32	7.5	27.5	15	3.7	M4	1.7						●	●	●	●	●	●	●	●	●

- All products come with setscrews.
- Hubs with shaft bore diameters of φ4 or less have one setscrew.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MTD-20	8	0.5	1	19000	1.2×10 <sup>-6</sup>	120	0.10	1	±0.4	21
MTD-25	12	1	2	15000	2.6×10 <sup>-6</sup>	210	0.15	1.5	±0.5	27
MTD-32	14	2	4	12000	6.7×10 <sup>-6</sup>	230	0.15	2	±0.6	43

\* Moment of inertia and mass figures based on the maximum shaft bores.



Miniature Bellows Flexible Coupling



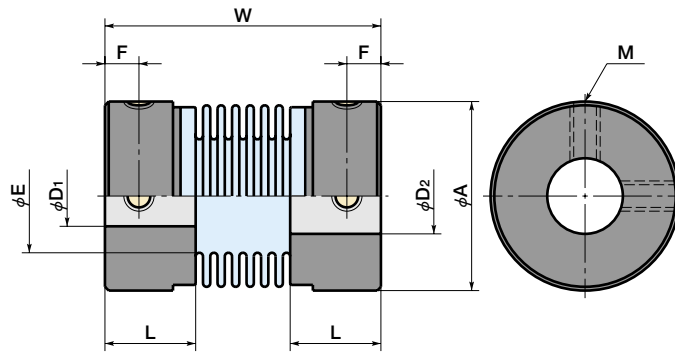
## Features

- Bellows type flexible coupling
- Zero backlash
- High torsional stiffness and response
- Spring action bellows configuration absorbs parallel, angular misalignments and shaft end-play
- Constant velocity even under misalignment
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free and excellent resistance to oil and chemicals
- Bellows available in stainless steel or phosphor bronze (hub : aluminum alloy)
- Finished bore product-Models featuring two different end bores also in stock

## Configuration & Material



Material		Attachment	
Hub	Bellows	Setscrew Type	Clamp Type
Aluminum Alloy	Phosphor Bronze	MFB -**	MFB -**C
Stainless Steel	Stainless Steel	MFBS-**	MFBS-**C



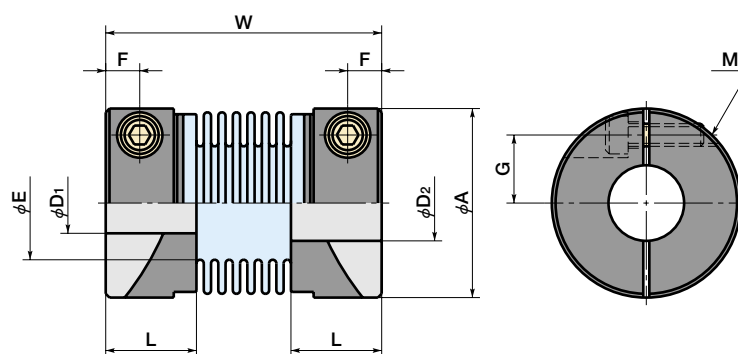
## Dimensions

unit: mm

Catalog Number	A	L	W	E	F	G	M	Wrench Torque (N·m)	Stock Bores													
									D1-D2													
									3	4	4.5	5	6	6 <sup>35</sup>	8	9.5 <sup>25</sup>	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	32	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	32	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 come with setscrews (MFB • MFBS) or cap screws (MFB-C • MFBS-C).
- Hubs with shaft bore diameters of  $\phi 4$  or less have one setscrew.
- Tolerance on shaft bores of setscrew type coupling is H8.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## MFB-C MFBS-C Clamp Type



## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass*
MFB -12	6.35	0.3	0.6	32000	9.0×10 <sup>-8</sup>	82	0.10	1.5	+0.4 -1.2	4.1
MFB -16	8	0.5	1	24000	3.5×10 <sup>-7</sup>	110	0.10	1.5	+0.4 -1.2	9
MFB -20	10	0.8	1.6	19000	9.9×10 <sup>-7</sup>	180	0.15	2	+0.6 -1.8	16
MFB -25	12	1.3	2.6	15000	3.1×10 <sup>-6</sup>	240	0.15	2	+0.6 -1.8	32
MFB -32	16	2	4	12000	9.2×10 <sup>-6</sup>	330	0.20	2	+0.8 -2.5	57
MFBS-12	6.35	0.5	1	32000	2.1×10 <sup>-7</sup>	100	0.10	1.5	+0.4 -1.2	9.1
MFBS-16	8	1	2	24000	8.0×10 <sup>-7</sup>	150	0.10	1.5	+0.4 -1.2	20
MFBS-20	10	1.5	3	19000	2.3×10 <sup>-6</sup>	220	0.15	2	+0.6 -1.8	37
MFBS-25	12	2	4	15000	7.0×10 <sup>-6</sup>	330	0.15	2	+0.6 -1.8	73
MFBS-32	16	3	6	12000	2.1×10 <sup>-5</sup>	490	0.20	2	+0.8 -2.5	130
MFB -12C	5	0.3	0.6	13000	9.7×10 <sup>-8</sup>	82	0.10	1.5	+0.4 -1.2	3.8
MFB -16C	6.35	0.5	1	9500	3.7×10 <sup>-7</sup>	110	0.10	1.5	+0.4 -1.2	9.8
MFB -20C	8	0.8	1.6	7700	1.0×10 <sup>-6</sup>	180	0.15	2	+0.6 -1.8	16
MFB -25C	10	1.3	2.6	6100	3.1×10 <sup>-6</sup>	240	0.15	2	+0.6 -1.8	32
MFB -32C	14	2	4	4800	9.6×10 <sup>-6</sup>	330	0.20	2	+0.8 -2.5	58
MFBS-12C	5	0.5	1	13000	2.1×10 <sup>-7</sup>	100	0.10	1.5	+0.4 -1.2	9.2
MFBS-16C	6.35	1	2	9500	8.1×10 <sup>-7</sup>	150	0.10	1.5	+0.4 -1.2	22
MFBS-20C	8	1.5	3	7700	2.3×10 <sup>-6</sup>	220	0.15	2	+0.6 -1.8	38
MFBS-25C	10	2	4	6100	6.9×10 <sup>-6</sup>	330	0.15	2	+0.6 -1.8	74
MFBS-32C	14	3	6	4800	2.1×10 <sup>-5</sup>	490	0.20	2	+0.8 -2.5	130

\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

MFB-20-φ8×φ10

Product No.

D1

D2

# MKM



Miniature Bellows Flexible Coupling



## Features

- Bellows type flexible coupling for high torque applications
- Zero backlash
- High torsional stiffness, low inertia and excellent response
- Spring action bellows configuration absorbs parallel, angular misalignments and shaft end-play
- Constant velocity even under misalignment
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free and excellent resistance to oil and chemicals
- Operational temperature : -20°C~300°C
- Finished bore product-Models featuring two different end bores also in stock
- Can be applied to tapered shafts of servomotors

## Configuration & Material



Clamp Type

Adapter+Clamp Type

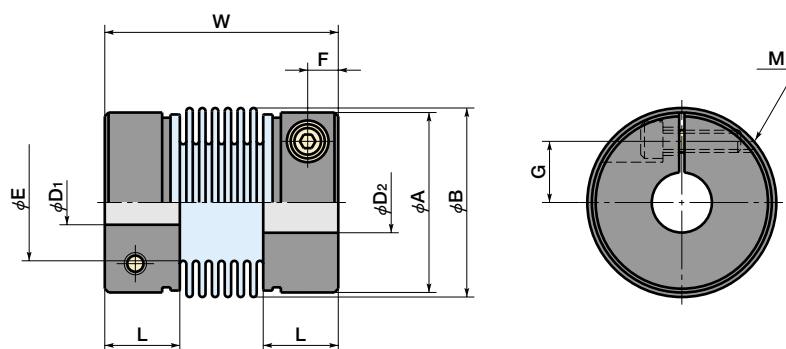
Bore	Attachment	
	Clamp Type	Adapter+Clamp Type
Straight Bore×Straight Bore	MKM-**C	—
Taper Bore×Straight Bore	—	MKM-**AC

## When Ordering

- Specify product No. and both bore diameters.

**MKM-56C-H- $\phi$ 20 $\times$  $\phi$ 22**

Product No.      D1      D2

**MKM-C** Clamp Type**Dimensions**

unit: mm

Catalog Number	A	B	L	W	E	F	G	M	Wrench Torque (N·m)
MKM-17C-H	16.5	14.5	9	31.5	9	3.3	4.6	M 2.5	1
MKM-25C	24.5	24	13	42	16	4.5	7.5	M 3	2
MKM-25C-H	24.5	24	13	43.5	16	4.5	7.5	M 3	2
MKM-40C-H	39.5	39.5	16.5	60.5	27	6	13	M 5	7
MKM-56C	56	56	20	70	38	8	19	M 6	14
MKM-56C-H	56	56	20	70	38	7.5	19	M 6	14
MKM-63C	63	66	22	77	47	8.5	22	M 8	30
MKM-80C-H	79.5	82	26	92	60	10.5	28.5	M10	65
MKM-99C	99	101	29	100	76	12	35	M12	115

Catalog Number	Stock Bores						
	D <sub>1</sub> ×D <sub>2</sub>						
MKM-17C-H	3× 6	4× 6	4.5× 6	5 × 6	6× 6		
MKM-25C	6× 7	6× 8	7 × 8	8 × 8	8×10		
MKM-25C-H	8× 9	9×10					
MKM-40C-H	10×11	11×12	12 ×14	14 ×14	14×15	15×16	16×17
MKM-56C	12×16	14×16	15 ×16				
MKM-56C-H	15×24	17×19	17 ×24	19 ×20	20×22	22×25	
MKM-63C	20×24	24×25	25 ×28	28 ×30			
MKM-80C-H	30×35M	30×42	35 ×35M	35M×42			
MKM-99C	30×35M	35×35M					

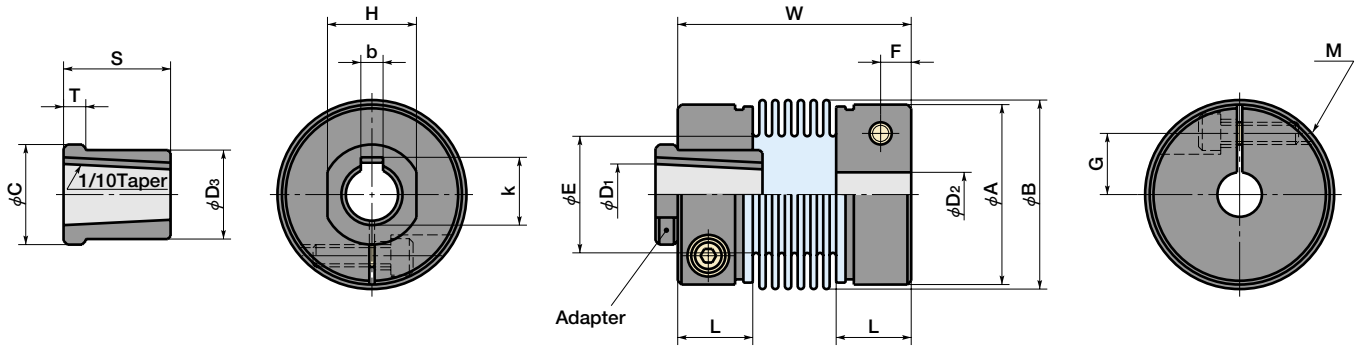
- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7, but 35M mentioned in the above table is for servomotors. Its recommended tolerance is  $^{+0.010}_0$ .
- Non-standard shaft bores and keyways are machined on request. Please contact us.

**Specifications**

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MKM-17C-H	6	0.9	1.8	20000	$1.2 \times 10^{-7}$	400	0.10	2	±0.3	12
MKM-25C	10	2	4	12000	$6.5 \times 10^{-7}$	900	0.10	2	±0.5	30
MKM-25C-H	10	4	8	12000	$1.3 \times 10^{-6}$	1800	0.10	2	±0.4	36
MKM-40C-H	19	12	24	12000	$2.9 \times 10^{-5}$	6800	0.20	2	±0.7	120
MKM-56C	30	20	40	10000	$1.3 \times 10^{-4}$	18000	0.20	2	±0.8	250
MKM-56C-H	30	35	70	10000	$1.4 \times 10^{-4}$	22000	0.20	2	±0.8	270
MKM-63C	34	60	120	8000	$2.5 \times 10^{-4}$	33000	0.20	2	±0.9	370
MKM-80C-H	43	170	250	8000	$7.2 \times 10^{-4}$	63000	0.20	2	±1.2	660
MKM-99C	54	270	400	8000	$1.8 \times 10^{-3}$	111000	0.20	2	±1.2	1100

\* Moment of inertia and mass figures based on the maximum shaft bores.

## MKM-AC Adapter + Clamp Type



## Dimensions

unit:mm

Catalog Number	A	B	L	W	E	F	G	M	D <sub>3</sub>	C	S	T	H	Wrench Torque (N·m)
MKM-56AC	56	56	20	70	38	7.5	19	M6	16	20	16	4	16	14
MKM-56AC-H	56	56	20	70	38	7.5	19	M6	24	30	29	6	27	14
MKM-63AC	63	66	22	77	47	8.5	22	M8	24	30	29	6	27	30

Catalog Number	Stock Bores		
	D <sub>1</sub> ×D <sub>2</sub>		
MKM-56AC	11T×12	11T×14	11T×15
MKM-56AC-H	16T×15	16T×17	
MKM-63AC	16T×20	16T×25	

Stock Bores	Keyways			
	b		k	
	Basic Size	Tolerance (JS9)	Basic Size	Tolerance
D <sub>1</sub>				
11T	4	±0.015	12.7	+0.1 0
16T	5	±0.015	18.3	+0.2 0

- All products come with adapters and cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MKM-56AC	30	20	40	10000	1.3×10 <sup>-4</sup>	18000	0.20	2	±0.8	250
MKM-56AC-H	30	35	70	10000	1.4×10 <sup>-4</sup>	22000	0.20	2	±0.8	270
MKM-63AC	34	60	120	8000	2.5×10 <sup>-4</sup>	33000	0.20	2	±0.9	370

\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

**MKM-56AC-H-φ16T×φ15**

Product No.

D<sub>1</sub>

D<sub>2</sub>



Adapter



# MWBS



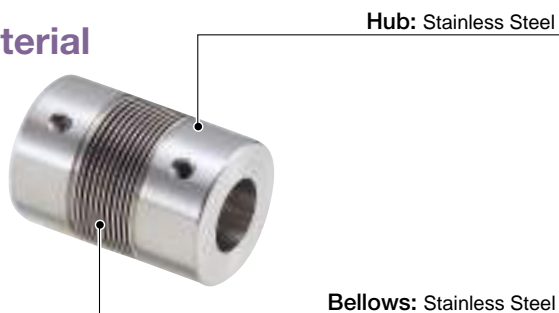
Miniature Super Bellows Flexible Coupling



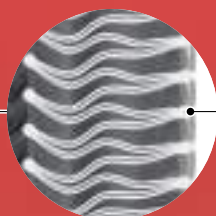
## Features

- High precision welded bellows — All stainless steel body
- Super flexibility
- Zero backlash
- Low inertia and excellent response
- Constant velocity even under misalignment
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free
- Ideal for use in systems requiring a high degree of precision and reliability, such as measurement, control, information processing, and communication equipment

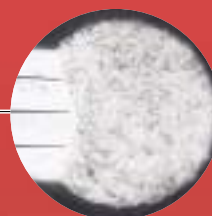
## Configuration & Material



**We design and manufacture complete custom-made super bellows couplings.** See page 33 for more details.

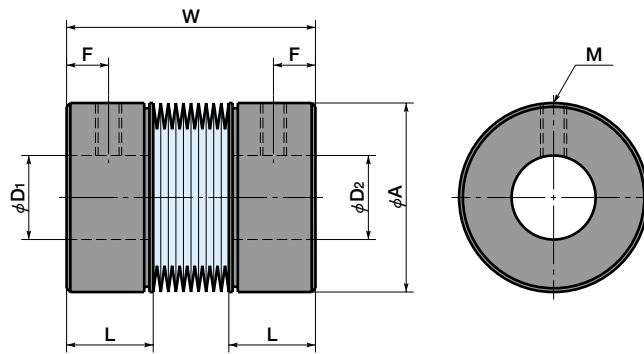


Cross-sectional view of double bellows



Microscopic view of welded section

The coupling for encoder performance test systems  
10<sup>5</sup> pulse/rotation



## Dimensions

unit:mm

Catalog Number	A	L	W	F	M	Wrench Torque (N·m)	Stock Bores							
							D1-D2 (Tolerance H8)							
							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 sizes are non-stock items (The delivery is made in 3 weeks after receipt of order).
- All products come with setscrews.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass* (g)
MWBS-13	6	0.07	0.15	10000	2.5×10 <sup>-7</sup>	30	0.15	3.5	0.5	9.8
MWBS-18	8	0.15	0.3	10000	1.2×10 <sup>-6</sup>	40	0.15	5	0.5	25
MWBS-22	10	0.35	0.7	10000	3.4×10 <sup>-6</sup>	200	0.15	4	0.5	48
MWBS-28	14	0.65	1.3	10000	1.4×10 <sup>-5</sup>	900	0.15	4.5	0.5	110

\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

**MWBS-22-φ6×φ8**

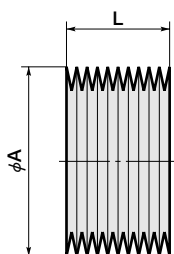
Product No.      D1      D2



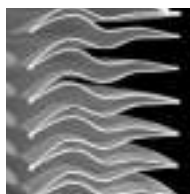


## Custom-made Coupling

- We design and manufacture complete custom-made couplings with high precision welded double bellows.
- In the following table, we show some examples of performances that the super bellows couplings achieve. The performance depends on the type, the outside diameter, the number of bellows and the bellow thickness that is used.



Single Bellows



Double Bellows



Type of Bellows	A (mm)	No. of Convolution	L (mm)	Thickness of Bellows (mm)	Rated Torque (N-m)	Max. Torque (N-m)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)
Single Bellows	13	10	4.5	0.05~0.1	0.07	0.15	0.15	3.5	±0.5
		20	9		0.07	0.15	0.30	6.5	±1
		30	13.5		0.07	0.15	0.45	10	±1.5
	18	10	6	0.05~0.1	0.15	0.3	0.15	5	±0.5
		20	12		0.15	0.3	0.30	9.5	±1
		30	18		0.15	0.3	1.45	14.5	±1.5
	22	10	7	0.06~0.1	0.35	0.7	0.20	4	±0.5
		20	14		0.35	0.7	0.40	8	±1
		30	21		0.35	0.7	0.60	12	±1.5
	28	10	9	0.1 ~0.15	0.65	1.3	0.25	6.5	±0.5
		20	18		0.65	1.3	0.50	9	±1
		30	27		0.65	1.3	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		0.15	0.3	0.30	7.2	±1
		30	18		0.15	0.3	0.45	10	±1.5
	18	10	8	0.05~0.1	0.7	1.4	0.15	5.7	±0.5
		20	16		0.7	1.4	0.30	11.5	±1
		30	24		0.7	1.4	0.45	17.2	±1.5
	22	10	8	0.06~0.1	1.25	2.5	0.20	4.7	±0.5
		20	16		1.25	2.5	0.40	9.4	±1
		30	24		1.25	2.5	0.60	14	±1.5
	28	10	11	0.1 ~0.15	1.3	2.6	0.25	3.7	±0.5
		20	22		1.3	2.6	0.50	7.4	±1
		30	33		1.3	2.6	0.75	11	±1.5



You can download the most current CAD data on Couplicon® mini couplings directly from our website. The file is available in DXF format.

\* DXF is the registered trademark of Autodesk, Inc.



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

e-mail : [info@nbk1560.com](mailto:info@nbk1560.com)

**MOL**



Recipient of  
1991 MITI  
Good Design Award



Award for good  
industrial design 1993

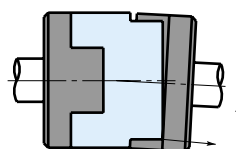
Miniature Oldham Type Flexible Coupling



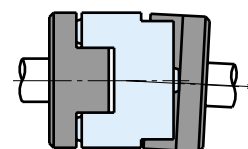
**Features**

- Oldham type flexible coupling
- Slippage between hubs and spacer allows high parallel and angular misalignments
- Minimized load derived from misalignments on shafts
- High torsional stiffness and response
- Simple configuration enables ease of assembly
- Excellent resistance to oil and electrical insulation
- Operational temperature : -20°C~80°C
- Finished bore product-Models featuring two different end bores also in stock

The protruded spacer design enables high allowable angular misalignment and minimized load on shafts.



Conventional Coupling  
(Without Protrusion)



**MOL**  
(With Protrusion)

Conventional Oldham type couplings with no protrusions feature low allowable misalignment (1°~1.5°) due to interference between the spacer and hubs at the proximity of the outside diameter. A bending moment is generated as well.

The MOL series features a high maximum angular misalignment (3°), enabled by the protrusions which act as points of support. No bending moment is generated and the shaft load is minimized.

**Configuration & Material**

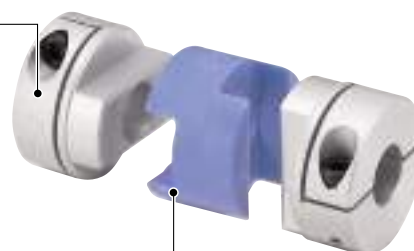
**MOL**  
Outside Dia.  
φ16~φ32



**Hub:**  
Aluminum Alloy,  
Anodic Oxide Coating

**Spacer:** Polyacetal

**MOL-C**  
Outside Dia.  
φ16~φ32



**MOL**  
Outside Dia.  
φ40~φ63



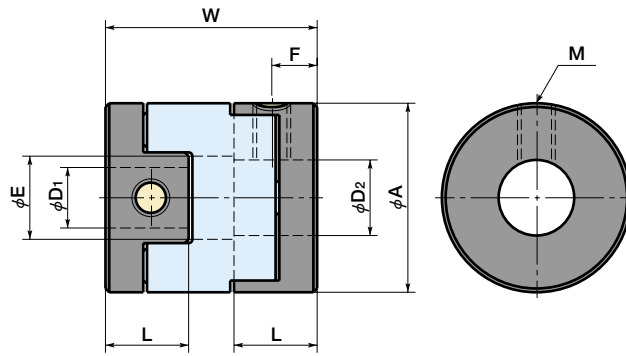
**Hub:**  
Aluminum Alloy,  
Anodic Oxide Coating

**MOL-C**  
Outside Dia.  
φ40~φ63



**Setscrew Type**

**Clamp Type**



## Dimensions

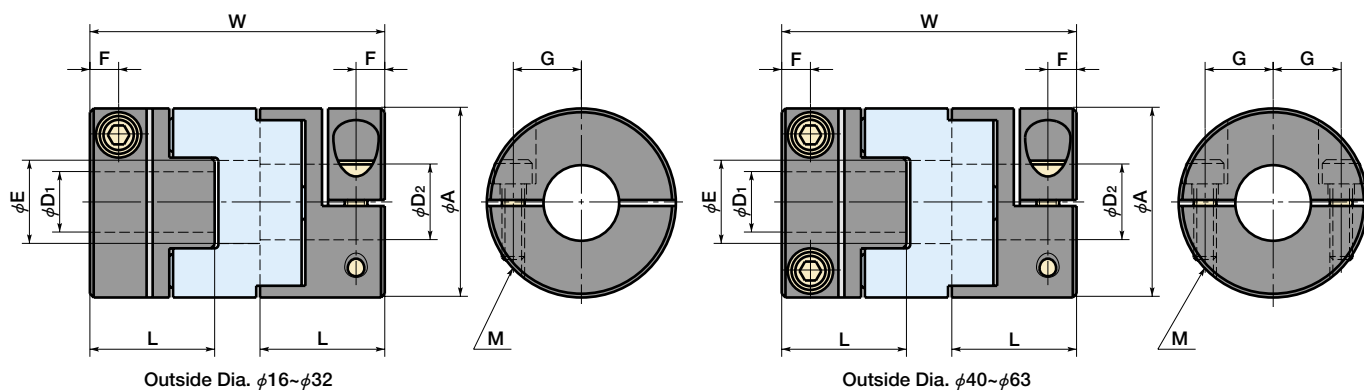
unit:mm

Catalog Number			A	L	W	E	F	G	M	Wrench Torque (N·m)
MOL-16			16	7	18	7	3.5	—	M 3	0.7
MOL-20			20	9	23	9	4.5	—	M 4	1.7
MOL-25			25	11	28	11	5.5	—	M 5	4
MOL-32			32	13	33	14.5	6.5	—	M 6	7
MOL-40			40	14	32	17	7	—	M 6	7
MOL-50			50	17	38	23	8.5	—	M 8	15
MOL-63			63	21	47	28	10.5	—	M10	30
MOL-16C			16	13	29	7	3	5	M 2.5	1
MOL-20C			20	14	33	9	3	6.5	M 2.5	1
MOL-25C			25	17	39	11	3.8	9	M 3	1.5
MOL-32C			32	19	45	14.5	4.5	11	M 4	2.5
MOL-40C			40	23	50	17	7	13	M 5	4
MOL-50C			50	27	58	23	8	16	M 6	8
MOL-63C			63	33	71	28	10	21	M 8	16

Catalog Number	Stock Bores																
	D1·D2																
	3	4	4.5	5	6	6.35	7	8	9.525	10	11	12	14	15	16	18	20
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 come with setscrews (MOL) and cap screws (MOL-C).
- Tolerance of shaft bore on setscrew type is H8.
- Recommended tolerance on shaft diameters is h6 and h7.
- Setscrew type/clamp type and other combination couplings are available on request.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

**MOL-C** Clamp Type



## Specifications

Catalog Number	Max. Bore (mm)	Rated* Torque (N·m)	Max.* Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment** of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Mass** (g)
MOL-16	6.35	0.7	1.4	9500	3.2×10 <sup>-7</sup>	31	1.0	3	7
MOL-20	8	1.2	2.4	7600	1.0×10 <sup>-6</sup>	60	1.5	3	14
MOL-25	10	2	4	6100	3.0×10 <sup>-6</sup>	140	2.0	3	27
MOL-32	14	4.5	9	4800	9.5×10 <sup>-6</sup>	280	2.5	3	50
MOL-40	16	9	18	3800	2.3×10 <sup>-5</sup>	540	3.0	3	80
MOL-50	20	18	36	3100	6.7×10 <sup>-5</sup>	820	3.5	3	150
MOL-63	25	36	72	2400	2.2×10 <sup>-4</sup>	1900	4.0	3	300
MOL-16C	6	0.7	1.4	9500	5.8×10 <sup>-7</sup>	31	1.0	3	12
MOL-20C	8	1.2	2.4	7600	1.5×10 <sup>-6</sup>	60	1.5	3	19
MOL-25C	10	2	4	6100	4.4×10 <sup>-6</sup>	140	2.0	3	36
MOL-32C	14	4.5	9	4800	1.4×10 <sup>-5</sup>	280	2.5	3	69
MOL-40C	16	9	18	3800	4.1×10 <sup>-5</sup>	540	3.0	3	130
MOL-50C	20	18	36	3100	1.2×10 <sup>-4</sup>	820	3.5	3	230
MOL-63C	25	36	72	2400	3.7×10 <sup>-4</sup>	1900	4.0	3	450

\* Operational temperature of MOL is -20°C-80°C. The rated and max. torque capacities are decreased in case of use in high ambient temperatures.

If the ambient temperature exceeds 30°C, adjust the torque capacity, referring to page 5.

\*\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

**MOL-20-φ6×φ8**

Product No.

D1

D2

# MOS



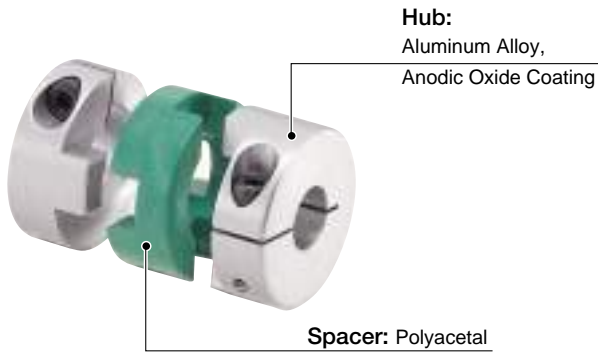
Miniature Oldham Type Flexible Coupling



## Features

- Oldham type flexible coupling
- Compact coupling with short overall length
- Slippage between hubs and spacer allows high parallel and angular misalignments
- Minimized load derived from misalignments on shafts
- High torsional stiffness and response
- Simple configuration enables ease of assembly
- Excellent resistance to oil and electrical insulation
- Operational temperature :  $-20^{\circ}\text{C}$ ~ $80^{\circ}\text{C}$
- Finished bore product-Models featuring two different end bores also in stock

## Configuration & Material



## When Ordering

- Specify product No. and both bore diameters.

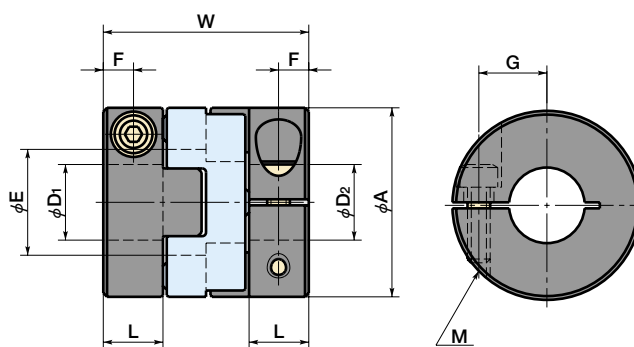
**MOS-16C- $\phi 5 \times \phi 6$**

Product No.

D1

D2





## Dimensions

unit: mm

Catalog Number			A	L	W	E	F	G	M	Wrench Torque (N·m)
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

Catalog Number	Stock Bores												
	D1·D2												
	3	4	4.5	5	6	6.35	7	8	9.525	10	11	12	14
MOS-12C	●	●	●	●									
MOS-16C	●	●	●	●	●								
MOS-20C			●	●	●	●	●	●					
MOS-25C						●	●	●	●	●			
MOS-32C							●	●	●	●	●	●	●

- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore	Rated* Torque	Max.* Torque	Max. Rotational Frequency	Moment** of Inertia	Static Torsional Stiffness	Errors of Eccentricity	Errors of Angularity	Mass**
	(mm)	(N·m)	(N·m)	(min <sup>-1</sup> )	(kg·m <sup>2</sup> )	(N·m/rad)	(mm)	(°)	(g)
MOS-12C	5	0.2	0.4	13000	7.1×10 <sup>-8</sup>	9	0.6	2	3
MOS-16C	6	0.4	0.8	9500	3.0×10 <sup>-7</sup>	30	1.0	2	8
MOS-20C	8	0.7	1.4	7600	7.4×10 <sup>-7</sup>	47	1.3	2	13
MOS-25C	10	1.2	2.4	6100	2.2×10 <sup>-6</sup>	85	1.5	2	24
MOS-32C	14	2.8	5.6	4800	7.3×10 <sup>-6</sup>	190	2.0	2	48

\* Operational temperature of MOS is -20°C~80°C. The rated and max. torque capacities are decreased in case of use in high ambient temperatures.

If the ambient temperature exceeds 30°C, adjust the torque capacity, referring to page 5.

\*\* Moment of inertia and mass figures based on the maximum shaft bores.

# MCT



## Miniature Cross Joint Type Flexible Coupling



### Features

- High torsional stiffness and excellent response
- Slippage between bushes and pins allows high parallel and angular misalignments
- Almost zero backlash achieved by precise fit of pins and bushes
- Minimized load derived from misalignments on shafts
- Identical clockwise and anticlockwise rotational characteristics
- Maintenance free, excellent resistance to oil and chemicals
- Finished bore product-Models featuring two different end bores also in stock

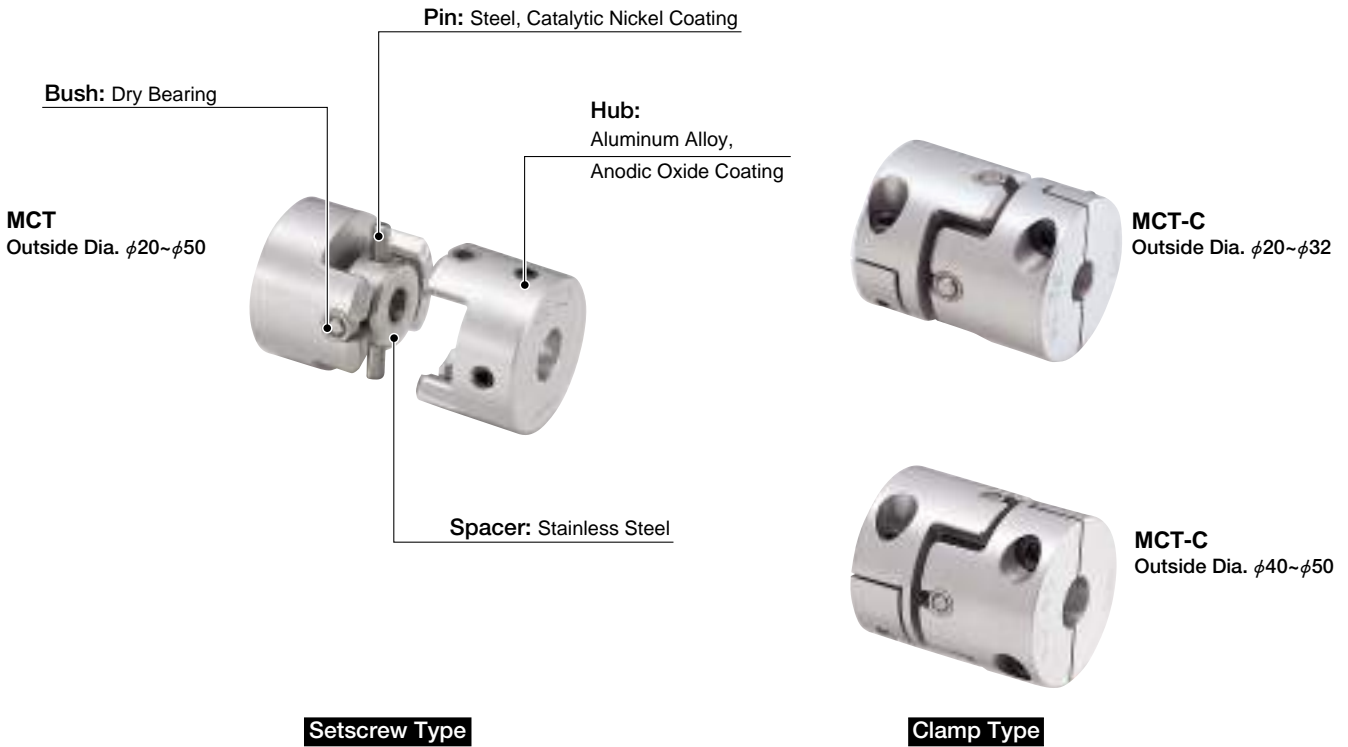
### When Ordering

- Specify product No. and both bore diameters.

**MCT-25- $\phi 6 \times \phi 8$**

Product No.      D1      D2

### Configuration & Material





# MJT

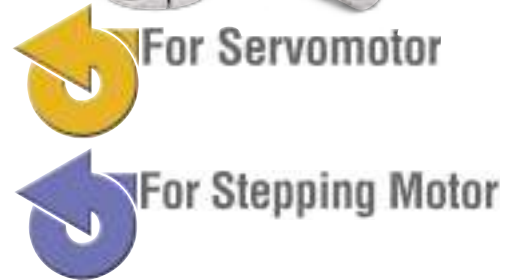


## Miniature Curved Jaw Type Flexible Coupling

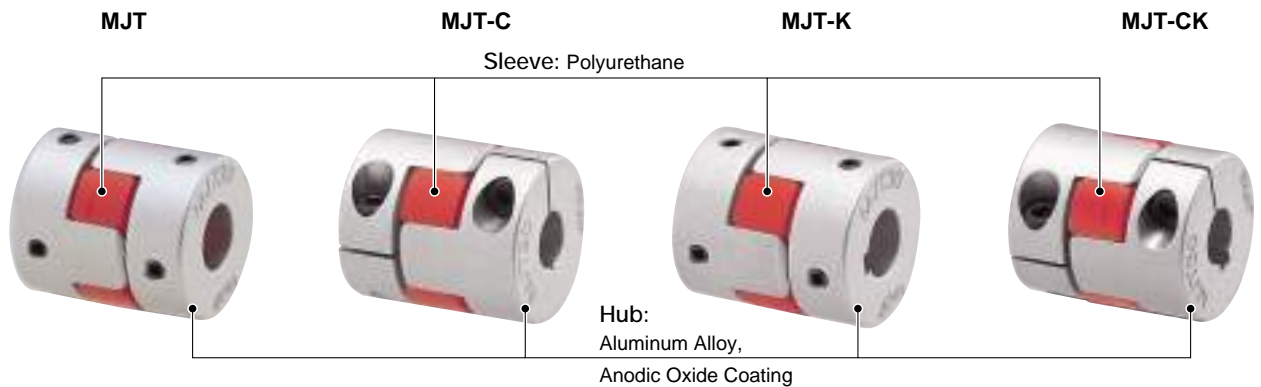


### Features

- Compression type coupling assembled by pressing a polyurethane sleeve into hubs on both sides
- Zero backlash in low torque application
- Can be used as a flexible coupling in high torque application
- Excellent flexibility-Torsional vibration can be absorbed as well as parallel and angular misalignments
- Three different hardness sleeves are available
- Resistance to oil, and electrical insulation
- Identical clockwise and anticlockwise rotational characteristics
- Operational temperatures: -20°C-60°C
- Finished bore product-Models featuring two different end bores also in stock



### Configuration & Material

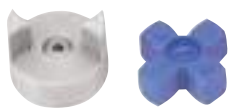


Setscrew Type

Clamp Type

Keyway Type

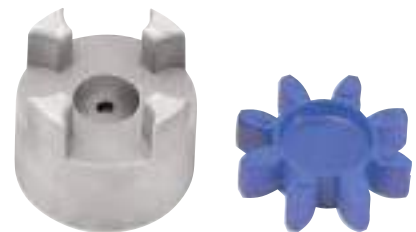
Clamp+Keyway Type



Outside Dia.  $\phi 14-\phi 30$



Outside Dia.  $\phi 40$



Outside Dia.  $\phi 55-\phi 65$

Sleeve		Attachment			
Hardness*	Color	Setscrew Type	Clamp Type	Keyway Type	Clamp+Keyway Type
80	Blue	MJT-**-BL	MJT-**-C-BL	MJT-**-K-BL	MJT-**-CK-BL
92	White	MJT-**-WH	MJT-**-C-WH	MJT-**-K-WH	MJT-**-CK-WH
98	Red	MJT-**-RD	MJT-**-C-RD	MJT-**-K-RD	MJT-**-CK-RD

\* Durometer hardness (Shore A).

## Selecting MJT Couplings

Due to its unique construction, MJT couplings exhibit features not seen in other coupling types. This coupling consists of both side hubs and an elastic sleeve pressed in the hubs. MJT couplings combine the features of a metallic spring coupling with zero backlash and a flexible coupling with an elastic rubber sleeve.

Therefore, MJT couplings can be used for rotational angle transmission with zero backlash and for torque transmission. There are three different types of sleeves with different hardness. Check the following points for the proper selection of MJT couplings.

### ① Zero Backlash Transmission

In applications where rotational angle transmission and motion control at low torque are needed, MJT couplings can be used like metallic spring couplings with zero backlash. In addition, MJT couplings can absorb torsional vibration, which other zero backlash couplings cannot absorb.

The permissible torque in zero backlash applications is smaller than the rated torque mentioned in the specification tables. Please refer to the table below.

Any of the three different sleeves have the same permissible torque in zero backlash applications, however, the harder the sleeve the better the response of angular transmission. You may select the best sleeve for your requirements, referring to the static torsional stiffness in the table below or the specification tables.

### ② Torque Transmission

The MJT, a compression type coupling, can transmit generally higher torque than metallic spring couplings, and this coupling can be recommended for the applications of general industrial machinery like pumps, where a backlash is acceptable.

The rated and maximum torque of blue, white and red sleeves are respectively low, medium and high, while the permissible misalignment of blue, white and red sleeves are respectively large, medium and small.

You may select the most suitable sleeve for your application.

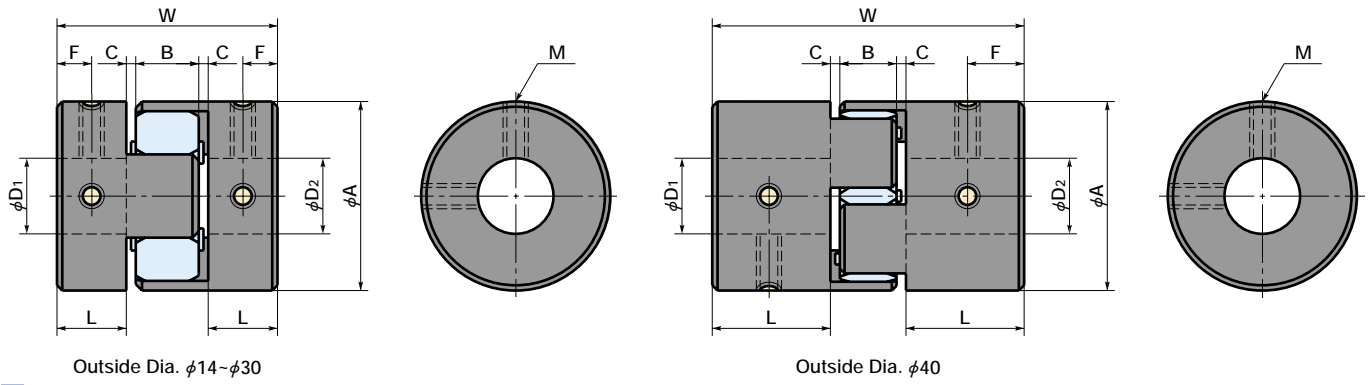
For torque transmission applications, we recommend an MJT with keyway (MJT-\*\*\*K) or an MJT with clamp hub and keyway (MJT-\*\*\*CK) for safe and sure shaft attachment.

Catalog Number		Hardness* of Sleeve	Zero Backlash Permissible Torque (N·m)	Rated** Torque (N·m)	Max.** Torque (N·m)	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)
MJT-14	BL	80	0.1	0.7	1.4	8	0.15	1.0	+0.6 0
	WH	92		1.2	2.4	14	0.10		
	RD	98		2	4	22	0.10		
MJT-20	BL	80	0.2	1.8	3.6	16	0.20	1.0	+0.8 0
	WH	92		3	6	29	0.15		
	RD	98		5	10	55	0.10		
MJT-30	BL	80	0.5	4	8	46	0.20	1.0	+1.0 0
	WH	92		7.5	15	73	0.15		
	RD	98		12.5	25	130	0.10		
MJT-40	BL	80	1.2	4.9	9.8	380	0.15	1.0	+1.2 0
	WH	92		10	20	570	0.10		
	RD	98		17	34	1200	0.10		
MJT-55	BL	80	—	17	34	1400	0.20	1.0	+1.4 0
	WH	92		35	70	1600	0.15		
	RD	98		60	120	2600	0.10		
MJT-65	BL	80	—	46	92	2800	0.20	1.0	+1.5 0
	WH	92		95	190	3000	0.15		
	RD	98		160	320	4900	0.10		

\* Durometer hardness (Shore A).

\*\* Operational temperature of MJT is -20°C~60°C. The rated and max. torque capacities are decreased in case of use in high ambient temperatures. If the ambient temperature exceeds 30°C, adjust the torque capacity, referring to page 5.

**MJT** Setscrew Type



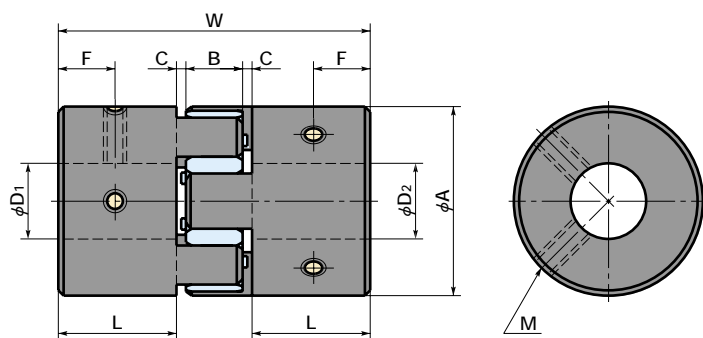
**Dimensions**

unit: mm

Catalog Number			A	L	W	B	C	F	M	Wrench Torque (N·m)
MJT-14-BL			14	7	22	6	1	3.5	M3	0.7
MJT-20-BL			20	10	30	8	1	5	M3	0.7
MJT-30-BL			30	11	35	10	1.5	5.5	M4	1.7
MJT-40-BL			40	25	66	12	2	12.5	M5	4
MJT-55-BL			55	30	78	14	2	15	M6	7
MJT-65-BL			65	35	90	15	2.5	17.5	M8	15
MJT-14-WH			14	7	22	6	1	3.5	M3	0.7
MJT-20-WH			20	10	30	8	1	5	M3	0.7
MJT-30-WH			30	11	35	10	1.5	5.5	M4	1.7
MJT-40-WH			40	25	66	12	2	12.5	M5	4
MJT-55-WH			55	30	78	14	2	15	M6	7
MJT-65-WH			65	35	90	15	2.5	17.5	M8	15
MJT-14-RD			14	7	22	6	1	3.5	M3	0.7
MJT-20-RD			20	10	30	8	1	5	M3	0.7
MJT-30-RD			30	11	35	10	1.5	5.5	M4	1.7
MJT-40-RD			40	25	66	12	2	12.5	M5	4
MJT-55-RD			55	30	78	14	2	15	M6	7
MJT-65-RD			65	35	90	15	2.5	17.5	M8	15

Catalog Number	Stock Bores																	
	D1·D2 (Tolerance H8)																	
	3	4	4.5	5	6	6.35	7	8	9.525	10	11	12	14	15	16	18	19	20
MJT-14-BL · WH · RD	●	●	●	●	●													
MJT-20-BL · WH · RD				●	●	●	●	●										
MJT-30-BL · WH · RD							●	●	●	●	●	●						
MJT-40-BL · WH · RD									●	●	●	●	●	●				
MJT-55-BL · WH · RD													●	●	●	●	●	●
MJT-65-BL · WH · RD													●	●	●	●	●	●

- All products come with setscrews.
- Hubs with shaft bore diameters of  $\phi 4$  or less have one setscrew.
- Recommended tolerance on shaft diameters is h6 and h7.
- Setscrew type/clamp type and other combination couplings are available on request.
- Non-standard shaft bores and keyways are machined on request. Please contact us.


 Outside Dia.  $\phi 55 \sim \phi 65$ 

## Specifications

Catalog Number	Max. Bore (mm)	Rated* Torque (N·m)	Max.* Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment** of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass** (g)
MJT-14-BL	6.35	0.7	1.4	27000	$2.1 \times 10^{-7}$	8	0.15	1.0	$\begin{matrix} +0.6 \\ 0 \end{matrix}$	7.3
MJT-20-BL	9.525	1.8	3.6	19000	$1.0 \times 10^{-6}$	16	0.20	1.0	$\begin{matrix} +0.8 \\ 0 \end{matrix}$	18
MJT-30-BL	14	4	8	13000	$5.9 \times 10^{-6}$	46	0.20	1.0	$\begin{matrix} +1.0 \\ 0 \end{matrix}$	46
MJT-40-BL	20	4.9	9.8	9600	$4.0 \times 10^{-5}$	380	0.15	1.0	$\begin{matrix} +1.2 \\ 0 \end{matrix}$	150
MJT-55-BL	25	17	34	7000	$1.7 \times 10^{-4}$	1400	0.20	1.0	$\begin{matrix} +1.4 \\ 0 \end{matrix}$	350
MJT-65-BL	30	46	92	5900	$3.9 \times 10^{-4}$	2800	0.20	1.0	$\begin{matrix} +1.5 \\ 0 \end{matrix}$	570
MJT-14-WH	6.35	1.2	2.4	27000	$2.1 \times 10^{-7}$	14	0.10	1.0	$\begin{matrix} +0.6 \\ 0 \end{matrix}$	7.3
MJT-20-WH	9.525	3	6	19000	$1.0 \times 10^{-6}$	29	0.15	1.0	$\begin{matrix} +0.8 \\ 0 \end{matrix}$	18
MJT-30-WH	14	7.5	15	13000	$5.9 \times 10^{-6}$	73	0.15	1.0	$\begin{matrix} +1.0 \\ 0 \end{matrix}$	46
MJT-40-WH	20	10	20	9600	$4.0 \times 10^{-5}$	570	0.10	1.0	$\begin{matrix} +1.2 \\ 0 \end{matrix}$	150
MJT-55-WH	25	35	70	7000	$1.7 \times 10^{-4}$	1600	0.15	1.0	$\begin{matrix} +1.4 \\ 0 \end{matrix}$	350
MJT-65-WH	30	95	190	5900	$3.9 \times 10^{-4}$	3000	0.15	1.0	$\begin{matrix} +1.5 \\ 0 \end{matrix}$	570
MJT-14-RD	6.35	2	4	27000	$2.1 \times 10^{-7}$	22	0.10	1.0	$\begin{matrix} +0.6 \\ 0 \end{matrix}$	7.3
MJT-20-RD	9.525	5	10	19000	$1.0 \times 10^{-6}$	55	0.10	1.0	$\begin{matrix} +0.8 \\ 0 \end{matrix}$	18
MJT-30-RD	14	12.5	25	13000	$5.9 \times 10^{-6}$	130	0.10	1.0	$\begin{matrix} +1.0 \\ 0 \end{matrix}$	46
MJT-40-RD	20	17	34	9600	$4.0 \times 10^{-5}$	1200	0.10	1.0	$\begin{matrix} +1.2 \\ 0 \end{matrix}$	150
MJT-55-RD	25	60	120	7000	$1.7 \times 10^{-4}$	2600	0.10	1.0	$\begin{matrix} +1.4 \\ 0 \end{matrix}$	350
MJT-65-RD	30	160	320	5900	$3.9 \times 10^{-4}$	4900	0.10	1.0	$\begin{matrix} +1.5 \\ 0 \end{matrix}$	570

\* Operational temperature of MJT is  $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$ . The rated and max. torque capacities are decreased in case of use in high ambient temperatures.

If the ambient temperature exceeds  $30^{\circ}\text{C}$ , adjust the torque capacity, referring to page 5.

\*\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

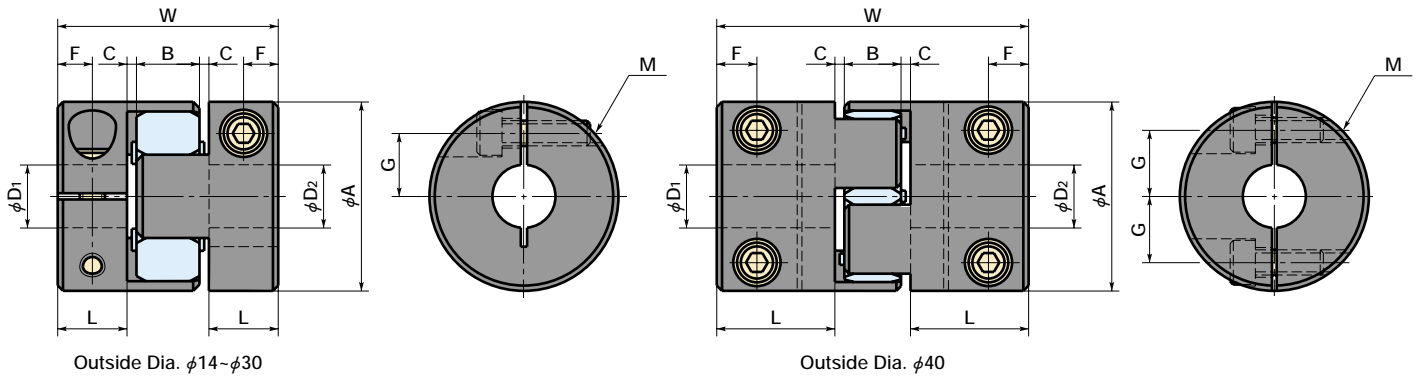
**MJT-30-BL- $\phi 8 \times \phi 10$**

Product No.

 $\phi 8$  D1

 $\phi 10$  D2

**MJT-C** Clamp Type



**Dimensions**

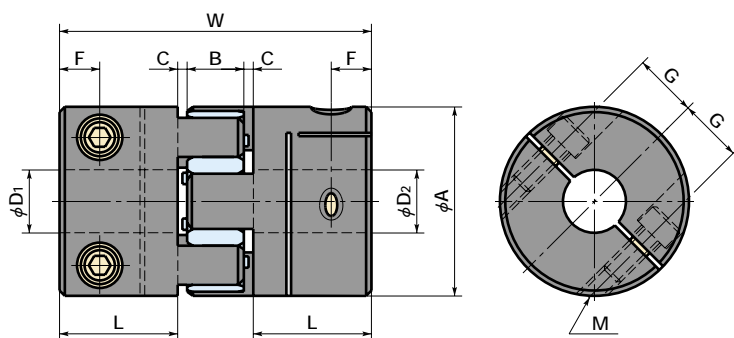
unit: mm

Catalog Number			A	L	W	B	C	F	G	M	Wrench Torque (N·m)
MJT-14C-BL			14	7	22	6	1	3.5	4	M2	0.5
MJT-20C-BL			20	10	30	8	1	5	6.5	M2.5	1
MJT-30C-BL			30	11	35	10	1.5	5.5	10	M4	2.5
MJT-40C-BL			40	25	66	12	2	8.5	14	M5	4
MJT-55C-BL			55	30	78	14	2	10.5	20	M6	8
MJT-65C-BL			65	35	90	15	2.5	13	24	M8	16
MJT-14C-WH			14	7	22	6	1	3.5	4	M2	0.5
MJT-20C-WH			20	10	30	8	1	5	6.5	M2.5	1
MJT-30C-WH			30	11	35	10	1.5	5.5	10	M4	2.5
MJT-40C-WH			40	25	66	12	2	8.5	14	M5	4
MJT-55C-WH			55	30	78	14	2	10.5	20	M6	8
MJT-65C-WH			65	35	90	15	2.5	13	24	M8	16
MJT-14C-RD			14	7	22	6	1	3.5	4	M2	0.5
MJT-20C-RD			20	10	30	8	1	5	6.5	M2.5	1
MJT-30C-RD			30	11	35	10	1.5	5.5	10	M4	2.5
MJT-40C-RD			40	25	66	12	2	8.5	14	M5	4
MJT-55C-RD			55	30	78	14	2	10.5	20	M6	8
MJT-65C-RD			65	35	90	15	2.5	13	24	M8	16

Catalog Number	Stock Bores																	
	D1-D2																	
	3	4	4.5	5	6	6.35	7	8	9.525	10	11	12	14	15	16	18	19	20
MJT-14C-BL · WH · RD	●	●	●	●														
MJT-20C-BL · WH · RD				●	●	●	●	●										
MJT-30C-BL · WH · RD							●	●	●	●	●							
MJT-40C-BL · WH · RD									●	●	●	●	●	●				
MJT-55C-BL · WH · RD													●	●	●	●	●	●
MJT-65C-BL · WH · RD													●	●	●	●	●	●

- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Setscrew type/clamp type and other combination couplings are available on request.
- Non-standard shaft bores and keyways are machined on request. Please contact us.




 Outside Dia.  $\phi 55$ – $\phi 65$ 

## Specifications

Catalog Number	Max. Bore (mm)	Rated* Torque (N·m)	Max.* Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment** of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass** (g)
MJT-14C-BL	5	0.7	1.4	11000	$1.6 \times 10^{-7}$	8	0.15	1.0	$\begin{matrix} +0.6 \\ 0 \\ 0 \end{matrix}$	6
MJT-20C-BL	8	1.8	3.6	7600	$1.1 \times 10^{-6}$	16	0.20	1.0	$\begin{matrix} +0.8 \\ 0 \\ 0 \end{matrix}$	19
MJT-30C-BL	12	4	8	5100	$6.2 \times 10^{-6}$	46	0.20	1.0	$\begin{matrix} +1.0 \\ 0 \\ 0 \end{matrix}$	50
MJT-40C-BL	16	4.9	9.8	3800	$3.9 \times 10^{-5}$	380	0.15	1.0	$\begin{matrix} +1.2 \\ 0 \\ 0 \end{matrix}$	160
MJT-55C-BL	25	17	34	2800	$1.6 \times 10^{-4}$	1400	0.20	1.0	$\begin{matrix} +1.4 \\ 0 \\ 0 \end{matrix}$	330
MJT-65C-BL	30	46	92	2350	$3.8 \times 10^{-4}$	2800	0.20	1.0	$\begin{matrix} +1.5 \\ 0 \\ 0 \end{matrix}$	560
MJT-14C-WH	5	1.2	2.4	11000	$1.6 \times 10^{-7}$	14	0.10	1.0	$\begin{matrix} +0.6 \\ 0 \\ 0 \end{matrix}$	6
MJT-20C-WH	8	3	6	7600	$1.1 \times 10^{-6}$	29	0.15	1.0	$\begin{matrix} +0.8 \\ 0 \\ 0 \end{matrix}$	19
MJT-30C-WH	12	7.5	15	5100	$6.2 \times 10^{-6}$	73	0.15	1.0	$\begin{matrix} +1.0 \\ 0 \\ 0 \end{matrix}$	50
MJT-40C-WH	16	10	20	3800	$3.9 \times 10^{-5}$	570	0.10	1.0	$\begin{matrix} +1.2 \\ 0 \\ 0 \end{matrix}$	160
MJT-55C-WH	25	35	70	2800	$1.6 \times 10^{-4}$	1600	0.15	1.0	$\begin{matrix} +1.4 \\ 0 \\ 0 \end{matrix}$	330
MJT-65C-WH	30	95	190	2350	$3.8 \times 10^{-4}$	3000	0.15	1.0	$\begin{matrix} +1.5 \\ 0 \\ 0 \end{matrix}$	560
MJT-14C-RD	5	2	4	11000	$1.6 \times 10^{-7}$	22	0.10	1.0	$\begin{matrix} +0.6 \\ 0 \\ 0 \end{matrix}$	6
MJT-20C-RD	8	5	10	7600	$1.1 \times 10^{-6}$	55	0.10	1.0	$\begin{matrix} +0.8 \\ 0 \\ 0 \end{matrix}$	19
MJT-30C-RD	12	12.5	25	5100	$6.2 \times 10^{-6}$	130	0.10	1.0	$\begin{matrix} +1.0 \\ 0 \\ 0 \end{matrix}$	50
MJT-40C-RD	16	17	34	3800	$3.9 \times 10^{-5}$	1200	0.10	1.0	$\begin{matrix} +1.2 \\ 0 \\ 0 \end{matrix}$	160
MJT-55C-RD	25	60	120	2800	$1.6 \times 10^{-4}$	2600	0.10	1.0	$\begin{matrix} +1.4 \\ 0 \\ 0 \end{matrix}$	330
MJT-65C-RD	30	160	320	2350	$3.8 \times 10^{-4}$	4900	0.10	1.0	$\begin{matrix} +1.5 \\ 0 \\ 0 \end{matrix}$	560

\* Operational temperature of MJT is  $-20^{\circ}\text{C}$ – $60^{\circ}\text{C}$ . The rated and max. torque capacities are decreased in case of use in high ambient temperatures.

If the ambient temperature exceeds  $30^{\circ}\text{C}$ , adjust the torque capacity, referring to page 5.

\*\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

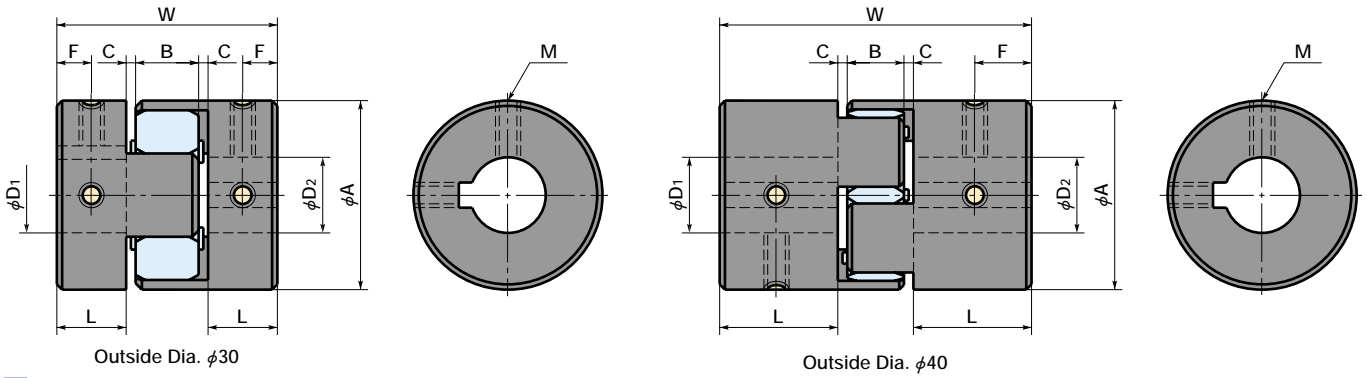
**MJT-20C-RD- $\phi 5 \times \phi 6$**

Product No.

 $\phi 5$   
D1

 $\phi 6$   
D2

**MJT-K** Keyway Type



**Dimensions**

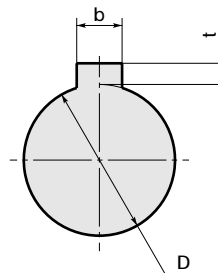
unit: mm

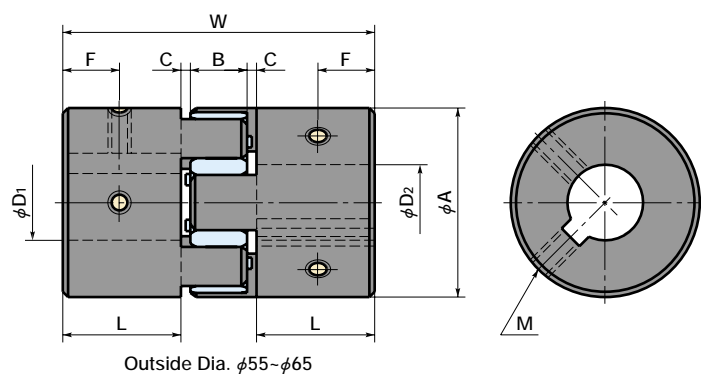
Catalog Number			A	L	W	B	C	F	M	Wrench Torque (N·m)
MJT-30K-BL			30	11	35	10	1.5	5.5	M4	1.7
MJT-40K-BL			40	25	66	12	2	12.5	M5	4
MJT-55K-BL			55	30	78	14	2	15	M6	7
MJT-65K-BL			65	35	90	15	2.5	17.5	M8	15
MJT-30K-WH			30	11	35	10	1.5	5.5	M4	1.7
MJT-40K-WH			40	25	66	12	2	12.5	M5	4
MJT-55K-WH			55	30	78	14	2	15	M6	7
MJT-65K-WH			65	35	90	15	2.5	17.5	M8	15
MJT-30K-RD			30	11	35	10	1.5	5.5	M4	1.7
MJT-40K-RD			40	25	66	12	2	12.5	M5	4
MJT-55K-RD			55	30	78	14	2	15	M6	7
MJT-65K-RD			65	35	90	15	2.5	17.5	M8	15

Catalog Number	Stock Bores									
	D1-D2 (Tolerance H8)									
	10	11	12	14	15	16	18	19	20	25
MJT-30K-BL · WH · RD	●	●	●	●						
MJT-40K-BL · WH · RD	●	●	●	●	●	●				
MJT-55K-BL · WH · RD					●	●	●	●	●	●
MJT-65K-BL · WH · RD					●	●	●	●	●	●

- All products come with setscrews.
- Recommended tolerance on shaft diameters is h6 and h7.
- Keyway type/clamp type and other combination couplings are available on request.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

Stock Bores D	Keyways				Keys b×h
	b		t		
	Basic Size	Tolerance (JS9)	Basic Size	Tolerance	
10					
11	4	±0.0150	1.8	+0.1 0	4×4
12					
14					
15	5	±0.0150	2.3	+0.1 0	5×5
16					
18					
19	6	±0.0150	2.8	+0.1 0	6×6
20					
25	8	±0.0180	3.3	+0.2 0	8×7





## Specifications

Catalog Number	Max. Bore (mm)	Rated* Torque (N·m)	Max.* Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment** of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass** (g)
MJT-30K-BL	14	4	8	5100	$5.8 \times 10^{-6}$	46	0.20	1.0	$+1.0_0$	45
MJT-40K-BL	20	4.9	9.8	3800	$3.8 \times 10^{-5}$	380	0.15	1.0	$+1.2_0$	150
MJT-55K-BL	25	17	34	2800	$1.6 \times 10^{-4}$	1400	0.20	1.0	$+1.4_0$	350
MJT-65K-BL	30	46	92	2350	$3.6 \times 10^{-4}$	2800	0.20	1.0	$+1.5_0$	570
MJT-30K-WH	14	7.5	15	5100	$5.8 \times 10^{-6}$	73	0.15	1.0	$+1.0_0$	45
MJT-40K-WH	20	10	20	3800	$3.8 \times 10^{-5}$	570	0.10	1.0	$+1.2_0$	150
MJT-55K-WH	25	35	70	2800	$1.6 \times 10^{-4}$	1600	0.15	1.0	$+1.4_0$	350
MJT-65K-WH	30	95	190	2350	$3.6 \times 10^{-4}$	3000	0.15	1.0	$+1.5_0$	570
MJT-30K-RD	14	12.5	25	5100	$5.8 \times 10^{-6}$	130	0.10	1.0	$+1.0_0$	45
MJT-40K-RD	20	17	34	3800	$3.8 \times 10^{-5}$	1200	0.10	1.0	$+1.2_0$	150
MJT-55K-RD	25	60	120	2800	$1.6 \times 10^{-4}$	2600	0.10	1.0	$+1.4_0$	350
MJT-65K-RD	30	160	320	2350	$3.6 \times 10^{-4}$	4900	0.10	1.0	$+1.5_0$	570

\* Operational temperature of MJT is  $-20^{\circ}\text{C}$ – $60^{\circ}\text{C}$ . The rated and max. torque capacities are decreased in case of use in high ambient temperatures.

If the ambient temperature exceeds  $30^{\circ}\text{C}$ , adjust the torque capacity, referring to page 5.

\*\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

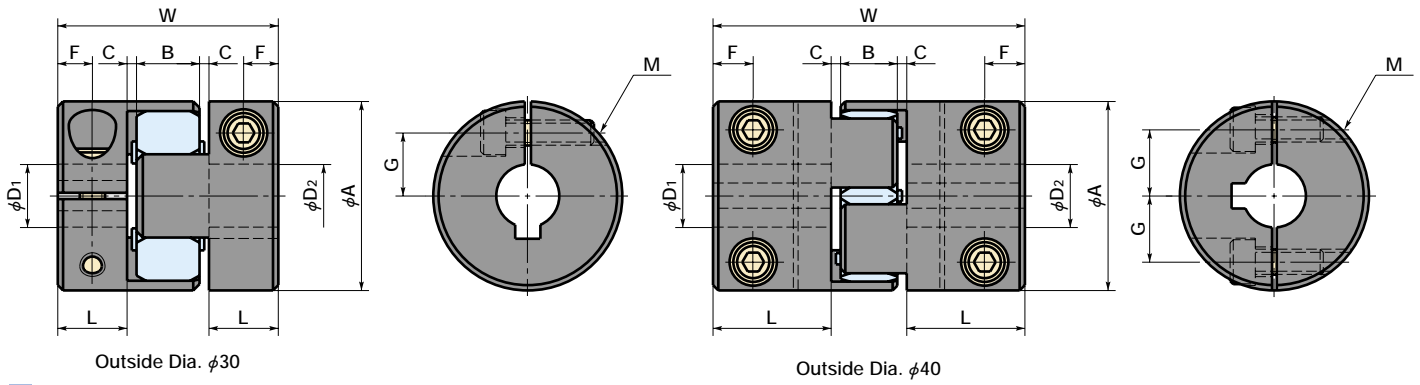
**MJT-55K-WH- $\phi 16 \times \phi 18$**

Product No.

D1

D2

**MJT-CK** Clamp + Keyway Type



## Dimensions

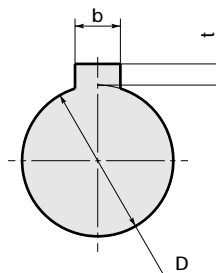
unit: mm

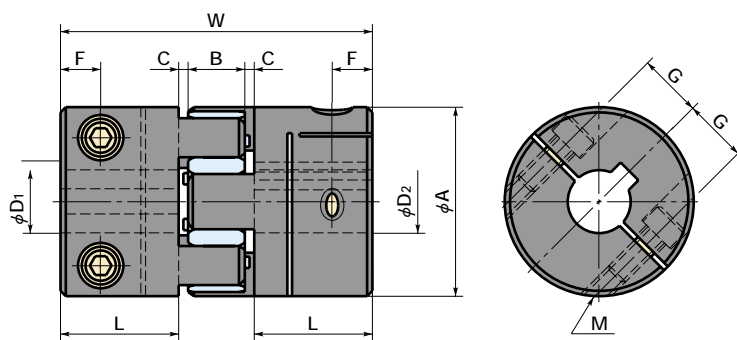
Catalog Number			A	L	W	B	C	F	G	M	Wrench Torque (N·m)
MJT-30CK-BL			30	11	35	10	1.5	5.5	10	M4	2.5
MJT-40CK-BL			40	25	66	12	2	8.5	14	M5	4
MJT-55CK-BL			55	30	78	14	2	10.5	20	M6	8
MJT-65CK-BL			65	35	90	15	2.5	13	24	M8	16
MJT-30CK-WH			30	11	35	10	1.5	5.5	10	M4	2.5
MJT-40CK-WH			40	25	66	12	2	8.5	14	M5	4
MJT-55CK-WH			55	30	78	14	2	10.5	20	M6	8
MJT-65CK-WH			65	35	90	15	2.5	13	24	M8	16
MJT-30CK-RD			30	11	35	10	1.5	5.5	10	M4	2.5
MJT-40CK-RD			40	25	66	12	2	8.5	14	M5	4
MJT-55CK-RD			55	30	78	14	2	10.5	20	M6	8
MJT-65CK-RD			65	35	90	15	2.5	13	24	M8	16

Catalog Number	Stock Bores									
	D <sub>1</sub> -D <sub>2</sub>									
	10	11	12	14	15	16	18	19	20	25
MJT-30CK-BL · WH · RD	●	●	●							
MJT-40CK-BL · WH · RD	●	●	●	●	●	●				
MJT-55CK-BL · WH · RD					●	●	●	●	●	●
MJT-65CK-BL · WH · RD					●	●	●	●	●	●

- All products come with cap screws.
- Recommended tolerance on shaft diameters is h6 and h7.
- Clamp+keyway type/clamp type and other combination couplings are available on request.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

Stock Bores D	Keyways				Keys b×h
	b		t		
	Basic Size	Tolerance (JS9)	Basic Size	Tolerance	
10					
11	4	±0.0150	1.8	+0.1 0	4×4
12					
14	5	±0.0150	2.3	+0.1 0	
15					
16					
18	6	±0.0150	2.8	+0.1 0	6×6
19					
20					
25	8	±0.0180	3.3	+0.2 0	8×7





Outside Dia.  $\phi 55$ - $\phi 65$

## Specifications

Catalog Number	Max. Bore (mm)	Rated* Torque (N·m)	Max.* Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment** of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Errors of Shaft End-Play (mm)	Mass** (g)
MJT-30CK-BL	12	4	8	5100	$4.2 \times 10^{-6}$	46	0.20	1.0	$+1.0_0$	50
MJT-40CK-BL	16	4.9	9.8	3800	$3.7 \times 10^{-5}$	380	0.15	1.0	$+1.2_0$	160
MJT-55CK-BL	25	17	34	2800	$1.5 \times 10^{-4}$	1400	0.20	1.0	$+1.4_0$	330
MJT-65CK-BL	30	46	92	2350	$3.5 \times 10^{-4}$	2800	0.20	1.0	$+1.5_0$	550
MJT-30CK-WH	12	7.5	15	5100	$4.2 \times 10^{-6}$	73	0.15	1.0	$+1.0_0$	50
MJT-40CK-WH	16	10	20	3800	$3.7 \times 10^{-5}$	570	0.10	1.0	$+1.2_0$	160
MJT-55CK-WH	25	35	70	2800	$1.5 \times 10^{-4}$	1600	0.15	1.0	$+1.4_0$	330
MJT-65CK-WH	30	95	190	2350	$3.5 \times 10^{-4}$	3000	0.15	1.0	$+1.5_0$	550
MJT-30CK-RD	12	12.5	25	5100	$4.2 \times 10^{-6}$	130	0.10	1.0	$+1.0_0$	50
MJT-40CK-RD	16	17	34	3800	$3.7 \times 10^{-5}$	1200	0.10	1.0	$+1.2_0$	160
MJT-55CK-RD	25	60	120	2800	$1.5 \times 10^{-4}$	2600	0.10	1.0	$+1.4_0$	330
MJT-65CK-RD	30	160	320	2350	$3.5 \times 10^{-4}$	4900	0.10	1.0	$+1.5_0$	550

\* Operational temperature of MJT is  $-20^{\circ}\text{C}$ ~ $60^{\circ}\text{C}$ . The rated and max. torque capacities are decreased in case of use in high ambient temperatures.

If the ambient temperature exceeds  $30^{\circ}\text{C}$ , adjust the torque capacity, referring to page 5.

\*\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

**MJT-65CK-BL- $\phi 20 \times \phi 25$**

Product No.

D1

D2

# MSF

Miniature Soft Flexible Coupling



## Features

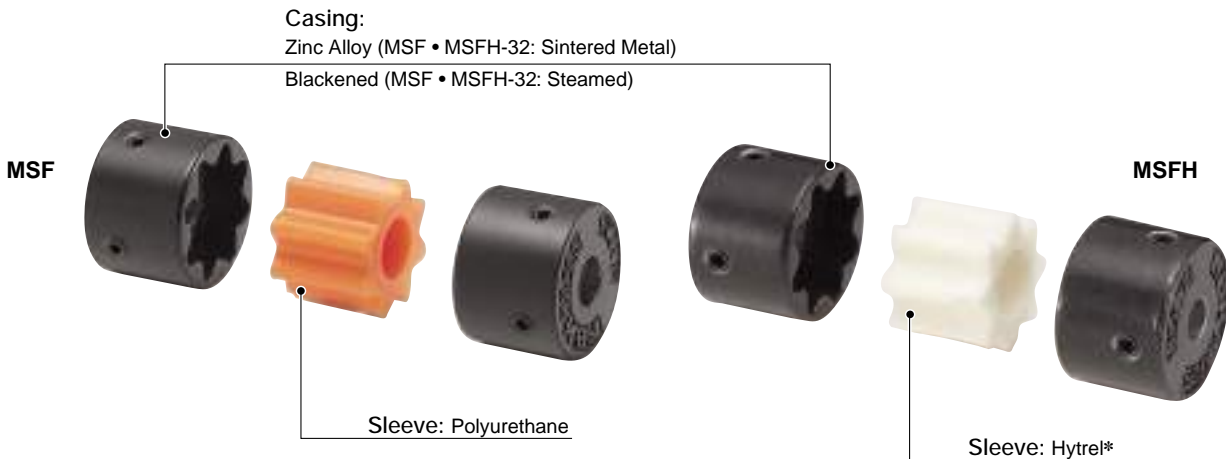
- Simply structured serration type coupling, transmitting torque by casing-sleeve engagement
  - Excellent flexibility, high values in parallel and angular misalignments, absorption of torsional vibration
  - Almost zero backlash achieved by precise fitness of serration
  - Easy attachment on shafts by setscrews
  - Resistance to oil, and electrical insulation
  - Finished bore product-Models featuring two different end bores also in stock
- Available with Hytrel sleeves as well as polyurethane sleeves for the applications requiring high torque and temperatures

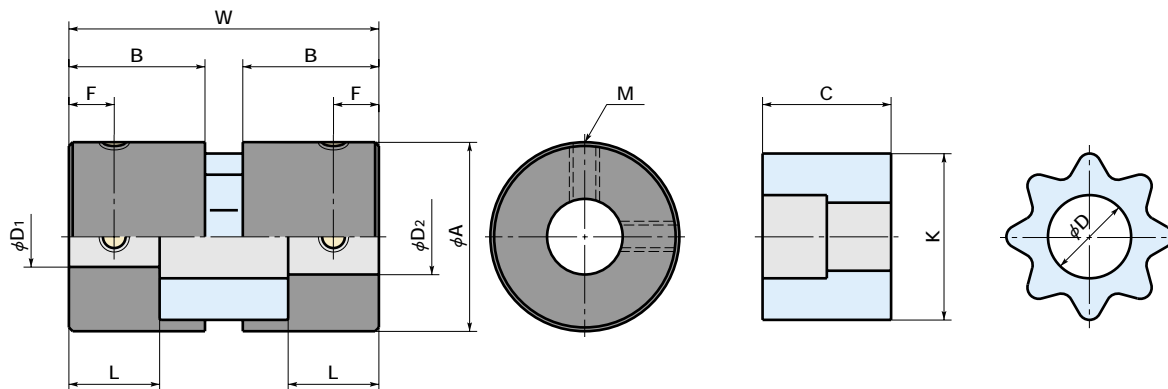
**MSF** (Polyurethane sleeve) operational temperature :  
-20°C~60°C

**MSFH** (Hytrel sleeve) operational temperature :  
-30°C~100°C

\* Hytrel is the trademark of E. I. du Pont de Nemours and Company.

## Configuration & Material





## Dimensions

unit: mm

Catalog Number									Wrench Torque (N-m)	Sleeve			Stock Bores											
			A	B	L	W	F	M		C	K	D	D1-D2 (Tolerance H8)											
													3	4	5	6	6.35	8	9.525	10	11	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					●	●	●	●	●	●	●	●
MSFH-16			16	12	8	27	4	M3	0.7	11	14	6/ 6	●	●	●	●	●							
MSFH-20			20	15	10	34	5	M3	0.7	14	18	8/ 8			●	●	●	●	●	●				
MSFH-25			25	18	12	41	6	M4	1.7	17	22	10/10				●	●	●	●	●	●	●	●	
MSFH-32			32	21	14	48	7	M4	1.7	20	29	12/14					●	●	●	●	●	●	●	●

- All products come with setscrews.
- Hubs with shaft bore diameters of  $\phi 4$  or less have one setscrew.
- Recommended tolerance on shaft diameters is h6 and h7.
- Couplings with blind hubs are available on request.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## Specifications

Catalog Number	Max. Bore (mm)	Rated* Torque (N-m)	Max.* Torque (N-m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment** of Inertia (kg-m <sup>2</sup> )	Static Torsional Stiffness (N-m/rad)	Errors of Eccentricity (mm)	Errors of Angularity (°)	Mass** (g)
MSF -16	8	0.5	1	24000	$9.0 \times 10^{-7}$	4.4	0.20	2	22
MSF -20	10	1	2	19000	$2.7 \times 10^{-6}$	9.5	0.20	2	42
MSF -25	12	1.5	3	15000	$8.1 \times 10^{-6}$	20	0.20	2	81
MSF -32	15	3	6	12000	$2.5 \times 10^{-5}$	52	0.20	2	150
MSFH-16	8	0.75	1.5	24000	$9.0 \times 10^{-7}$	11	0.20	2	22
MSFH-20	10	1.5	3	19000	$2.7 \times 10^{-6}$	22	0.20	2	42
MSFH-25	12	2.3	4.6	15000	$8.1 \times 10^{-6}$	38	0.20	2	81
MSFH-32	15	4.5	9	12000	$2.5 \times 10^{-5}$	85	0.20	2	150

\* Operational temperature of MSF is -20°C~60°C and that of MSFH is -30°C~100°C. The rated and max. torque capacities are decreased in case of use in high ambient temperatures. If the ambient temperature exceeds 30°C, adjust the torque capacity, referring to page 5.

\*\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

**MSF-20- $\phi 6 \times \phi 8$**

Product No.      D1      D2



You can download the most current CAD data on Couplicon® mini couplings directly from our website. The file is available in DXF format.

\* DXF is the registered trademark of Autodesk, Inc.



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

e-mail : [info@nbk1560.com](mailto:info@nbk1560.com)



# MRG

Miniature Rigid Coupling



## Features

- Light weight, extremely low inertia and high response
- Maintenance free and excellent resistance to oil and chemicals
- Available in aluminum alloy and stainless steel
- Setscrew type, clamp type and split type are available
- Finished bore product-Models featuring two different end bores also in stock

## Configuration & Material



**Setscrew Type**

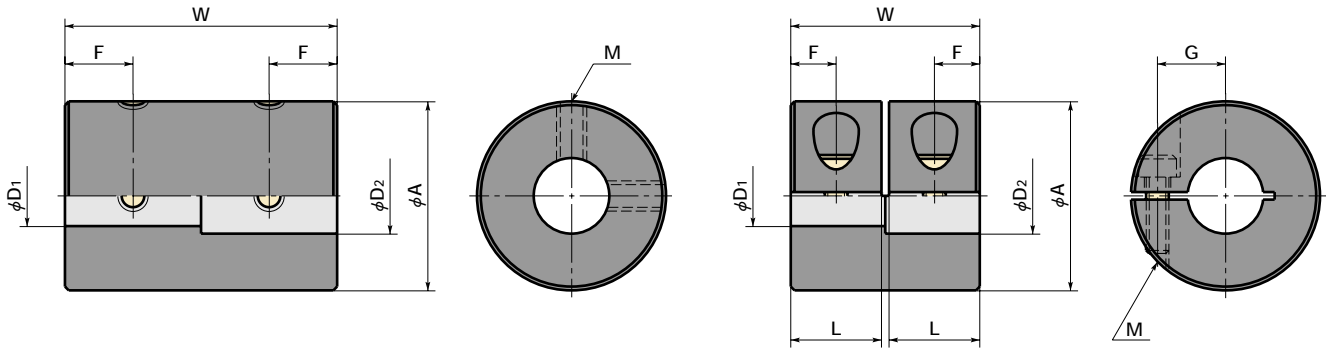
**Clamp Type**

**Split Type**

Material	Attachment		
	Setscrew Type	Clamp Type	Split Type
Aluminum Alloy	MRG -**	MRG -**C	MRG -**W
Stainless Steel	MRGS-**	MRGS -**C	MRGS -**W

**MRG MRGS** Setscrew Type

**MRG-C MRGS-C** Clamp Type



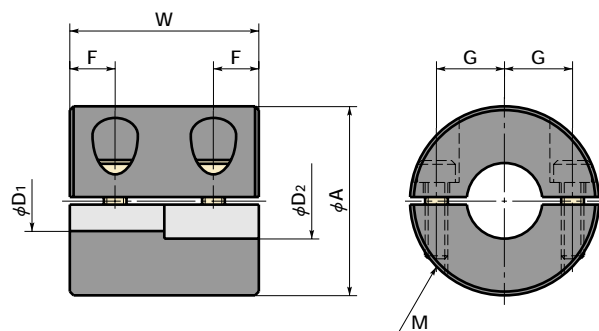
**Dimensions**

unit: mm

Catalog Number	A	W	L	F	G	M	Wrench Torque (N·m)	Stock Bores													
								D1-D2													
								3	4	5	6	8	10	11	12	14	15	16			
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								●	●	●	●			
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								●	●	●	●			
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						●		●	●					
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						●		●	●					
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						●		●	●					
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						●		●	●					

- All products come with setscrews (MRG • MRGS) or cap screws (MRG-C • MRGS-C • MRG-W • MRGS-W).
- Hubs with shaft bore diameters of  $\phi 4$  or less have one setscrew.
- Tolerance on shaft bores of setscrew type coupling is H8.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

**MRG-W MRGS-W Split Type**



## Specifications

Catalog Number	Max. Bore (mm)	Rated Torque (N·m)	Max. Torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment* of Inertia (kg·m <sup>2</sup> )	Mass* (g)
MRG -16	8	0.3	0.6	24000	4.4×10 <sup>-7</sup>	11
MRG -20	10	0.5	1	19000	1.3×10 <sup>-6</sup>	20
MRG -25	12	1	2	15000	3.9×10 <sup>-6</sup>	39
MRG -32	16	2	4	12000	1.2×10 <sup>-5</sup>	71
MRGS-16	8	0.3	0.6	24000	1.2×10 <sup>-6</sup>	28
MRGS-20	10	0.5	1	19000	3.5×10 <sup>-6</sup>	54
MRGS-25	12	1	2	15000	1.0×10 <sup>-5</sup>	100
MRGS-32	16	2	4	12000	3.1×10 <sup>-5</sup>	190
MRG -16C	6	0.3	0.6	9500	3.0×10 <sup>-7</sup>	8.3
MRG -20C	8	0.5	1	7600	8.7×10 <sup>-7</sup>	15
MRG -25C	10	1	2	6100	2.7×10 <sup>-6</sup>	29
MRG -32C	14	2	4	4800	7.1×10 <sup>-6</sup>	51
MRGS-16C	6	0.3	0.6	9500	8.0×10 <sup>-7</sup>	22
MRGS-20C	8	0.5	1	7600	2.4×10 <sup>-6</sup>	41
MRGS-25C	10	1	2	6100	7.3×10 <sup>-6</sup>	80
MRGS-32C	14	2	4	4800	2.5×10 <sup>-5</sup>	160
MRG -16W	6	0.3	0.6	9500	3.2×10 <sup>-7</sup>	8.8
MRG -20W	8	0.5	1	7600	8.7×10 <sup>-7</sup>	15
MRG -25W	10	1	2	6100	2.7×10 <sup>-6</sup>	29
MRG -32W	14	2	4	4800	9.3×10 <sup>-6</sup>	61
MRGS-16W	6	0.3	0.6	9500	8.2×10 <sup>-7</sup>	22
MRGS-20W	8	0.5	1	7600	2.4×10 <sup>-6</sup>	41
MRGS-25W	10	1	2	6100	7.3×10 <sup>-6</sup>	80
MRGS-32W	14	2	4	4800	2.5×10 <sup>-5</sup>	160

\* Moment of inertia and mass figures based on the maximum shaft bores.

## When Ordering

- Specify product No. and both bore diameters.

**MRG-16W-φ5×φ6**

Product No.      D1      D2

# MLR



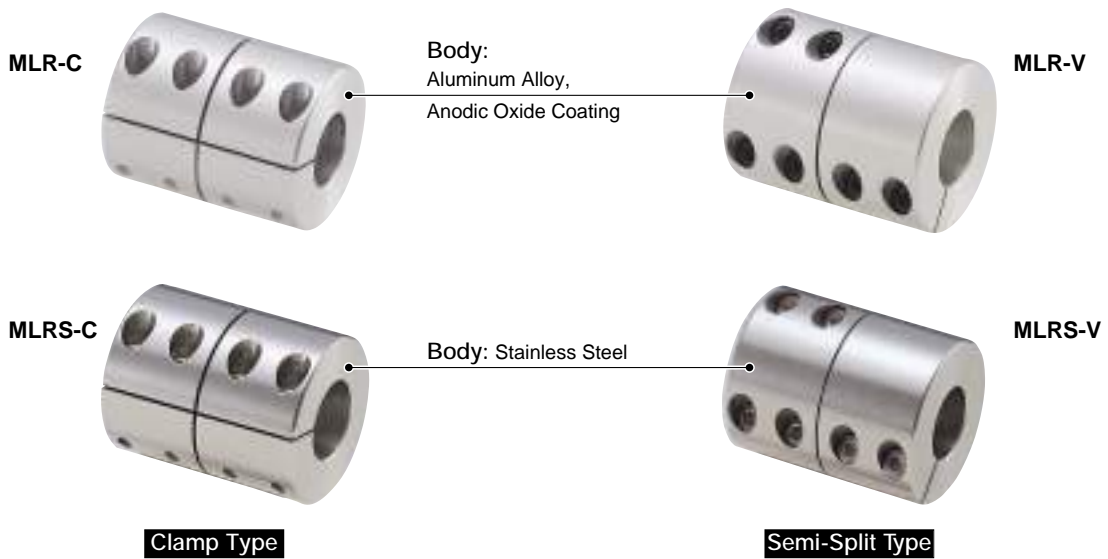
Miniature Rigid Coupling – Long Version



## Features

- Long type rigid coupling
- Can be used as a joint to connect with shafts
- Available in aluminum alloy and stainless steel
- Clamp type and split type are available
- Finished bore product

## Configuration & Material



Material	Attachment	
	Clamp Type	Semi-Split Type
Aluminum Alloy	MLR -**C	MLR -**V
Stainless Steel	MLRS-**C	MLRS-**V

### Semi-Split Type

Semi-split type features a combination of one clamp type hub and one split type hub. This fixing style enhances ease of assembly, because it is possible to attach on one shaft without sliding the other on the clamp type hub.



## When Ordering

- Specify product No. and both bore diameters.

**MLR-16V- $\phi$ 6 $\times$  $\phi$ 6**

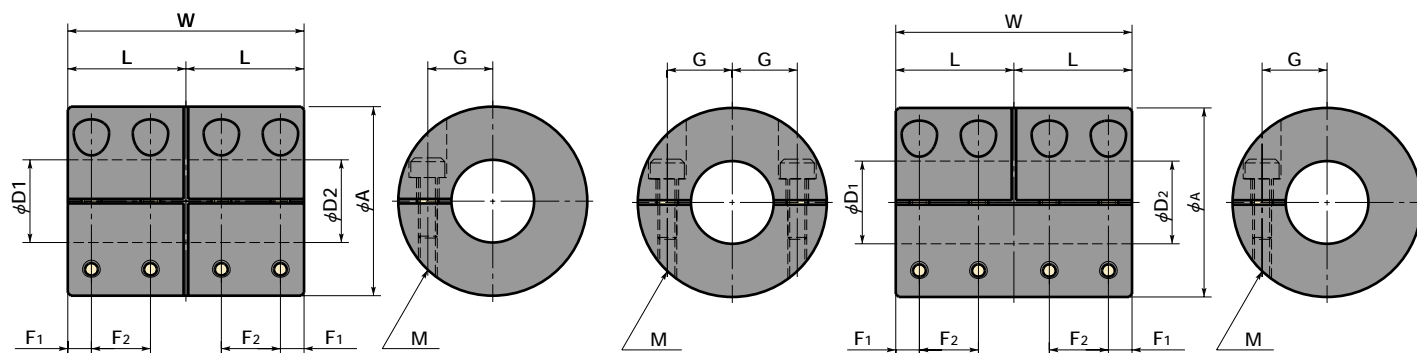
Product No.

D1

D2

## MLR-C MLRS-C Clamp Type

## MLR-V MLRS-V Semi-Split Type



## Dimensions

unit: mm

Catalog Number	A	L	W	F <sub>1</sub>	F <sub>2</sub>	G	M	Wrench Torque (N·m)	Stock Bores	
									D <sub>1</sub> ×D <sub>2</sub>	
MLR -16C	16	11	22	2.5	5.5	5	M2	0.5	6×6	—
MLR -20C	20	12	24	2.5	6	7	M2	0.5	8×8	—
MLR -25C	25	18	36	4.5	9	9	M2.5	1	10×10	12×12
MLR -32C	32	20	40	4	10	11	M3	1.5	14×14	15×15
MLRS-16C	16	11	22	2.5	5.5	5	M2	0.5	6×6	—
MLRS-20C	20	12	24	2.5	6	7	M2	0.5	8×8	—
MLRS-25C	25	18	36	4.5	9	9	M2.5	1	10×10	12×12
MLRS-32C	32	20	40	4	10	11	M3	1.5	14×14	15×15
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 come with cap screws.

● Recommended tolerance on shaft diameters is h6 and h7.

## Specifications

Catalog Number	Max. Bore	Rated Torque	Max. Torque	Max. Rotational Frequency	Moment* of Inertia	Mass*
	(mm)	(N·m)	(N·m)	(min <sup>-1</sup> )	(kg·m <sup>2</sup> )	(g)
MLR -16C	6	0.3	0.6	9000	3.4×10 <sup>-7</sup>	10
MLR -20C	8	0.5	1	7000	9.2×10 <sup>-7</sup>	18
MLR -25C	12	1	2	6000	3.4×10 <sup>-6</sup>	38
MLR -32C	15	2	4	4500	1.0×10 <sup>-5</sup>	70
MLRS-16C	6	0.3	0.6	9000	8.9×10 <sup>-7</sup>	25
MLRS-20C	8	0.5	1	7000	2.5×10 <sup>-6</sup>	45
MLRS-25C	12	1	2	6000	9.2×10 <sup>-6</sup>	100
MLRS-32C	15	2	4	4500	2.7×10 <sup>-5</sup>	180
MLR -16V	6	0.3	0.6	9000	3.5×10 <sup>-7</sup>	10
MLR -20V	8	0.5	1	7000	9.5×10 <sup>-7</sup>	18
MLR -25V	12	1	2	6000	3.4×10 <sup>-6</sup>	38
MLR -32V	15	2	4	4500	1.0×10 <sup>-5</sup>	70
MLRS-16V	6	0.3	0.6	9000	9.1×10 <sup>-7</sup>	25
MLRS-20V	8	0.5	1	7000	2.6×10 <sup>-6</sup>	45
MLRS-25V	12	1	2	6000	9.3×10 <sup>-6</sup>	100
MLRS-32V	15	2	4	4500	2.8×10 <sup>-5</sup>	180

\* Moment of inertia and mass figures based on the maximum shaft bores.

# MDR



Damper Roll

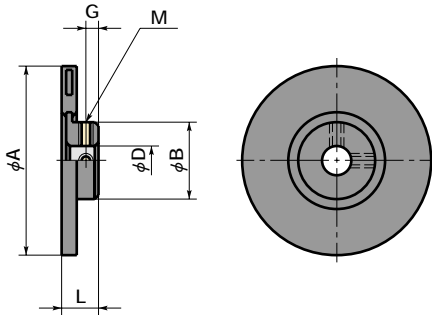


For Stepping Motor

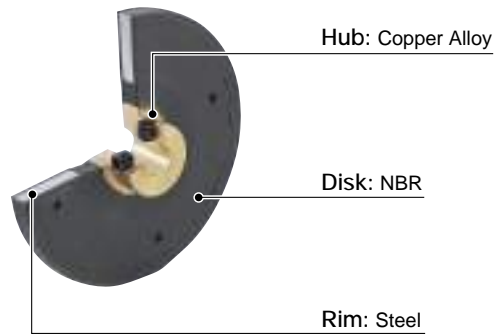


## Features

- Reduces vibration in resonance area of stepping motors
- Assists to follow pulse speed in the range of high rotational speed and enhance maximum rotational speed of stepping motors
- Operational temperature : -10°C~40°C
- Finished bore product



## Configuration & Material



## Dimensions & Specification

unit: mm

Catalog Number	A	L	B	M	G	Moment* of Inertia (g·cm <sup>2</sup> )	Mass* (g)	Stock Bores D (Tolerance H8)			
								5	6	6.35	8
MDR-41	41	8	10	1-M3	3	48	23	●			
MDR-52	52	9.5	15	2-M4	3.5	139	46	●	●	●	
MDR-57	57	12	15	2-M4	3.5	270	70		●	●	●

- \* Moment of inertia and mass figures based on the maximum shaft bores.
- All products come with setscrews.
- Recommended tolerance on shaft diameters is h6 and h7.

## When Ordering

- Specify product No. and bore diameter.

**MDR-41-φ5**

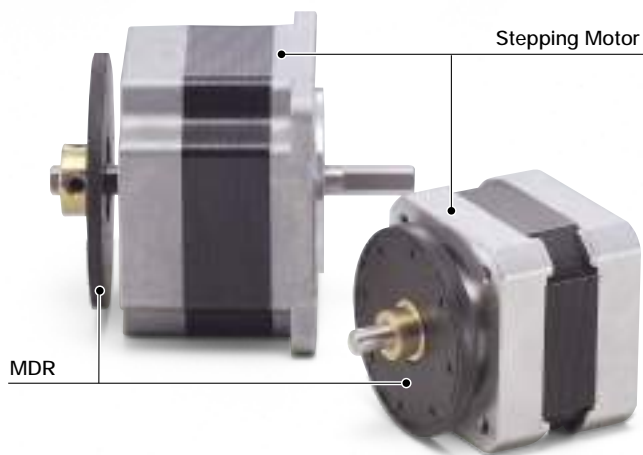
Product No.

D

## Selection

Select the MDR product No. matching the rotor inertia range in the following table.

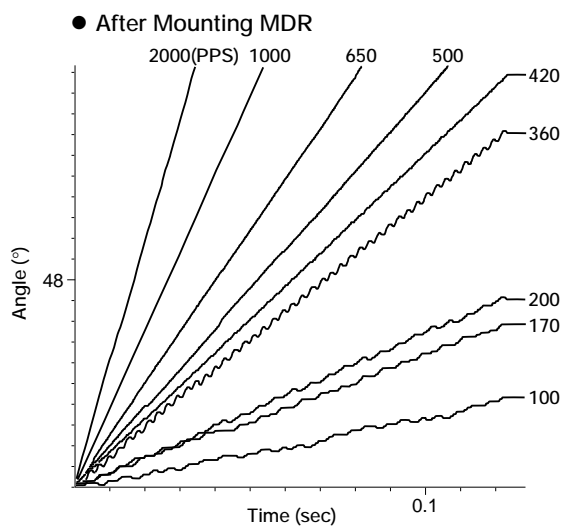
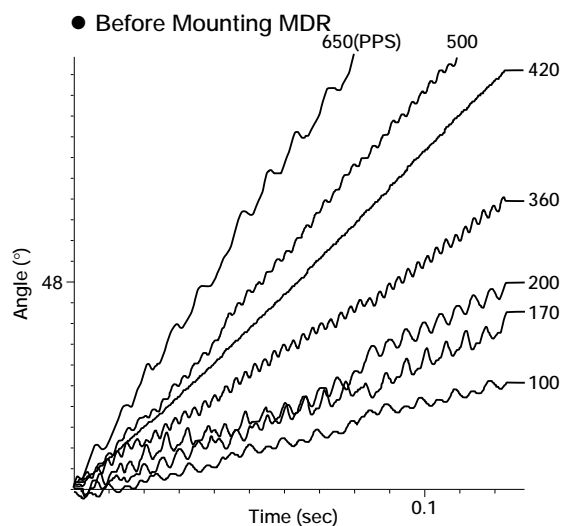
Catalog Number	Rotor Inertia
MDR-41	50g·cm <sup>2</sup> or less
MDR-52	150g·cm <sup>2</sup> or less
MDR-57	250g·cm <sup>2</sup> or less



## Damping Effect

The following graphs show the damping effect of MDR measured for each speed of stepping motor.

Remarkable vibration reduction results from the MDR.



## Custom-made Product

We manufacture custom-made MDR to match your specific application requirements. We also manufacture vibration absorption couplings. Please contact us.



# Flexus®

Flexus®



## Features

- Multifunctional parts made in a variety of materials and featuring spring action
- Each type has a simple slit type construction  
The same exceptional performance proven by the miniature flexible couplings (MST & MSX)
- Spring performance can be customized for compression, pull, sheering, and bending
- Extremely high torsional stiffness
- Due to the cutting process, exact spring constants can be obtained for use in instruments where precision and reliability are required
- Almost linear graphed spring performance can be achieved
- Heat radiating effect can minimize shrinkage and expansion due to heat
- Nearly any shape or dimension is possible  
Not only cylinders but also polygonal shaped Flexus® can be produced
- The shape of the hub can be customized according to use
- Can be selected in a variety of materials: aluminum alloy, stainless steel, copper beryllium alloy, spring steel, engineering plastic etc.

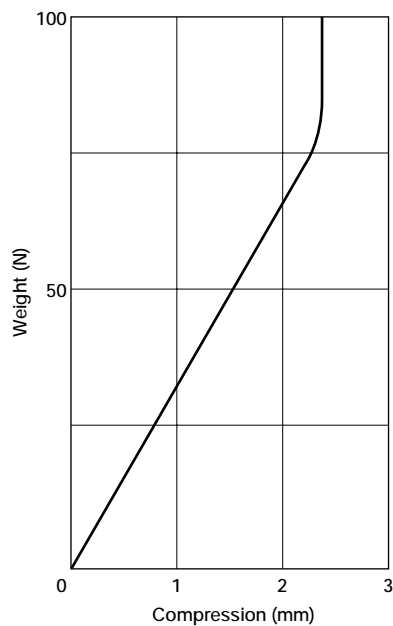
- Component with linear characteristic



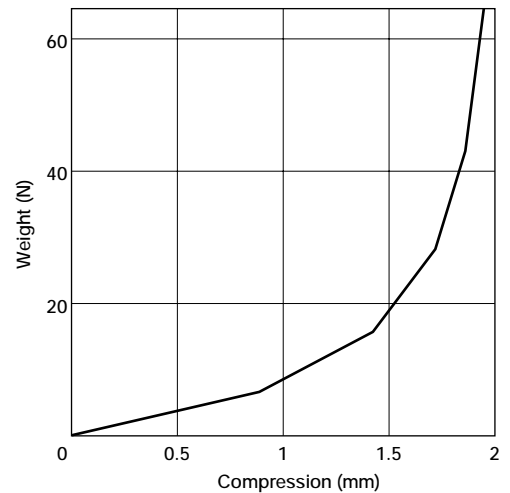
Uncompressed state



Compressed state



- This Flexus® has a performance resembling a quadratic curve due to the uneven pitch of slits.





## Slit Pattern

- Customized spring performance can be achieved through adjusting the number, pitch, width, and depth of the slits.



## Examples of Use

- Flexus® is a single piece element, which can have the function of a screw, washer, pin, etc. Therefore, assembly time is saved and production costs can be reduced.



• Flexus® one-piece female screw

• Flexus® one-piece male screw



• Flexus® one-piece flange



- A heat radiating effect can be created by increasing the surface area and minimize shrinkage and expansion due to heat. According to the materials selected, heat insulating products can also be made.



• The thin, wide shape of this Flexus® minimizes heat expansion for use in machine tools.



• This Flexus®, used in the spindle of machine tools, absorbs processing error due to heat expansion.

Each Flexus® is a completely custom made, multi functional product. When considering a Flexus®, please instruct us on the following conditions.

- Materials and surface treatment
- Spring performance: spring constant (N/mm) and compression allowance (mm)
- Intended application
- Rough design plan

# MPF

Miniature Photo Sensor Flange

 For Stepping Motor

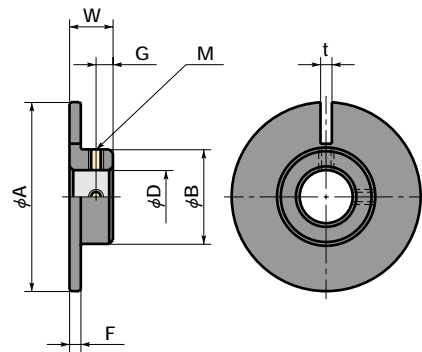
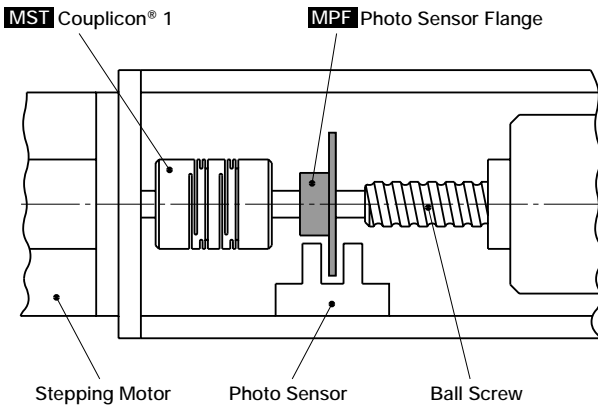


## Features

- Photo sensor flange for detection of original position
- Light weight and low inertia
- Finished bore product - Shaft bore diameter :  $\phi 4 \sim \phi 15$
- Custom-made products are available in outer diameter, width of slit, bore diameter, material, surface treatment, etc. Please contact us

## Configuration & Material

Body:  
Aluminum Alloy,  
Anodic Oxide Coating



## Dimensions & Specifications

unit: mm

Catalog Number	A	B	W	F	t	G	M	Moment* of Inertia (kg·m <sup>2</sup> )	Mass* (g)	Stock Bores										
										D (Tolerance H8)										
										4	5	6	6.35	8	9.525	10	12	14	15	
MPF-32	32	14	8	1.5	1.5	3.5	M3	$5.1 \times 10^{-7}$	5.2	●	●	●	●	●						
MPF-40	40	20	10	1.5	2	4.5	M3	$1.4 \times 10^{-6}$	9.8	●	●	●	●	●	●	●				
MPF-50	50	25	10	1.5	2.5	4.5	M4	$3.5 \times 10^{-6}$	15			●	●	●	●	●	●	●	●	●

- \* Moment of inertia and mass figures based on the maximum shaft bores.
- All products come with setscrews.
- Hubs with shaft bore diameters of  $\phi 4$  or less have one setscrew.
- Recommended tolerance on shaft diameters is h6 and h7.
- Non-standard shaft bores and keyways are machined on request. Please contact us.

## When Ordering

- Specify product No. and bore diameter.

**MPF-32- $\phi 8$**

Product No.      D

# Note

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For safe operation, please read the followings carefully, and keep this catalog so that you can review these important points when necessary.

## Danger

The following incorrect use may lead to death or serious injury.

- For safe operation, couplings and other rotational parts must be protected by covers. You might be injured if you touch the products during operation.
- Safety devices must be equipped to prevent danger.
- Electrical power must be off during attachment and removal process.
- Setscrews or cap screws should be properly tightened using a torque driver or a torque wrench.
- The product must not be operated at rotational speeds beyond the max. rotational frequency.
- Do not disassemble or reorganize the product.

## Caution

The following incorrect use may lead to physical injury or substantial loss.

- Operate the product within the values of allowable misalignment. Operation under misalignment exceeding allowable values may result in the damage of the couplings, and adversely affect the systems in which these couplings are used.
- Torque generated during continuous operation must not exceed the rated torque. If not, the couplings may be damaged, or adversely affect the systems in which these couplings are used.
- For fastening, do not use other screws than the ones (setscrews or cap screws) specified by us.
- Do not operate under an environment which adversely affects the product.
- Stop the rotation machine immediately if you hear an abnormal noise coming from it. Proceed to check the machine for misalignment, whether or not shafts are in contact each other, loose screws, etc.
- If you are using a rotation machine that comes under significant load fluctuation, apply an adhesive on the screws to prevent them from becoming loose, or use a coupling one rank above.
- When disposing, ask specialists for disposal of this kind of product in order not to harm the environment.
- Do not touch the coupling just after finishing operation. You might be scalded by heat inducted from the system in which the couplings are used.



# NBK<sup>®</sup>

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