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MICROCOUPLING

Daido Precision Industries Ltd.

Popularity Gained Through Use In Various Fields Such As Mechatronics, And Others

■ Microcoupling are:

Compact size plate spring type precision shaft coupling that have made debut in the first place in Japan.

Plate springs vital to this type shaft coupling are derivative from sheet metal fabricating technique, the expertise unique to us being accumulated for nearly one half a century.

Making debut in 1975 and with acquired abundant experience and providing good results since, microcoupling are now used widely in variety of fields such as measuring instruments and machine tools, robots, semiconductors and so on that are leading the era's industries.

Wide products line, ranging from High precision, high torque products to reasonably priced products. Products homogenized in quality meeting the needs of the era derived from a vertically integrated production system form designing through manufacturing to inspection.

1

No Back-lashing

●Component parts mechanically connected afford for precise rotation control.

2

High Torsional Rigidity

●Utilization of resiliency, a property of plate springs, provides high resonance frequency and precise responding characteristic.

TOKUSHU SEIKO

Microcoupling

M Series
(Standard Type)

V Series
(Enhanced Torque Type)

Microflex
U Series
(Low Torque · Low Cost Type Super Small Size)

3

Greater Torque Capacity

●Transmission of torque developed by plate springs as simple tractive force allows for provision of greater torque capacity as compared to those using shearing strength.

●Use of high tensile steel provides tenacity against intense right and reverse rotation.

4

High Power For Absorbing Eccentricity/Declination

●High fatigue resistance of plate springs allows for provision of a high power for absorbing eccentricity and declination.

●Increasing distance between plate springs allows for making higher power for absorbing eccentricity without changes take place with power for absorbing eccentricity, thus facilitating centering.

■ Examples Of Application Of Microcoupling

- Connecting a motor shaft and rotation detector such as for servo-motors.
- Driving feed screws in NC machine tools, industrial robots and the like.
- Precision positioning in X-Y tables, measuring instrument, office automation equipment, semi-conductor processing units and the like.

5

Longer Useful Life Dispense With Maintenance

●Having no sliding parts eliminates wearing, thus allowing continuous operation for extensive period of time without lubrication.

6

Greater Degree of Freedom For Each Part

●Connecting respective parts based upon machine elements allows changes in parts composition, thus meeting all needs arising depending upon application.

1

2

Microcoupling For High Precision And High Quality Without Backlash

Product Line ❶ Series

Series	M Series	V Series	U Series
	Standard Type	Enhanced Torque Type	Low-torque, Low-cost Type
Torque	1.5~15 N·m	6~20 N·m	0.3~1.0 N·m
Material	Aluminum Alloy	Carbon Steel	Aluminum Alloy
Major Application	Servo System Rotation Detector Servo-motor Feed Screw	Servo-motor Feed Screw	General Rotation Detector Small Size Motor Small Size Feed Screw

Selection Base ❷ Model Number

1. Transmission of Torque

Select a coupling so that a design torque as derived from following formula to be within a rated torque for such a coupling.

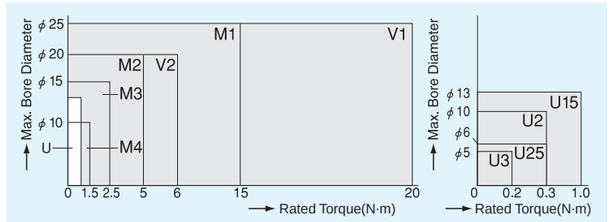
$$T = 9.545 \times \frac{P}{N} \times K$$

T (N·m) = Design Torque
P (W) = Rated Output
N (min^{-1}) = Rated Rotating Speed
K = Load Coefficient
(K=3, for Servo-motor Driving)

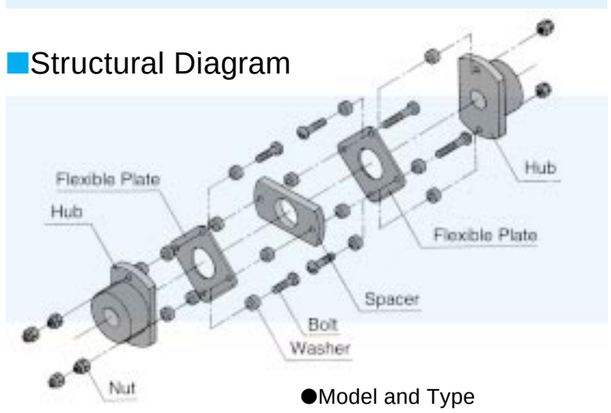
2. Transmission of Rotation

For driving measuring instrument, select a coupling with consideration of performance characteristics and allowable load, in main, and relative variation in two working shafts and centering precision.

●Reference Table for Selection (M, V Series) (U Series)



Structural Diagram



Shaft Fixing system ❸ Type

●A Type (Standard Length) *Note
Set-Screw System — Set-Screw System

●F Type (Shortened Length) *Note
Set-Screw System — Set-Screw System

●AC Type [Standard Length]
Clamping System — Clamping System

●FC Type [Shortened Length]
Clamping System — Clamping System

●AB Type [Standard Length]
1/10 Taper System — Clamping System

●FB Type [Shortened Length]
1/10 Taper System — Clamping System

*note [Standard Length] and [Shortened Length], respectively, represents [Full Length(L)] in the specification.

●Model and Type

Model / Series	A	F	AC	FC	AB	FB
M1	●	●	●	●	–	–
M2	●	●	●	●	–	–
M3	●	●	●	–	–	–
M4	●	●	–	●	–	–
V1	–	●	–	●	–	●
V2	●	–	●	–	●	–
U15	●	–	–	●	–	–
U2	–	●	●	–	–	–
U25	–	●	–	–	–	–
U3	–	●	–	–	–	–

Representation System of Products

M 1 A - 10 K / 15 K - □

❻Suffixed Symbol
=Accessories
=Product on Optional Specification

❺Shape of Bore in Hub
(See Drawings for Shape of bore in Hub)
S=Set-screw System
K=Set-screw with Key Way System
BC=Clamping System
BCK=Clamp with Key Way System
T=1/10 Taper with Key Way System
D=Stepped Bore System

❹Diameter of Bore in Hub
<Unit:mm>(See "C Dimension" in the Specification)

❸Type (See Shaft Fixing Diagram on the Left)
A=Standard Length, shape of bores in hubs on both sides are in set-screw system.
F=Shortened Length, shape of bores in hubs on both sides are in set-screw system.
AC=Standard Length, shape of bores in hubs on both sides are in clamping system.
FC=Shortened Length, shape of bores in hubs on both sides are in clamping system.
AB=Standard Length, shape of bore in hub on one side is in clamping system and that in another side is in 1/10 taper system.
FB=Shortened Length, shape of bore in hub on one side is in clamping system and that in another side is in 1/10 taper system.

❷Model Number (See Table of Selection Base on the left)

❶Series (See Product Line System on the Left)
M=Standard Type (Aluminum alloy)
V=Enhanced Torque Type (Carbon steel)
U=Low Torque · Low Cost Type (Super Small Size) (Aluminum alloy)

●Letters and numerals used in □ in above example are in accordance with the following setting:
①Series=M Series ②Model Number=1
③Type=Of standard Length and in set-screw system for both hubs➔A
④Diameter of shaft hole in hub=φ10 and φ15
⑤Shape of bore in hub=set-screw with key way system➔K

Shape of bore in Hub ❺

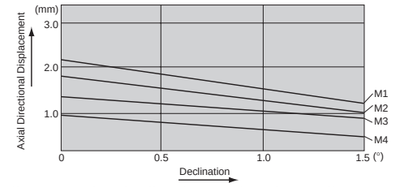
●S
●K
●BC
●BCK
●T (1/10 taper)
●D

Optional Specification ❻ Suffixed Symbol

- Those requiring Lesser torque but Larger shaft diameter.
- Those requiring greater torsional rigidity.
- Those requiring shortened full Length (L Dimension)
- Those requiring greater space between shafts. (D Dimension)
- Those requiring insertion of slit plates for 0 point setting.
- Those requiring use in vacuum atmosphere.

*for details, please contact us

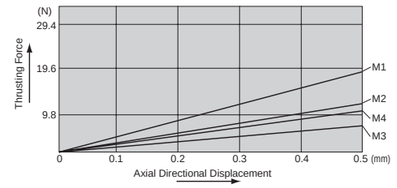
Axial Directional Displacement and Allowance for Declination



Allowance for declination varies depending upon axial directional displacement

- Longer useful life will be achieved by maintaining axial directional displacement and declination within the values above
- Axial directional displacement represents a value per one set of coupling.
- Declination represents a value per one set of flexible plates.(plate springs)

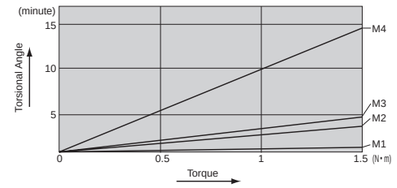
Axial Directional Displacement and Thrusting Force



Greater axial directional displacement is absorbed by lesser thrusting force

- Axial directional displacement and thrusting force, respectively represents a value per one set of coupling.
- Thrusting force is proportional to axial directional displacement.

Torque and Torsional Angle



High torsional rigidity can be enhanced further

- Torsional angle is proportional to torque
- Torsional angle represents a value per one set of coupling

Note) Above diagrams are examples of observed values for M Series.

Condition on Delivery

- Assembled products with finished bores are delivered
- "H7" is the standard tolerance for bores
- "H7, F7, P9, Js9" are standard tolerance for key way width
- Standard for screw holes vary depending upon models (for details, see P5~P9)

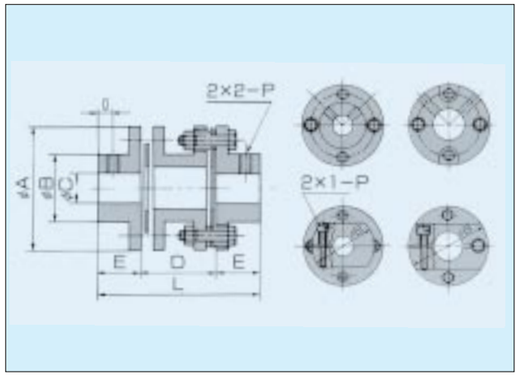
■Body Material:Aluminum alloy
■Flexible Plates:Stainless steel
■Bolt/Washer:Carbon steel

M1

■Rated Torque	15N·m
■Torsional Rigidity	7.3X10^{3}N·m/rad
■Maximum Rotating Speed	20,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ8 ~ ϕ25

Item	Fixing System / Type / Unit/Symbol	Set-Screw System		Clamping System	
		M1A-□/□	M1F-□/□	M1AC-□/□	M1FC-□/□
Inertia (GD^2/4)	kg · m^2	98 X 10^{-6}	98 X 10^{-6}	120 X 10^{-6}	100 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.7	1.5º/ 0.3	1.5º/ 0.7	1.5º/ 0.3
Weight	kg	0.28	0.23	0.30	0.24
Outer Diameter	A	ϕ57		ϕ57	
Boss Diameter	B	ϕ31 (ϕ57)*note1		ϕ44 (ϕ57)*note 1	
Bore Diameter	C	ϕ8~ϕ20 (ϕ21~ϕ25)*note1		ϕ8~ϕ18 (ϕ19~ϕ22)*note1	
Space Between shaft	D	34.5	20.5	34.5	20.5
Length of Hub	E	20		20	
Full Length	L	74.5	60.5	74.5	60.5
Screw Position	*l*	7		6	
Screw Hole	P	2-M6		1-M5	
Tentative Hole Diameter	-	ϕ7.8		ϕ7.8	

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ19.
Note 3 : Unit for figures without mention of unit is <mm>.



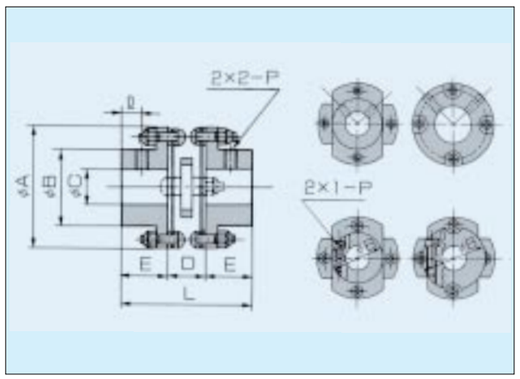
●M1A-15K/15K ●M1FC-14BC/14BC

M2

■Rated Torque	15N·m
■Torsional Rigidity	1.7X10^{3}N·m/rad
■Maximum Rotating Speed	20,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ6 ~ ϕ20

Item	Fixing System / Type / Unit/Symbol	Set-Screw System		Clamping System	
		M2A-□/□	M2F-□/□	M2AC-□/□	M2FC-□/□
Inertia (GD^2/4)	kg · m^2	19 X 10^{-6}	19 X 10^{-6}	20 X 10^{-6}	20 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.3		1.5º/ 0.3	
Weight	kg	0.080	0.075	0.080	0.075
Outer Diameter	A	ϕ42		ϕ42	
Boss Diameter	B	ϕ26 (ϕ42)*note1	ϕ26	ϕ32	ϕ26
Bore Diameter	C	ϕ6~ϕ16 (ϕ17~ϕ20)	ϕ6~ϕ16	ϕ6~ϕ16	ϕ6~ϕ14
Space Between shaft	D	13.8		13.8	
Length of Hub	E	16	12.5	16	12.5
Full Length	L	45.8	38.8	45.8	38.8
Screw Position	*l*	7.5	4	5	4
Screw Hole	P	2-M4		1-M4	1-M3
Tentative Hole Diameter	-	ϕ5.8		ϕ5.8	

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ14.
Note 3 : Unit for figures without mention of unit is <mm>.



●M2A-10S/10S ●M2FC-10BC/10BC

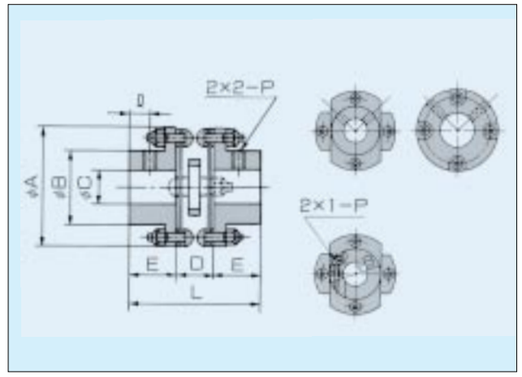
■Body Material:Aluminum alloy
■Flexible Plates:Stainless steel
■Bolt/Washer:Carbon steel

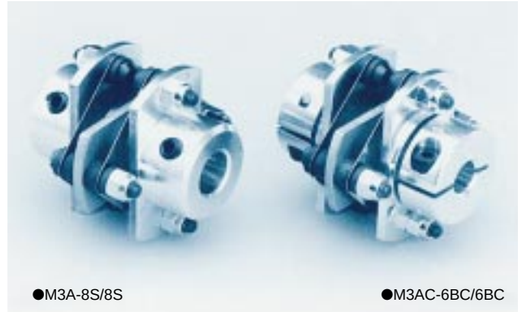
M3

■Rated Torque	2.5N·m
■Torsional Rigidity	0.33X10^{3}N·m/rad
■Maximum Rotating Speed	20,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ3 ~ ϕ15

Item	Fixing System / Type / Unit/Symbol	Set-Screw System		Clamping System
		M3A-□/□	M3F-□/□	M3AC-□/□
Inertia (GD^2/4)	kg · m^2	3.0 X 10^{-6}	2.5 X 10^{-6}	3.2 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.2	1.5º/ 0.15	1.5º/ 0.2
Weight	kg	0.032	0.024	0.030
Outer Diameter	A	ϕ32		ϕ32
Boss Diameter	B	ϕ18 (ϕ32)*note1	ϕ18	ϕ18
Bore Diameter	C	ϕ3~ϕ10 (ϕ11~ϕ15)	ϕ3~ϕ10	ϕ4~ϕ9.525
Space Between shaft	D	11.4	8.6	11.4
Length of Hub	E	12	8	12
Full Length	L	35.4	24.6	35.4
Screw Position	*l*	5 (6)	3	4
Screw Hole	P	2-M4		1-M2.6 (ϕ4~ϕ8) 1-M2 (ϕ4~ϕ9.525)
Tentative Hole Diameter	-	ϕ2.8		ϕ3.8

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ10.
Note 3 : Unit for figures without mention of unit is <mm>.





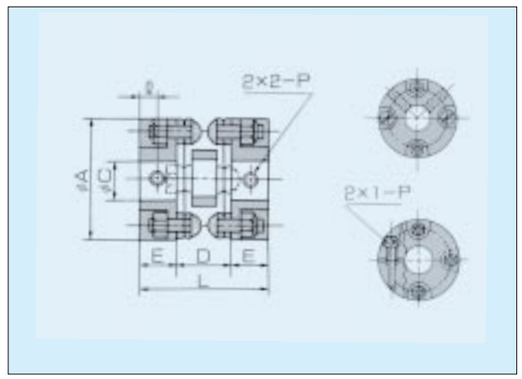
●M3A-8S/8S ●M3AC-6BC/6BC

M4

■Rated Torque	1.5N·m
■Torsional Rigidity	0.23X10^{3}N·m/rad
■Maximum Rotating Speed	20,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ3 ~ ϕ10

Item	Fixing System / Type / Unit/Symbol	Set-Screw System		Clamping System
		M4A-□/□	M4F-□/□	M4FC-□/□
Inertia (GD^2/4)	kg · m^2	2.5 X 10^{-6}	3.0 X 10^{-6}	3.0 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.2		1.5º/ 0.2
Weight	kg	0.032	0.025	0.036
Outer Diameter	A	ϕ26		ϕ26
Boss Diameter	B	–		–
Bore Diameter	C	ϕ3~ϕ10		ϕ4~ϕ8
Space Between shaft	D	11.4	10	10
Length of Hub	E	8	6	11
Full Length	L	27.4	22	32
Screw Position	*l*	4	3	3
Screw Hole	P	2-M3		1-M2.6
Tentative Hole Diameter	-	ϕ2.8		ϕ3.8

Note 1 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ7.
Note 2 : Unit for figures without mention of unit is <mm>.



●M4A-5S/5S ●M4FC-5BC/5BC

V Enhanced Torque Series

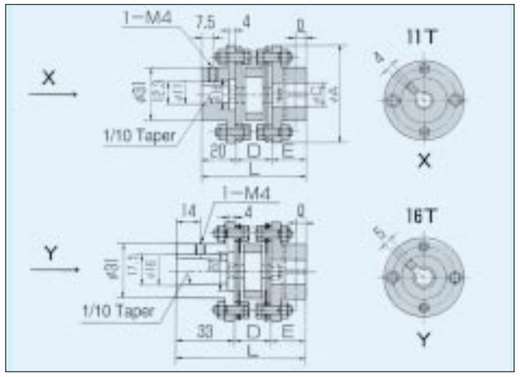
■Body Material:Carbon steel
■Flexible Plates:Stainless steel
■Bolt/Washer:Carbon steel

V1

■Rated Torque	20N·m
■Torsional Rigidity	7.3X10^{3}N·m/rad
■Maximum Rotating Speed	20,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ8 ~ ϕ25

Item \ Type / Unit/Symbol	Fixing System	Set-Screw System	Clamping System	Taper System	
		V1F-□/□	V1FC-□/□	V1FB-11T/□	V1FB-16T/□-73.5
Inertia (GD^2/4)	kg · m^2	220 X 10^{-6}	300 X 10^{-6}	240 X 10^{-6}	280 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.3	1.5º/ 0.3	1.5º/ 0.3	
Weight	kg	0.48	0.60	0.55	0.60
Outer Diameter	A	ϕ57	ϕ57	ϕ57	
Boss Diameter	B	ϕ31 (ϕ57)*note1	ϕ44 (ϕ57)*note 1	ϕ44 (ϕ57)*note 1	
Bore Diameter	C	ϕ8~ϕ20 (ϕ21~ϕ25)*note1	ϕ8~ϕ18 (ϕ19~ϕ22)*note1	ϕ8~ϕ18 (ϕ19~ϕ22)*note1	
Space Between shaft	D	20.5	20.5	20.5	
Length of Hub	E	20	20	20	
Full Length	L	60.5	60.5	60.5	73.5
Screw Position	*l*	7	6	6	
Screw Hole	P	2-M6	1-M5	1-M5	
Tentative Hole Diameter	-	ϕ7.8	ϕ7.8	ϕ7.8	

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ20.
Note 3 : Unit for figures without mention of unit is <mm>.



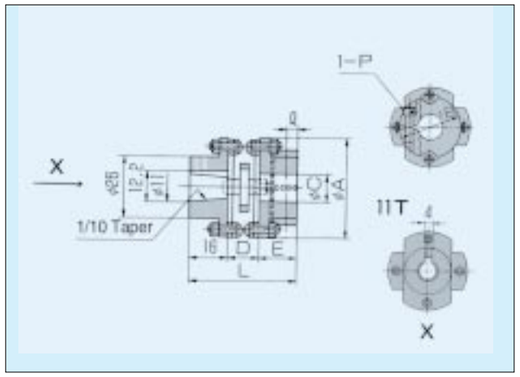
●V1FB-11T/12BC ●V1FB-16T/14BC-73.5

V2

■Rated Torque	6N·m
■Torsional Rigidity	1.7X10^{3}N·m/rad
■Maximum Rotating Speed	20,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ6 ~ ϕ20

Item \ Type / Unit/Symbol	Fixing System	Set-Screw System	Clamping System	Taper System
		V2A-□/□	V2AC-□/□	V2AB-11T/□
Inertia (GD^2/4)	kg · m^2	54 X 10^{-6}	300 X 10^{-6}	240 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.3	1.5º/ 0.3	1.5º/ 0.3
Weight	kg	0.19	0.20	0.20
Outer Diameter	A	ϕ42	ϕ42	ϕ42
Boss Diameter	B	ϕ26 (ϕ42)*note1	ϕ32	ϕ32
Bore Diameter	C	ϕ6~ϕ16 (ϕ17~ϕ20)*note1	ϕ6~ϕ16	ϕ6~ϕ16
Space Between shaft	D	13.8	13.8	13.8
Length of Hub	E	16	16	16
Full Length	L	45.8	45.8	45.8
Screw Position	*l*	7.5	5	5
Screw Hole	P	2-M4	1-M4	1-M4
Tentative Hole Diameter	-	ϕ5.8	ϕ5.8	ϕ5.8

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ14.
Note 3 : Unit for figures without mention of unit is <mm>.



●V2AC-14BC/14BC ●V2AB-11T/14BC

U Microflex Series

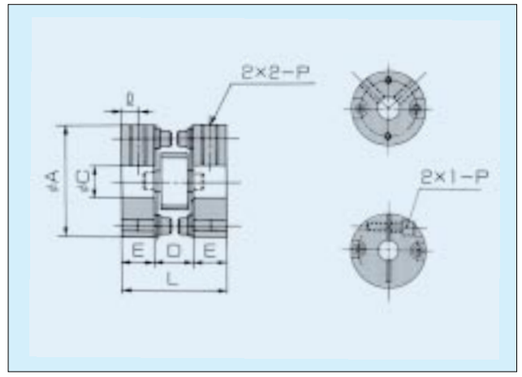
■Body Material:Aluminum alloy
■Flexible Plates:Stainless steel
■Bolt/Washer:Carbon steel

U15

■Rated Torque	1.0N·m
■Torsional Rigidity	0.35X10^{3}N·m/rad
■Maximum Rotating Speed	30,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ4 ~ ϕ13

Item \ Type / Unit/Symbol	Fixing System	Set-Screw System	Clamping System
		U15A-□/□	U15FC-□/□
Inertia (GD^2/4)	kg · m^2	3.8 X 10^{-6}	4.0 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.3	1.5º/ 0.2
Max. Axial Displacement	mm	0.7	0.7
Weight	kg	0.034	0.040
Outer Diameter	A	ϕ28	ϕ28
Bore Diameter	C	ϕ4~ϕ13	ϕ4~ϕ13
Space Between shaft	D	14	9
Length of Hub	E	8	10.5
Full Length	L	30	30
Screw Position	*l*	4	3.5
Screw Hole	P	2-M4	1-M3
Tentative Hole Diameter	-	ϕ3.8	ϕ3.8

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ13.
Note 3 : Unit for figures without mention of unit is <mm>.



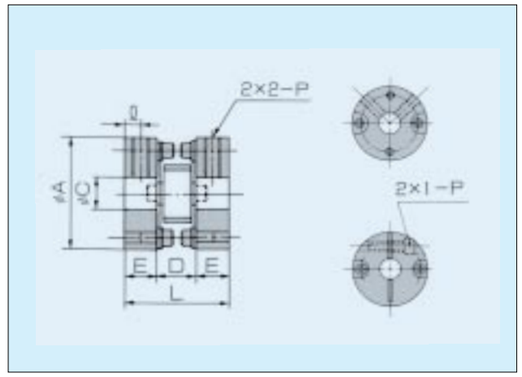
●U15A-8S/11S ●U15FC-8BC/10BC

U2

■Rated Torque	0.3N·m
■Torsional Rigidity	0.18X10^{3}N·m/rad
■Maximum Rotating Speed	30,000min^{-1}
■Working Temperature Range	-30 ~ +100 ºC
■Range of Bore Diameter	ϕ2 ~ ϕ10

Item \ Type / Unit/Symbol	Fixing System	Set-Screw System	Clamping System
		U2F-□/□	U2FC-□/□
Inertia (GD^2/4)	kg · m^2	10 X 10^{-6}	1.5 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.15	1.5º/ 0.2
Max. Axial Displacement	mm	0.5	0.5
Weight	kg	0.014	0.022
Outer Diameter	A	ϕ21	ϕ21
Bore Diameter	C	ϕ2~ϕ10	ϕ3~ϕ8
Space Between shaft	D	8	11
Length of Hub	E	6	9.5
Full Length	L	20	30
Screw Position	*l*	3	3
Screw Hole	P	2-M3	1-M2.6
Tentative Hole Diameter	-	ϕ1.8	ϕ2.8

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ8.
Note 3 : Unit for figures without mention of unit is <mm>.



●U2F-4S/8S ●U2AC-8BC/8BC

U Microflex Series

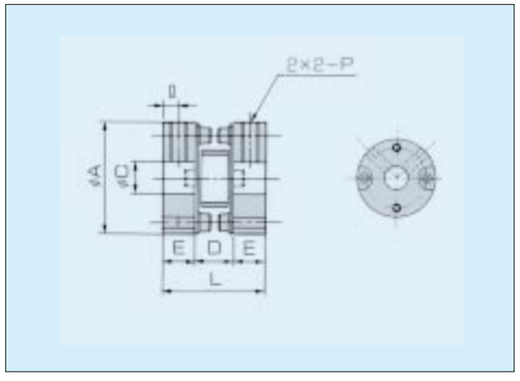
■Body Material:Aluminum alloy
■Flexible Plates:Stainless steel
■Bolt/Washer:Carbon steel

U25

■Rated Torque 0.3N·m
■Torsional Rigidity 0.10X10^{3}N·m/rad
■Maximum Rotating Speed 30,000min^{-1}
■Working Temperature Range -30 ~ +100 ºC
■Range of Bore Diameter ϕ2 ~ ϕ6

Item	Fixing System / Type / Unit/Symbol	Set-Screw System U25F-□/□
Inertia (GD ^{2}/4)	kg · m^{2}	0.8 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.15
Max. Axial Displacement	mm	0.5
Weight	kg	0.010
Outer Diameter	A	ϕ18
Bore Diameter	C	ϕ2~ϕ6
Space Between shaft	D	7
Length of Hub	E	5.5
Full Length	L	18
Screw Position	*l*	3
Screw Hole	P	2-M3
Tentative Hole Diameter	-	ϕ1.8

*Note 1 : Inner diameter in () is for a hub with greater boss diameter.
Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ5.
Note 3 : Unit for figures without mention of unit is <mm>.



●U25F-3S/5S

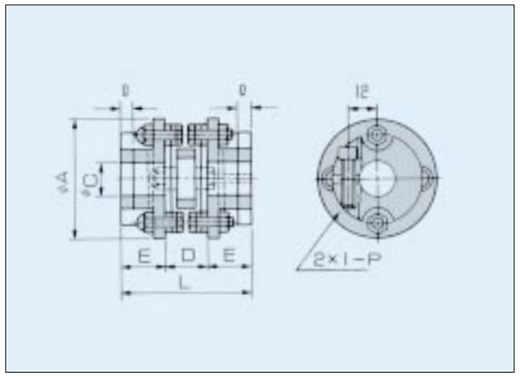
New Series

M15 V15

■Rated Torque 8N·m/12N·m
■Torsional Rigidity 3.36X10^{3}N·m/rad
■Maximum Rotating Speed 20,000min^{-1}
■Working Temperature Range -30 ~ +100 ºC
■Range of Bore Diameter ϕ10 ~ ϕ16

Item	Fixing System / Type / Unit/Symbol	Set-Screw System M15FC-EBC/EBC	Clamping System V15FC-EBC/EBC
Rated Torque	N · m	8	12
Inertia (GD ^{2}/4)	kg · m^{2}	32 X 10^{-6}	80 X 10^{-6}
Max. Misalignment (Angular/Parallel)	º/mm	1.5º/ 0.3	1.5º/ 0.3
Max. Axial Displacement	mm	1.2	1.3
Weight	kg	0.12	0.34
Outer Diameter	A	ϕ48	ϕ48
Bore Diameter	C	ϕ10~ϕ16	ϕ10~ϕ16
Space Between shaft	D	18	18
Length of Hub	E	18	18
Full Length	L	54	54
Screw Position	*l*	5.3	5.3
Screw Hole	P	1-M5	1-M5
Tentative Hole Diameter	-	ϕ7.8	ϕ7.8
Body Material	-	Aluminum alloy	Carbon steel

Note 2 : Maximum shaft diameter for that goes through inner diameter in flexible plates and spacers is ϕ17.
Note 3 : Unit for figures without mention of unit is <mm>.

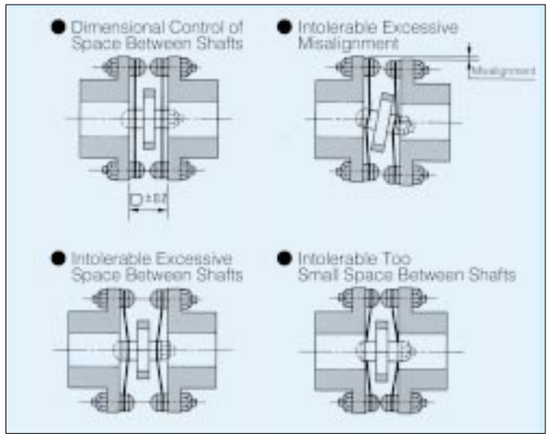


●M15FC-EBC/EBC

U Microflex Series
U25
M15
V15

Cautions for Handling

●A microcoupling develops high flexibility and greater torsional rigidity depending on elastic deformation. It must not, therefore, be dropped while handling it or causing it under excess load while mounting it. Failure in observing these cautions may cause unexpected failure or accident to take place.



Cautions for Mounting

●Microcoupling are, in general, delivered with finished bores, thus allowing mounting them as delivered.
●Centering at mounting must be effected with maximum carefulness to 1/3 of tolerance so that mounted coupling may achieve their function to the full extent.
●Check for burrs and/or flaws on shafts and/or bores in hubs. Also check to see if fitting between shafts is right.(Clearance fit is the most suitable, in general.)
●Be sure not to cause excessive load placed on flexible plates for fitting hubs to shafts. Hold securely a hub in a hand to fit it over a shaft.
●Check, on completion of fitting, to see if space between surfaces of flange on a coupling is right.(space must be within Å}0.2 of the space between shaftsÅkD DimensionÅl.)
If the space between shafts is smaller than that between flange surfaces, move shafts so they will extruding inwardly to cause space between flange surfaces to be right. For doing so, be sure that shafts and inside diameter of spacers will not interfering each other.
●After a test running for a short period of time, check for centering and rightness of such a test running.

Business Lines

Compact and Thin Magnetic Brake

Features

●Torque:1kaf-cm and greater
●Outside Dimension:35mm and greater
●Thickness:23.5mm and greater
●Ease of mounting
●Compact in size, smaller in thickness, but greater the maintained torque
●Highly durable and heavily insulated against high temperature

Application

●Best suitable to industrial robots, thin motors, special compact motors and the like.
✪Designing and manufacture on optional specification are acceptable.

Precision Belleville Spring

Features

●Provides greater loading with a comparatively smaller space.
●Arranging multiple number of one type of Belleville springs in parallel or serial positions allows for acquiring various spring properties.
●Using various types of Belleville springs allows for acquiring nonlinear progressive loading properties.

Application

●Best suitable to machine tools, chucks in tools, pre-loading on bearings and the like.