Flexible Couplings

A flexible coupling ideal for your motor is available. Once you have decided on a type and/or applications of motor/gear, you can select the recommended size of coupling easily. All motor shaft diameters of stepping motor packages are available (including geared motors).





Selecting a Coupling

N Coupling Type	Motor Type	Standard, High-Torque High Speed High Resolution	TH Geared, PS Geared, Harmonic Geared, SH Geared	Application
MC Couplings		0	-	High positioning accuracy
MCS Couplings		0	0	High strength and high positioning accuracy

Types and Features of Couplings

MC Couplings

This is a slit-type one-piece coupling. Its high torsional rigidity and low inertia is ideal for applications where high-speed positioning and high response control are needed.

- No backlash.
- Torsional rigidity is high and responsiveness is excellent.
- Low-inertia.
 Set screw type and clamp type are available.

CAD Data, Manuals

Technical Support





MCS Couplings

This three-piece coupling adopts an aluminum alloy hub and a resin spider. The simple construction ensures that the high torque generated by a geared type can be transmitted reliably. The proper elasticity of the spider suppresses motor vibration. Technical reference → Page H-53

\Diamond Features

High strength (available for geared motor) has been achieved.
A spider (Material: polyurethane) controls the vibration generated by the motor.
No backlash.



Overview, Product Series

FLEX Compatible Products

5-Phase Stepping Motor and Driver Packages

AC Input

AC Input **RK**

DC Input CRK

2-Phase Stepping Motor and Driver Packages

> DC Input CMK

Closed Loop Motor and Driver Packages **XSTEP**

> AC Input High-Efficiency **AR**

AC Input High-Efficiency **ARL**

DC Input High-Efficiency **AR**

Stepping Motors

> High Torque 2-Phase **PKP**

2-Phase **PK**

5-Phase **PK**

ccessories

Please contact the nearest Oriental Motor sales office or visit our Website for details.

MC Couplings (ROHS)



Brackets

Coupling

Cable





Clean Dampers

Control

Battery

Regeneration

Set

Unit

Product Number Code





Product Line

Clamp Type
Product Name
MC12_C2
MC16□C2
MC20 C2
MC25_C2
MC32□C2
MC40 C2
MC50□C2

A number indicating the coupling inner diameter is entered where the box is located within the product name

1	MC Coupling
2	Outer Diameter of Coupling
3	Inner Diameter d1 (Smaller side) (O6A represents ϕ 6.35 mm)
4	Inner Diameter d2 (Larger side) (D6A represents ϕ 6.35 mm)
5	Connection Method S :Set Screw Type C2:Clamp Type

For inner diameter d1, the smaller of the motor shaft diameter or the driven shaft diameter is entered.

For inner diameter d2, the larger of the motor shaft diameter or the driven shaft diameter is entered

Selecting a Coupling

The following examples explain the procedures in selecting a coupling by driven shaft diameter and motor and driver package name.

Example) Package Name: **RKS566AC-1** Driven Shaft Diameter: ϕ 8 Connection Method: Set Screw Type

- 1. The coupling type that matches RKS566AC-1 from the coupling selection table is MC25.
- 2. The inner diameter of the coupling according to the motor shaft will be **10** (ϕ 10), and will be **8** (ϕ 8) according to the driven shaft diameter.
- 3. According to the coupling product name, smaller inner diameters come before larger ones and the connection method is the set screw type, thus the coupling product name will be MC250810S.

When the inner diameter is φ6.35, the number is O6A. For example, when the coupling type is MC25, the motor shaft diameter is 10 (φ10), and the driven shaft diameter is O6A (φ6.35), the coupling product name will be MC2506A10C2.

Coupling Selection Table

RKII Series, **RK** Series, **CRK** Series, 5-Phase Stepping Motors

	Applicable Product			Motor			Driven Shaft Diameter mm											
Туре	Frame	Product Name	Type	Sh	aft	03	04	05	06	06A	08	10	12	14	16			
турс	Size	Troduct Name	1360	Dian	neter	ф3	φ4	φ5	ф6	ф6.35	φ8	ф10	φ12	φ14	ф16			
	20 mm	CRK513	MC12	04	φ4	0	0	O										
	28 mm	CRK523, CRK524, CRK525	MC12	05	φ5		0	O	0									
High-Torque Type	42 mm	CRK544	MC16	05	φ5		0	0	0		0							
High-Resolution Type	42 11111	CRK546	MC20	05	φ5			0	\odot		0							
	60 mm	CRK564, CRK566	MC25	08	φ8				O	\odot	O	\bigcirc	0					
	00 11111	CRK569	MC32	10	φ10					0	0	0	0	0				
	42 mm	RK543, RK544, RK545 CRK543, CRK544, CRK545 PK543, PK544, PK545	MC16	05	φ5		0	0	0		0							
		RKS543, RKS544, RKS545	MC16	06	ф6		0	0	0		0							
Standard Type	60 mm	RK564, RK566, RK569 CRK564, CRK566, CRK569 PK564, PK566, PK569	MC25	08	ф8				0	0	0	O	0					
Terminal Rox		RKS564, RKS566, RKS569	MC25	10	φ10				0	0	0	0	0					
Terminal Box	05 mm	RKS596 RK596, RK599 PK596, PK599	MC32	14	φ14							0	O	0	0			
	11111 CO	RKS599, RKS5913 RK5913 PK5913	MC40	14	φ14							0	0	0	0			

The product names of the applicable ones are described with text by which the series name can be identified.

Common for both the set screw type and clamp type Only for set screw type

		Motor		Driven Shaft Diameter mm													
Turne	Frame	Draduat Nama	Cou	pling	Shaft D)iameter	03	04	05	06	06A	08	10	12	14	16	Series
туре	Size	Product Name	13	/he	n	nm	ф3	φ4	φ5	ф6	ф6.35	φ8	φ10	φ12	φ14	ф16	
	28 mm	CMK223, CMK224, C	MK225 M	C12	05	φ5		0	0	0							
	35 mm	CMK233, CMK235	M	C12	05	φ5		0	0	0							FLEX
	40 mm	СМК244	M	C16	05	φ5		0	0	0		0					Products
	42 11111	СМК246	M	220	05	φ5			0	0		0					1100000
High-Torque Type		СМК264	M	220	08	φ8			0	0	0	0	0				5 Phago
	56.4 mm	CMK266	M	C25	08	φ8				O	0	0	0	0			Stepping
		CMK268	M	C32	08	φ8				\bigcirc	0	0	0	0			Motor and
	60 mm	PK264, PK266	M	C25	08	φ8				O	0	0	0	0			Driver
	00 11111	PK267, PK269	M	C32	08	φ8				\bigcirc	0	0	\odot	0			raukayes
High Torque and		PKE243	M	C12	05	φ5		O	0	0							
High-Efficiency Ty	42 mm	PKE244	M	C16	05	φ5		0	0	O		0					AC Input
	pc	PKE245	M	220	05	φ5			0	0		0					
	42 mm	CMK243, CMK244, C PK243, PK244, PK24	MK245 MG	C12	05	ф5		O	0	0							
High-Resolution T	уре	CMK264, PK264	M	220	06A	ф6.35				0		0					AC Input
	56.4 mm	CMK266, CMK268 PK266, PK268	M	C25	06A	ф6.35				0		0	0				RK
	20 mm	PKP213, PKP214	M	C12	04	φ4	0	0	0								
	28 mm	PKP223, PKP224, PI	(P225 M	C12	05	φ5		Õ	0	0							D0 locut
	35 mm	PKP233, PKP235	M	C12	05	φ2		0	0	0							
		CMK243, CMK244 PKP243, PK243, PK	244 M	C12	05	φ5		0	0	0							
	42 mm	CMK245, PKP244, P	K245 M	C16	05	ф5		0	0	0		0					2-Phase
		PKP245, PKP246	M	220	05	φ5			$\overline{0}$	0		0					Stepping
Standard Type		CMK256, PK256	M	220	06A	φ 6.35				Õ		Ô					Motor and Driver
Standard Type wit	h 50 mm	CMK258, PK258	M	C25	06A	ф6.35				0		0	0				Packages
Terminal Box		CMK264, PK264	M	220	06A	ф6.35				0		0					
		PKP264	M	220	08	φ8			0	0	0	0	0				DC Input
	56.4 mm	CMK266, CMK268 PK266, PK268	M	C25	06A	ф6.35				0		0	0				СМК
		PKP266	M	225	08	φ8				0	0	0		0			
		PKP268	M	32	08	φ8				Ô	Ō	Ô	Ō	0			Closed Loo
		PK296	M	C32	14	φ14							Ō	0	0	0	Motor and
	^{85 mm} PK299. PK2913												0	0	0	Õ	Packages
The product name AR Series	es of the applicab	le ones are described with text	by which the series	s name	can be	identifie	ed.		1	<u> </u>	©Comm Only fo	on for bo or set scr	th the set ew type	screw ty	pe and cl	amp type	AC Input High- Efficiency AR
Applicable Product Coupling			Coupling	Мо	otor Sh	aft		-		Driven S	haft Dian	neter mr	n				
Туре	Frame Size	Product Name	Туре	D	iamete mm	er	04	05	06	06A	08	10 +10	12 #12	14	16	-	AC Input
	28 mm	AR24 AR26	MC12	05		<u>ф5</u>	φ4	φυ	φυ	φ0.35	φο	φιυ	φιΖ	φ14	φισ		Efficiency
	42 mm	AR46	MC16	A0		ψ5 46			$\overset{\vee}{\vdash}$							-	ARL
	72 11111					φυ	\sim		\sim	1	\sim	1	1	1	1		

CMK Series, 2-Phase Stepping Motors

MC40 φ14 The product names of the applicable ones are described with text by which the series name can be identified.

MC25

MC32

MC32

Low-Speed Synchronous Motors SMK Series

AR66

AR69

AR98

AR911

60 mm

85 mm

Standard

Туре

	Applicable Product			Motor	r Shaft	Driven Shaft Diameter mm												
Tupo	Eramo Sizo	Product Name	Type	Type Diameter			05	06	08	10	10 12		16					
туре	Traine Size		Type	m	ım	φ4	φ5	ф6	ф8	φ10	φ12	φ14	φ16					
	42 mm	SMK014	MC12	05	φ5	0	\odot	0										
Round Shaft	56.4 mm	SMK237	MC25	06A	ф6.35			O	0	O								
Туре	85 mm	SMK5100 SMK5160	MC32	14	φ14					0	0	0	0					

10

10

14

14

φ10

φ10

φ14

0

 \bigcirc

0

0

0

Only for set screw type

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 $\bigcirc \ensuremath{\mathbb{C}}\xspace$ Common for both the set screw type and clamp type

0

0

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0

0

0

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The product names of the applicable ones are described with text by which the series name can be identified.

OCommon for both the set screw type and clamp type Only for set screw type

DC Input High-Efficiency **AR**

Stepping Motors

High Torque 2-Phase **PKP**

2-Phase **PK**

5-Phase **PK**

cessories

Set Screw Type



Cables

Clean Dampers

So

Reger







Product Name	CAD
MC12	B499
MC16□S	B500
MC20□S	B501
MC25_S	B502
MC32□S	B503
MC40□S	B504
MC50□S	B505

● A number indicating the coupling inner diameter is entered where the box □ is located within the product name.

Specifications

				Dime	nsions						Static Torsional			Permissihle
Control	Product Name	Outer Diameter фА	Length W	Shaft Hole Diameter d1H8	Shaft Hole Diameter d2H8	L	Screw Used	Normal Torque	Mass	Inertia	Spring Constant	Permissible Eccentricity	Permissible Declination	End Play
Aodule		[mm]	[mm]	[mm]	[mm]	[mm]	м	[N•m]	[g]	[kg∙m²]	[N·m/rad]	[mm]	[°]	[mm]
	MC1203045			3	4									
	MC120404S			4	4									
Data	MC120405S	12	18.5	4	5	5	M2.5	0.4	3.7	0.83×10 ⁻⁷	45	0.10	2	±0.3
Setting	MC120505S			5	5									
ftware	MC120506S			5	6									
	MC160405S			4	5									
	MC160406S			4	6									
Battery	MC160505S			5	5					0.0.10-7				
Set	MC160506S	16	23	5	6	6.5	M3	0.5	8.1	3.3×10 ⁻⁷	80	0.10	2	±0.4
	MC1605085			5	8									
	MC1606065			6	6									
eration	MC1606085			6	8									
Unit	MC2005055			5	5									
	MC2005005			5	6					9×10 ⁻⁷				
	MC2005085			5	8							0.10		
	MC2006063			6	635									
	MC200000A5	20	26	6	8	7.5	M3	1.0	14		170		2	±0.4
	MC2006105			6	10									
	MC2006A085			6.35	8									
	MC2008085			8	8									
	MC2008105			8	10									
	MC250506S			5	6									
	MC250606S			6	6									
	MC250606AS			6	6.35									
	MC250608S			6	8	_					380			
	MC250610S			6	10		M4			26×10 ⁻⁷		0.15		
	MC2506A08S	25	31	6.35	8	8.5		2.0	27				2	+0.5
	MC2506A105	20	01	6.35	10			2.0	21				2	10.0
	MC2508085			8	8									
	MC2508105			8	10									
	MC2508125			8	12									
	MC2510105			10	10									
	MC320606AS			6	6 35									
	MC3206085			6	8									
	MC3206A085			6.35	8									
	MC3206A105			6.35	10									
	MC3208085			8	8									
	MC3208105			8	10									
	MC3208125	32	41	8	12	12	M4	4.0	60	96×10 ⁻⁷	500	0.15	2	±0.5
	MC3210105			10	10									
	MC3210125			10	12									
	MC3210145			10	14									
	MC3212145			12	14									
	MC3214145			14	14									
	MC3214165			14	16									
	MC4010145			10	14									
	MC4012145	40	56	12	14	17	M5	8.0	130	320×10 ⁻⁷	700	0.20	2	±0.5
	MC4014145 MC4014146			14	14									
	MC5012145			19	1/									
	MC5014145			14	14									
	MC5014165	50	71	14	16	21	M6	16.0	260	1000×10 ⁻⁷	1800	0.20	2	±0.5
	MC5014185			14	18	-								

The specifications above are the values when combined with Oriental Motor's stepping motor.

Clamp Type



Dimensions

MC40 C2, MC50 C2

MC12C2, MC16C2, MC20C2, MC25 C2, MC32 C2



W

L1

Ì2

фd1H8 \circledast đ

Φ

4×M Hexagonal Socket Head Screws

R

Product Name	CAD	Overview, Product Series
	8506	
MC16□C2	B507	EL EV
MC20 C2	B508	FLEX
MC25□C2	Products	
MC32_C2	B510	
MC40□C2	B511	5-Phase
MC50□C2	B512	Stepping
● A number indicating the cou where the box □ is located	Motor and Driver Packages	

AC Input

AC Input **RK**

DC Input CRK

2-Phase

Stepping Motor and Driver Packages

Specifications

	Dimensions											Static Torsional	Permissihle	Permissihle	Permissible	
Product Name	Outer Diameter ΦA	Length W	Shaft Hole Diameter d1H8	Shaft Hole Diameter d2H8	L1	L2	В	Screw Used	Torque	Mass	Inertia	Spring Constant	Eccentricity	Declination	End Play	DC Input
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	М	[N∙m]	[g]	[kg∙m²]	[N·m/rad]	[mm]	[°]	[mm]	
MC120404C2			4	4												
MC120405C2	12	18.5	4	5	5	2.5	14.5	M2	0.4	3.6	0.78×10 ⁻⁷	45	0.10	2	±0.3	Closed Loop
MC120505C2			5	5												Motor and
MC160506C2	16	23	5	6	6.5	3.25	17.5	M2.5	0.5	9.2	3.4×10 ⁻⁷	80	0.10	2	±0.4	Driver
MC200506C2			5	6												<i>Astep</i>
MC200508C2			5	8												
MC200606C2			6	6												AC Input High-
MC200606AC2	20	26	6	6.35	7.5	3.75	-	M2.5	1.0	16	9.1×10 ⁻⁷	170	0.10	2	±0.4	Efficiency
MC200608C2			6	8												AR
MC2006A08C2			6.35	8												_
MC200808C2			8	8												AC Input
MC250506C2			5	6												High- Efficiency
MC250606C2			6	6												ARL
MC250606AC2			6	6.35												_
MC250608C2			6	8												DC Input
MC250610C2	25	31	6	10	85	4 25	26	МЗ	2.0	28	26×10 ⁻⁷	380	0.15	2	+0.5	High-
MC2506A08C2	20	51	6.35	8	0.0	4.20	20	MO	2.0	20	20//10	000	0.15	-	10.0	AR
MC2506A10C2			6.35	10												
MC250808C2			8	8												
MC250810C2			8	10												01
MC251010C2			10	10												Stepping
MC320606AC2			6	6.35												motoro
MC320608C2			6	8												
MC3206A08C2			6.35	8												High Torque
MC3206A10C2			6.35	10												2-Phase
MC320808C2			8	8												РКР
MC320810C2	32	41	8	10	12	6	32.5	M4	4.0	64	97×10 ⁻⁷	500	0 15	2	+0.5	
MC320812C2	02		8	12		Ű	02.0				01110			-	_0.0	
MC321010C2			10	10												2-Phase
MC321012C2			10	12												РК
MC321014C2			10	14												
MC321214C2			12	14												
MC321414C2			14	14												5-Phase
MC401014C2			10	14												РК
MC401214C2	40	56	12	14	17	8.5	41.5	M5	8.0	140	330×10 ⁻⁷	700	0.20	2	±0.5	
MC401414C2	-		14	14	17			-								
MC401416C2			14	16												
MC501214C2			12	14												Accessories
MC501414C2	50	71	14	14	21	10.5	51	M6	16.0	270	1000×10 ⁻⁷	1800	0.20	2	±0.5	
MC501416C2			14	16			51	-								
MC501418C2		14	14	18												

The specifications above are the values when combined with Oriental Motor's stepping motor.

Cabl

Coupling

Mounting Brackets

Clean

Dampers

Control

Module

Data

Setting Software

> Battery Set

Regeneration

Unit

MCS Couplings (ROHS)



Product Line

Product Name
MCS14
MCS20
MCS30
MCS40
MCS55
MCS65

A number indicating the coupling inner diameter is entered where the box is located within the product name.



④ Inner Diameter d2 (Larger side) (F04 represents φ6.35 mm)
 ● For inner diameter d1, the smaller of the motor shaft diameter or the driven shaft diameter is entered.

Inner Diameter d1 (Smaller side) (FO4 represents ϕ 6.35 mm)

(4)

For inner diameter d2, the larger of the motor shaft diameter or the driven shaft diameter is entered.

Selecting a Coupling

Product Number Code

3

MCS 30 08 12

2

Outer Diameter of Coupling

1

2

3

1 MCS Coupling

The following examples explain the procedures in selecting a coupling by driven shaft diameter and motor and driver package name.

Example) Package Name: AR46AC-PS10-1 Driven Shaft Diameter: 012

1. The coupling type that matches **AR46AC-PS10-1** from the coupling selection table is **MSC30**.

2. The inner diameter of the coupling according to the motor shaft will be **10** (ϕ 10), and will be **12** (ϕ 12) according to the driven shaft diameter.

3. In the coupling product name, smaller inner diameters come before larger ones and thus the coupling product name will be MCS301012.

When the inner diameter is φ6.35, the number is FO4. For example, when the coupling type is MCS30, the motor shaft diameter is 10 (φ10), and the driven shaft diameter is FO4 (φ6.35), the coupling product name will be MCS30F0410.

Coupling Selection Table

RK Series, CRK Series

	Applicable Product			Osualias	M	otor						Driv	en Sh	aft Dia	meter	mm					
Type	Frame	Product Name	Gear Batio	Type	Shaft D	Diameter	04	05	06	F04	08	10	12	14	15	16	18	20	22	24	25
1360	Size		dournatio	.16-5	n	1m	φ4	φ5	ф6	ф6.35	φ8	φ10	φ12	φ14	φ15	φ16	ф18	φ20	φ22	φ24	φ25
	28 mm	CRK523-T	7.2 , 10 , 20 , 30	MCS14	05	φ5															
	12 mm	RK543-T□	3.6 , 7.2 , 10	MCS20	06	ф6															
	42 11111	CRK543-T	20, 30	MCS30	06	ф6															
	60 mm	RK564-T□	3.6 , 7.2	MCS30	08	φ8															
Type	00 11111	CRK564-T	10, 20, 30	MCS40	08	φ8															
	90 mm	RK596-T□	3.6, 7.2 10, 20, 30	MCS55	12	φ12							•		•	•	•	•			
	28 mm	CRK523-PS	5, 7.2 , 10	MCS20	08	φ8															
		RK545-PS	5	MCS20	10	φ10															
	40 mm	CRK545-PS	7.2 , 10	MCS30	10	φ10															
	42 11111	RK543-PS CRK543-PS	25, 36, 50	MCS40	10	ф10					•	•	•	•	•	•	•	•			
PS Geared		RK566-PS	5	MCS40	12	φ12															
Туре	60 mm -	CRK566-PS	7.2 , 10	MCS55	12	φ12															
		RK564-PS CRK564-PS	25, 36, 50	MCS55	12	φ12									•	•					
			5	MCS55	18	φ18															
	90 mm	KK377-F3	7.2 , 10	MCS65	18	φ18															
		RK596-PS	25 , 36 , 50	MCS65	18	φ18															
	20 mm	CRK513-H		MCS14	05	φ5															
	30 mm	CRK523-H		MCS30	08	φ8															
Harmonic Geared	42 mm	RK543-H□ CRK543-H□	50, 100	MCS40	10	ф10					•	•	•	•	•	•	•	•			
Type 60 mm 90 mm	60 mm	RK564-H□ CRK564-H□		MCS55	12	φ12									•	•				•	
	90 mm	RK596-H□		MCS65	18	φ 1 8															

 \blacksquare A number indicating the gear ratio is specified in the box \square in the product name.

The product names of the applicable ones are described with text by which the series name can be identified.

CMK Series, 2-Phase Stepping Motors

	A	oplicable Product		Osualian	M	otor					I	Driven	Shaft	Diame	ter mn	ı				
Туро	Frame	Product Namo	Coar Patio	Type	Shaft D	liameter	04	05	06	F04	08	10	12	14	15	16	18	20	22	24
туре	Size	FIGUUCENAME	deal hallo	турс	n	ım	φ4	φ5	φ6	ф6.35	φ8	φ10	φ12	φ14	φ15	ф16	φ18	φ20	φ22	ф24
	28 mm	CMK223-SG PKP223-SG	7.2, 9, 10 18, 36	MCS14	05	ф5														
			3.6 , 7.2	MCS14	05	φ5														
SH Geared	42 mm	PKP243-SG	9, 10, 18 36, 50, 100	MCS20	05	ф5		•	•	•	•	•								
туре	60 mm	CMK264-SG	3.6, 7.2, 9, 10	MCS30	08	φ8														
	00 11111	PKP264-SG	18, 36, 50, 100	MCS40	08	φ8														
	00 mm	DK 206-50	3.6 , 7.2 , 9	MCS40	12	φ12														
	90 11111	PK290-30	10, 18, 36	MCS55	12	φ12														

 \blacksquare A number indicating the gear ratio is specified in the box \square in the product name.

The product names of the applicable ones are described with text by which the series name can be identified.

AR Series

	Ар	olicable Product		Onumline	M	otor						Driv	ven Sh	aft Dia	meter	mm						
Туре	Frame	Product Name	Gear Ratio	Type	Shaft D)iameter	04	05	06	F04	08	10	12	14	15	16	18	20	22	24	25	AC Input RK
	Size					1	φ4	φ5	φ٥	фb.35	φ8 	φ10	φ12	φ14	φ15	φ16	φ18	φ20	φ22	φ24	φ25	
	28 mm	AR24-T	7.2, 10 20, 30	MCS14	05	ф5	•															
	42 mm	AR46-T	3.6, 7.2 10	MCS20	06	ф6		•	•	•	•	•										DC Input CRK
TH Geared			20 , 30	MCS30	06	ф6																
Туре	60 mm	AR66-T	3.6 , 7.2	MCS30	08	ф8			•	•		•	•	•	•	•						2-Phase
			10, 20, 30	MCS40	08	φ8																Motor an
	90 mm	AR98-T	3.6, 7.2, 10 20, 30	MCS55	12	φ12							•	•	•	•	•	•	•			Driver Packages
	28 mm	AR24-PS	5, 7.2 , 10	MCS20	08	φ 8																
	40 mm		5, 7.2 , 10	MCS30	10	φ10																DC Input
	42 11111	AR40-PJ	25, 36, 50	MCS40	10	φ10																СМК
PS Geared			5, 7.2	MCS40	12	φ12																
Туре	60 mm	AR66-PS	10, 25 36, 50	MCS55	12	φ12																Closed Lo Motor and
	90 mm	AR98-PS	5, 7.2 , 10 25, 36, 50	MCS65	18	ф18																Driver Packages
	30 mm	AR24-H	50, 100	MCS30	08	φ8																U STEP
Harmonic	42 mm	AR46-H	50, 100	MCS40	10	φ10																AC Input
Geared Type	60 mm	AR66-H	50, 100	MCS55	12	φ12																High-
	90 mm	AR98-H	50, 100	MCS65	18	φ18																AR

 \blacksquare A number indicating the gear ratio is specified in the box \square in the product name.

The product names of the applicable ones are described with text by which the series name can be identified.

Low-Speed Synchronous Motors SMK Series (Geared Motor)

Applicable	Product		Motor	Shaft		Driven	Shaft	Diamet	er mn	1
Broduct Namo	Coor Potio	Coupling Type	Dian	neter	04	05	06	F04	08	10
FIGUULT Name	uedi naliu		m	m	φ4	φ5	ф6	ф6.35	φ8	φ10
SMKOA-	3, 3.6, 7.5 9, 15, 18 30, 36, 50	MCS14	05	φ5	•	•	•			
	60, 100, 120	MCS20	05	φ5						

 \blacksquare A number indicating the gear ratio is specified in the box \square in the product name.

The product names of the applicable ones are described with text by which the series name can be identified.

Brushless Motors

۸.	policable Droduct		Mo	otor			I	Driven S	haft Dian	neter mm	ı		
A	upilicable Flouuci	Coupling Type	Shaft D	iameter	5	6	F04	8	10	12	14	15	16
Туре	Product Name		m	im	φ5	ф6	ф6.35	ф8	ф10	φ12	φ14	φ15	ф16
	BX230	MCS20	8	ф8									
Round Shaft	BX460	MCS20	10	ф10									
Туре	BX5120	MCS30	12	φ12									
	BX6200, BX6400	MCS30	14	ф14									

The product names of the applicable ones are described with text by which the series name can be identified.

Overview, Product Series

FLEX Compatible Products

5-Phase Stepping Motor and

Driver Packages

AC Input

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put **K**

Loop and es EP

ency

AC Input High-Efficiency ARL

DC Input High-Efficiency **AR**

Stepping Motors

High Torque 2-Phase

2-Phase **PK**

5-Phase **PK**

ccessories

Specifications

Cables						Dimer	nsions							Static			
	Product Name	Outer Diameter $\mathbf{\Phi}\mathbf{A}$	Length W	Shaft Hole Diameter d1H7	Shaft Hole Diameter d2H7	L1	L2	В	Screw Used	Key Slot Tolerance b/t	Normal Torque*	Mass	Inertia	Torsional Spring Constant	Permissible Eccentricity	Permissible Declination	Permissible End Play
Couplings		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	М	[mm]	[N•m]	[g]	J [kg∙m²]	[N·m/rad]	[mm]	[°]	[mm]
	MCS140404			4	4												
	MCS140405			4	5]											
	MCS140406	14	22	4	6	7	35	16 5	M2	_	2.0	67	0 184 × 10-6	22.9	0.06	ng	+0.6
Mounting	MCS140505		~~	5	5	'	0.0	10.5	IVIZ		(0.5)	0.7	0.1047(10	22.5	0.00	0.5	0
DIACKEIS	MCS140506			5	6												
	MCS140606			6	6												
	MCS200505			5	5												
Clean	MC5200506			5	6												
Dampers	MC52005F04			5	0.35												
	MCS200508			5	0												
	MCS200510			6	6												
Control	MCS2006F04			6	6.35												
wodule	MCS200608	20	30	6	8	10	5	23.4	M2.5	_	5.0	19.8	1.059×10 ⁻⁶	51.6	0.08	0.9	+0.8
	MCS200610			6	10		-				(1.2)						U
Data	MCS20F04F04			6.35	6.35												
Setting	MCS20F0408			6.35	8	1											
Software	MCS20F0410			6.35	10												
	MCS200808			8	8]											
	MCS200810			8	10												
Battery	MCS201010			10	10												
Set	MCS300606			6	6												
	MCS3006F04			6	6.35												
	MC5300608			6	8												
egeneration	MC5300610			0	10												
Unit	MCS300612			6	12												
	MCS300615			6	15												
	MCS300616			6	16												
	MCS30F04F04			6.35	6.35												
	MCS30F0408			6.35	8												
	MCS30F0410			6.35	10]											
	MCS300808			8	8												
	MCS300810			8	10						12 5						+10
	MCS300812	30	35	8	12	11	5	32.2	M3	-	(3.0)	44.6	6.057×10 ⁻⁰	171.9	0.09	0.9	0
	MCS300814			8	14												
	MC5300815			8	15												
	MCS301010			10	10												
	MCS301012			10	10												
	MC\$301014			10	14												
	MC\$301015			10	15												
	MC\$301016			10	16	1											
	MCS301212			12	12	1											
	MC\$301214			12	14]											
	MCS301414			14	14												
	MCS301415			14	15												
	MCS301416			14	16												

*The normal torque indicated in () is an assumed value at a safety factor (4.2 times) selected according to the load.

Dimensions

Re



Product Name	CAD
MCS14	B493
MCS20	B494
MCS30	B495

A number indicating the coupling inner diameter is entered where the box
is located within the product name.

					Dimer	nsions											Product
Product Name	Outer Diameter	Length W	Shaft Hole Diameter	Shaft Hole Diameter	L1	L2	В	Screw Used	Key Slot Tolerance b/t	Normal Torque*	Mass	Inertia	Static Torsional Spring Constant	Permissible Eccentricity	Permissible Declination	Permissible End Play	Series
	φA [mm]	[mm]	d1H/	d2H7	[mm]	[mm]	[mm]		[mm]	[N.m]	[0]	L[ka.m2]	[N-m/rad]	[mm]	r°1	[mm]	FLEX
MCS400808	[IIIIII]	[IIIII]	8	8	[mm]	[IIIII]	[IIIII]	IVI	[IIIII]	נואיווון	[9]	J [Kg·III-]	[NºIII/Tau]	[IIIII]	LJ	[IIIII]	Products
MCS400810			8	10													
MCS400812			8	12	1												5-Phase
MCS400814			8	14]												Stepping Motor and
MCS400815			8	15													Driver
MC5400816			8	16	-												Packages
MC5400818			8	18	-												
MCS400020			10	10	-												AC Input RKII
MCS401012			10	10	1												
MCS401014	40	66	10	14	25	12	46	M6		17.0	139	42.29×10 ⁻⁶	859.5	0.06	0.9	+1.2	_
MCS401015			10	15	1					(4.0)						0	AC Input
MCS401016			10	16]												RK
MCS401018			10	18													
MC5401020			10	20	-												
MCS401212			12	12	-				φ8 b:2±0.0125 t · 1 ^{+0.1}								DC Input
MCS401214			12	14					d10 b·3+00125								CRK
MCS401216			12	16	1				$t : 1.4^{+0.1}_{0}$								
MCS401218			12	18	1				ϕ 12 b:4 \pm 0.015								2-Phase
MCS401220			12	20]				t:1.8 ^{+0.1}								Stepping
MCS551212			12	12	-				ϕ 14 b:5±0.015								Motor and Driver
MCS551214			12	14	-				L.2.3 0								Packages
MC5551215			12	15	-				t: $2.3^{+0.1}_{0.1}$								
MCS551218			12	18					φ16 b:5±0.015								DC Input
MCS551220			12	20					t:2.3 ^{+0.1}								СМК
MCS551222			12	22	1				ϕ 18 b:6 \pm 0.015								
MCS551224			12	24]				t : 2.8 ^{+0.1}								Closed Loo
MCS551414			14	14					$\phi 20$ b:6±0.015 t · 2 8 ^{+0.1}								Motor and
MCS551415		70	14	15		105			422 h : 6+0 015	60.0	000	100 1. 10-6	0000	0.40		+1.4	Packages
MC5551410	55	78	14	10	30	10.5	57	MO	t : 2.8 ^{+0.1}	(14.3)	282	109.1×10 *	2063	0.10	0.9	0	α_{step}
MCS551418 MCS551420			14	20					φ24 b:8±0.018								AC Input
MCS551422			14	22	1				t:3.3 ^{+0.2}								High- Efficiency
MCS551424			14	24	1				$\phi 25$ b:8±0.018								AR
MCS551518			15	18]				t:3.3 ö~								-
MCS551618			16	18	-												AC Input
MCS551818			18	18	-												Efficiency
MC5551820			18	20	-												AKL
MCS551822			18	22													
MCS651618			16	18													DC Input High-
MCS651818			18	18	1												Efficiency AR
MCS651820			18	20													
MCS651822			18	22	-												
MCS651824	65	90	18	24	35	11.5	73	M8		160.0	535	417.1×10 ⁻⁶	3438	0.11	0.9	+1.5	Stepping
MC5051825			18	25	-					(30.1)						U	Motors
MC5052020 MC5652022			20	20	-												
MCS652024			20	24	1												
MCS652025			20	25	1												High Torqu 2-Phase
t. The neurol terms	. indiaata			ماييمانيم مغ	o oofotu	factor	0.41.00.0	a) aalaata	d according to the load							•	PKP

*The normal torque indicated in () is an assumed value at a safety factor (4.2 times) selected according to the load.



 \blacksquare A number indicating the coupling inner diameter is entered where the box \square is located within the product name.



 \blacksquare A number indicating the coupling inner diameter is entered where the box \square is located within the product name.

2-Phase **PK**

5-Phase **PK**

cessories

Motor Mounting Brackets ROHS

Couplings Stepping motor and geared type stepping motor.



Product Line

Standard Type, High-Torque Type, High-Speed Type, High-Resolution Type Material: Aluminum Alloy Surface Treatment: Painting

				Applicable Product		
Data	Product Name	5-Phase Stepping Motor and Driver Packages	2-Phase Stepping Motor and Driver Packages	Stepping Motor and Driver Packages XSTEP	Stepping Motors	Low-Speed Synchronous Motors SMK Series
ware	PAFOP	RKS543, RKS544 RKS545 RK543, RK544	СМК243 СМК244		PKP243, PKP244 PKP245, PKP246 PKE243, PKE244 PKE245	
tery Set	PALOP	RK545 CRK543, CRK544 CRK545, CRK546	CMK245, CMK246	AR46	PK243, PK244 PK245 PK543, PK544 PK545	SMK014
ation Unit	PAL2P-5	RKS564, RKS566 RKS569 RK564, RK566 RK569 CRK564, CRK566 CRK569	_	AR66, AR69	PK564, PK566 PK569	_
	PAL2P-2	-	СМК264, СМК266 СМК268	-	PKP264, PKP266 PKP268 PK264, PK266 PK267, PK268 PK269	SMK237
	PAL4P-5	RKS596, RKS599 RKS5913 RK596, RK599 RK5913	_	AR98, AR911	PK596, PK599 PK5913	_
	PAL4P-2	-	_	-	PK296, PK299 PK2913	SMK5100 SMK5160

The product names of the applicable ones are described with text by which the series name can be identified.

Note These products cannot be used for the geared type or gearheads.

Geared Type

Material SOL: Aluminum Alloy, PLA: SS400 Surface Treatment SOL: Painting, PLA: Electroless Nickel Plating

		Applicabl	e Product	
Product Name	5-Phase	2-Phase	Stepping Motor	Ctopping Motoro
	and Driver Packages	and Driver Packages	XSTEP	Stepping Motors
SOLOA	_	CMK243-SG	_	PKP243-SG□ PK243-SG□
SOLOB	RK543-T□ CRK543-T□	_	AR46-T□	_
SOL2A	RK564-T□ CRK564-T□	CMK264-SG	AR66-T	PKP264-SG□ PK264-SG□
SOL5A	-	-	-	PK296-SG
SOL5B	RK596-T	-	AR98-T□	-
PLA60G	RK564-PS CRK564-PS	_	AR66-PS	_
PLA60H	RK564-H□ CRK564-H□	_	AR66-H	_
PLA90G	RK599-PS□ RK596-PS□	_	AR98-PS	_
PLA90H	RK596-H	_	AR98-H	-

 \blacksquare A number indicating the gear ratio is entered where the box \square is located within the product name.

The product names of the applicable ones are described with text by which the series name can be identified.

Mountin Bracket

> Clean Dampers

> > Control

S

Rege

Cable

Dimensions (Unit mm)

PALOP

Mass: 35 g CAD B139



42

5.5

15

3 2

> 0.3 9

60 Installation Screws: M3 Length 10 mm 4 pieces included

29

50

 $4 \times \phi 3.5$ Thru

PAL2P-5

Mass: 110 g CAD B143





Installation Screws: M4 Length 12 mm 4 pieces included

4

55

PAL4P-5

6.5

Mass: 250 g CAD B145







Installation Screws: M5 Length 16 mm 4 pieces included





PAL2P-2

PAFOP

Mass: 30 g

CAD B140

Mass: 110 g CAD B144





Installation Screws: M4 Length 12 mm 4 pieces included



Overview, Product Series

> FLEX Compatible Products

5-Phase Stepping Motor and Driver Packages

AC Input

AC Input **RK**

DC Input CRK

2-Phase Stepping Motor and Driver Packages

DC Input CMK

Closed Loop Motor and Driver Packages α_{step}

> AC Input High-Efficiency AR

AC Input High-Efficiency ARL

DC Input High-Efficiency **AR**

Stepping Motors

High Torque 2-Phase **PKP**

2-Phase **PK**

5-Phase **PK**

ccessories

Dimensions (Unit mm)

Cables PAL4P-2 Mass: 250 g CAD B146

Couplings

Mounting Bracket

Clean

Dampers







Mass: 85 g CAD B266 SOLOB Mass: 85 g

SOLOA

CAD B267



Battery Set OInstallation Screws: M5 Length 16 mm 4 pieces included

3

SOL2A Mass: 120 g CAD B268

Regeneration

Unit



Installation Screws: M4 Length 12 mm 4 pieces included

SOL5A

Mass: 270 g CAD B270 SOL5B Mass: 270 g

Mass: 270 g





C-338 ORIENTAL MOTOR GENERAL CATALOGUE

8.2

ф14

65

14

PLA60G





PLA90G Mass: 1.6 kg CAD B637



PLA90H



4 pieces included



4 pieces included (includes 4 washers)

Installation Screws: M8 Length 30 mm







4

DC Input High-Efficiency **AR**

Stepping Motors

High Torque 2-Phase **PKP**

2-Phase **PK**

5-Phase **PK**

ccessories

FLEX Compatible Products

Overview, Product

Series

5-Phase Stepping Motor and Driver

Packages

AC Input

AC Input **RK**

DC Input CRK

2-Phase Stepping Motor and Driver Packages

DC Input CMK

Closed Loop Motor and Driver

Packages ASTEP

AC Input High-Efficiency AR

AC Input High-Efficiency

Clean Dampers RoHS

Mechanical dampers suppress stepping motor vibration and improve high-speed performance.

An inertia body and silicon gel are hermetically sealed in a plastic case.

Mounting Brackets

Clea

Dampe

Couplings

Cable

Features

• Excellent Vibration Absorption

The doughnut-shaped internal inertia body and silicon gel absorb vibration. This feature enables a stable damping effect.

Control Module

Data Setting

Software

Battery

Set

 Cleanliness Support Since there is no frictional dust it can be used in environments where higher degrees of cleanliness are needed.

High Reliability

- The damper holds up well in environmental resistance and changes little with age because the silicon gel and plastic case used are high heatresistant.
- The machine part is sealed hermetically in a plastic case. This ensures safety and doesn't generate noise.
- This clean damper is an accessory for double shaft types. It can be used with various geared motors of double shaft type.

Regeneration Unit

Product Line

Product Name D4CL-5.0F D6CL-6.3F D6CL-8.0F D9CL-14F

Installation Method of the Clean Damper



Point the installation screws of the clean damper toward the motor case, fasten to the shaft and tighten the damper's installation screws (two places) with a hexagonal wrench to secure it to the shaft.

Product Name		D4CL-5.0F	D6CL-6.3F	D6CL-8.0F	D9CL-14F
Tightening Torque	N∙m	0.4		1.5	
Note					

There are installation screws with hexagonal holes in two damper locations, so tighten them both before running the motor.

The damper rotates at the same speed as the motor shaft, so do not touch the damper while the motor is running.

Dimensions (Unit mm)



Product Name	фd1	φA	φB	С	D	E	CAD
D4CL-5.0F	5 ^{+0.018}	φ36±0.5	φ13±0.5	9±0.3	15±0.5	M3	B556
D6CL-6.3F	$6.35_{0}^{^{+0.022}}$	+44 5 + 0 5	+20+05	15±0.2	22+05	N44	B557
D6CL-8.0F	8 ^{+0.022}	φ44.5±0.5	φ20±0.5	15±0.5	22±0.5	1114	B558
D9CL-14F	14 ^{+0.027}	φ79.5±0.5	φ26±0.5	11±0.3	19±0.5	M4	B559



0



Specifications

Draduat Nama	Inertia	Mass
Product Name	[kg⋅m²]	[g]
D4CL-5.0F	34×10 ⁻⁷	24
D6CL-6.3F	140×10 ⁻⁷	62
D6CL-8.0F	140×10 ⁻⁷	61
D9CL-14F	870×10 ⁻⁷	105

Operating Temperature Range: -20°C~+80°C





3

Clean Damper Selection Table

This clean damper is an accessory for double shaft types. Overview, Product

	Applicable Product						Product Series
Product Name	Standard AC Motors Stepping Motors						
	Low-Speed Synchronous Motors	5-Phase Stepping Motor and Driver Packages	2-Phase Stepping Motor and Driver Packages	$lpha_{step}$	2-Phase Stepping Motors	5-Phase Stepping Motors	FLEX
D4CL-5.0F	SMK014 SMKOA	RKS543 RKS544 RKS545 RK543 RK544 RK545 CRK523 CRK524 CRK525 CRK543 CRK544 CRK545 CRK546	CMK223 CMK224 CMK225 CMK233 CMK235 CMK243 CMK244 CMK245 CMK246	AR46	PKP223 PKP224 PKP225 PKP233 PKP243 PKP243 PKP244 PKP245 PKP246 PKE243 PKE244 PKE245 PK2243 PK2244 PK225	РК543 РК544 РК545	Compatible Products 5-Phase Stepping Motor and Driver Packages
							AC Input RKII
D6CL-6.3F	SMK237 SMK216	-	CMK256 CMK258 CMK264* CMK266* CMK268*	_	PK256 PK258 PK264* PK266* PK268*	-	AC Input RK DC Input
D6CL-8.0F	_	RKS564 RK5566 RK5569 RK564 RK566 RK569 CRK564 CRK566 CRK569	CMK264 (High Torque) CMK266 (High Torque) CMK268 (High Torque)	AR66 AR69 AR98 AR911	PK264 (High Torque) PK266 (High Torque) PK267 (High Torque) PK268 (High Torque) PK269 (High Torque)	РК564 РК566 РК569	2-Phase Stepping Motor and Driver Packages
D9CL-14F	SMK5100 SMK5160 SMK550	RKS596 RKS599 RKS5913 RK596 RK599 RK5913	_	-	РК296 РК299 РК2913	РК596 РК599 РК5913	Closed Loop Motor and Driver Packages

*Except for high-torque types.

The product names of the applicable ones are described with text by which the product name can be identified.

AC Input High-Efficiency **AR**

USTEP

AC Input High-Efficiency **ARL**

DC Input High-Efficiency **AR**

Stepping Motors

High Torque 2-Phase **PKP**

2-Phase **PK**

5-Phase **PK**

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