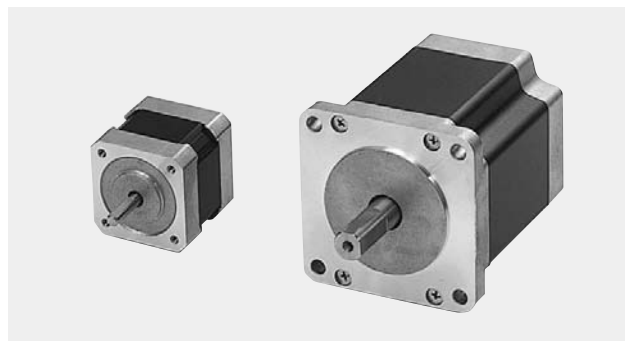


5-Phase Stepping Motors

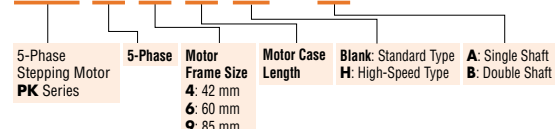
PK Series

5-Phase **PK** series products are the high-torque and low-vibration stepping motors with resolution of 500 per rotation ($0.72^\circ/\text{step}$). 10 motor lead wires are provided so that they can be used for all types of driving system. The dedicated driver is required separately to operate the motor.



Product Number Code

PK 5 6 6 H - B



Product Line

Model (Single Shaft)	Model (Double Shaft)
PK543-A	PK543-B
PK544-A	PK544-B
PK545-A	PK545-B
PK564-A	PK564-B
PK564H-A	PK564H-B
PK566-A	PK566-B
PK566H-A	PK566H-B
PK569-A	PK569-B
PK569H-A	PK569H-B
PK596-A	PK596-B
PK596H-A	PK596H-B
PK599-A	PK599-B
PK599H-A	PK599H-B
PK5913-A	PK5913-B

Accessories (Sold Separately)

These accessories enable 5-phase **PK** series products to be used for various operations.



5-Phase **PK** Series



Mounting Brackets

The motor can be affixed easily.
(→ Page C-203)



Flexible Couplings

Non-backlash coupling for precise positioning
(→ Page C-192)



Clean Dampers

Effective to suppress stepping motor vibration and improve high-speed performance.
(→ Page C-201)

●Example of Accessories

(Body)

5-Phase **PK** Series
PK566-B



(Sold separately)

Motor Mounting Bracket
PAL2P-5

Flexible Coupling
MCS200808

Clean Damper
D6CL-8.0F

●Accessories shown above are examples. Other combinations are available.

Specifications

Motor Frame Size mm	Model		Maximum Holding Torque N·m kgfcm	Rotor Inertia J: kg·m ² gfcm ²	Current per Phase A/Phase	Resistance per Phase Ω/Phase	Basic Step Angle	Mass kg	Corresponding Motor and Driver Package/Page with Speed-Torque Characteristics	Dimensio No.	
	Single Shaft	Double Shaft									
□42	PK543-A	PK543-B	0.13 1.3	35×10 ⁻⁷ 35	0.75	1.7	0.72°	0.21	RK543□ CFK543□P2	C-68 C-119	①
	PK544-A	PK544-B	0.18 1.8	54×10 ⁻⁷ 54		2.2		0.27	RK544□ CFK544□P2	C-68 C-119	
	PK545-A	PK545-B	0.24 2.4	68×10 ⁻⁷ 68				0.35	RK545□ CFK545□P2	C-68 C-119	
□60	PK564-A	PK564-B	0.42 4.2	175×10 ⁻⁷ 175	0.75	2.3		0.6	—	—	②
	PK564H-A	PK564H-B			1.4	0.7			RK564□ CFK564□P2	C-69 C-119	
	PK566-A	PK566-B	0.83 8.3	280×10 ⁻⁷ 280	0.75	3.4		0.8	—	—	
	PK566H-A	PK566H-B			1.4	1.1			RK566□ CFK566□P2	C-69 C-119	
	PK569-A	PK569-B	1.66 16.6	560×10 ⁻⁷ 560	1.4	1.7		1.3	RK569□ CFK569□P2	C-69 C-119	
	PK569H-A	PK569H-B			2.8	0.55			CFK569H□P2	C-120	
□85	PK596-A	PK596-B	2.1 21	1400×10 ⁻⁷ 1400	1.4	1.5		1.7	RK596□	C-69	③
	PK596H-A	PK596H-B			2.8	0.47			CFK596H□P2	C-120	
	PK599-A	PK599-B	4.1 41	2700×10 ⁻⁷ 2700	1.4	2.3		2.8	RK599□	C-69	
	PK599H-A	PK599H-B			2.8	0.52			CFK599H□P2	C-120	
	PK5913-A	PK5913-B	6.3 63	4000×10 ⁻⁷ 4000	2.8	0.75		3.8	CFK5913H□P2	C-120	

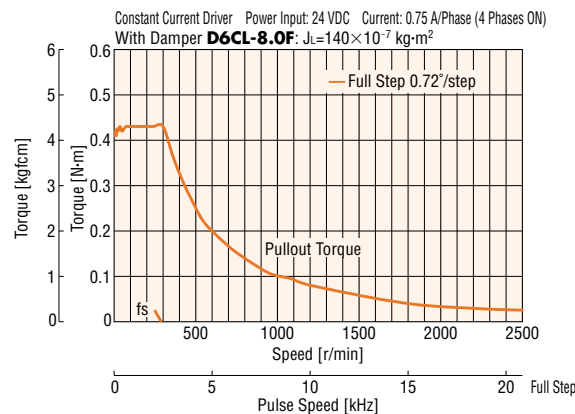
How to Read Specifications Table → Page C-8

● For the speed-torque characteristics of the motors in the table above, see the corresponding series characteristics. If there is no corresponding model, refer to the following characteristics.

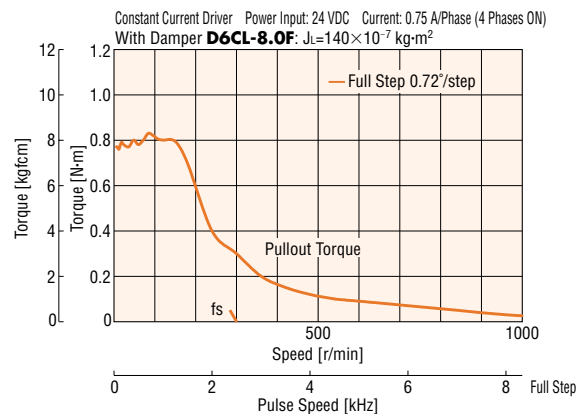
Speed – Torque Characteristics

How to Read Speed-Torque Characteristics → Page C-8

PK564-B



PK566-B



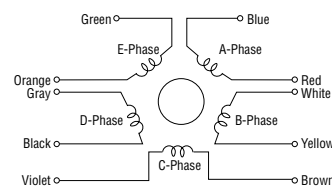
Permissible Overhung Load and Permissible Thrust Load

Unit = Upper values: N/Lower values: kgf

Model	Overhung Load Distance from Shaft End (mm)					Thrust Load
	0	5	10	15	20	
PK54 □	20 2	25 2.5	34 3.4	52 5.2	—	The permissible thrust load shall be no greater than the motor mass.
PK56 □	63 6.3	75 7.5	95 9.5	130 13	190 19	
PK59 □	260 26	290 29	340 34	390 39	480 48	

● Enter the motor case length in the box (□) within the model name.

Inner Connection Diagram for Motor



General Specifications

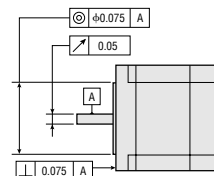
Specifications		Motor
Insulation Class		Class B (130°C)
Insulation Resistance		100 MΩ minimum under normal temperature and humidity, when measured by a 500 VDC megger between the windings and motor casing.
Dielectric Strength		Sufficient to withstand 1.0 kV, 50 Hz or 60 Hz applied between the windings and casing for one minute, under normal temperature and humidity. (0.5 kV for PK54□)
Operating Environment (In Operation)	Ambient Temperature	-10°C~+50°C (nonfreezing)
	Ambient Humidity	85% or less (noncondensing)
	Atmosphere	No corrosive gases, dust, water or oil.
Temperature Rise		Temperature rise of the coil measured by the change resistance method is 80°C or less. (at rated current, at standstill, five phases energized)
Static Angle Error*1		±3 arc minutes (±0.05°)
Shaft Runout		0.05 T.I.R. (mm)*4
Radial Play*2		0.025 mm max. of 5 N
Axial Play*3		0.075 mm max. of 10 N
Concentricity		0.075 T.I.R. (mm)*4
Perpendicularity		0.075 T.I.R. (mm)*4

*1 This value is for full step under no load. (The value changes with the size of the load.)

*2 Radial Play: Displacement in shaft position in the radial direction, when a 5 N load is applied in the vertical direction to the tip of the motor's shaft.

*3 Axial Play: Displacement in shaft position in the axial direction, when a 10 N load is applied to the motor's shaft in the axial direction.

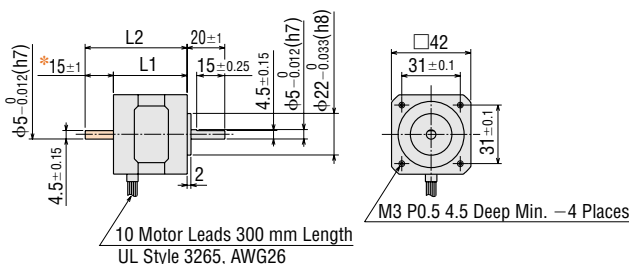
*4 T.I.R. (Total Indicator Reading): The total dial gauge reading when the measurement section is rotated one revolution centered on the reference axis center.



Dimensions (Unit = mm)

1 □42 mm

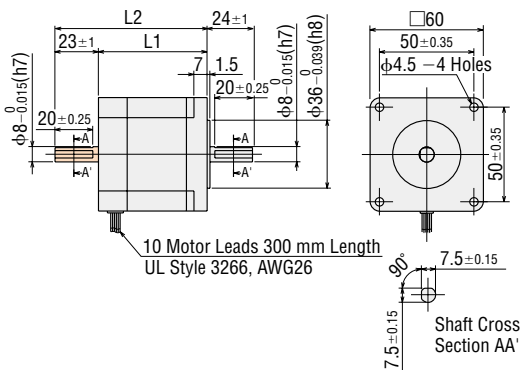
Motor Model	L1	L2	Mass kg	CAD
PK543-A	33	—	0.21	B102
PK543-B		48		
PK544-A	39	—	0.27	B103
PK544-B		54		
PK545-A	47	—	0.35	B104
PK545-B		62		



*The length of machining on double shaft model is 15±0.25.

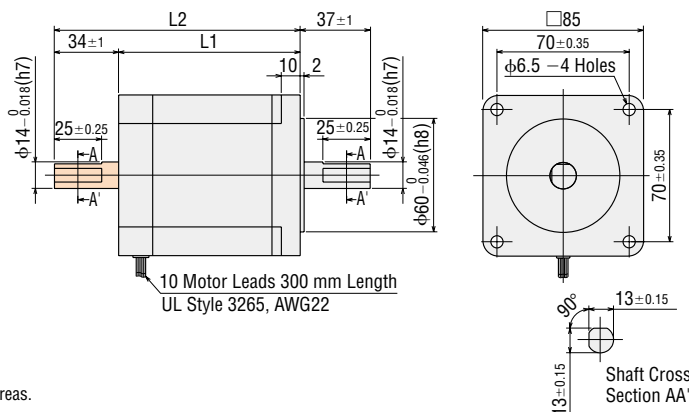
2 □60 mm

Motor Model	L1	L2	Mass kg	CAD
PK564-A	46.5	—	0.6	B105
PK564H-A				
PK564-B				
PK564H-B				
PK566-A	57.5	—	0.8	B106
PK566H-A				
PK566-B				
PK566H-B				
PK569-A	87	—	1.3	B107
PK569H-A				
PK569-B				
PK569H-B				



3 □85 mm

Motor Model	L1	L2	Mass kg	CAD
PK596-A	66	—	1.7	B108
PK596H-A		100		
PK596-B				
PK596H-B	96	—	2.8	B109
PK599-A				
PK599H-A				
PK599-B				
PK599H-B	126	130	3.8	B110
PK5913-A				
PK5913-B				



● These dimensions are for double shaft models. For single shaft models, ignore the shaded areas.