

RoHS RoHS-Compliant

2-Phase Stepping Motor

PK Series

High-Torque • High-Efficiency Type

Motor Frame Size \square 42 mm

Introducing advanced 2-phase stepping motors that utilize high-torque and high-efficiency technology. These products provide low heat generation and low power consumption in addition to high torque.

New Types



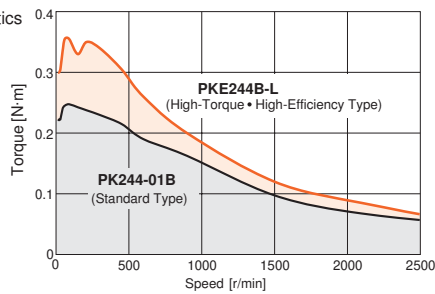
Features

• High-Torque

These stepping motors provide 1.2~1.5 times more torque than standard stepping motors due to a new high-torque design.

This product contributes to the downsizing of your equipment by utilizing a smaller size due to higher torque than a conventional model.

• Torque Characteristics

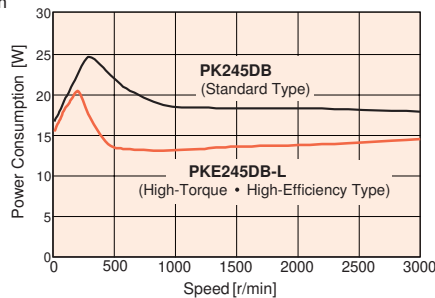


• Energy-Saving

Power consumption: Up to **40%** less than a conventional model. CO₂ emission: Up to 15kg less than a conventional model. (Amount of CO₂ emission: PK245DB 37kg/year → PKE245DB-L 22kg/year **40%** less compared to conventional Oriental Motor products.)

These products allow a smaller power supply to be used.

• Power Consumption



Product Line

• Unipolar 6 Leads

Model (Single Shaft)	Model (Double Shaft)
PKE243A-L	PKE243B-L
PKE244A-L	PKE244B-L
PKE245A-L	PKE245B-L

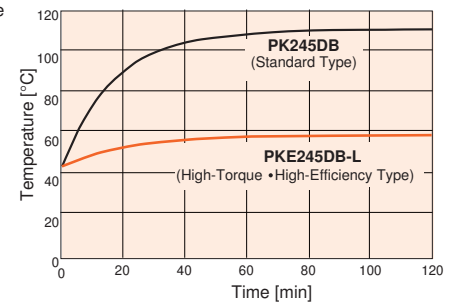
• Lower Heat Generation

The products utilize high-efficiency technology to achieve a significant reduction in the amount of heat generated by the motor.

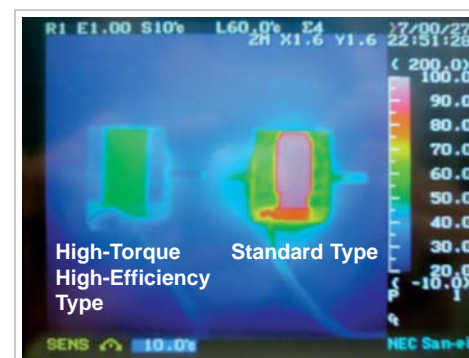
(The temperature rise of the motor case is up to 78% less than a conventional model in the case of a PKE245DB-L.)

These products can lower operating costs by reducing the number of cooling fans and extending the service life of the equipment.

• Motor Case Temperature Under Same Operating Conditions



• Temperature Distribution by Thermography



• Bipolar 4 Leads

Model (Single Shaft)	Model (Double shaft)
PKE243DA-L	PKE243DB-L
PKE244DA-L	PKE244DB-L
PKE245DA-L	PKE245DB-L

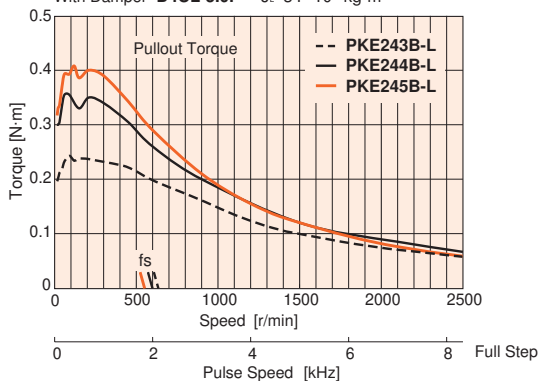
Specifications RoHS

Model		Holding Torque N·m	Rotor Inertia J:kg·m ²	Rated Current A/phase	Voltage V	Resistance Ω /phase	Basic Step Angle	Motor Mass kg	Lead Wires
Single Shaft	Double Shaft								
PKE243A-L	PKE243B-L	0.24	36 × 10 ⁻⁷	0.95	3.14	3.3	1.8°	0.25	6
PKE243DA-L	PKE243DB-L	0.3		1.5	1.93	1.29			4
PKE244A-L	PKE244B-L	0.39	57 × 10 ⁻⁷	1.2	4.8	4	1.8°	0.3	6
PKE244DA-L	PKE244DB-L	0.48		1.5	3.9	2.6			4
PKE245A-L	PKE245B-L	0.44	83 × 10 ⁻⁷	1.2	3.24	2.7	1.8°	0.39	6
PKE245DA-L	PKE245DB-L	0.55		1.5	2.9	1.94			4

Speed-Torque Characteristics *fs*: Maximum Starting Frequency

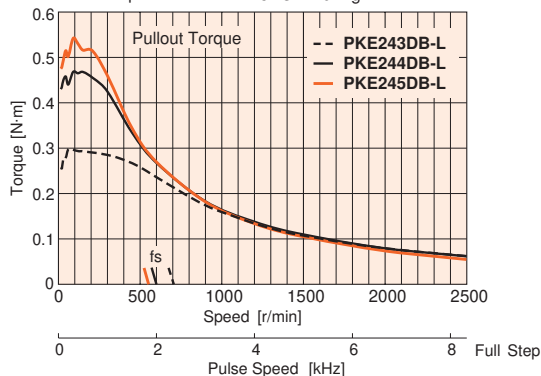
Unipolar 6 leads

Constant Current Driver Power Input: 24VDC Current: Rated Current (2 Phases ON)
With Damper **D4CL-5.0F** $J_s=34 \times 10^{-7} \text{kg} \cdot \text{m}^2$



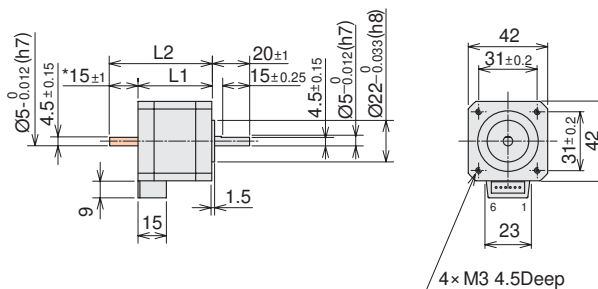
Bipolar 4 leads

Constant Current Driver Power Input: 24VDC Current: Rated Current (2 Phases ON)
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Dimensions Unit = mm

Model	L1	L2	Mass kg
PKE243A-L	33	—	0.25
PKE243B-L		48	
PKE243DA-L		—	
PKE243DB-L	39	48	0.3
PKE244A-L		—	
PKE244B-L		54	
PKE244DA-L	47	—	0.39
PKE244DB-L		54	
PKE245A-L		—	
PKE245B-L	47	62	0.39
PKE245DA-L		—	
PKE245DB-L		62	



- * The length of machining on double shaft model is 15 ± 0.25.
 - Motor lead wire/connector assembly of 0.6 m is included.
 - This dimension is for double shaft models.
- For single shaft models, ignore the shaded () areas.
- Applicable Connector
- Connector housing: 51103-0600 (MOLEX)
Contact: 50351-8100 (MOLEX)

This product is manufactured at a plant certified with the international standards **ISO 9001** (for quality assurance) and **ISO 14001** (for systems of environmental management).

Specifications are subject to change without notice.

This catalogue was published in October, 2009.

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