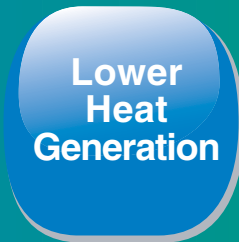


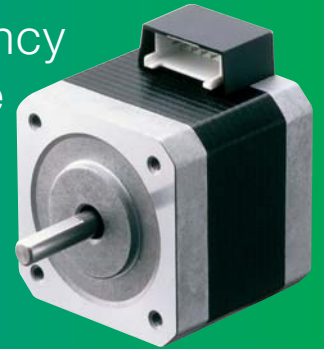
# Orientalmotor

2-Phase Stepping Motor

## PK Series



High-Efficiency  
High-Torque



Motor Frame Size  42 mm

### OUR DEVELOPMENT



**LOWER HEAT GENERATION**



**MORE ENERGY-SAVING**



**LOWER IRON LOSS**



**CONTINUOUS OPERATION**



**WITHOUT COOLING FANS  
USABLE**



**HIGH-TORQUE**

### YOUR BENEFIT



**LONG SERVICE LIFE**



**LESS TEMPERATURE RISE  
OF THE MOTOR CASE**



**LESS POWER CONSUMPTION  
(up to 58 kWh/year) \***



**LESS CO<sub>2</sub> EMISSION  
(up to 32.5 kg/year) \*<sup>1</sup>**



**HIGHER EFFICIENCY**



**FASTER OPERATION CYCLES,  
NO BREAKS + EXTERNAL  
COOLINGS**



**LOWER OPERATING COSTS**



**HIGH PERFORMANCE**

\* (up to 40% (58 kWh) compared to a conventional type) \*<sup>1</sup> (up to 38% compared to a conventional type)  
(up to 32.5 kg, based on japanese conversion factor: 0.555)

## Motor Frame Size   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.

### High-Torque • High-Efficiency Type

**RoHS** RoHS-Compliant

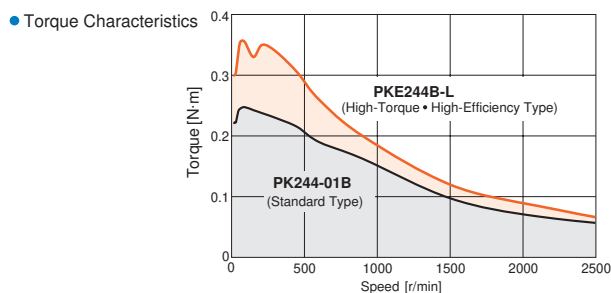


#### Features

##### • High-Torque

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

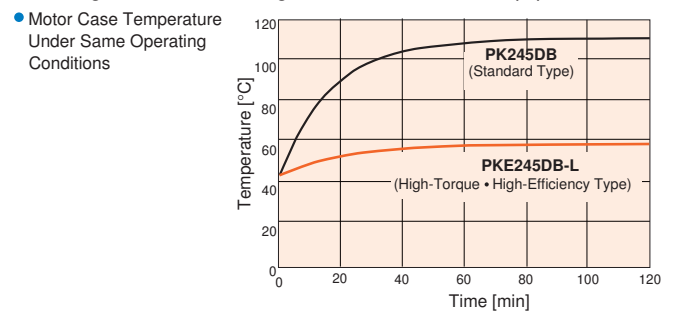
This product contributes to the downsizing of your equipment by utilizing a smaller size due to higher torque than a conventional model.



##### • 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 50 % less than a conventional model in the case of a **PKE245DB-L**.)

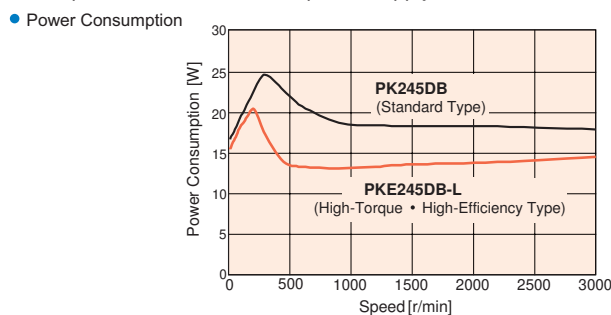
These products can lower operating costs by reducing the number of cooling fans and extending the service life of the equipment.



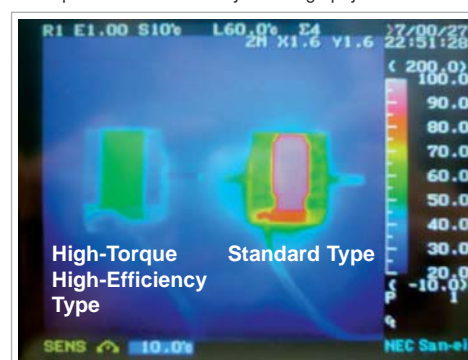
##### • Energy-Saving

Power consumption: Up to 40 % less than a conventional model.  
CO<sub>2</sub> emission: Up to 15kg less than a conventional model. (Amount of CO<sub>2</sub> emission: PK245DB 37 kg/year → PKE245DB-L 22 kg/year 40 % less compared to conventional Oriental Motor products.)

These products allow a smaller power supply to be used.



##### • Temperature Distribution by Thermography



#### Product Line

##### • Unipolar 6 Leads

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

##### • Bipolar 4 Leads

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

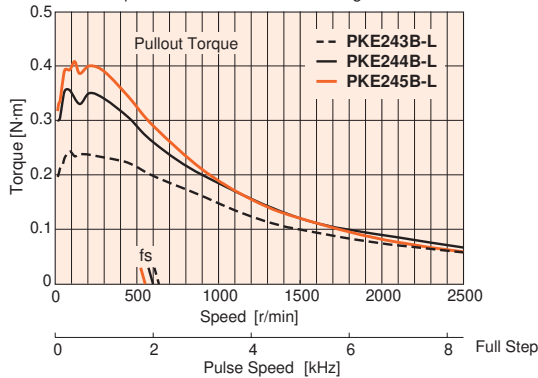
## Specifications RoHS

Model		Holding Torque N·m	Rotor Inertia J:kg·m <sup>2</sup>	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 <sup>-7</sup>	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 <sup>-7</sup>	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 <sup>-7</sup>	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

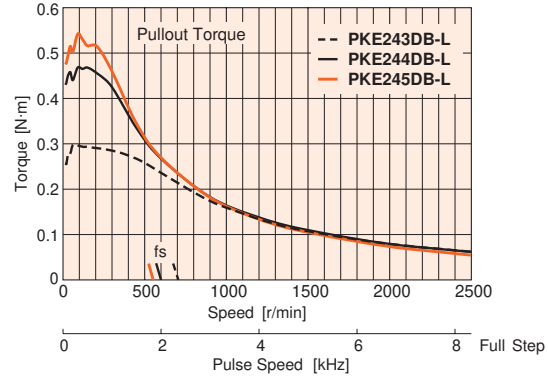
### • Unipolar 6 leads

Constant Current Driver Power Input: 24 VDC Current: Rated Current (2 Phases ON)  
With Damper **D4CL-5.0F** J=34 × 10<sup>-7</sup> kg·m<sup>2</sup>



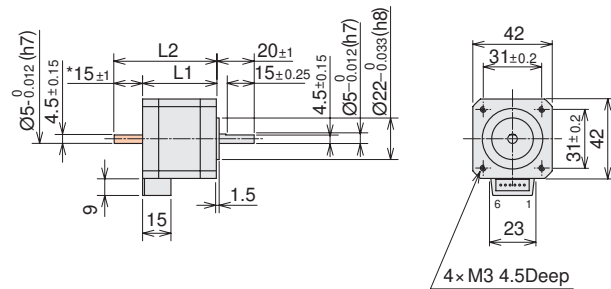
### • Bipolar 4 leads

Constant Current Driver Power Input: 24 VDC Current: Rated Current (2 Phases ON)  
With Damper **D4CL-5.0F** J=34 × 10<sup>-7</sup> kg·m<sup>2</sup>



## Dimensions Unit = mm

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

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# Orientalmotor

**ORIENTAL MOTOR (EUROPA) GmbH**  
www.orientalmotor.de

**European Headquarters and Düsseldorf Office**  
Schiesstraße 74  
40549 Düsseldorf, Germany  
Tel: 0211-5206700 Fax: 0211-52067099

**ORIENTAL MOTOR (FRANCE) SARL**  
www.orientalmotor.fr

**France Headquarters**  
32, Avenue de l'île Saint Martin  
92737 Nanterre Cedex, France  
Tel: 01 47 86 97 50 Fax: 01 47 82 45 16

**ORIENTAL MOTOR (UK) LTD.**  
www.oriental-motor.co.uk

Unit 5, Faraday Office Park,  
Rankine Road, Basingstoke,  
Hampshire RG24 8AH U.K.  
Tel: 01256-347090 Fax: 01256-347099

**ORIENTAL MOTOR CO., LTD.**  
www.orientalmotor.co.jp

**Headquarters**  
16-17, Ueno 6-chome  
Taito-ku, Tokyo 110-8536, Japan  
Tel: (03)3835-0684 Fax: (03)3835-1890

**ORIENTAL MOTOR ITALIA s.r.l.**  
www.orientalmotor.it

**Italy Headquarters**  
Via A. De Gasperi, 85  
20017 Mazzo di Rho (MI), Italy  
Tel: 02-93906346 Fax: 02-93906348

For more information please contact: