

# 1.8°/Geared Stepper Motor and Driver Package RBK Series

For details on this product please refer to our website.  
[www.orientalmotor.com/catalog](http://www.orientalmotor.com/catalog)



For detailed information about regulations and standards, please see the Oriental Motor website.



View Expanded Product Information, Specifications, CAD, Accessories & more online. Visit [www.orientalmotor.com/catalog](http://www.orientalmotor.com/catalog) or use the QR code and select "RBK Series".

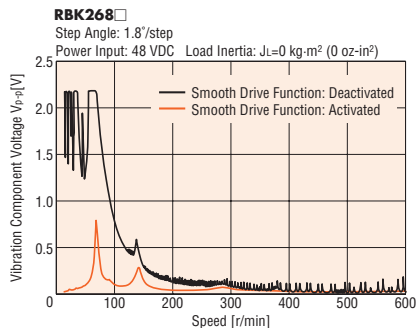
The **RBK Series** is a motor and driver package consisting of a 1.8° step angle stepper motor and DC input microstep driver with a wide input DC voltage range (20 to 75 VDC) and up to 4.5 A/phase (6.3 A/phase peak).

The **RBK Series** drivers include Oriental Motor's proprietary Smooth Drive Function to easily achieve low vibration operation.

## Features

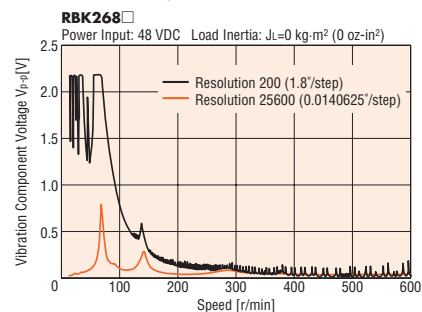
### Smooth Drive Function

The Smooth Drive Function is a function that automatically controls the motor's microstep drive operation at the same travel and speed as in the full-step mode, without the operator having to change the speed settings of the driver's pulse input. It enables low vibration operation available with the microstep drive to be achieved with the flick of a switch.



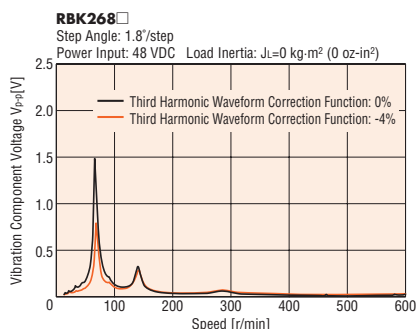
### Microstep Function

The microstep driver electronically divides the basic step angle of the motor (1.8°/step) by up to 128 without the use of a reduction mechanism or other mechanical elements. 16 different resolution levels are available. The available range of resolution settings is 200 (1.8°/step) to 25600 (0.0140625°/step). The step angle can be easily set using the built-in switches on the driver. This function enables low vibration and low noise operation.



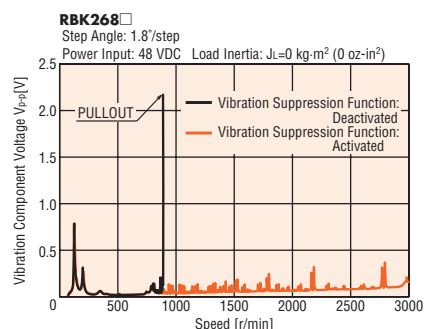
### Third Harmonic Waveform Correction Function

This function corrects motor drive current waveforms. It provides improved angle accuracy and reduced vibration.



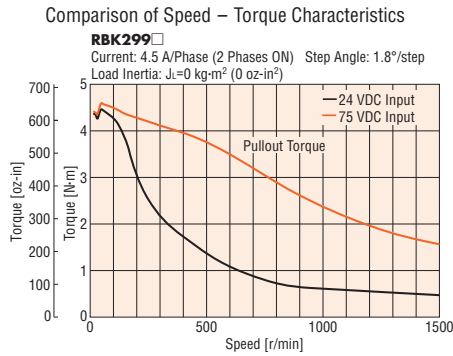
### Vibration Suppression Function

This function improves vibrations in the medium speed range of stepper motors. It enables reduced risk of missteps due to vibrations.



## Wide Voltage Range Driver

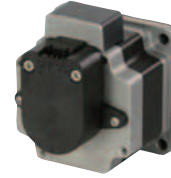
The **RBK** Series utilizes a constant current driver with a wide voltage range of 20 to 75 VDC and up to 4.5 A/phase effective value (6.3 A/phase peak value). This enables it to support a wide range of power sources.



● Raising the power supply voltage enables increased torque during high speed operation.

## Encoder Option Available

200 or 400 pulse/rev, 2 or 3 channel, TTL.  
 Motor rotations can be detected by taking in encoder output signals into a programmable controller (not supplied).



## Product Line of Motor

Type	Features	□28 mm (□1.10 in.)	□35 mm (□1.38 in.)	□42 mm (□1.65 in.)	□56.4 mm (□2.22 in.)*1	□85 mm (□3.35 in.)
High-Torque Type	A high-torque motor has approx. 1.3~1.5 times more torque when compared to a step angle 1.8° standard stepper motor.					
Standard Type	The basic motor offers a good balance of torque and low vibration /noise characteristics.					
<b>PS</b> Geared Type <b>PL</b> Geared Type	A geared stepper motor with planetary gear mechanism offering low backlash, high strength.					

\*1 Gearhead frame size is □60 mm (□2.36 in.)

\*2 Only **PL** Geared Type.

Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>STEP</sub>**  
**AR**

0.36°/Geared  
**Q<sub>STEP</sub>**  
Absolute  
**AZ**

0.72°/Geared  
**RKII**

DC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>STEP</sub>**  
**AR**

0.36°/Geared  
**Q<sub>STEP</sub>**  
Absolute  
**AZ**

0.72°/0.36°  
/Geared  
**CRK**

1.8°/Geared  
**RBK**

1.8°/0.9°  
/Geared  
**CMK**

0.72°  
All-in-One  
**PKA**

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

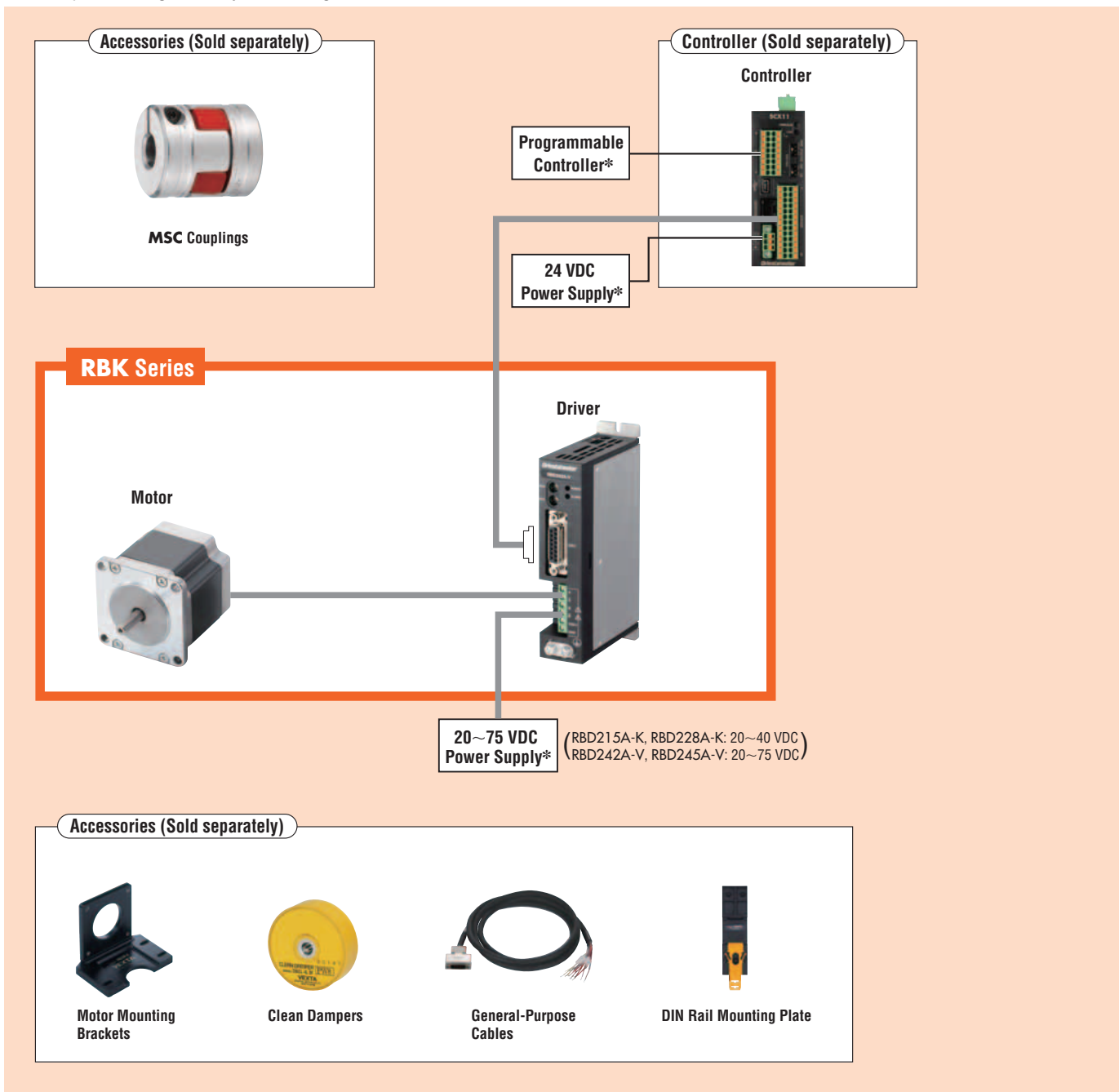
0.72°/0.36°  
**PKP**

Accessories

### System Configuration

An example of a single-axis system configuration with the **SCX11** controller.

\*Not supplied



● The system configuration shown above is an example. Other combinations are also available.

## Product Number

High-Torque Type, Standard Type

**RBK 2 9 6 A A**

① ② ③ ④ ⑤ ⑥ ⑦

①	Series Name	<b>RBK: RBK Series</b>
②	2-Phase	
③	Motor Frame Size	<b>2:</b> 28 mm (1.10 in.) <b>3:</b> 35 mm (1.38 in.) <b>4:</b> 42 mm (1.65 in.) <b>9:</b> 85 mm (3.35 in.)
④	Motor Case Length	
⑤	Motor Type	<b>P:</b> High-Torque Type <b>Blank:</b> Standard Type
⑥	Configuration	<b>A:</b> Single Shaft <b>B:</b> Double Shaft
⑦	Inch Shaft	

Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>STEP</sub>**  
**AR**

0.36°/Geared  
**Q<sub>STEP</sub>**  
Absolute  
**AZ**

0.72°/Geared  
**RKII**

High-Torque Type with Encoder, Standard Type with Encoder

**RBK 2 9 6 A A - R 1 5**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

①	Series Name	<b>RBK: RBK Series</b>
②	2-Phase	
③	Motor Frame Size	<b>3:</b> 35 mm (1.38 in.) <b>4:</b> 42 mm (1.65 in.) <b>6:</b> 56.4 mm (2.22 in.) <b>9:</b> 85 mm (3.35 in.)
④	Motor Case Length	
⑤	Motor Type	<b>P:</b> High-Torque Type <b>Blank:</b> Standard Type
⑥	Configuration	<b>A:</b> Single Shaft
⑦	Inch Shaft	
⑧	Encoder Version	
⑨	Encoder Output	<b>1:</b> 2-Channel A, B <b>2:</b> 3-Channel A, B, Index
⑩	Encoder Resolution	<b>5:</b> 200 P/R <b>6:</b> 400 P/R

DC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>STEP</sub>**  
**AR**

0.36°/Geared  
**Q<sub>STEP</sub>**  
Absolute  
**AZ**

0.72°/0.36°  
/Geared  
**CRK**

PS/PL Geared Type

**RBK 2 4 4 P A - P 10**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①	Series Name	<b>RBK: RBK Series</b>
②	2-Phase	
③	Motor Frame Size	<b>2:</b> 28 mm (1.10 in.) <b>4:</b> 42 mm (1.65 in.) <b>6:</b> 60 mm (2.36 in.)
④	Motor Case Length	
⑤	Motor Type	
⑥	Configuration	<b>A:</b> Single Shaft <b>B:</b> Double Shaft
⑦	Gearhead Type	<b>PS: PS</b> Geared Type <b>P: PL</b> Geared Type
⑧	Gear Ratio	

1.8°/Geared  
**RBK**

PL Geared Type with Encoder

**RBK 2 4 4 P A R 1 5 - P 10**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

①	Series Name	<b>RBK: RBK Series</b>
②	2-Phase	
③	Motor Frame Size	<b>4:</b> 42 mm (1.65 in.) <b>6:</b> 60 mm (2.36 in.)
④	Motor Case Length	
⑤	Motor Type	
⑥	Configuration	<b>A:</b> Single Shaft
⑦	Encoder Version	
⑧	Encoder Output	<b>1:</b> 2-Channel A, B <b>2:</b> 3-Channel A, B, Index
⑨	Encoder Resolution	<b>5:</b> 200 P/R <b>6:</b> 400 P/R
⑩	Gearhead Type	<b>P: PL</b> Geared Type
⑪	Gear Ratio	

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

0.72°/0.36°  
**PKP**

Accessories

## Product Line

### High-Torque Type

Product Name (Single Shaft)	List Price	Product Name (Double Shaft)	List Price
<b>RBK223PA</b>	\$389.00	<b>RBK223PB</b>	\$391.00
<b>RBK224PA</b>	\$394.00	<b>RBK224PB</b>	\$396.00
<b>RBK225PA</b>	\$399.00	<b>RBK225PB</b>	\$401.00
<b>RBK233PA</b>	\$387.00	<b>RBK233PB</b>	\$389.00
<b>RBK235PA</b>	\$396.00	<b>RBK235PB</b>	\$398.00
<b>RBK244PA</b>	\$390.00	<b>RBK244PB</b>	\$392.00
<b>RBK246PA</b>	\$401.00	<b>RBK246PB</b>	\$403.00

### Standard Type

Product Name (Single Shaft)	List Price	Product Name (Double Shaft)	List Price
<b>RBK264A</b>	\$403.00	<b>RBK264B</b>	\$406.00
<b>RBK266A</b>	\$409.00	<b>RBK266B</b>	\$412.00
<b>RBK268A</b>	\$429.00	<b>RBK268B</b>	\$432.00
<b>RBK296AA</b>	\$467.00	<b>RBK296BA</b>	\$471.00
<b>RBK299AA</b>	\$535.00	<b>RBK299BA</b>	\$541.00
<b>RBK2913AA</b>	\$629.00	<b>RBK2913BA</b>	\$638.00

### PS/PL Geared Type

Product Name (Single Shaft)	List Price	Product Name (Double Shaft)	List Price
<b>RBK223PA-P55</b>	\$742.00	<b>RBK223PB-P55</b>	\$744.00
<b>RBK223PA-P510</b>	\$742.00	<b>RBK223PB-P510</b>	\$744.00
<b>RBK244PA-P5</b>	\$693.00	<b>RBK244PB-P5</b>	\$696.00
<b>RBK244PA-P10</b>	\$693.00	<b>RBK244PB-P10</b>	\$696.00
<b>RBK244PA-P36</b>	\$768.00	<b>RBK244PB-P36</b>	\$771.00
<b>RBK266PA-P5</b>	\$731.00	<b>RBK266PB-P5</b>	\$734.00
<b>RBK266PA-P10</b>	\$731.00	<b>RBK266PB-P10</b>	\$734.00
<b>RBK264PA-P36</b>	\$911.00	<b>RBK264PB-P36</b>	\$914.00

### High-Torque Type with Encoder

Product Name (200 P/R)	List Price	Product Name (400 P/R)	List Price
<b>RBK233PA-R15</b>	\$451.00	<b>RBK233PA-R16</b>	\$451.00
<b>RBK233PA-R25</b>	\$461.00	<b>RBK233PA-R26</b>	\$461.00
<b>RBK235PA-R15</b>	\$460.00	<b>RBK235PA-R16</b>	\$460.00
<b>RBK235PA-R25</b>	\$470.00	<b>RBK235PA-R26</b>	\$470.00
<b>RBK244PA-R15</b>	\$454.00	<b>RBK244PA-R16</b>	\$454.00
<b>RBK244PA-R25</b>	\$464.00	<b>RBK244PA-R26</b>	\$464.00
<b>RBK246PA-R15</b>	\$465.00	<b>RBK246PA-R16</b>	\$465.00
<b>RBK246PA-R25</b>	\$475.00	<b>RBK246PA-R26</b>	\$475.00

### Standard Type with Encoder

Product Name (200 P/R)	List Price	Product Name (400 P/R)	List Price
<b>RBK264A-R15</b>	\$468.00	<b>RBK264A-R16</b>	\$468.00
<b>RBK264A-R25</b>	\$478.00	<b>RBK264A-R26</b>	\$478.00
<b>RBK266A-R15</b>	\$474.00	<b>RBK266A-R16</b>	\$474.00
<b>RBK266A-R25</b>	\$484.00	<b>RBK266A-R26</b>	\$484.00
<b>RBK268A-R15</b>	\$494.00	<b>RBK268A-R16</b>	\$494.00
<b>RBK268A-R25</b>	\$504.00	<b>RBK268A-R26</b>	\$504.00
<b>RBK296AA-R15</b>	\$533.00	<b>RBK296AA-R16</b>	\$533.00
<b>RBK296AA-R25</b>	\$543.00	<b>RBK296AA-R26</b>	\$543.00
<b>RBK299AA-R15</b>	\$603.00	<b>RBK299AA-R16</b>	\$603.00
<b>RBK299AA-R25</b>	\$613.00	<b>RBK299AA-R26</b>	\$613.00
<b>RBK2913AA-R15</b>	\$700.00	<b>RBK2913AA-R16</b>	\$700.00
<b>RBK2913AA-R25</b>	\$710.00	<b>RBK2913AA-R26</b>	\$710.00

### PL Geared Type with Encoder

Product Name (200 P/R)	List Price	Product Name (400 P/R)	List Price
<b>RBK244PAR15-P5</b>	\$758.00	<b>RBK244PAR16-P5</b>	\$758.00
<b>RBK244PAR25-P5</b>	\$768.00	<b>RBK244PAR26-P5</b>	\$768.00
<b>RBK244PAR15-P10</b>	\$758.00	<b>RBK244PAR16-P10</b>	\$758.00
<b>RBK244PAR25-P10</b>	\$768.00	<b>RBK244PAR26-P10</b>	\$768.00
<b>RBK244PAR15-P36</b>	\$833.00	<b>RBK244PAR16-P36</b>	\$833.00
<b>RBK244PAR25-P36</b>	\$843.00	<b>RBK244PAR26-P36</b>	\$843.00
<b>RBK266PAR15-P5</b>	\$796.00	<b>RBK266PAR16-P5</b>	\$796.00
<b>RBK266PAR25-P5</b>	\$806.00	<b>RBK266PAR26-P5</b>	\$806.00
<b>RBK266PAR15-P10</b>	\$796.00	<b>RBK266PAR16-P10</b>	\$796.00
<b>RBK266PAR25-P10</b>	\$806.00	<b>RBK266PAR26-P10</b>	\$806.00
<b>RBK264PAR15-P36</b>	\$976.00	<b>RBK264PAR16-P36</b>	\$976.00
<b>RBK264PAR25-P36</b>	\$986.00	<b>RBK264PAR26-P36</b>	\$986.00

The following items are included with each product.

Motor, Driver, Connection Cable\*, Operating Manual

\*Only for connector-coupled motor

● Not included

• The D-sub (15-pin) connector for connecting to the driver's CN1



For details (specifications, characteristics, dimensions and others) on these products please refer to either to our website, contact technical support or your nearest Oriental Motor sales office.

[www.orientalmotor.com/catalog](http://www.orientalmotor.com/catalog)

Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
*Q<sub>STEP</sub>*  
**AR**

0.36°/Geared  
*Q<sub>STEP</sub>*  
Absolute  
**AZ**

0.72°/Geared  
**RKII**

DC Input  
Motor &  
Driver

0.36°/Geared  
*Q<sub>STEP</sub>*  
**AR**

0.36°/Geared  
*Q<sub>STEP</sub>*  
Absolute  
**AZ**

0.72°/0.36°  
/Geared  
**CRK**

1.8°/Geared  
**RBK**

1.8°/0.9°  
/Geared  
**CMK**

0.72°  
All-in-One  
**PKA**

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

0.72°/0.36°  
**PKP**

Accessories