Orientalmotor

NewMotion

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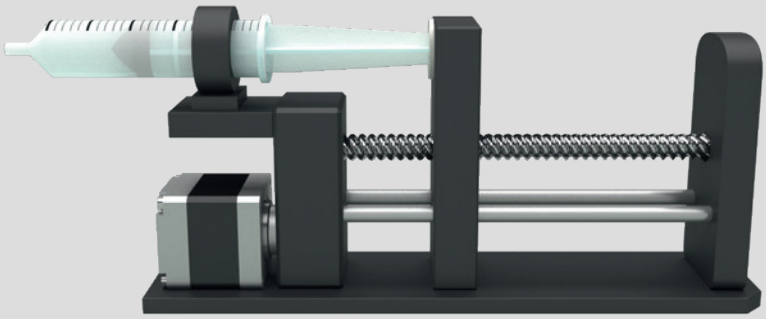
Improving Accuracy

with Motors from Oriental Motor

Pulsation Free operation improves syringe pump performance

with an example of a syringe pump

**A motor-powered dispensing of a syringe pump can vary greatly in accuracy.
An important requirement is precise and pulsation free dosing.**



Application: Motor-powered syringe pump

Conventional device

- Used for dispensing liquids such as blood and chemicals
- A 2-phase stepper motor with a basic step angle of 1.8° or a 5-phase stepper motor with a basic step angle of 0.72° drives a mechanism such as a ball screw

Problem

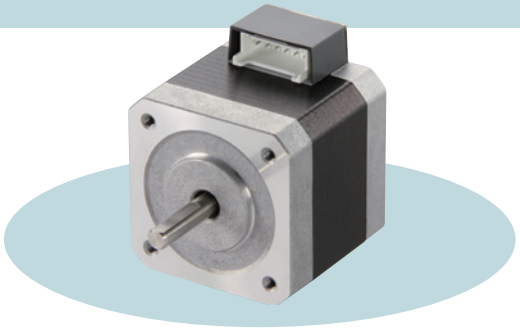
- Dispensing amount of liquid may vary
- This can lead to undesirable overdoses

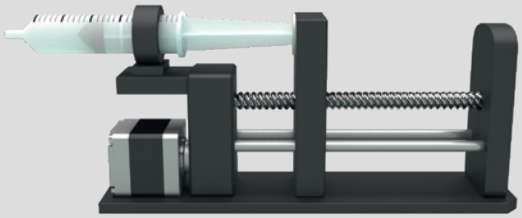
Pulsation free movement

with high resolution steppermotors

Solution

PKP Series High-resolution type achieves high-accuracy positioning that is resistant to frictional loads. This contributes to improved discharge volume accuracy.





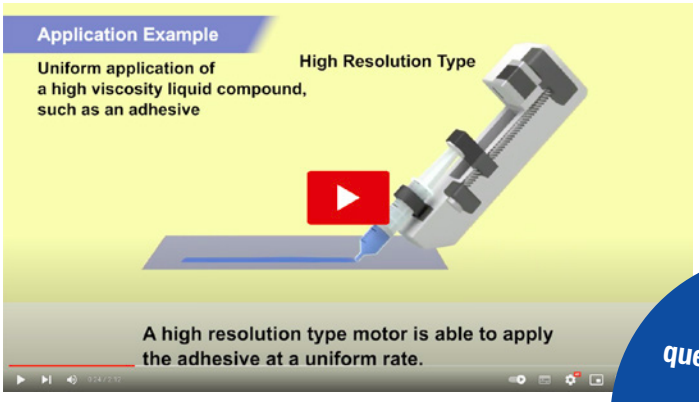
Application: Motor-powered syringe pump

Structure resistant to frictional loads

The high-resolution type is a motor with a basic step angle of 0.9° for 2-phase and 0.36° for 5-phase stepping motors. The rotor has twice the number of teeth compared to the standard type. Therefore, the displacement angle caused by friction load can be reduced. Since enhances stable operation even in applications such as syringe pumps where frictional load is constantly applied, the accuracy of the dosing amount is improved.

Application Example:

PKP Series High-Resolution Type

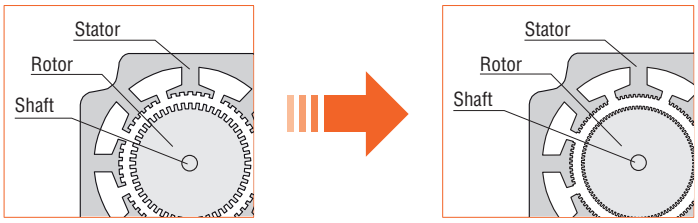


Click here for the **PKP** Series High-Resolution Type Video!

If you have any questions, please do not hesitate to contact us on 00800 22 55 66 22 (Free Call Europe).

PKP Series High-Resolution Type

Features of Stepper Motors



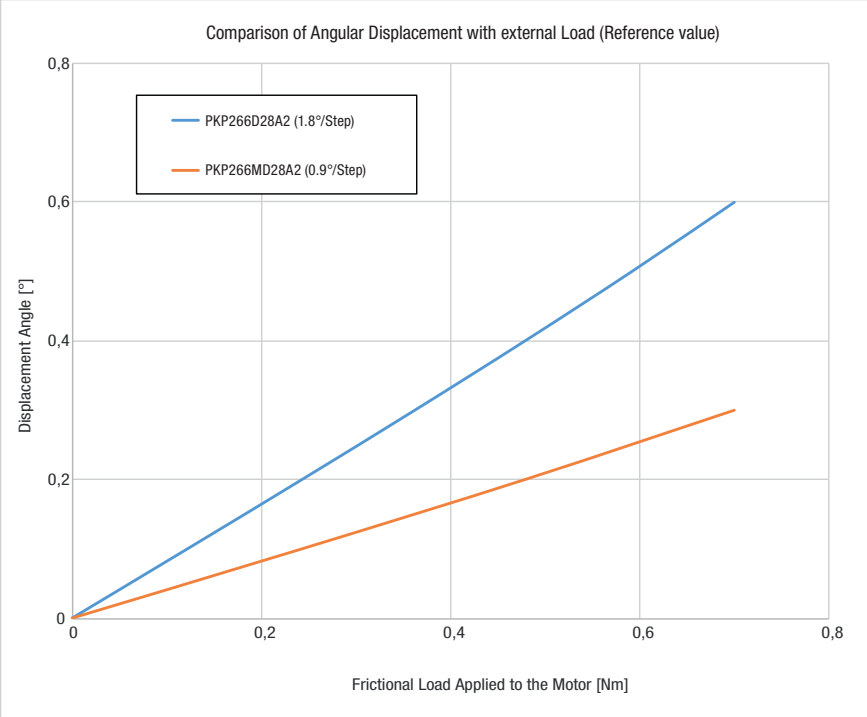
Standard Type
50 teeth

High-Resolution Type
100 teeth

Advantage

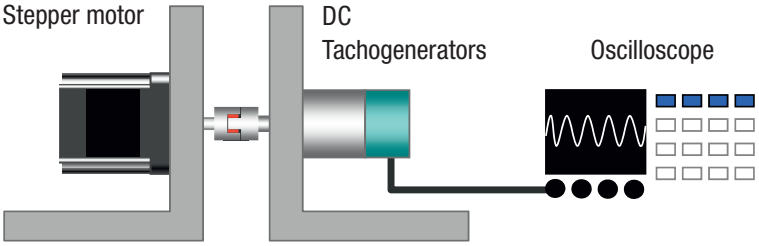
1. Stopping accuracy is improved

- The number of rotor teeth of a 0.9° stepper motor is double compared to a 1.8° stepper motor. Therefore, the displacement of the shaft when an external force is applied is smaller.



PKP Series High-Resolution Type

Features of Stepper Motors

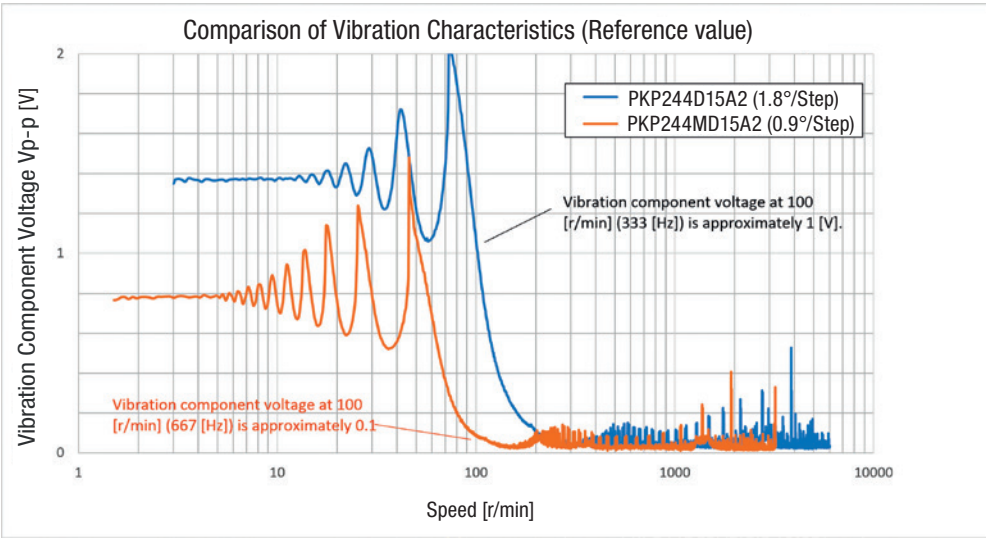


The vibration of a stepper motor at different speeds can be determined as speed fluctuations with the help of a tachogenerator.

Advantage

2. Vibration is reduced

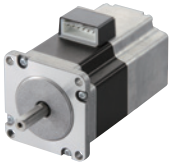
- Vibration characteristics are different between a 0.9° stepper motor and a 1.8° stepper motor. Even in the speed range where large vibration occurs with a 1.8° stepper motor, the vibration is much smaller with a 0.9° stepper motor. In this case, changing to a 0.9° stepper motor will reduce the vibration.



Line up

PKP Series High-Resolution Type

Various types of the **PKP** Series high-resolution type are available.

	Basic Step Angle	Frame size [mm]			
		42		56.4	
		Bipolar	Unipolar	Bipolar	Unipolar
	0.9˚	●	●	●	●
With encoder 		●	●	●	●
With electromagnetic brake 		●	●	●	●

Line up

CVD Series Stepper Motor Driver

The **CVD** Series is a compact line of stepper motor drivers capable of handling a wide variety of applications. When used with the **PKP** Series stepper motors, the **CVD** Series offers the lowest vibration and noise by advanced microstepping control and the high output torque will appropriately overcome any torque issues.

CVD Series Stepper Motor Driver

			Pulse Input Type	RS-485 Communication Type	**SC** Type (Speed Control)
Driver Type			 Right angle connector type	 Right angle connector type	 Right angle connector type
			 The connector points upward	 The connector points upward	 The connector points upward
Price Range			110.00 - 143.00 €	163.00 - 173.00 €	154.00 €
Combinable Stepper Motors			2-Phase/5-Phase	2-Phase/5-Phase	5-Phase
Parameter Setting		Setting Method	Set via Switch	RS-485 Communication, **MEXE02**	Set via Switch
		Pulse Input Mode	1 Pulse / 2 Pulses	–	–
		Smooth Drive	Set/Cancel	Set/Cancel	–
		Standstill Current	25% / 50%	0 to 50%	–
		Resolution	200 to 125,000 P/R	200 to 125,000 P/R	–
		Drive Current	25 to 100% (16 levels)	0 to 100%	70% / 100%
		Command Filter	ON/OFF	LPF (Velocity filter)/ Movement Average Filter	–
		Operating Data	–	256 Points	–
		Acceleration/ Deceleration Time	–	●	●
I/O Signal	IN	Excitation ON/OFF	●	●	●
		Step Angle Select	●	–	–
		Speed Select	–	●	●
		Forward Rotation/ Reverse Rotation	●	●	●
		Instantaneous Stop/ Deceleration Stop	–	●	●
	OUT	Alarm	●	●	●
		Timing	●	●	●
		MOVE	–	●	–

NewMotion

ORIGAMI SNAIL

Try it yourself!

You can find instructions in the following video:

ADDITIONAL INFORMATION

Do you need information about our products? Our latest flyers, brochures and catalogues can be downloaded from our website:

www.orientalmotor.eu/en/products

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Customer Service Center

00800 – 22 55 66 22
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Mon - Thu: 08:00 - 16:30 CET
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info@orientalmotor.de
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IMPRESSUM

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Oriental Motor (Europa) GmbH
Schiessstraße 44, 40549 Düsseldorf
Phone: 0211-5206700
www.orientalmotor.de
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Timo Krüssel, Mike Larsen, Andreas Rey, Arne Schipper
PROOF:
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The information in this brochure is presented as general information. For accurate technical specifications please contact the Oriental Motor (Europa) GmbH office.

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