

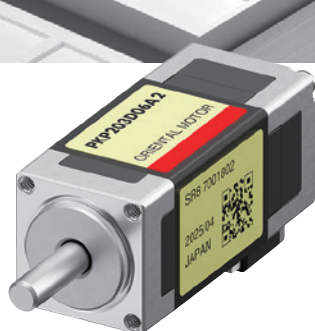
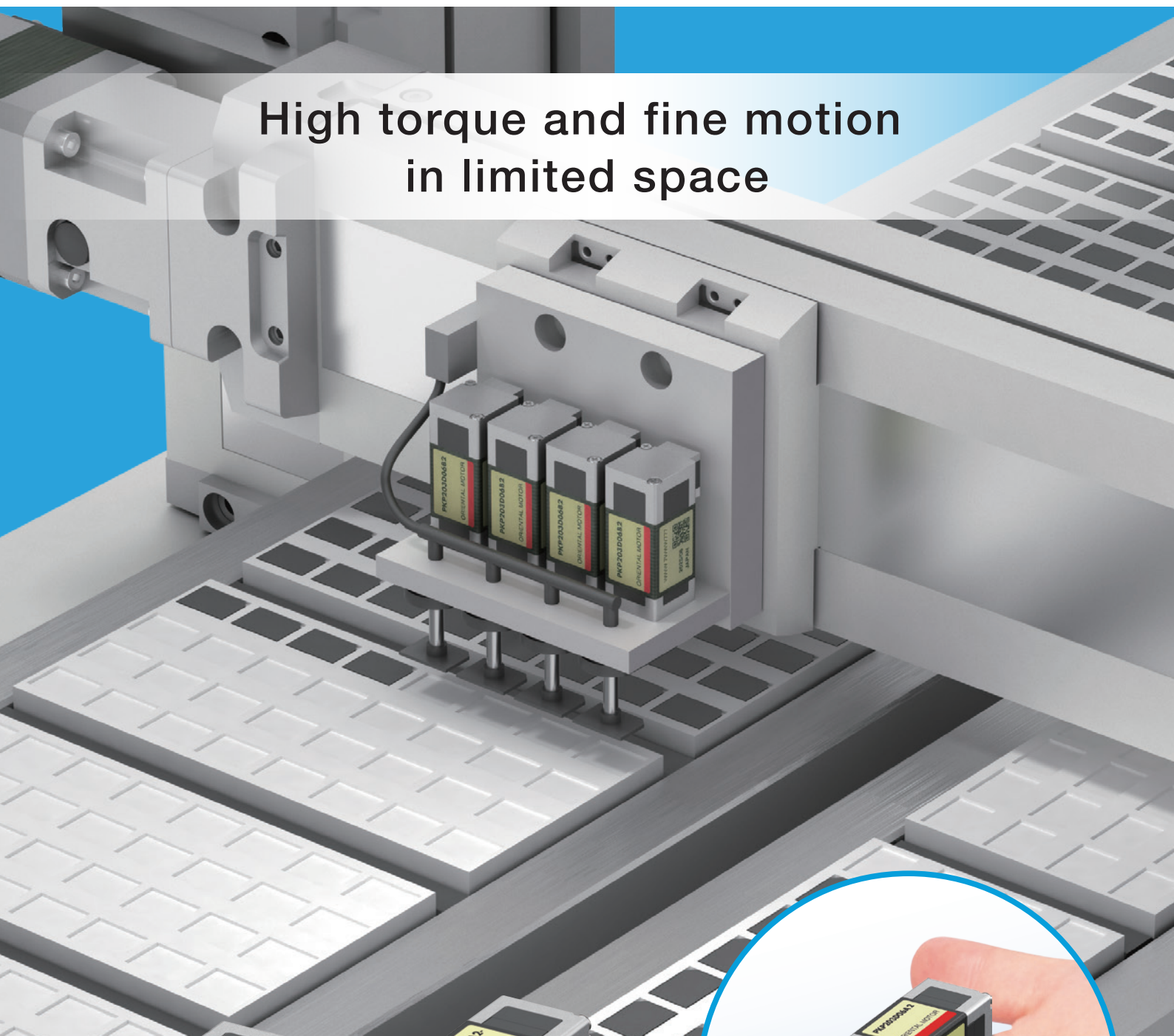
# Orientalmotor

2-Phase Stepper Motor

## PKP Series

Standard Type / Harmonic Geared Type  
Frame Size 13 mm

High torque and fine motion  
in limited space



Standard Type



**NEW** Harmonic Geared Type



Actual size

# Contributes to further miniaturisation and weight reduction of equipment

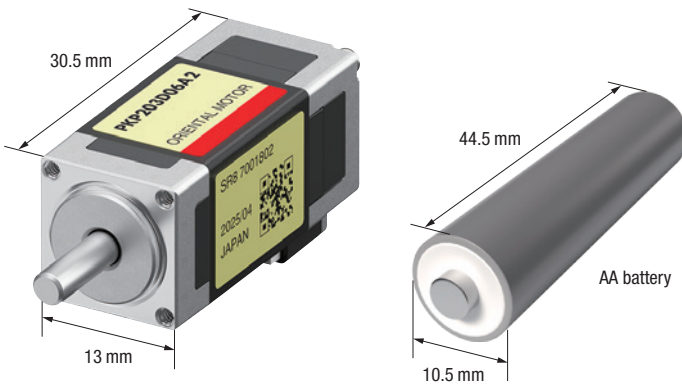
Standard Type

Frame Size  
13 mm – our  
smallest size!



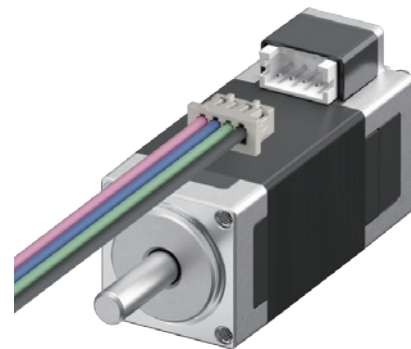
## Shorter than a AA battery and weighing just 21g

With a frame size of 13 mm, it contributes to further miniaturisation and weight reduction of equipment such as robot arm end effectors.



## Features a connector type for easy handling

This connector type facilitates tasks such as motor installation and cable routing. Connection cables are also available.



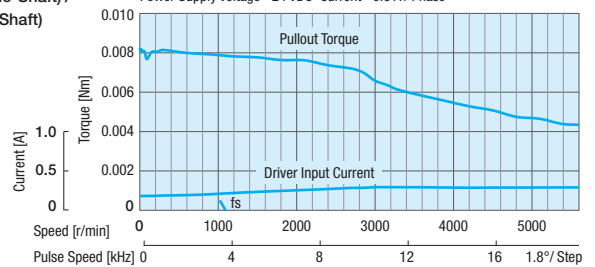
## Flat torque characteristic up to high speeds

Suitable for applications requiring long positioning distances, such as ball screw mechanisms, and high-speed motor operation.

### Speed - Torque Characteristic (Reference Values)

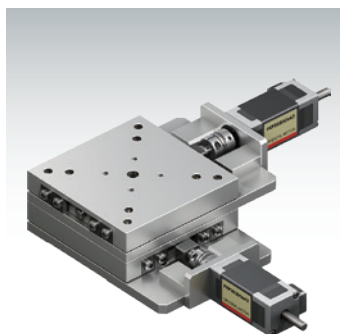
fs: Max. Starting Frequency  
Motor: **PKP203D06A2** (Single-Shaft) / **PKP203D06B2** Dual-Shaft)

Driver: **CVD206BR-K**  
Power Supply Voltage: 24 VDC Current: 0.6 A / Phase

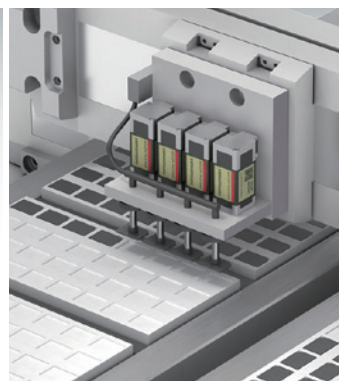


## Application Examples / Device Mechanism Examples

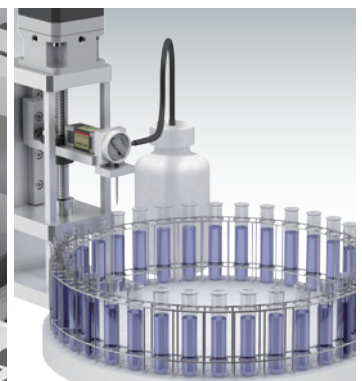
Suitable for applications requiring fine, high precision positioning, such as in the semiconductor and medical industries.



Precision Stage



SIM Transfer Process

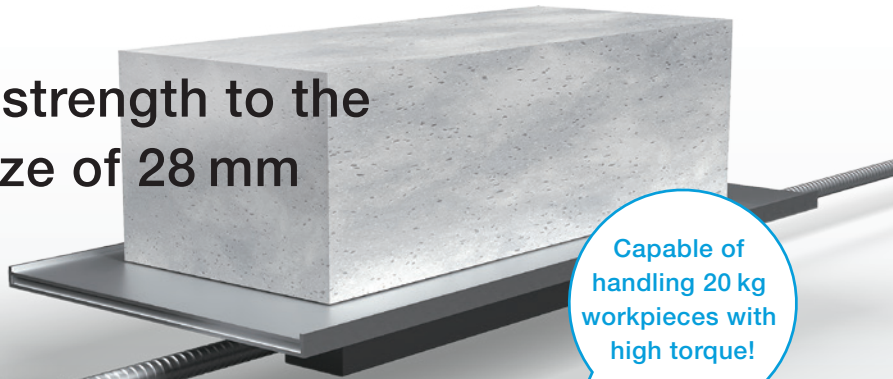
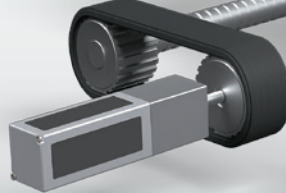


Benchtop automated culture apparatus

# Equivalent torque and strength to the standard type frame size of 28 mm

Harmonic Geared Type

NEW



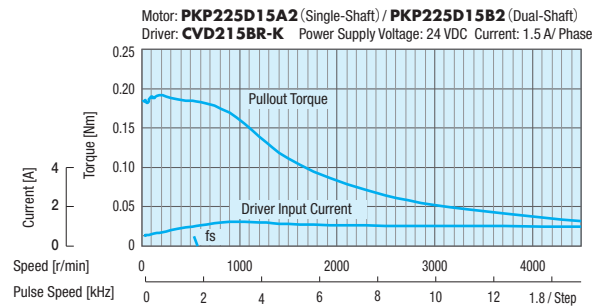
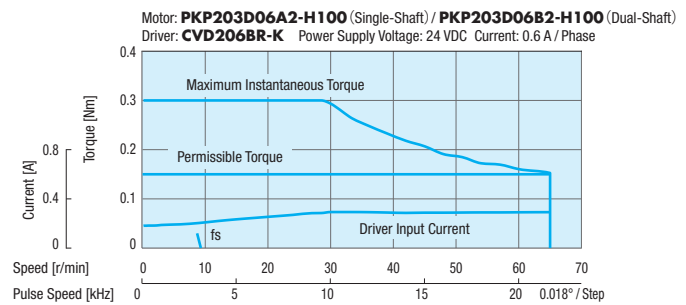
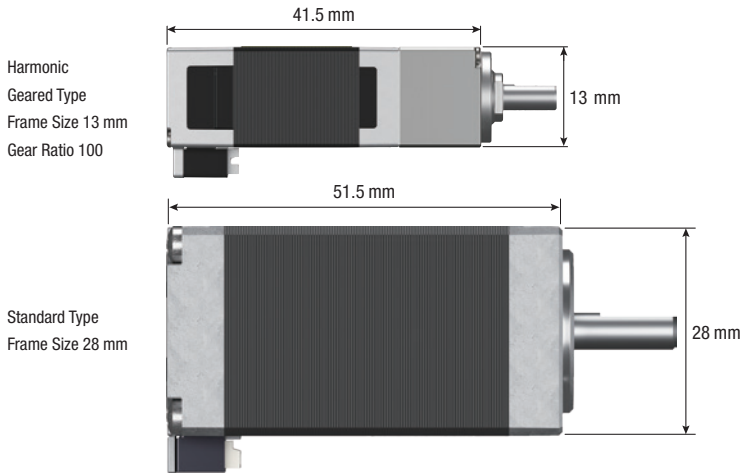
Capable of handling 20 kg workpieces with high torque!

Frame Size [mm]	Mass [g]	Gear Ratio	Maximum holding torque under excitation [Nm]	Radial Load [N]	Axial Load [N]
13	33	100	0.15	28	40
28	200	-	0.19	25	5

[Selection criteria] • Speed: 10 mm/s • Acceleration/Deceleration time: 0.1 s  
• Screw diameter: 8 mm • Lead: 10 mm

## Ideal for applications requiring high torque and space-saving design

The frame size for the harmonic geared type is 13 mm, the same as the standard type. This enables applications requiring high torque to be accommodated in a more space-saving manner than before.



## High precision

Non-backlash ensures the motor output shaft operates and stops with extremely high precision relative to the motor's commanded angle. Suitable for applications and mechanisms requiring precise stopping at exact volumes or positions, such as dispensing and transport in the medical industry.

- Lost Motion [arcmin]: 1.5 (0.025°) Below ( $\pm 2$  mNm)
- Angular transmission accuracy [arcmin]: < 10 (0.167°)

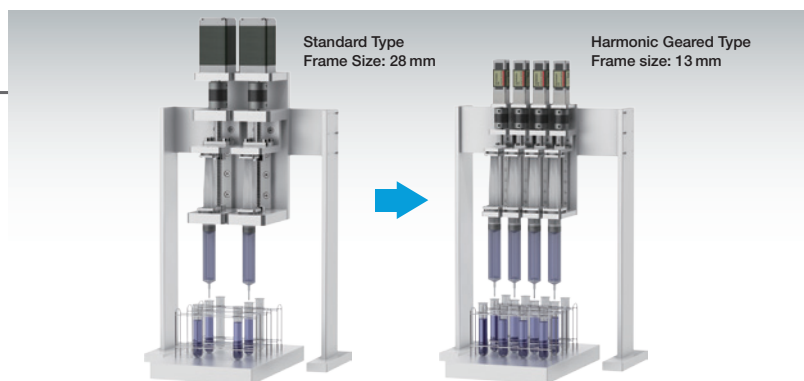
## High-inertia drive

Line-up includes gear ratios of 30, 50, and 100. The high gear ratio line-up enables driving of fine movements such as precision stages and large inertial bodies.

Gear Ratio	30	50	100
Basic step angle	0.06°	0.036°	0.018°

## Application Examples / Equipment Mechanism

Using the harmonic geared type allows two additional syringes to be installed within the same workspace, doubling processing capacity.

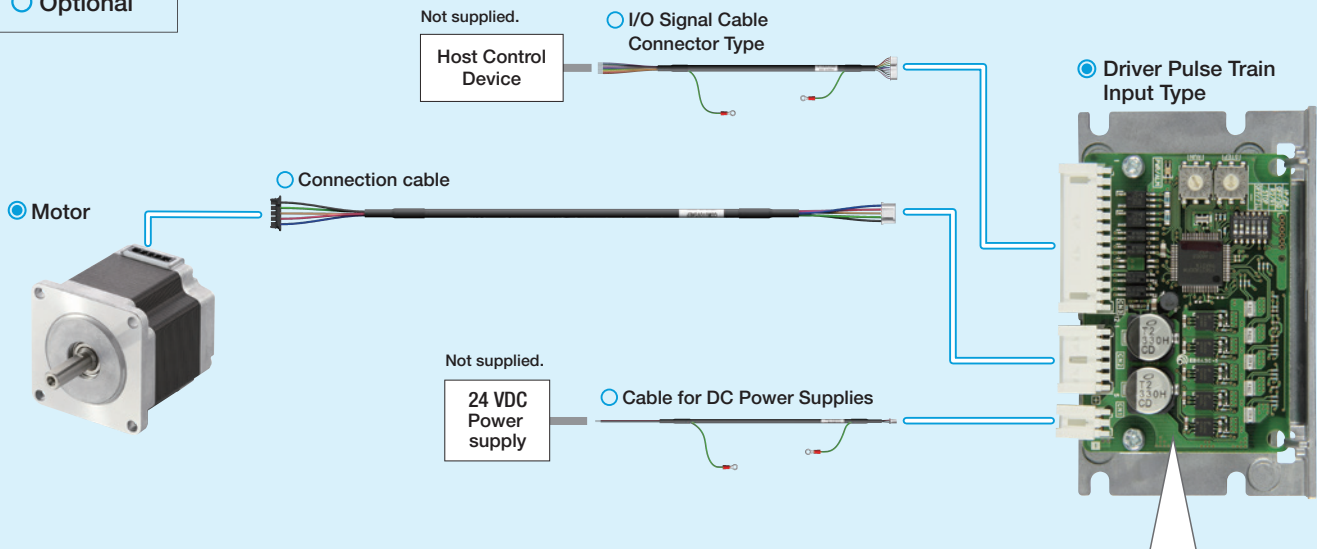


Bench-top dispenser

## For enhanced performance with a dedicated driver

We also offer dedicated drivers that maximise the motor's characteristics, such as high torque and low vibration.

- Required
- Optional



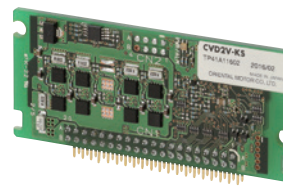
Pulse input type



With RS-485 Interface



S Type



Compact type for direct mounting on customer's board

Multi-Axis Driver With EtherCAT Interface



Combines communication and power cabling for four axes in a single driver

## Product Name

Motor Type	Product Name
Standard	<b>PKP203D06A2</b> (Single-Shaft)
	<b>PKP203D06B2</b> (Dual-Shaft)
With Harmonic Gearhead <b>NEW</b>	<b>PKP203D6A-H</b> <input type="checkbox"/> (Single-Shaft)
	<b>PKP203D6B-H</b> <input type="checkbox"/> (Single-Shaft)

● The box  in the product name indicates the reduction ratio: 30, 50, or 100.

**Orientalmotor**

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These products are manufactured at plants certified with the international standards ISO 9001 (for quality assurance) and ISO 14001 (for systems of environmental management).