



# Compact PPH, Integrated Z-Theta Picker Head Actuator

The PPH Integrated Z-Theta Motor is a high-performance motion solution launched by PBA Systems, featuring a compact 15mm body that integrates vertical (Z-axis) and rotary (theta) motion in a single unit.

It is designed to meet the demanding requirements of space-constrained, high-precision automation environments such as pick and place systems, semiconductor manufacturing, automated optical inspection (AOI), LED sorting, and PCB surface mount applications (SMT).

## ABOUT PBA



**PBA Systems** is an ISO certified company and a valued system partner. Our advanced High Precision Direct Drive Motor Technology and High Precision Stage Technologies are ideal for semiconductor advance packaging and other demanding automation manufacturing in the era of 5G & AI.  
**WHEN MOTION MAKES THE DIFFERENCE.**



**PBA Group** own proprietary robotic automation technologies for almost 40 years. Headquartered in Singapore, we have sales and advanced manufacturing centers in Taiwan, Japan, Korea, Malaysia, China, USA & Europe. We are capable of providing one stop fast delivery of COMPONENTS TO CUSTOMIZED MOTION SOLUTIONS with competitive cost efficiencies. Our recent merger of Korea PBA SOONHAN, brought over 30 years of high precision stage leader experience to enhance PBA's leading role and ability in providing customized advanced stage solutions.



## Compact High Speed Pick-and-Place Actuator with Flexible Configurations - One or 10+ motion pack solutions.

### Product Benefits

- Compact and easy to integrate with the standard configuration
- Scalable to add pick heads as production demands grow
- Advanced Force Control enables delicate handling and adaptive process control
- High accuracy and repeatability
- Low maintenance

### Product Features

- Compact & Slim 15mm body
- Integrated Z-theta Motion
- Embedded SinCos differential encoder
- Force-Controlled Soft Landing
- Vacuum suction
- Multiple pick heads can be configured as a single module

### Applications

- Z-theta axis Pnp, Alignment
- Force Control (PPH-ZR-15-15)
- Semiconductors Component pick and place
- Automated optical inspection (AOI)
- LED(Sorter)
- PCB(Surface Mount application)

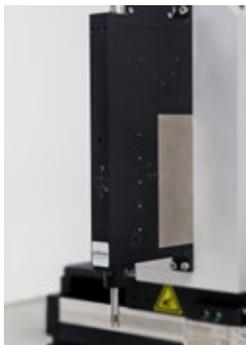
# Technical Specifications

Performance	Unit	PPH-Z-7.5-15	PPH-Z-09-25	PPH-ZR-15-15	PPH-ZR-15-25	PPH-ZR-15-50
		Z-Axis	Z-Axis	Z-Axis	Z-Axis	Z-Axis
Stroke	mm	15	25	15	25	50
Peak Force	N	6.6	3.2	14	15	14
Resolution	µm	0.1	0.1	0.1	0.1	0.1
Repeatability	µm	± 0.5	± 1.0	± 2.0	± 2.0	± 2.0
Force Control Resolution	gf	10	10	10	10	10
		Theta-Axis	Theta-Axis	Theta-Axis	Theta-Axis	Theta-Axis
Stroke	deg	NA	NA	360	360	360
Peak Torque (24Vdc)	mNm	NA	NA	47	47	47
Continuous Torque	mNm	NA	NA	15	15	15
Peak Current	Arms	NA	NA	2.0	2.0	2.0
Continuous Current	Arms	NA	NA	0.65	0.65	0.65
Resolution	CPR	NA	NA	180,000	180,000	180,000
Repeatability	deg	NA	NA	± 0.005	± 0.005	± 0.005
Max Acceleration	rev/s <sup>2</sup>	NA	NA	10,000	10,000	10,000
Max Velocity	RPM	NA	NA	3,000	3,000	3,000

\* MATCHED WITH ACS DRIVE AND CONTROL

## Powered By Micro Linear motor

Zero backlash: PBA Anti-cogging Technology for smooth operation with high speed and acceleration performance.



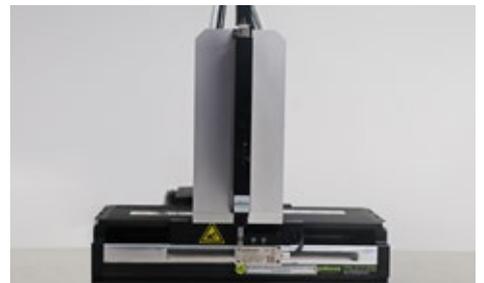
## Maximize throughput with force-controlled soft landing

Works well with major controller brands that enable soft landing at high speed.



## Flexible Configuration and Easy Integration

Offer flexible configurations: for limited production space use, or multiple pick and place requirements. PBA also offers different axis motion products for easy integration per customer requirements.



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For more product information, please visit :

<https://www.pbasystems.com.sg>

