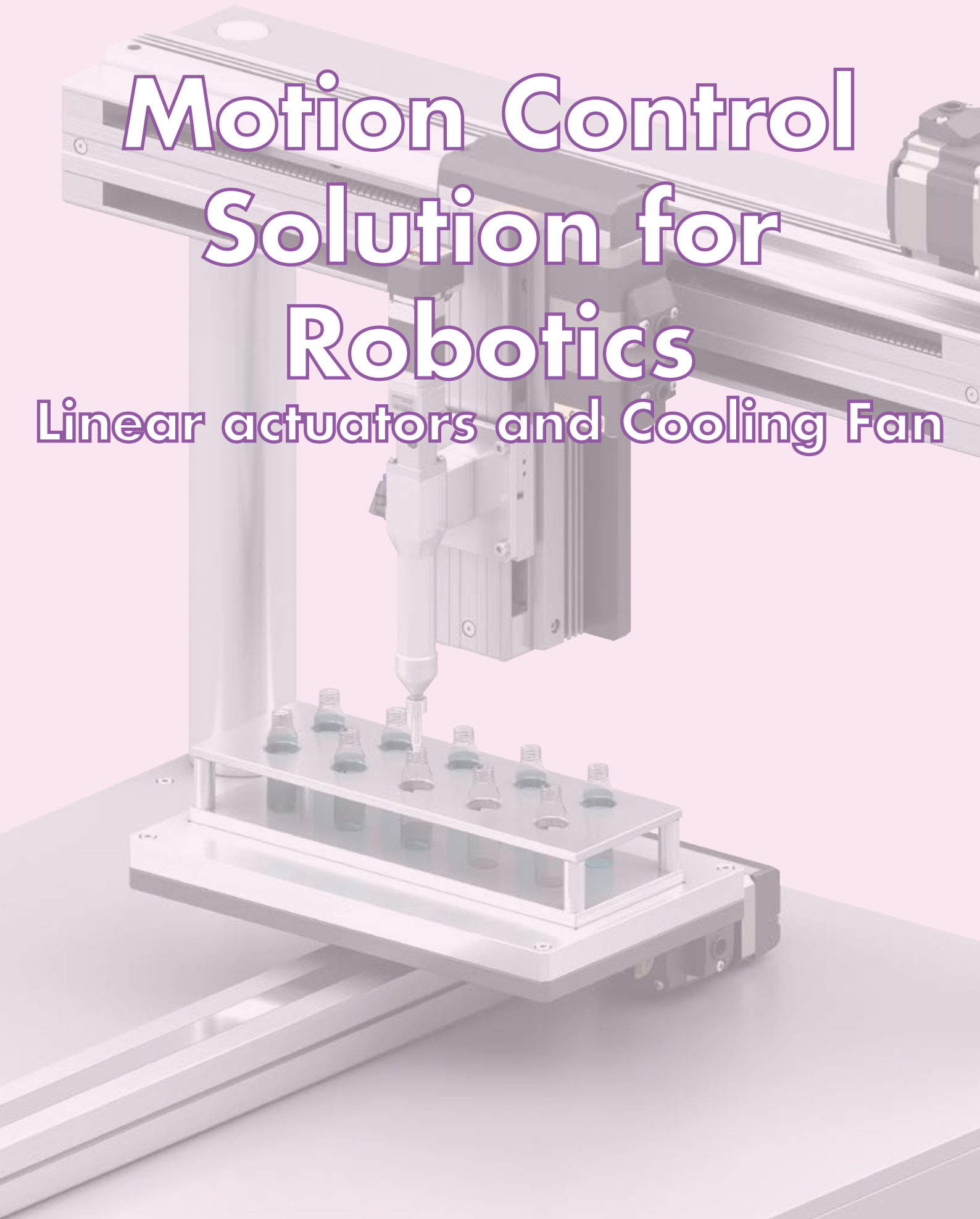


***Orientalmotor***

# Motion Control Solution for Robotics

Linear actuators and Cooling Fan



Application Example

Oriental motor In-house production example  
Work processing Equipment( Right angle robot / elevation swivel unit)



Cartesian robot (gantry unit)

Number of axes	3 axes		
	Axis 1 (x)	Axis 2 (y)	Axis 3 (z)
Stroke	250mm	100mm	50mm
Maximum Speed	340 mm/s	400 mm/s	85.7 mm/sec
Maximum Payload	1.5 KG		
Repeated Positioning Accuracy	± 0.02 mm		
Main Power Supply	Single-phase 100~230VAC		

Lifting and turning Unit

Number of axes	2 axes
Stroke	100 mm
Maximum payload of the workpiece	0.8 KG (max. 3 KG including mechanism)

Background of in-house production

- The vertical articulated robot can handle a variety of workpieces, but the robot is more **expensive** than expected and **it seems that it will take time to adjust the startup**
- In this work process, it is sufficient to handle several types of work that have been decided in advance, so an articulated robot is **over-engineering**.
- **Space is limited** to incorporate into the line. Articulated robots and SCARA robots cannot handle it.

System Configuration

Programmable Logic Controller (PLC)

Axis 1 Electric Actuator **EZS** Series **EZSM4RD025AZAK**

Axis 2 Electric Actuator **EZS** Series **EZSM3RD010AZAK**

Axis 3 Electric Actuator **EZS** Series **EZSM3LD005AZMK**

Axis 4 Electric Actuator **EZS** Series **EZSM3D010AZMK**

Axis 5  $\alpha$ STEP **AZ** Series **AZM66AK**

EtherCAT, EtherNet/IP, MECHATROLINK, SSCNET III/H

Scan / Click

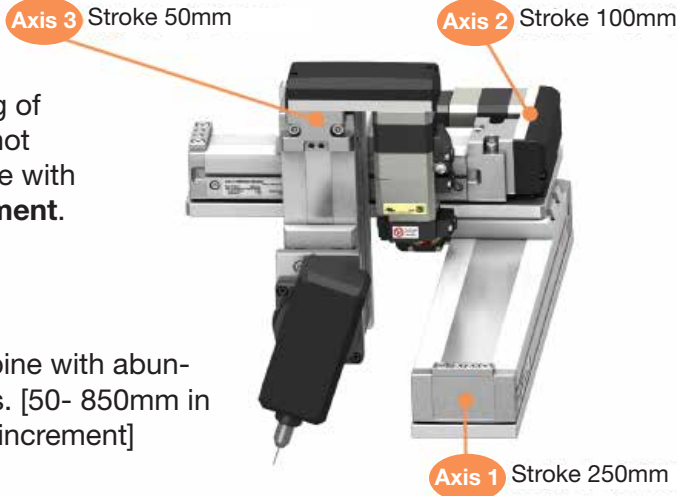
# Configuration of each axis

## Axis 1, 2, 3

Electric slide **EZS** Series  
Cartesian Robot (Gantry unit)

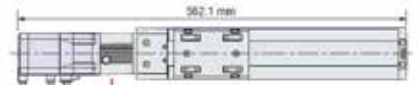
- Achieves space saving of equipment that does not require a support guide with a **high allowable moment**.

- Freely combine with abundant strokes. [50- 850mm in unit 50 mm increment]

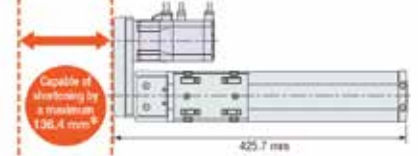


- **The entire equipment is compact with right angle motor mounting.**

### Standard Type



### Side-Mounted Type



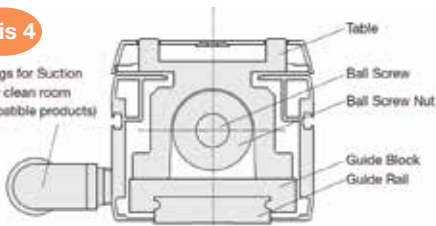
※For electromagnetic brake

## Axis 4, 5

$\alpha$ STEP **AZ** Series  
Swing & Lifting Axis

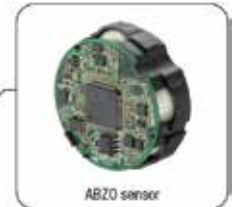
### Axis 4

Fittings for Suction  
(Only clean room compatible products)



### Axis 5

**Battery-less**  
Multi-rotation  
Absolute Sensor  
Installed



- **It can be used for various workpieces up to 30 Kg** even when transported in the vertical direction  
The EZS series uses THK's LM Guide \* 2 with a ball retainer as the guide.

- **Easy to start up** with Battery-less absolute sensor without tuning. [No Hunting effect]

## Drivers

### Comparison of the number of cables <4 axes>



Main power cable: 4  
Communication cable: 4  
Motor cable: 8  
Total cables: 16



Main power cable: 1  
Control power cable: 1  
Communication cable: 1  
Motor cable: 4  
Total cables: 7

EtherCAT



- Supports various shapes with linear interpolation and arc interpolation
- Up to 4 axes can be connected, contributing to wiring saving in the control panel



# $\alpha$ STEP AZ Series List of Product



## Thermal Management



- Today's comfortable life and society is supported by advanced control systems, which may present many heat sources.
- To operate these devices without disruption 24 hours a day, 365 days a year, the devices require appropriate heat designs and heat measures.
- Oriental Motor offers a wide range of heat measure products centered on cooling fans to meet these requirements. Click or Scan on this QR Code to explore the range of products we offer, from axial, centrifugal blowers and cross-flow fans.



### **ORIENTAL MOTOR ASIA PACIFIC PTE. LTD.**

2 Kakit Bukit Ave 1 #05-06  
Singapore 417938  
TEL: +65-6745-7344 FAX: +65-6745-9405  
<http://www.orientalmotor.com.sg/>

### **ORIENTAL MOTOR (THAILAND) CO., LTD.**

**Headquarters & Bangkok Office**  
63 Athenee Tower, 6th Floor Unit 603, Wireless Rd,  
Lumpini, Pathumwan, Bangkok 10330, Thailand  
TEL: +66-2-251-1871 FAX: +66-2-251-1872  
<http://www.orientalmotor.com.th/>

### **ORIENTAL MOTOR (INDIA) PVT. LTD.**

No.810, 8th Floor, Prestige Meridian-1 No.29,  
M.G.Road, Bangalore, 560001, India  
TEL: +91-80-41125586 FAX: +91-80-41125588  
<http://www.orientalmotor.co.in/>

### **ORIENTAL MOTOR (MALAYSIA) SDN. BHD.**

**Headquarters & Kuala Lumpur Office**  
A-13-1, North Point Offices, Mid Valley City,  
No.1 Medan Syed Putra Utara 59200  
Kuala Lumpur, Malaysia  
TEL: +60-3-22875778 FAX: +60-3-22875528  
<http://www.orientalmotor.com.my>

#### **Penang Office**

1-4-14 Krystal Point II, Lebu Bukit Kecil 6, Bayan Lepas,  
11900 Penang, Malaysia  
TEL: +60-4-6423788 FAX: +60-4-6425788  
<http://www.orientalmotor.com.my>