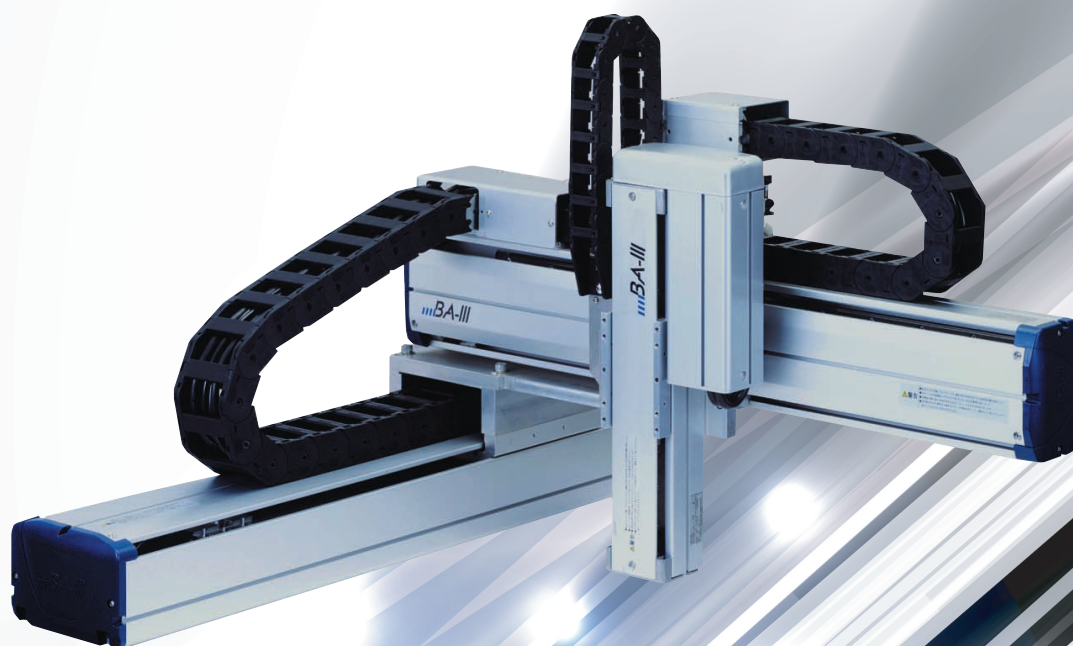


Shibaura Machine

**COMPO ARM**  
ARM ROBOT

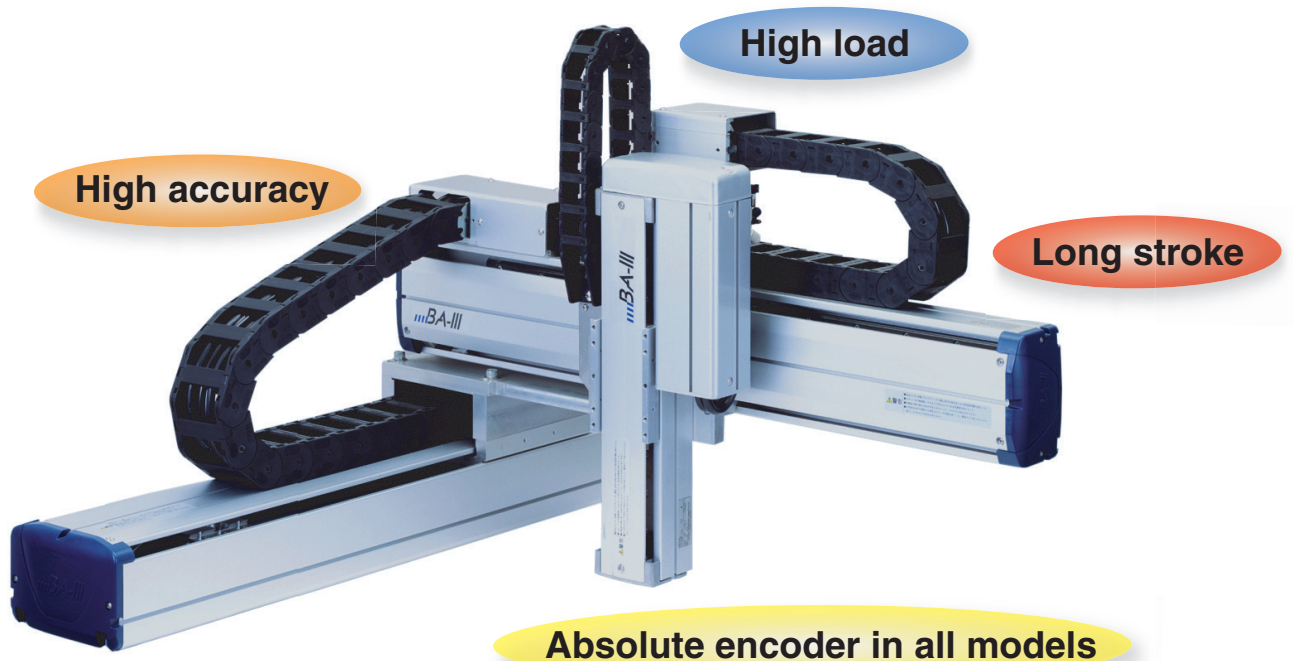
**BA-III** SERIES



# COMPO ARM

The Cartesian Coordinate Robot "COMPO ARM" was first released in 1986 featuring "High Reliability" and "User Friendliness". Since its introduction, it has been selected by many customers for a variety of production lines.

Our new product, the BA-III series, inherits the features of the BA-II series with improved functionality especially in "User Friendliness". It offers a wide variety of models ranging from single axis to Cartesian combination axes (2 to 4 axes).



**High cycle time**

<Maximum loading mass> Single axis: Horizontal 250 kg, X-Y two-axis combination: 100 kg

<Maximum stroke> Maximum stroke: 4450 mm

<Maximum speed> Ball screw driven: 2300 mm/s, timing belt driven: 2000 mm/s

<Positioning repeatability> Ball screw driven: 0.01 mm, timing belt driven: 0.04 mm

Equipped with an AC servo motor (absolute encoder) not requiring home position return

***The BA-III series  
pursues usability***

- With the adoption of oil-free seals in the LM guides and the ball screws, the BA-III series does not require maintenance for an extended period of time.
- Equipped with a compact AC servo motor, the total axial length has been shortened.
- Models with longer effective strokes have been added to expand the operating ranges of the robots.



## Controllers

Improved functionalities from the BA-II series controllers

- The adoption of high performance servo control engines has made complex sealing work possible.
- With the lineup of controllers dedicated to high load (supporting 750 W motor capacity), the cost reduction of high load models has been achieved.
- A high functional master unit required for three/four axis combinations is no longer necessary, achieving cost reduction and space saving (the maximum number of controlled axes is 4).
- The processing speeds of the controllers have improved, making it possible to further reduce the cycle time.
- “External Point Specification Mode” is enhanced. Point table number can be output after positioning is completed.

\*“External Point Specification Mode” refers to the operating mode for performing positioning with output signals from a PLC or other device without using instructions.

### Master Units

- A servo amp for one axis is built in. The master unit is used for single axis to four axis specifications.
- Multi power supplies (100 to 115VAC, 200 to 230VAC) are adopted.  
\*400W and 750W motors require 200V power supply.

CA25-M □ 0- □ □ C

Motor Capacity

1 : 50 to 200 W  
4 : 400 W  
8 : 750 W

I/O Type Selection

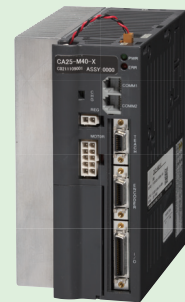
N : NPN input/output  
P : PNP input/output

Extension Interface Unit

X : None  
C : CC-Link Unit  
D : DeviceNet Unit  
I : EtherNet/IP Unit  
B : Extension Input/Output Unit  
(Input and output are common between NPN and PNP)



CA25-M10



CA25-M40  
CA25-M80

### Slave Units

- A servo amp for one axis is built in. The slave unit is used for second axis to fourth axis.
- Multi power supplies (100 to 115VAC, 200 to 230VAC) are adopted.  
\*400W and 750W require 200V power supply.

CA25-S □ 0- □ XX

Motor Capacity

1 : 50 to 200 W  
4 : 400 W  
8 : 750 W

I/O Type Selection

N : NPN input/output  
P : PNP input/output



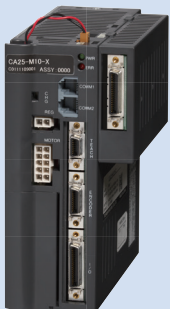
CA25-S10



CA25-S40  
CA25-S80

### Other Optional Units

With extension I/F Unit



Regenerative Discharge Unit



Teach Pendant



With extension I/O Unit    With CC-Link Unit

\*DeviceNet Unit and EtherNet/IP Unit also available

ABSU-2000  
ABSU-4000

ABSU-8000

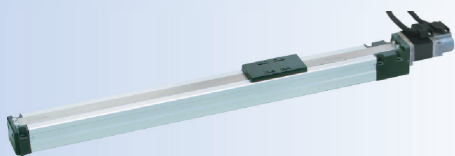
TPH-4C

# COMPO ARM

## Product Lineup

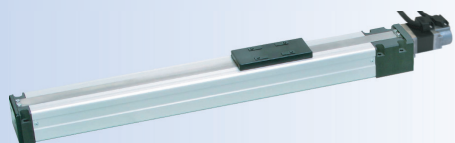
### Light-Load Use

◆ Maximum Payload 4 kg  30 kg



#### BA3-T5D (Ball-Screw Driven)

- Motor Power (W) ..... 50
- Stroke (mm) ..... 50~500
- Maximum payload (kg) [Note 1]·· 5~10 (Horizontal), 1.5~3 (Vertical)
- Maximum speed (mm/s) [Note 2]·· 800 (stroke 450 mm or smaller, Lead: 12 mm)
- Positioning repeatability (mm)·· ±0.02



#### BA3-T7D (Ball-Screw Driven)

- Motor Power (W) ..... 50
- Stroke (mm) ..... 50~700
- Maximum payload (kg) [Note 1]·· 12~30 (Horizontal), 4~8 (Vertical)
- Maximum speed (mm/s) [Note 2]·· 800 (stroke 550 mm or smaller, Lead: 12 mm)
- Positioning repeatability (mm)·· ±0.02



#### BA3-T3D (Ball-Screw Driven) Push-rod Type

- Motor Power (W) ..... 50
- Stroke (mm) ..... 50~150
- Maximum payload (kg)·· 4 (Horizontal), 1.9 (Vertical)
- Maximum speed (mm/s) ..... 600
- Positioning repeatability (mm)·· ±0.02



#### BA3-T4D (Ball-Screw Driven) Push-rod Type

- Motor Power (W) ..... 50
- Stroke (mm) ..... 50~200
- Maximum payload (kg)·· 7 (Horizontal), 3.1 (Vertical)
- Maximum speed (mm/s) ..... 600
- Positioning repeatability (mm)·· ±0.02



#### BA3-T5E (Ball-Screw Driven) Push-rod Type

- Motor Power (W) ..... 100
- Stroke (mm) ..... 50~300
- Maximum payload (kg)·· 25 (Horizontal), 6.5 (Vertical)
- Maximum speed (mm/s) [Note 2]·· 600 (stroke 250 mm or smaller)
- Positioning repeatability (mm)·· ±0.02



#### BA3-00D-RH (Harmonic Drive)

- Motor Power (W) ..... 50
- Maximum payload (kg) ..... 10
- Rotation range ..... 360 degrees
- Maximum speed (degrees/s) ..... 360
- Positioning repeatability (degrees)·· ±0.025

#### BA3-00D-RP (Planet Gear)

- Motor Power (W) ..... 50
- Maximum payload (kg)·· 10
- Rotation range ..... 360 degrees
- Maximum speed (degrees/s) ..... 857
- Positioning repeatability (degrees)·· ±0.125

Note 1: The load mass varies with the lead pitch and the motor capacity.  
Note 2: The speed varies with the lead pitch and the stroke.



# Middle-Load Use

◆ Maximum Payload 15 kg  80 kg



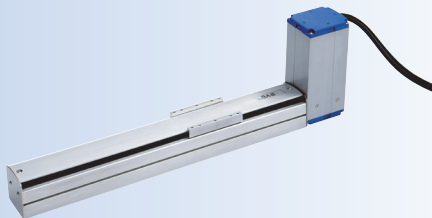
## BA3-10 (Ball-screw Driving)

- Motor Power (W) ..... 100
- Stroke (mm) ..... 100~1250
- Maximum payload (kg) [Note 1] ··· 20~80 (Horizontal), 3~22 (Vertical)
- Maximum speed (mm/s) [Note 2] ··· 1200 (stroke 600 mm or smaller, Lead: 20 mm)
- Positioning repeatability (mm) ··· ±0.01



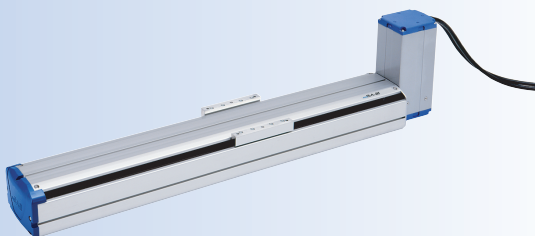
## BA3-30 (Ball-screw Driving)

- Motor Power (W) ..... 100, 200
- Stroke (mm) ..... 100~1250
- Maximum payload (kg) [Note 1] ··· 30~100 (Horizontal), 3~40 (Vertical)
- Maximum speed (mm/s) [Note 2] ··· 1200 (stroke 600 mm or smaller, Lead: 20 mm)
- Positioning repeatability (mm) ··· ±0.01



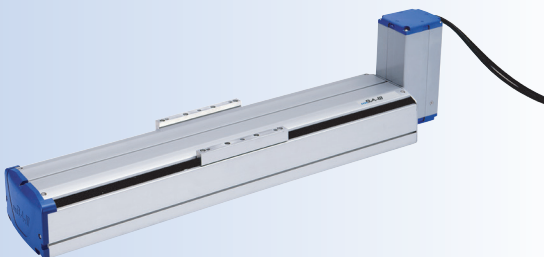
## BA3-10 (Timing Belt Driven)

- Motor Power (W) ..... 100, 200
- Stroke (mm) ..... 100~2550
- Maximum payload (kg) [Note 1] ··· 15~20 (Horizontal)
- Maximum speed (mm/s) [Note 2] ··· 2000 (lead 42 mm)
- Positioning repeatability (mm) ··· ±0.04



## BA3-30 (Timing Belt Driven)

- Motor Power (W) ..... 100, 200
- Stroke (mm) ..... 100~3200
- Maximum payload (kg) [Note 1] ··· 20~40 (Horizontal)
- Maximum speed (mm/s) [Note 2] ··· 2000 (lead 42 mm)
- Positioning repeatability (mm) ··· ±0.04



## BA3-50 (Timing Belt Driven)

- Motor Power (W) ..... 200, 400
- Stroke (mm) ..... 200~3500
- Maximum payload (kg) [Note 1] ··· 20~40 (Horizontal)
- Maximum speed (mm/s) [Note 2] ··· 2000 (lead 42 mm)
- Positioning repeatability (mm) ··· ±0.04

Note 1: The load mass varies with the lead pitch and the motor capacity.  
 Note 2: The speed varies with the lead pitch and the stroke.

# Heavy-Load Use

◆ Maximum Payload 60 kg  250 kg



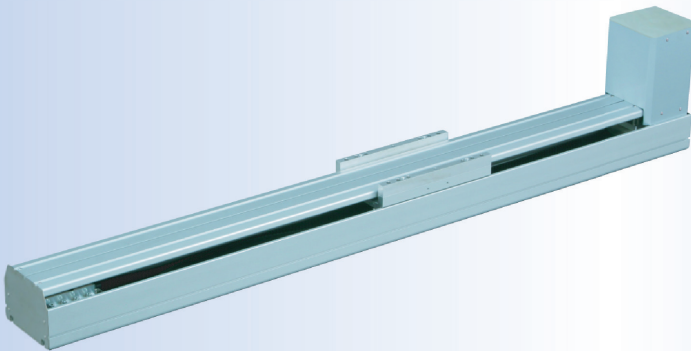
## BA3-50 (Ball-screw Driven)

- Motor Power (W) ······ 200, 400
- Stroke (mm) ······ 200~1600
- Maximum payload (kg) [Note 1] ··· 60~150 (Horizontal), 3~60 (Vertical)
- Maximum speed (mm/s) [Note 2] ··· 1200 (stroke 600 mm or smaller, Lead: 20 mm)
- Positioning repeatability (mm) ··· ±0.01



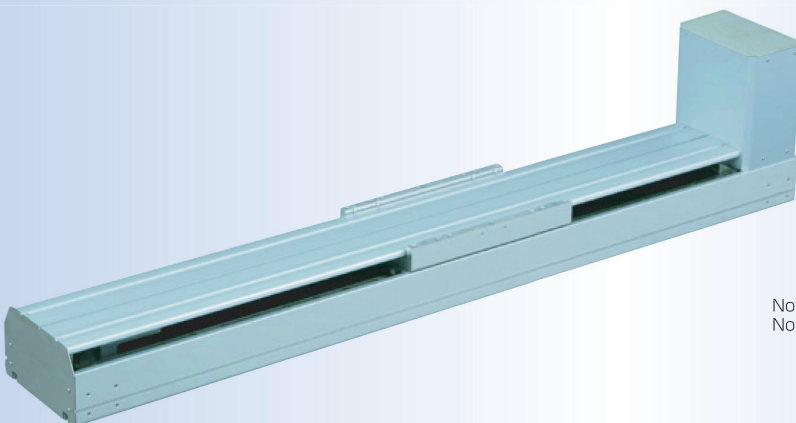
## BA3-60 (Ball Screw Driving)

- Motor Power (W) ······ 400, 750
- Stroke (mm) ······ 150~1700
- Maximum payload (kg) [Note 1] ··· 25~250 (Horizontal), 25~100 (Vertical)
- Maximum speed (mm/s) [Note 2] ··· 1200  
(stroke 700 mm or smaller, Lead 20 mm 400 W)  
2300  
(stroke 1000 mm or smaller, Lead 50 mm 750 W)
- Positioning repeatability (mm) ··· ±0.01



## BA3-50 (Timing Belt Driven)

- Motor Power (W) ······ 400
- Stroke (mm) ······ 150~4450
- Maximum payload (kg) ······ 100 (Horizontal)
- Maximum speed (mm/s) ······ 1000
- Positioning repeatability (mm) ··· ±0.05



## BA3-60 (Timing Belt Driven)

- Motor Power (W) ······ 750
- Stroke (mm) ······ 150~4450
- Maximum payload (kg) ······ 200 (Horizontal)
- Maximum speed (mm/s) ······ 1000
- Positioning repeatability (mm) ··· ±0.05

Note 1: The load mass varies with the lead pitch and the motor capacity.  
Note 2: The speed varies with the lead pitch and the stroke.

## Typical Examples of Cartesian Axes Specifications

\*A variety of other combinations are possible.

■ 2-axis X-Y combination



■ 2-axis X-Z combination



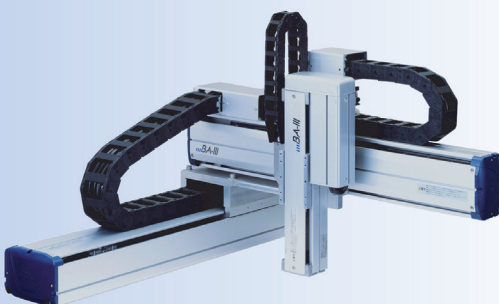
■ 2-axis Z-Y combination



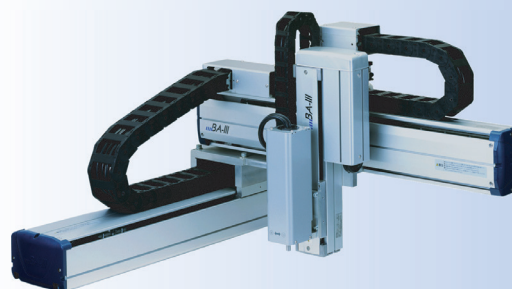
■ 2-axis Y-Z combination



■ 3-axis X-Y-Z combination



■ 4-axis X-Y-Z-R combination





## SHIBAURA MACHINE CO., LTD.

### **TM ROBOTICS [AMERICAS] INC.**

755 Greenleaf Avenue, Elk Grove Village, IL 60007, U.S.A.  
TEL:[1]-847-709-7308 Mail:info@tmrobotics.com

### **TM ROBOTICS [EUROPE] LTD.**

Unit 2, Bridge Gate Centre, Martinfield,  
Welwyn Garden City, Herts AL7 1JG, UK  
TEL:[44]-(0)1707-290370 Mail:nigel@tmrobotics.co.uk

URL : [www.shibaura-machine.co.jp/en/](http://www.shibaura-machine.co.jp/en/)  
[www.tmrobotics.co.uk](http://www.tmrobotics.co.uk)  
[www.tmrobotics.com](http://www.tmrobotics.com)



Caution

Before operating the industrial robot, read through and completely understand the instruction manuals.

- The contents included in this catalog are subject to change without prior notice to reflect improvements.