

# Robo Cylinder Belt Type **RCP2-BA6/BA7**

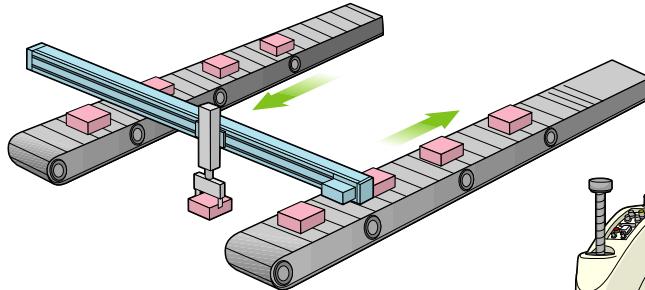
*Introducing a low-cost, belt-type Robo Cylinder capable of operating at a maximum speed of 1,500 mm/sec. The RCP2-BA6/BA7 is ideal for high-speed transfer of light loads.*



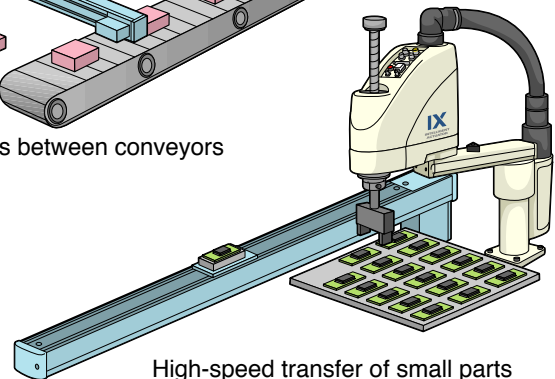
## Features

- The belt drive allows for high-speed transfer at speeds up to 1,500 mm/sec even when the stroke is long, which means the RCP2-BA6/BA7 effectively reduces the cycle time of your operation.
- The motor can be installed on top or bottom, thus giving you greater design freedom.
- The RCP2-BA6/BA7 can be used with either an absolute encoder or incremental encoder.

## Examples of Use



Transfer of products between conveyors



High-speed transfer of small parts

## Model

### Actuator model

**RCP2 - BA6 - A - PM - 54 - 1000 - P1 - M - NM**

Series  
RCP2

Encoder type  
A: Absolute  
I: Incremental

Lead  
Equivalent to lead 54

Applicable controller  
P1: RCP2-C□  
□: RCP2-CG

Options  
NM: Reversed-home specification

Type

Motor

Stroke (mm)

Cable length

BA6: Slider width 58mm (motor on top)  
BA6U: Slider width 58mm (motor underneath)  
BA7: Slider width 68mm (motor on top)  
BA7U: Slider width 68mm (motor underneath)

PM: Pulse motor

500 ~ 1000 (BA6)  
600 ~ 1200 (BA7)

N: No cable  
S: 3m  
M: 5m  
X□□: Specify the desired length  
R□□: Robot cable

### Controller model

**RCP2 - C - BA6 - A - PM - 0 - P**

Series  
RCP2

Type  
C: Internal drive-power cutoff relay type  
CG: External drive-power cutoff relay type

Actuator type  
Enter the (type of the actuator) - (encoder type) - (motor type)

I/O signal specification  
(Blank): NPN  
P□ : PNP

\* This field may be left blank unless you require the PNP specification.

Power supply voltage  
0: DC24V

# RCP2-BA6

Robo Cylinder Slider-Belt Type, Slider Width 58mm, Pulse Motor, Motor on Top

# RCP2-BA6U

Robo Cylinder Slider-Belt Type, Slider Width 58mm, Pulse Motor, Motor Underneath

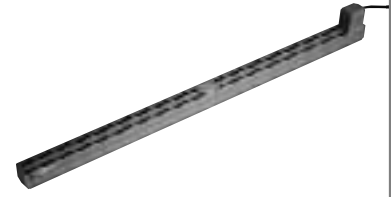
Type / Slider (58mm wide)

Stroke / 500 ~ 1000mm

Load capacity / 4 kg (horizontal)

Model Specification Items Series Type Encoder type Motor output Lead Stroke Applicable controller Cable length Option

(Example) : RCP2 - BA6 - A - PM - 54 - 2 - P1 - 3 - 4



## Models/Specifications

\* The maximum speed of the RCP2 series will vary according to the weight of the load installed on the slider (or rod). Refer to the diagram on the back cover for the relationship of speed and load capacity.

Model	Encoder type	Motor type	Lead (mm)	Stroke (50mm increments) (mm)	Speed (mm/s)	Load capacity (kg) (Note 1)		Motor position
						Horizontal (kg)	Vertical (kg)	
RCP2-BA6- <b>1</b> -PM-54- <b>2</b> -P1- <b>3</b> - <b>4</b>	A: Absolute	Pulse motor	Equivalent to 54	500 ~ 1000	100 ~ 1000	4 ~ 2	—	Top
RCP2-BA6U- <b>1</b> -PM-54- <b>2</b> -P1- <b>3</b> - <b>4</b>	I: Incremental						—	Underneath

\* In the above model names, **1** indicates the encoder type, **2** the stroke, **3** the cable length, and **4** the applicable options.

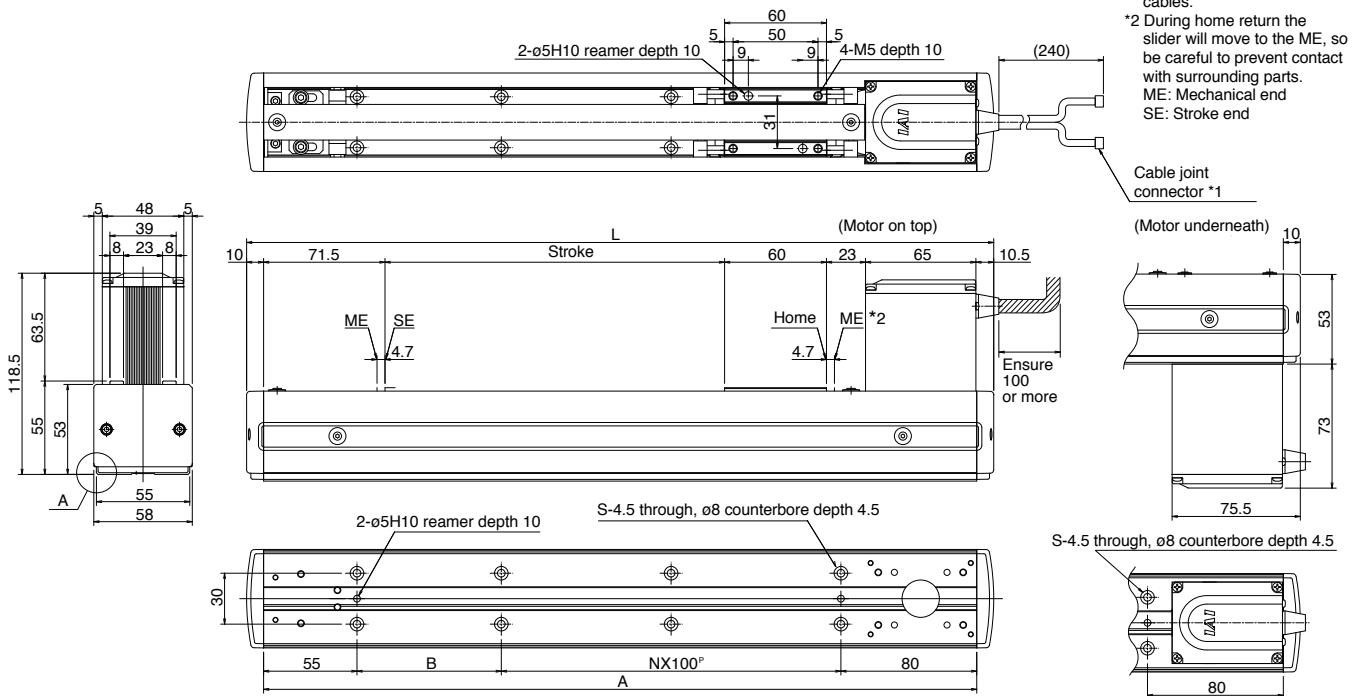
## Option

Name	Type	Reference Page
Reversed-home specification	NM	—

## Common Specifications

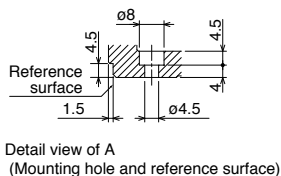
Drive method	Timing belt
Positioning repeatability	±0.1mm
Backlash	0.1mm or less
Guide	Integrated with base
Allowable load moment (Note 2)	Ma: 8.9N · m Mb: 12.7N · m Mc: 18.6N · m
Overhung load length	Ma, Mb, Mc: 150mm or less
Base	Material: Aluminum with white alumite treatment
Cable length (Note 3)	N: No cable, S: 3m, M: 5m, X□□: Specified length R□□: Robot cable
Operating temperature, humidity	0 ~ 40°C, 85%RH or below (non-condensing)

## Dimensions



## Dimensions and Weight by Stroke

Stroke	500	550	600	650	700	750	800	850	900	950	1000
L	740	790	840	890	940	990	1040	1090	1140	1190	1240
A	720	770	820	870	920	970	1020	1070	1120	1170	1220
B	85	35	85	35	85	35	85	35	85	35	85
N	5	6	6	7	7	8	8	9	9	10	10
S	14	16	16	18	18	20	20	22	22	24	24
Weight(kg)	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4.1



## Applicable Controller Specifications

Applicable controller	Maximum number of controlled axes	Compatible encoder type	Operating method	Power supply voltage
RCP2-C	1 axis	Absolute/incremental	Positioner	DC24V
RCP2-CG	1 axis			



(Note 1) Based on an acceleration of 0.5 G. Due to the structure of the product, vertical transfer applications are not supported.

(Note 2) Based on a traveling life of 5,000 km.

(Note 3) The maximum cable length is 15 m for the absolute type and 20 m for the incremental type. Specify the desired length in meters (ex. X08 = 8 m).

# RCP2-BA7

Robo Cylinder Slider-Belt Type, Slider Width 68mm, Pulse Motor, Motor on Top

# RCP2-BA7U

Robo Cylinder Slider-Belt Type, Slider Width 68mm, Pulse Motor, Motor Underneath

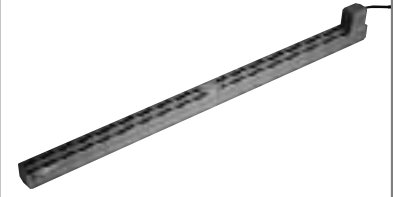
Type / Slider (68mm wide)

Stroke / 600 ~ 1200mm

Load capacity / 8 kg (horizontal)

Model Specification Items Series Type Encoder type Motor output Lead Stroke Applicable controller Cable length Option

(Example) : RCP2 - BA7 - A - PM - 54 - 2 - P1 - 3 - 4



## Models/Specifications

\* The maximum speed of the RCP2 series will vary according to the weight of the load installed on the slider (or rod). Refer to the diagram on the back cover for the relationship of speed and load capacity.

Model	Encoder type	Motor type	Lead (mm)	Stroke (50mm increments) (mm)	Speed (mm/s)	Load capacity (kg) (Note 1)		Motor position
						Horizontal (kg)	Vertical (kg)	
RCP2-BA7-1-PM-54-2-P1-3-4	A: Absolute	Pulse motor	Equivalent to 54	600 ~ 1200	100 ~ 1500	8 ~ 2	—	Top
RCP2-BA7U-1-PM-54-2-P1-3-4	I: Incremental						—	Underneath

\* In the above model names, 1 indicates the encoder type, 2 the stroke, 3 the cable length, and 4 the applicable options.

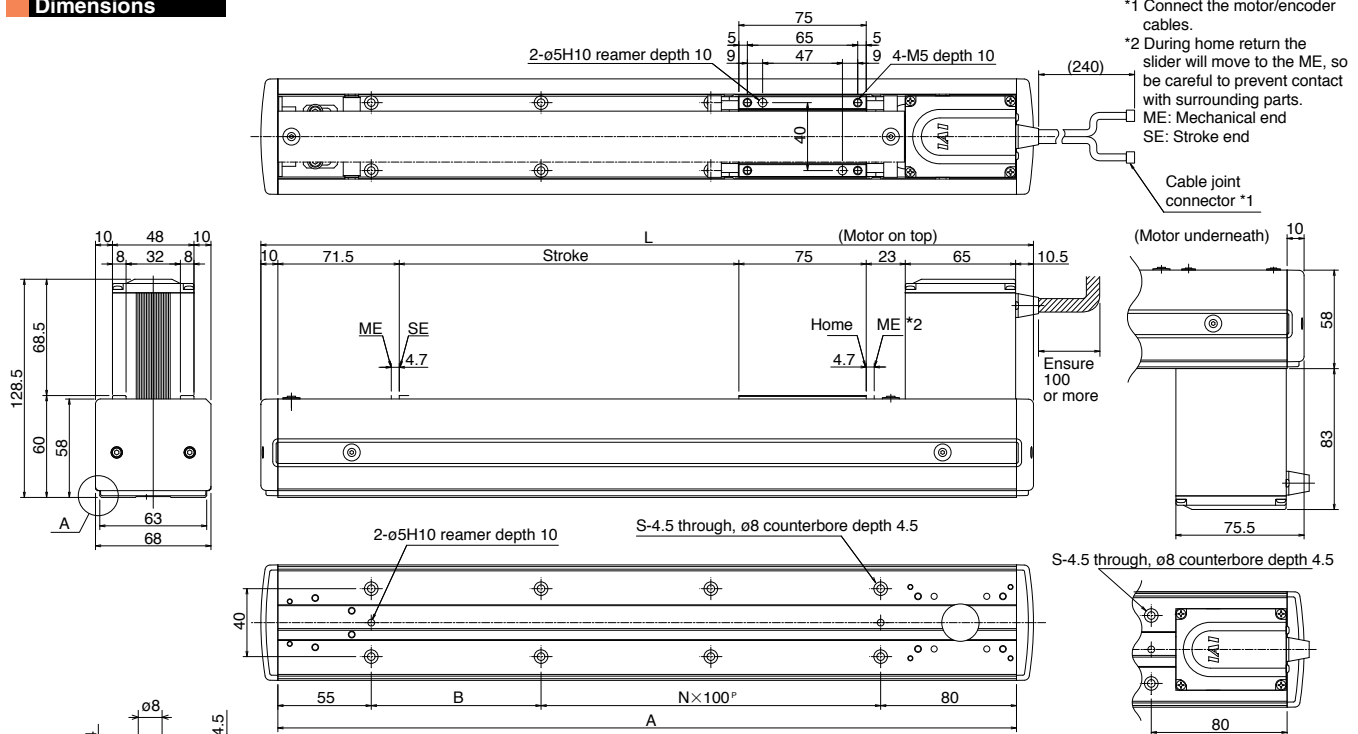
## Option

Name	Type	Reference Page
Reversed-home specification	NM	—

## Common Specifications

Drive method	Timing belt
Positioning repeatability	±0.1mm
Backlash	0.1mm or less
Guide	Integrated with base
Allowable load moment (Note 2)	Ma: 13.8N · m Mb: 19.7N · m Mc: 29.0N · m
Overhung load length	Ma, Mb, Mc: 150mm or less
Base	Material: Aluminum with white alumite treatment
Cable length (Note 3)	N: No cable, S: 3m, M: 5m, X□□: Specified length R□□: Robot cable
Operating temperature, humidity	0 ~ 40°C, 85%RH or below (non-condensing)

## Dimensions



## Dimensions and Weight by Stroke

Stroke	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455
A	835	885	935	985	1035	1085	1135	1185	1235	1285	1335	1385	1435
B	100	50	100	50	100	50	100	50	100	50	100	50	100
N	6	7	7	8	8	9	9	10	10	11	11	12	12
S	16	18	18	20	20	22	22	24	24	26	26	28	28
Weight(kg)	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3

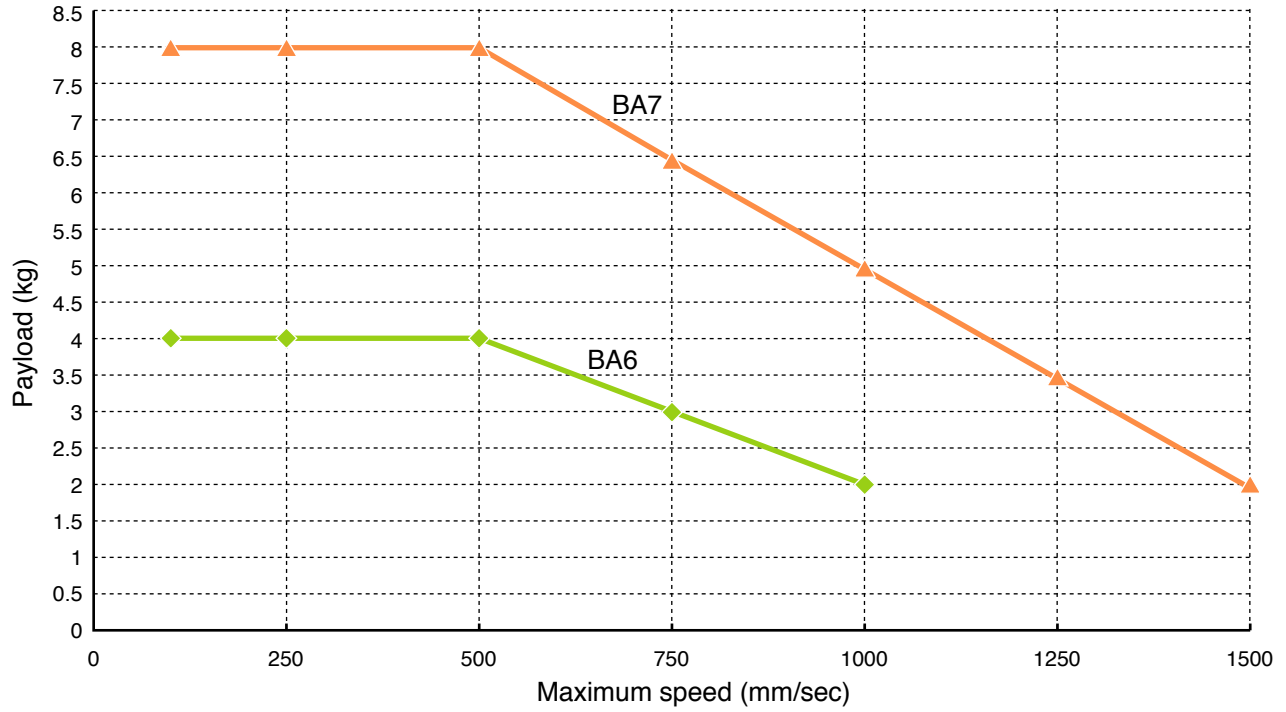
## Applicable Controller Specifications

Applicable controller	Maximum number of controlled axes	Compatible encoder type	Operating method	Power-supply voltage
RCP2-C	1 axis	Absolute/incremental	Positioner	DC24V
RCP2-CG	1 axis			



(Note 1) Based on an acceleration of 0.5 G. Due to the structure of the product, vertical transfer applications are not supported.  
(Note 2) Based on a traveling life of 5,000 km.  
(Note 3) The maximum cable length is 15 m for the absolute type and 20 m for the incremental type. Specify the desired length in meters (ex. X08 = 8 m).

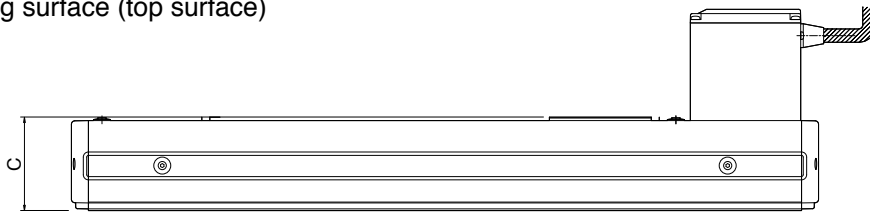
**Correlation Diagram of Speed and Load Capacity**



**Actuator Accuracy**

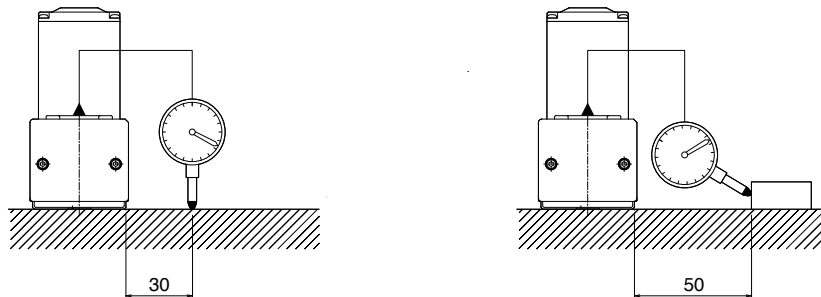
Parallelism C of actuator mounting surface (bottom surface of the base) and load mounting surface (top surface)

±0.1 mm or less/m



Parallelism in the case of frame installation (When fixed on a smooth surface\*1)

±0.1 mm or less/m



\*1 Flatness 0.05 mm or less

The above values were measured at 20°C