

# RCA-RA4R

ROBO Cylinder Rod Type ø37mm Diameter 24V Servo Motor Side-Mounted Motor

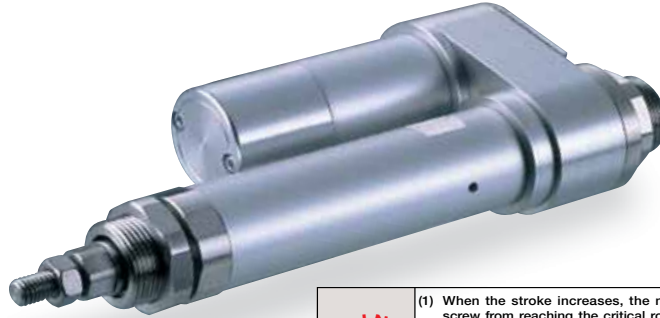
■ Configuration: **RCA** — **RA4R** —  —  —  —  —  —  —  —

Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

I : Incremental    20 : 20W Servo Motor    12 : 12mm    50 : 50mm    A1 : ACON    N : None    See Options below  
 A : Absolute    30 : 30W Servo Motor    6 : 6mm    300 : 300mm (50mm pitch increments)    ASEL    P : 1m    S : 3m    M : 5m    X  : Custom    R  : Robot cable  
 A3 : AMEC    ASEP

\* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.  
 \* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT**  
Notes on Selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model). This is the upper limit of the acceleration.
  - (3) The values for the horizontal load capacity assume the use of an external guide, so that there is no external force from any direction other than the forward/backward direction of the rod.

## Actuator Specifications

### ■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RA4R-①-20-12-②-③-④-⑤	20	12	3.0	1.0	18.9	50~300 (50mm increments)
RCA-RA4R-①-20-6-②-③-④-⑤		6	6.0	2.0	37.7	
RCA-RA4R-①-20-3-②-③-④-⑤		3	12.0	4.0	75.4	
RCA-RA4R-①-30-12-②-③-④-⑤	30	12	4.0	1.5	28.3	
RCA-RA4R-①-30-6-②-③-④-⑤		6	9.0	3.0	56.6	
RCA-RA4R-①-30-3-②-③-④-⑤		3	18.0	6.5	113.1	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

### ■ Stroke and Maximum Speed

Stroke / Lead	50 ~ 300 (50mm increments)	
	Stroke	50 ~ 300 (50mm increments)
12	600	
6	300	
3	150	

(Unit: mm/s)

### Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder			
	Incremental		Absolute	
	Motor Output (W)		Motor Output (W)	
	20W	30W	20W	30W
50	-	-	-	-
100	-	-	-	-
150	-	-	-	-
200	-	-	-	-
250	-	-	-	-
300	-	-	-	-

### ④ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	R11 (11m) ~ R15 (15m)	-
	R16 (16m) ~ R20 (20m)	-

\* See page A-39 for cables for maintenance.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Clevis Bracket	QR	→ A-34	-
Back-mounting plate	RP	→ A-35	-
Trunnion bracket (front)	TRF	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

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RCA-RA4R

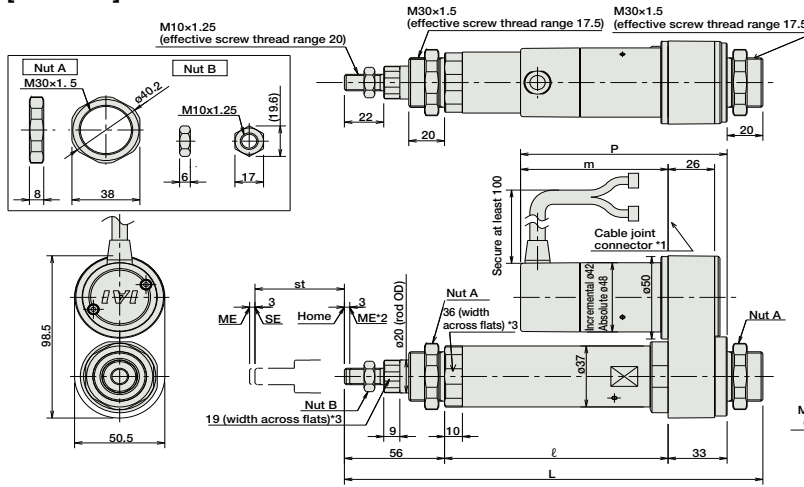
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCDN
- ACON
- SDON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

Dimensions

For Special Order P. A-9

- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3. The orientation of the bolt will vary depending on the product.

[No Brake]

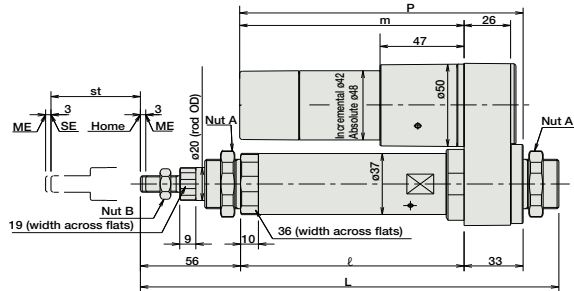


■ Dimensions/Weight by Stroke

RCA-RA4R (without brake)

Stroke		50	100	150	200	250	300	
L	20W	Increm. 234	284	334	384	434	484	
		Absol. 234	284	334	384	434	484	
m	20W	Increm.					67.5	
		Absol.					80.5	
P	20W	Increm.					100.5	
		Absol.					113.5	
Weight (kg)		1.2	1.4	1.5	1.7	1.8	2.0	

[Brake-Equipped]



RCA-RA4R (with brake)

Stroke		50	100	150	200	250	300	
L	20W	Increm. 234	284	334	384	434	484	
		Absol. 234	284	334	384	434	484	
m	20W	Increm.					110.5	
		Absol.					123.5	
P	20W	Increm.					143.5	
		Absol.					156.5	
Weight (kg)		1.4	1.6	1.7	1.9	2.0	2.2	

③ Compatible Controllers

The RCA series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
Solenoid Valve Type		AMEC-C-20I-2 NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		AMEC-C-30I-2 NP-2-1						
Splash-Proof Solenoid Valve Type		ASEP-C-20I-2 NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.	3 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P487
		ASEP-C-30I-2 NP-2-0						
Positioner Type		ACON-C-20I-2 NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
		ACON-C-30I-2 NP-2-0						
Safety-Compliant Positioner Type		ACON-CG-20I-2 NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-2 NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	30W 1.3A rated 4.4A peak	-	→ P503
		ACON-PL-30I-2 NP-2-0						
Pulse Train Input Type (Open Collector)		ACON-PO-20I-2 NP-2-0	Pulse train input type with open collector support	64 points	DC24V	30W 1.3A rated 4.4A peak	-	→ P503
		ACON-PO-30I-2 NP-2-0						
Serial Communication Type		ACON-SE-20I-2 N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-202	Dedicated to field network	768 points			-	→ P567
		RACON-302						
Program Control Type		ASEL-C-1-20-3I-2 NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points			-	→ P567
		ASEL-C-1-30-3I-2 NP-2-0						

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "LA" if the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
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- ERC2
- PCON
- ACON
- SCON
- PSEL
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