

RCA-RA4R

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

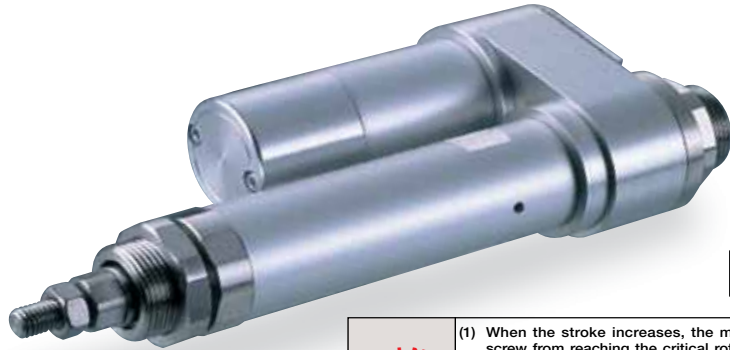
■ Configuration: **RCA** — **RA4R** — [] — [] — [] — [] — [] — [] — []

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

I : Incremental Motor 20 : 20W Servo Motor 12 : 12mm 50 : 50mm A1 : ACON N : None
 A : Absolute Motor 30 : 30W Servo Motor 6 : 6mm RACON P : 1m
 3 : 3mm ASEL S : 3m
 * The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental. 300 : 300mm (50mm pitch increments) A3 : AMEC M : 5m
 X [] : Custom
 R [] : Robot cable

* See page Pre-35 for an explanation of the naming convention. See Options below

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	Maximum Speed
12	600	
6	300	
3	150	

(Unit: mm/s)

Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder			
	Incremental Motor Output (W)		Absolute 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)	-
Robot Cable	R01 (1m) ~ R03 (3m)	-
	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)

Dimensions

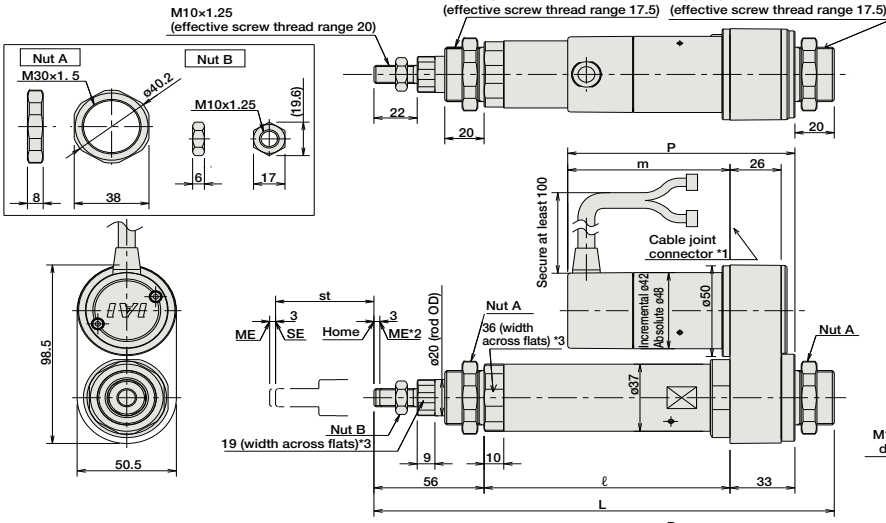
CAD drawings can be downloaded from IAI website. www.intelligentactuator.com



- *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.

For Special Order P. A-9

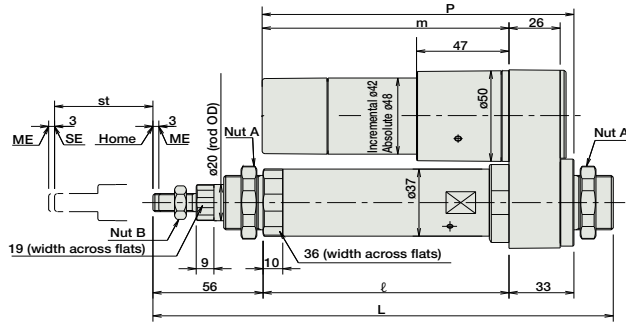
[No Brake]



Dimensions/Weight by Stroke
RCA-RA4R (without brake)

Stroke	Stroke						
	50	100	150	200	250	300	
L	20W Incr.	234	284	334	384	434	484
	20W Absol.	234	284	334	384	434	484
L	30W Incr.	234	284	334	384	434	484
	30W Absol.	234	284	334	384	434	484
ℓ		125	175	225	275	325	375
m	20W Incr.						67.5
	20W Absol.						80.5
m	30W Incr.						82.5
	30W Absol.						95.5
P	20W Incr.						100.5
	20W Absol.						113.5
P	30W Incr.						115.5
	30W Absol.						128.5
Weight (kg)		1.2	1.4	1.5	1.7	1.8	2.0

[Brake-Equipped]



RCA-RA4R (with brake)

Stroke	Stroke						
	50	100	150	200	250	300	
L	20W Incr.	234	284	334	384	434	484
	20W Absol.	234	284	334	384	434	484
L	30W Incr.	234	284	334	384	434	484
	30W Absol.	234	284	334	384	434	484
ℓ		125	175	225	275	325	375
m	20W Incr.						110.5
	20W Absol.						123.5
m	30W Incr.						125.5
	30W Absol.						138.5
P	20W Incr.						143.5
	20W Absol.						156.5
P	30W Incr.						158.5
	30W Absol.						171.5
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 AMEC-C-30I-② NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20I-② NP-2-0 ASEP-C-30I-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.					
Splash-Proof Solenoid Valve Type		ASEP-CW-20I-② NP-2-0 ASEP-CW-30I-② NP-2-0						→ P487
Positioner Type		ACON-C-20I-② NP-2-0 ACON-C-30I-② NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I-② NP-2-0 ACON-CG-30I-② NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-② NP-2-0 ACON-PL-30I-② NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	30W 1.3A rated 4.4A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I-② NP-2-0 ACON-PO-30I-② NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I-② N-0-0 ACON-SE-30I-② N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20② RACON-30②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20-①② NP-2-0 ASEL-C-1-30-①② NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				

* 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
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor