RCA-RA4C ROBO Cylinder Rod Type ø37mm Diameter 24V Servo Motor Coupled

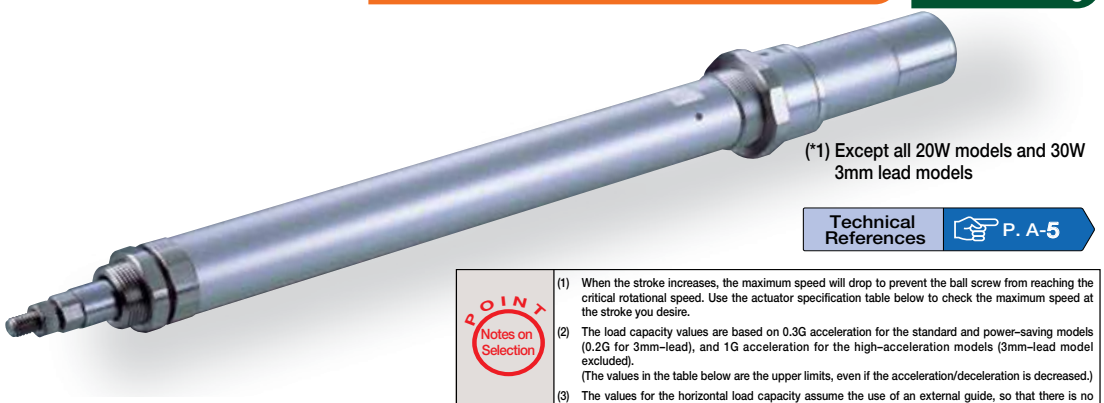
■ Configuration: RCA – RA4C – [Encoder] – [Motor] – [Lead] – [Stroke] – [Compatible Controllers] – [Cable Length] – [Option]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	RA4C	I : Incremental A : Absolute	20 : 20W Servo Motor 30 : 30W Servo Motor	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm \ 300 : 300mm (50mm pitch increments)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X□□ : Custom R□□ : Robot cable	See Options below

* 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.

For High Acceleration/Deceleration **Power-saving**



(*1) Except all 20W models and 30W 3mm lead models

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 values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 3mm-lead), and 1G acceleration for the high-acceleration models (3mm-lead model excluded).
(The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)

(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 Horizontal (kg)	Max. Load Capacity Vertical (kg)	Rated Thrust (N)	Stroke (mm)
RCA-RA4C-①-20-12-②-③-④-⑤	20	12	3.0	1.0	18.9	50～300 (50mm increments)
RCA-RA4C-①-20-6-②-③-④-⑤		6	6.0	2.0	37.7	
RCA-RA4C-①-20-3-②-③-④-⑤		3	12.0	4.0	75.4	
RCA-RA4C-①-30-12-②-③-④-⑤	30	12	4.0	1.5	28.3	
RCA-RA4C-①-30-6-②-③-④-⑤		6	9.0	3.0	56.6	
RCA-RA4C-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

Lead \ 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 Motor Output (W) 20W	Incremental 30W	Absolute Motor Output (W) 20W	Absolute 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	–
High-acceleration/deceleration (*1)	HA	→ A-32	–
Home sensor (*2)	HS	→ A-32	–
Power-saving (*3)	LA	→ A-32	–
Knuckle joint	NJ	→ A-34	–
Reversed-home	NM	→ A-33	–
Trunnion bracket (front)	TRF	→ A-38	–
Trunnion bracket (back)	TRR	→ A-38	–

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)

(*1) The high-acceleration/deceleration option is not available for all 20W models and 30W model with 3mm lead.
(*2) The home sensor (HS) cannot be used on the reversed-home models.
(*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

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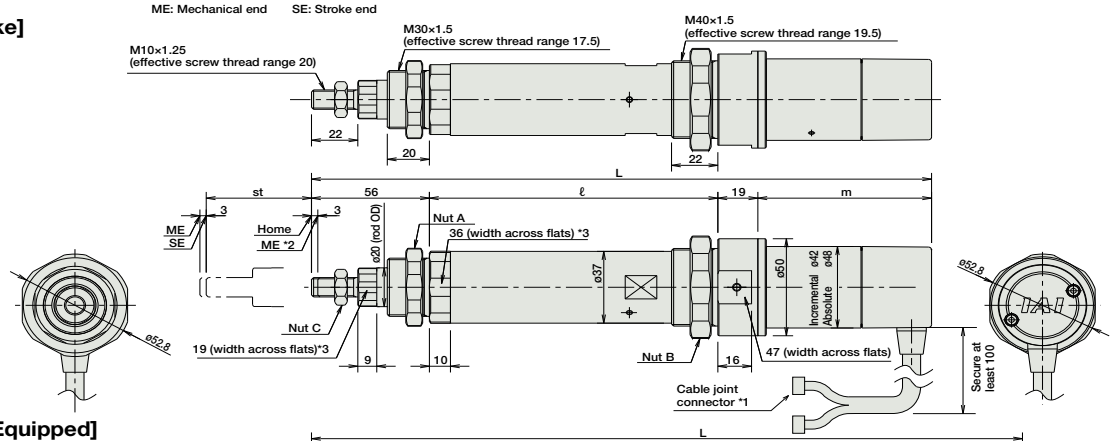
Dimensions

For Special Order P. A-9

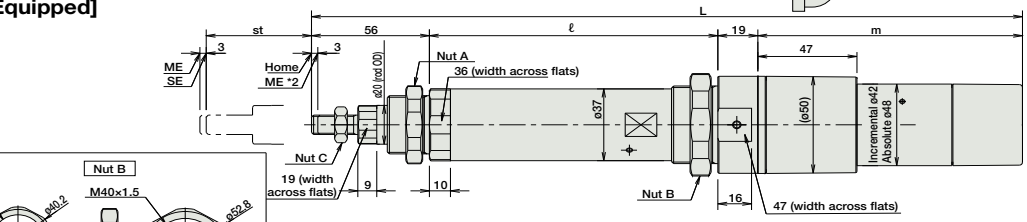
*1 A motor–encoder cable is connected here. See page A–39 for details on cables.
*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end SE: Stroke end

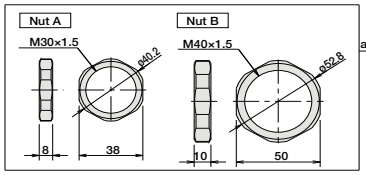
*3. The orientation of the bolt will vary depending on the product.

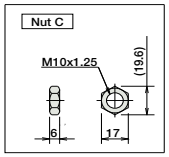
[No Brake]



[Brake-Equipped]







■ Dimensions/Weight by Stroke

RCA–RA4C (without brake)

Stroke			50	100	150	200	250	300
L	20W	Increm.	279.5	329.5	379.5	429.5	479.5	529.5
		Absol.	292.5	342.5	392.5	442.5	492.5	542.5
	30W	Increm.	294.5	344.5	394.5	444.5	494.5	544.5
		Absol.	307.5	357.5	407.5	457.5	507.5	557.5
ℓ			137	187	237	287	337	387
m	20W	Increm.	67.5					
		Absol.	80.5					
	30W	Increm.	82.5					
		Absol.	95.5					
Weight (kg)			1.1	1.2	1.4	1.5	1.7	1.8

RCA–RA4C (with brake)

Stroke			50	100	150	200	250	300
L	20W	Increm.	322.5	372.5	422.5	472.5	522.5	572.5
		Absol.	335.5	385.5	435.5	485.5	535.5	585.5
	30W	Increm.	337.5	387.5	437.5	487.5	537.5	587.5
		Absol.	350.5	400.5	450.5	500.5	550.5	600.5
ℓ			137	187	237	287	337	387
m	20W	Increm.	110.5					
		Absol.	123.5					
	30W	Increm.	125.5					
		Absol.	138.5					
Weight (kg)			1.3	1.4	1.6	1.7	1.9	2.0

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.		DC24V	20W 1.3A rated 4.4A peak 30W 1.3A rated 4.4A peak	–	→P487
Splash–Proof Solenoid Valve Type		ASEP–CW–20I ② –NP–2–0 ASEP–CW–30I ② –NP–2–0					–	
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			–	→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	(–)			–	
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			–	→P567

* 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 "HA" or "LA" if the high acceleration/deceleration option or the power–saving option is specified.

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