

# RCA-SA5C

ROBO Cylinder Slider Type 52mm Width 24V Servo Motor Coupled

■ Configuration: **RCA** — **SA5C** —  — **20** —  —  —  —  —

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

I: Incremental A:Absolute  
 \* Absolute encoder models can only use ASEL.  
 When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

20: 20W Servo motor  
 12: 12mm  
 6: 6mm  
 3: 3mm

50: 50mm  
 500: 500mm (50mm pitch increments)

A1: ACON  
 RACON  
 ASEL  
 A3: AMEC  
 ASEP

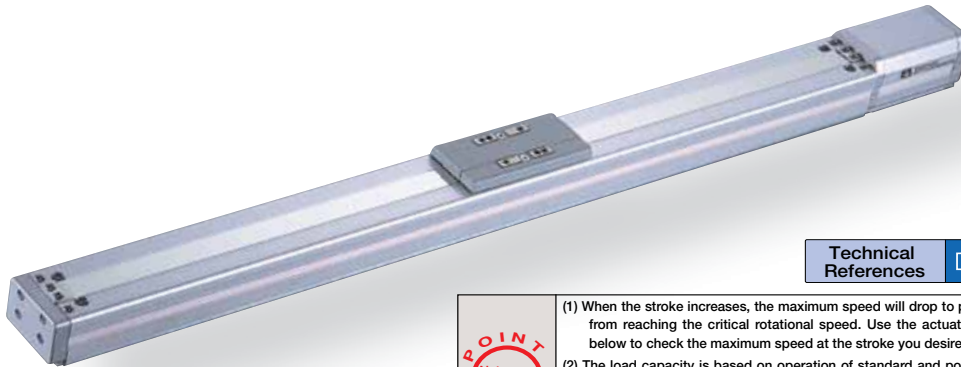
N : None  
 P : 1m  
 S : 3m  
 M : 5m  
 X  : Custom Length  
 R  : Robot Cable

See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

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

(excluding the 3-mm lead model)



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 of standard and power-saving models at 0.3G (0.2G for 3mm-lead), and operation of the high acceleration/deceleration model at 0.8G (excluding the 3mm-lead model).  
 (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)

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-SA5C-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50 ~ 500 (50mm increments)
RCA-SA5C-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCA-SA5C-①-20-3-②-③-④-⑤		3	12	4	65.7	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option

■ Stroke and Maximum Speed

Stroke / Lead	50 ~ 450 (50mm increments)		500 (mm)
	Stroke	50 ~ 450 (50mm increments)	
12	800	760	
6	400	380	
3	200	190	

(Unit: mm/s)

Encoder & Stroke List

② Stroke (mm)	Standard Price	
	① Encoder Type	
	Incremental	Absolute
50	-	A
100	-	-
150	-	-
200	-	-
250	-	-
300	-	-
350	-	-
400	-	-
450	-	-
500	-	-

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	—
For High Acceleration/Deceleration	HA	→ A-32	—
Home sensor	HS	→ A-32	—
Power-saving	LA	→ A-32	—
Reversed-home	NM	→ A-33	—
Slider Roller	SR	→ A-36	—

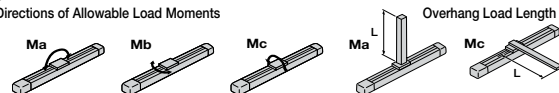
\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
 \* The high acceleration/deceleration option cannot be used on the 3mm-lead model.  
 \* The high-acceleration/deceleration option and the power saving option cannot be used together.

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)
Allowable Static Moment	Ma: 18.6N·m Mb: 26.6N·m Mc: 47.5N·m
Allowable Dynamic Moment (†)	Ma: 4.9 N·m Mb: 6.8 N·m Mc: 11.7 N·m
Overhang Load Length	Ma direction: 150mm or less Mb-Mc direction: 150mm or less
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

(†) Based on 5,000km travel life.

Directions of Allowable Load Moments

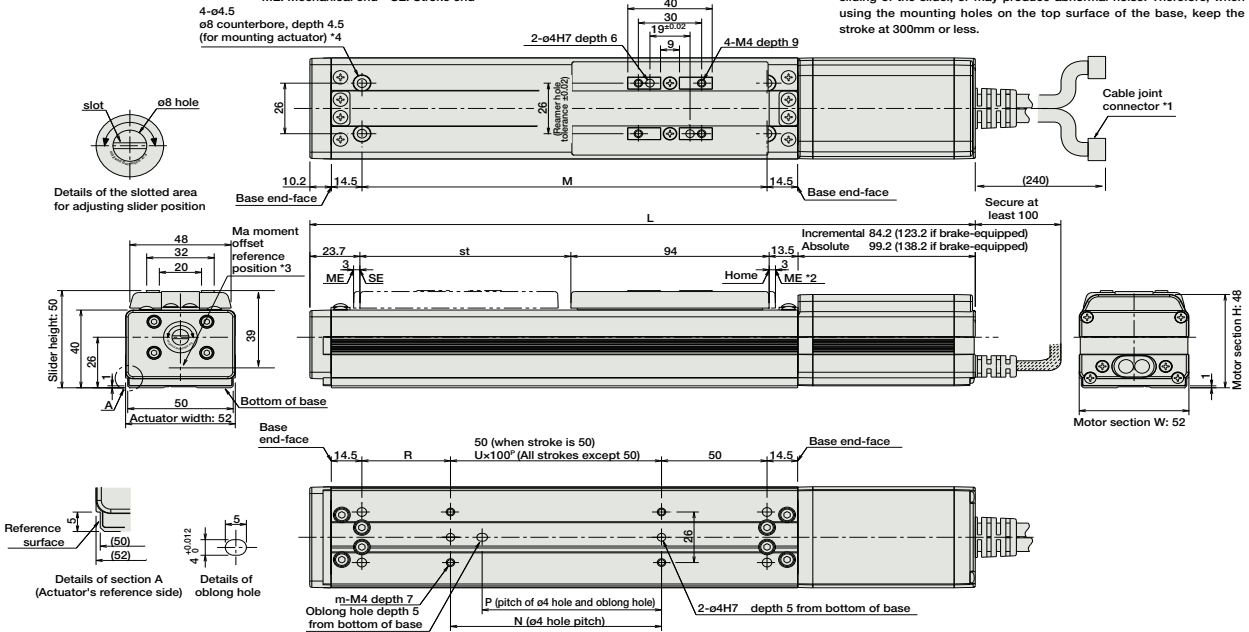


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Dimensions

For Special Orders P. A-9

- \* 1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \* 2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \* 3 Reference position for calculating the moment Ma.
- \* 4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



■ Dimensions/Weight by Stroke \* Brake-equipped models are heavier by 0.3kg.

L	Stroke	Stroke									
		50	100	150	200	250	300	350	400	450	500
Incremental	No Brake	265.4	315.4	365.4	415.4	465.4	515.4	565.4	615.4	665.4	715.4
	With Brake	304.4	354.4	404.4	454.4	504.4	554.4	604.4	654.4	704.4	754.4
Absolute	No Brake	280.4	330.4	380.4	430.4	480.4	530.4	580.4	630.4	680.4	730.4
	With Brake	319.4	369.4	419.4	469.4	519.4	569.4	619.4	669.4	719.4	769.4
M		142	192	242	292	342	392	442	492	542	592
N		50	100	100	200	200	300	300	400	400	500
P		35	85	85	185	185	285	285	385	385	485
R		42	42	92	42	92	42	92	42	92	42
U		-	1	1	2	2	3	3	4	4	5
m		4	4	4	6	6	8	8	10	10	12
Weight (kg)		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	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-20①②-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20①②-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-20①②-NP-2-0						→ P487
Positioner Type		ACON-C-20①②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20①②-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20①②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	-	→ P503
Pulse Train Input Type (Open Collector)		ACON-PO-20①②-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20①②-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20 ① ②-NP-2-0	Programmed operation is possible Can operate 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", when the high-acceleration/deceleration option or the energy-saving option is selected.

- 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