

# RCA2-SA5C

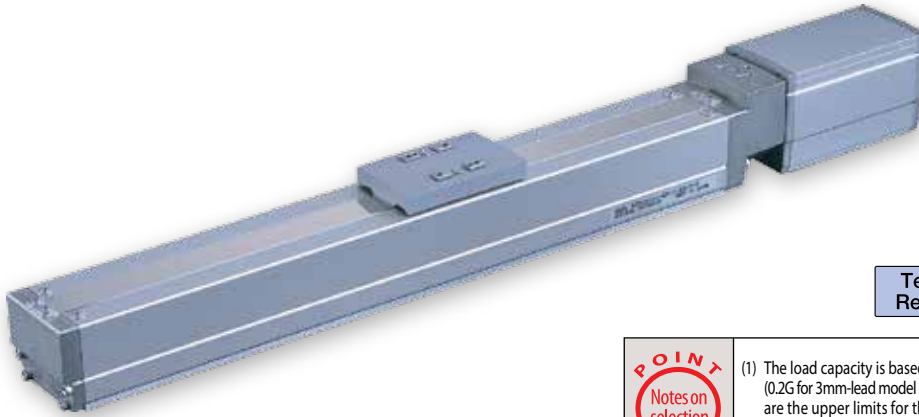
ROBO Cylinder, Slider Type, Actuator Width 50mm, Servo Motor, Coupled

Model Specification Items	<b>RCA2 — SA5C</b>	<b>I</b>	<b>20</b>					
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	20P: 20W Servo motor	20: 20mm 12: 12mm 6: 6mm 3: 3mm	50: 50mm { 800: 800mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length	See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5



- The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model and when using vertically). These values are the upper limits for the acceleration.
- See page A-71 for details on push motion.

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA5C-I-20-20-①-②-③-④	20	20	2	0.5	10.1	50~800 (every 50mm)
RCA2-SA5C-I-20-12-①-②-③-④		12	3	1	17	
RCA2-SA5C-I-20-6-①-②-③-④		6	6	1.5	34	
RCA2-SA5C-I-20-3-①-②-③-④		3	9	3	68	

### Stroke and Maximum Speed

Stroke Lead	Maximum Speed (mm/s)					
	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	1000	910	790	690	610	
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

(Unit: mm/s)

### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—
650	—	—
700	—	—
750	—	—
800	—	—

### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Optional cable exit direction (top)	<b>CJT</b>	→ A-42	—
Optional cable exit direction (right)	<b>CJR</b>	→ A-42	—
Optional cable exit direction (left)	<b>CJL</b>	→ A-42	—
Optional cable exit direction (bottom)	<b>CJB</b>	→ A-42	—
Power-saving	<b>LA</b>	→ A-52	—
No cover	<b>NCO</b>	→ A-52	—
Non-motor end specification	<b>NM</b>	→ A-52	—

### ③ Cable Length

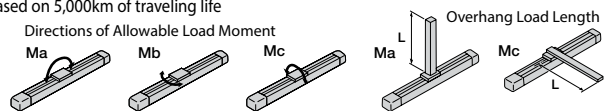
Type	Cable symbol	Standard price
Standard (Robot Cables)	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—
	<b>X11</b> (11m) ~ <b>X15</b> (15m)	—
	<b>X16</b> (16m) ~ <b>X20</b> (20m)	—

\* The standard cable for the RCA2 is the robot cable.  
\* See page A-59 for cables for maintenance.

## Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 10.2 N-m, Mb: 14.6 N-m, Mc: 22.4 N-m
Allowable dynamic moment (*)	Ma: 3.92 N-m, Mb: 5.58 N-m, Mc: 8.53 N-m
Allowable overhang	130mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



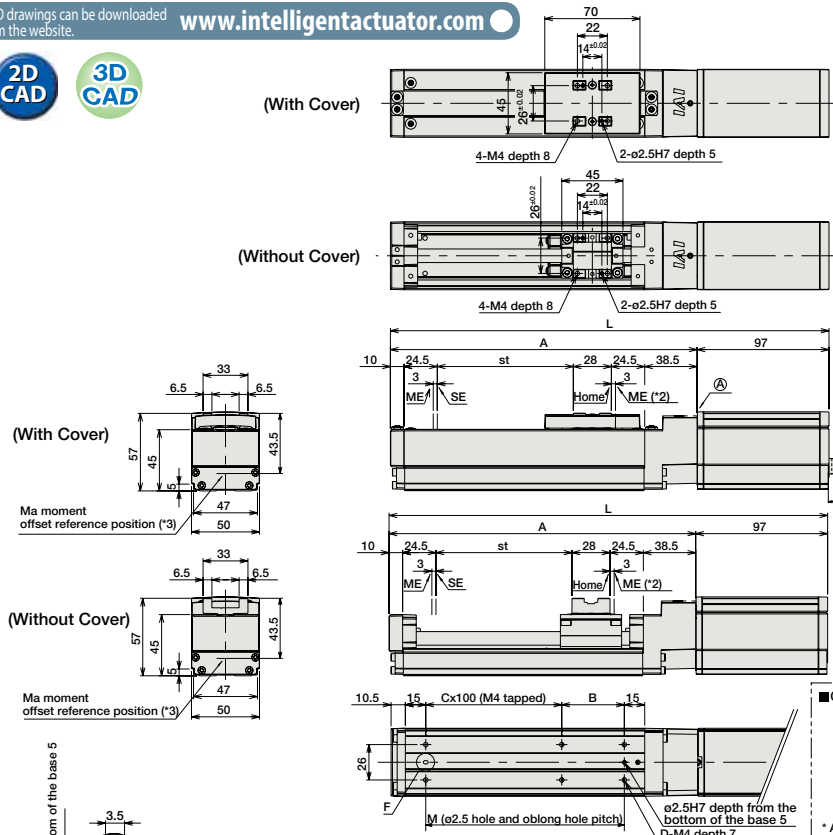
Dimensional Drawings

CAD drawings can be downloaded from the website.

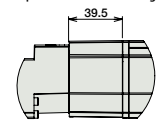
www.intelligentactuator.com



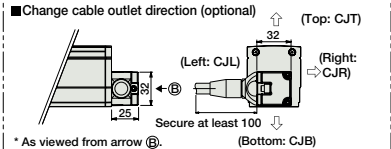
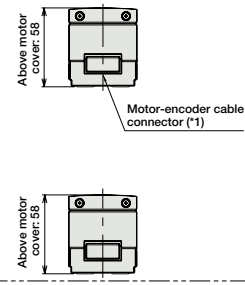
For Special Orders Appendix P.15



- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



If equipped with a brake (\* The above brake unit is added to section (A).)



Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.4kg.

	Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	Without brake	272.5	322.5	372.5	422.5	472.5	522.5	572.5	622.5	672.5	722.5	772.5	822.5	872.5	922.5	972.5	1022.5
	With brake	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062
A		175.5	225.5	275.5	325.5	375.5	425.5	475.5	525.5	575.5	625.5	675.5	725.5	775.5	825.5	875.5	925.5
B		96	46	96	46	96	46	96	46	96	46	96	46	96	46	96	46
C		0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
D		4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
M		96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846
Weight (kg)	With cover	1.2	1.4	1.5	1.6	1.8	1.9	2	2.2	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.2
	Without cover	1.1	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2	2.3	2.4	2.5	2.6	2.7

Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I(1)(II)-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I(1)(II)-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-(III)~(IV)-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-(III)~(IV)-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I(1)(II)-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-20I(1)(II)-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I(1)(II)-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I(1)(II)-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I(1)-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675
Program Control Type		ASEL-CS-1-20I(1)(II)-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in (1) when the power-saving specification is specified. \* (II) indicates I/O type (NP/PN). \* (III) indicates number of axes (1 to 8). \* (IV) indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor