

# RCS2-SA5R

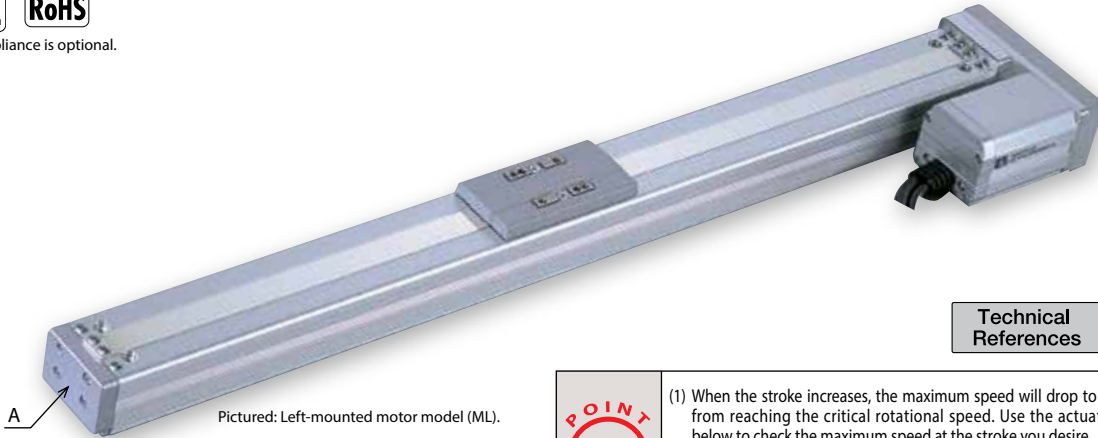
ROBO Cylinder, Slider Type, Actuator Width 52mm, 200-V Servo Motor, Side-mounted Motor

Model Specification Items	RCS2	SA5R		20					
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	20: 20W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 500: 500mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below.  * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

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



\*CE compliance is optional.



A Pictured: Left-mounted motor model (ML).

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

Technical References Appendix P.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 3mm-lead model). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA5R-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50 to 500 (every 50mm)
RCS2-SA5R-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCS2-SA5R-①-20-3-②-③-④-⑤		3	12	4	65.7	

#### Stroke and Maximum Speed

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

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental I	Absolute A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

#### ④ Cable Length

Type	Cable symbol	Standard price
Standard type	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	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-59 for cables for maintenance.

#### ⑤ Options

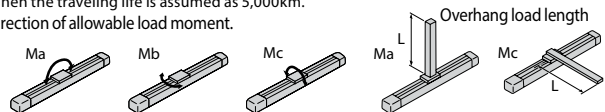
Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Home sensor	HS	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·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 directions: 150mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (No condensation)

(\*) When the traveling life is assumed as 5,000km.

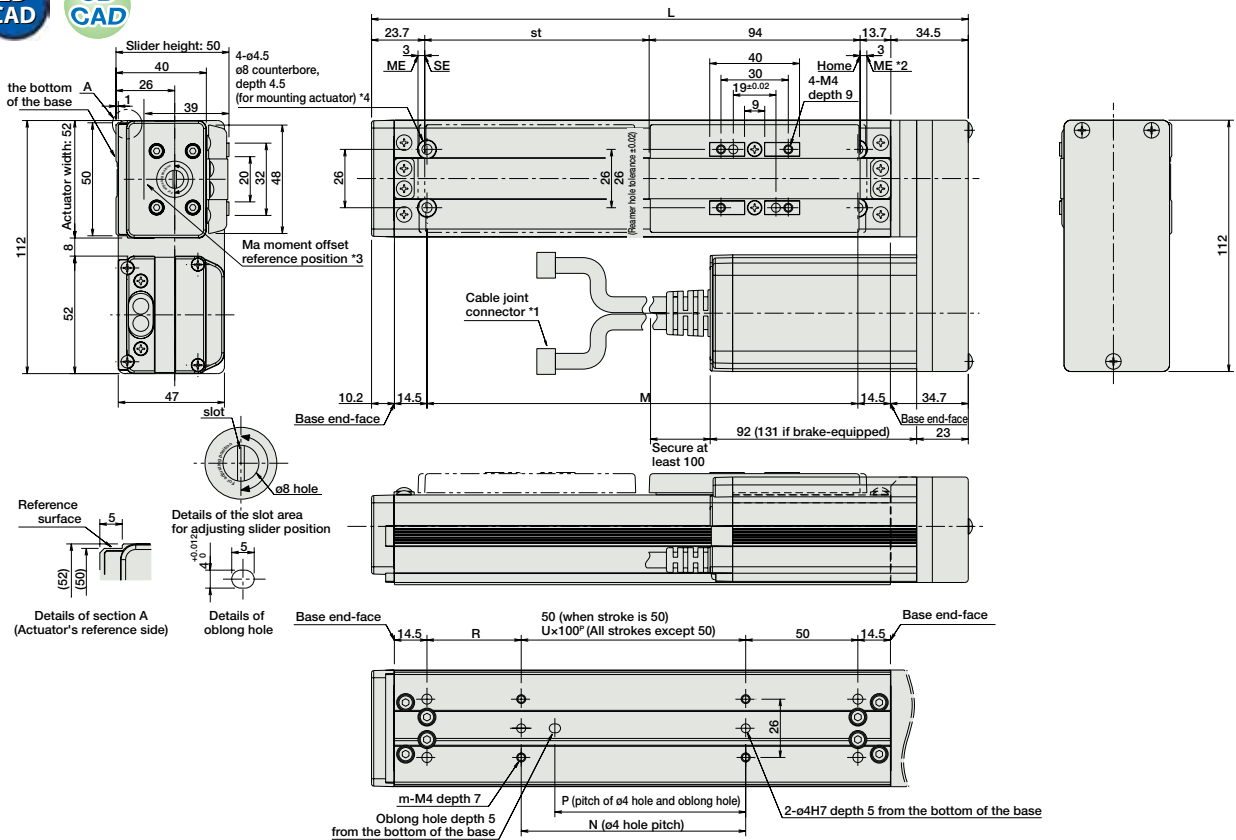
Direction of allowable load moment.



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables 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
- (\*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 and Weights by Stroke

\* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400	450	500
L	215.9	265.9	315.9	365.9	415.9	465.9	515.9	565.9	615.9	665.9
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)	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-20①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-20①-V-0-②	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-20①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points					—	→ P685
Program control type, 1 to 8 axes		XSEL-③-1-20①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected						

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 ③ indicates the encoder type (I: Incremental / A: Absolute).  
 ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* indicates field network specification symbol.