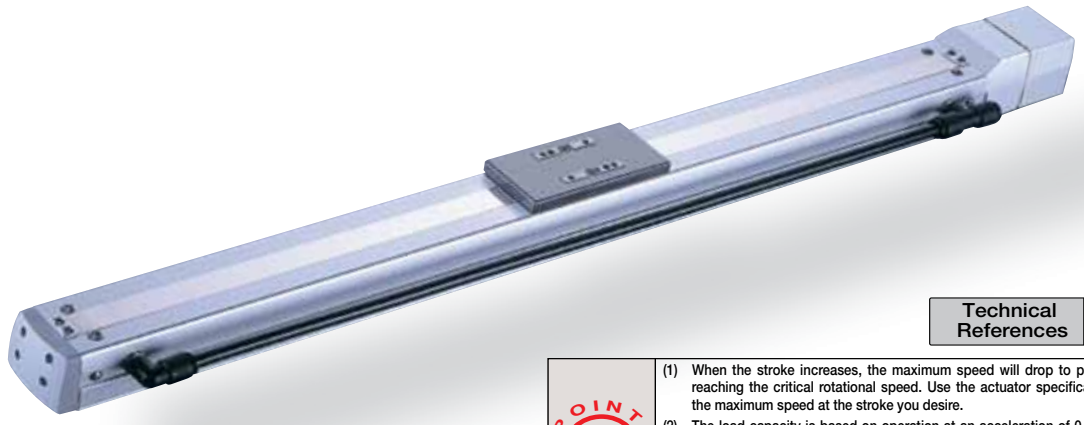
RCS2CR-SA5D

Cleanroom ROBO Cylinder Slider Built-In Type 52mm Width 200V Servo Motor Aluminum Base

■ Configuration: RCS2CR — SA5D — □ — 20 — □ — □ — □ — □ — □ — □

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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 SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X□□ : Custom R□□ : Robot cable	See Options below

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



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 cleanliness class 10 is for horizontal usage.
Please note that the actuator may not support C10 when used on its side or in vertical orientation.

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)
RCS2CR-SA5D-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50〜500 (50mm increments)
RCS2CR-SA5D-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCS2CR-SA5D-①-20-3-②-③-④-⑤		3	12	4	65.7	

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

■ Stroke, Max. Speed/Suction Volume

Lead \ Stroke	50〜450 (50mm increments)	500 (mm)	Suction Volume (Nl/min)
12	800	760	50
6	400	380	30
3	200	190	15

(Unit: mm/s)

① Encoder & Stroke List

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

④ Cable List

Type	Cable Symbol	Standard Price
Standard Type	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

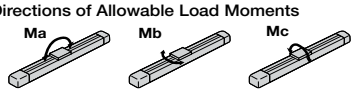
Name	Option Code	See Page	Standard Price
Brake (Cable exiting from end)	BE	→ A-25	–
Brake (Cable exiting from left)	BL	→ A-25	–
Brake (Cable exiting from right)	BR	→ A-25	–
Reversed-home	NM	→ A-33	–
Intake port mounted on opposite side	VR	→ A-38	–

Actuator Specifications

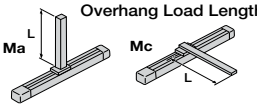
Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Static Moment	Ma: 18.6N·m Mb: 26.6N·m Mc: 47.5N·m
Allowable Dynamic Moment (*)	Ma: 4.9N·m Mb: 6.8N·m Mc: 11.7N·m
Overhang Length	Ma direction: 150mm or less; Mb, Mc direction: 150mm or less
Grease Type	Low dust generation grease (both ball screw and guide)
Cleanliness	Class 10 (0.1μm)
Ambient Operating Temp./Humidity	0〜40°C, 85% RH or less (non-condensing)

(*) Based on a 5,000km service life.

Directions of Allowable Load Moments



Overhang Load Length



Dimensions

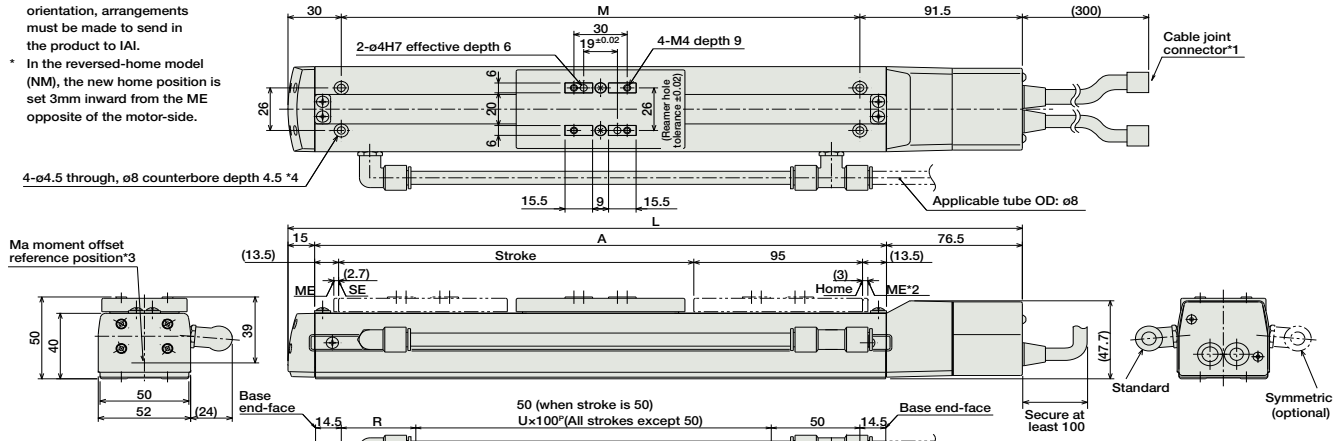
CAD drawings can be downloaded from IAI website. www.intelligentactuator.com

For Special Orders P. A-9

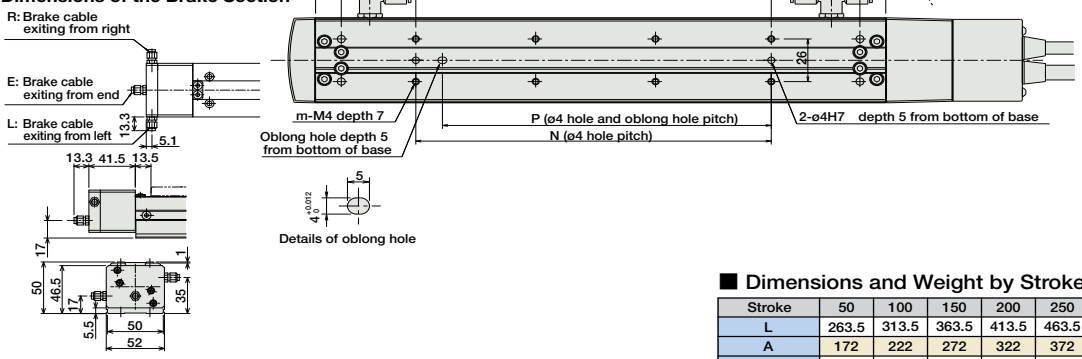
2D CAD

* Note that in order to change the home orientation, arrangements must be made to send in the product to IAI.
* In the reversed-home model (NM), the new home position is set 3mm inward from the ME opposite of the motor-side.

*1. The 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
The values enclosed in "( )" are reference dimensions.
*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 of the Brake Section



* Adding a brake will increase the actuator's overall length by 26.5mm (39.8mm with the cable coming out the end), and its weight by 0.3kg.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	263.5	313.5	363.5	413.5	463.5	513.5	563.5	613.5	663.5	713.5
A	172	222	272	322	372	422	472	522	572	622
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	2.5

③ Compatible Controllers

The RCS2CR 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
Positioner Mode		SCON-C-20①-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-phase AC100V Single-phase AC200V Three-phase AC200V (XSEL-P/Q only)	360VA max. * When operating a 150W single-axis model	–	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to pulse train input	(–)				
Program Control 1-2 Axes Type		SSEL-C-1-20①-NP-2-②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			–	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-20①-N1-EEE-2-④	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			–	→ P587

* For SSEL and XSEL, only applicable to the single-axis model.
* ① is a placeholder for the encoder type (I: incremental / A: absolute).
* ② is a placeholder for the power supply voltage (1: 100V, or 2: single-phase 200V).
* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").
* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, 3: 3-phase 200V).