RCS2CR-SA6D

Cleanroom ROBO Cylinder   Slider Built-In Type   58mm Width   200V Servo Motor
Aluminum Base

■ Configuration:

RCS2CR— SA6D — ☐ — 30 — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I : Incremental A : Absolute	30 : 30W servo motor	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm 〜 600 : 600mm (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-SA6D-①-30-12-②-③-④-⑤		12	6	1.5	24.2	
RCS2CR-SA6D-①-30-6-②-③-④-⑤	30	6	12	3	48.4	50〜600 (50mm increments)
RCS2CR-SA6D-①-30-3-②-③-④-⑤		3	18	6	96.8	

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

■ Stroke, Max. Speed/Suction Volume

Stroke Lead	50〜450 (50mm increments)	500 (mm)	550 (mm)	600 (mm)	Suction Volume (Nℓ/min)
12	800	760	640	540	50
6	400	380	320	270	30
3	200	190	160	135	15

(Unit: mm/s)

① Encoder & Stroke List

Stroke (mm)	Standard Price Encoder Type Incremental I	Standard Price Encoder Type Absolute A
50	–	–
100	–	–
150	–	–
200	–	–
250	–	–
300	–	–
350	–	–
400	–	–
450	–	–
500	–	–
550	–	–
600	–	–

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: 38.3N·m Mb: 54.7N·m Mc: 81.0N·m
Allowable Dynamic Moment (*)	Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m
Overhang Length	Ma direction: 220mm or less; Mb, Mc directions: 220mm 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.

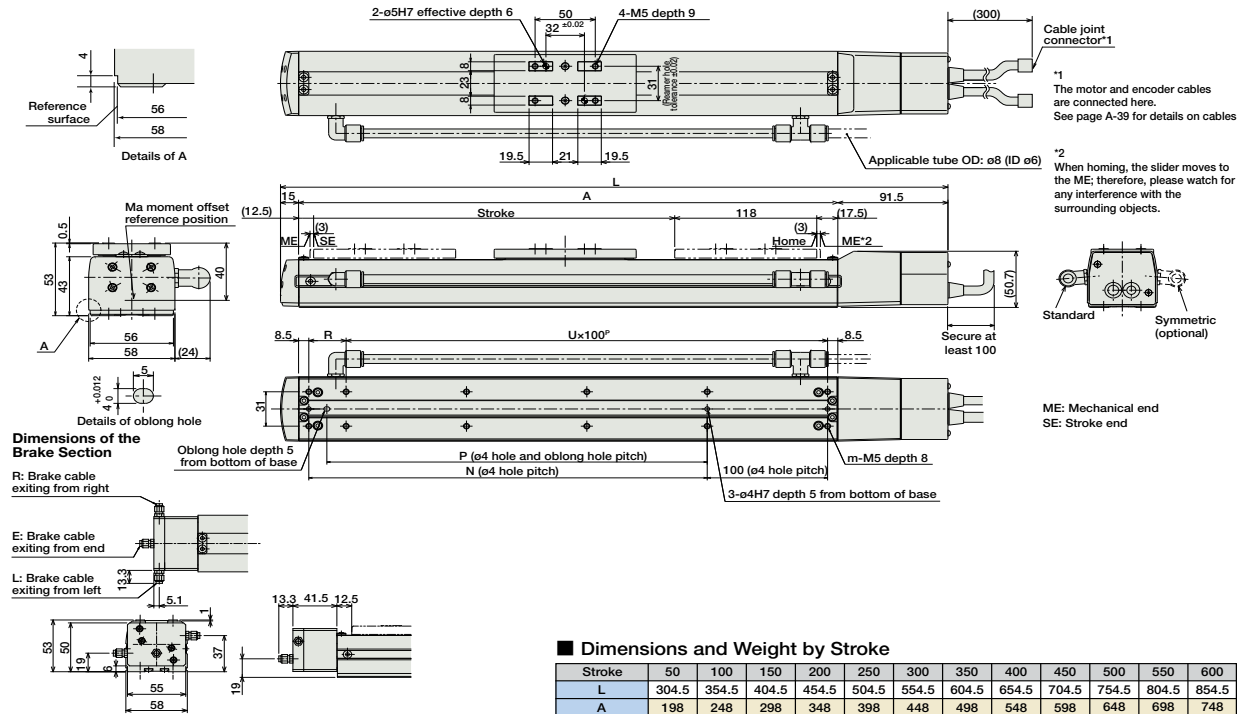Directions of Allowable Load Moments

Ma   Mb   Mc

Overhang Load Length

Ma   Mc

Dimensions

* 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.

2-ø5H7 effective depth 6
4-M5 depth 9
50
32 ±0.02
(300)
Cable joint connector*1

*1 The motor and encoder cables are connected here. See page A-39 for details on cables

4
Reference surface
56
58
Details of A

31 (reamer hole tolerance ±0.02)
8 23.8

19.5 21 19.5
Applicable tube OD: ø8 (ID ø6)

*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.

Ma moment offset reference position

0.5
53 43 40
56 58 (24)
A

Details of oblong hole
5
4 +0.012

(12.5)
15
A
L
Stroke
118
(17.5)
91.5
ME SE
Home
ME*2
(3)
(3)
(50.7)

Standard
Symmetric (optional)

ME: Mechanical end
SE: Stroke end

Dimensions of the Brake Section

R: Brake cable exiting from right

E: Brake cable exiting from end

L: Brake cable exiting from left

13.3
5.1
53 50 19 6
55 58
13.3 41.5 12.5
37
19

8.5 R
U×100ᴾ
8.5
Secure at least 100
31

Oblong hole depth 5 from bottom of base
P (ø4 hole and oblong hole pitch)
N (ø4 hole pitch)
100 (ø4 hole pitch)
m-M5 depth 8
3-ø4H7 depth 5 from bottom of base

* 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	550	600
L	304.5	354.5	404.5	454.5	504.5	554.5	604.5	654.5	704.5	754.5	804.5	854.5
A	198	248	298	348	398	448	498	548	598	648	698	748
N	81	131	181	231	281	331	381	431	481	531	581	631
P	66	116	166	216	266	316	366	416	466	516	566	616
R	81	31	81	31	81	31	81	31	81	31	81	31
U	1	2	2	3	3	4	4	5	5	6	6	7
m	6	8	8	10	10	12	12	14	14	16	16	18
Weight (kg)	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6

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-30D①-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-1-30D①-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-③-1-30D①-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).

IAI

RCS2CR-SA6D **440**