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

RCP2-SA7C   ROBO Cylinder   Slider Type   73mm Width   Pulse Motor   Straight Type   Coupled

■ Configuration:

RCP2 – SA7C   I – 56P   □ – □ – □ – □ – □

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option

I : Incremental
* The Simple absolute encoder models are labeled as "I".

56P: Pulse motor
56 □ size

Encoder
Motor

Lead
16 : 16mm
8 : 8mm
4 : 4mm

Stroke
50 : 50mm
≀
800:800mm
(50mm pitch increments)

Compatible Controllers
P1:PCON
RPCON
PSEL
P3:PMEC
PSEP

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

Option
BE : Brake (Cable exiting end)
BL : Brake (Cable exiting left)
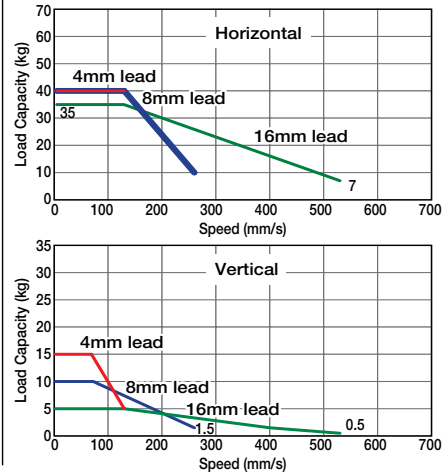BR : Brake (Cable exiting right)
NM : Reversed-home
SR : Slider Roller

* See page Pre-35 for explanation of each code that makes up the configuration name.
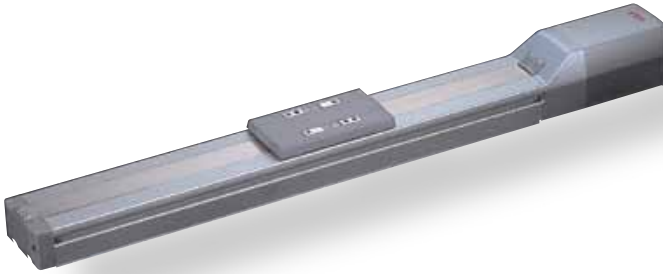
Technical References 👉 A-5

■ Speed vs. Load Capacity
Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.

Horizontal

4mm lead   35
8mm lead
16mm lead   7

Vertical

4mm lead
8mm lead
16mm lead   1.5   0.5

P O I N T
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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds.
Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
(3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 4mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

■ Actuator Specifications

■ Lead and Load Capacity
(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1) Horizontal (kg)	Vertical (kg)	Stroke (mm)
RCP2-SA7C-I-56P-16-①-②-③-④	16	~ 35	~ 5	50 ~ 800 (50mm increments)
RCP2-SA7C-I-56P-8-①-②-③-④	8	~ 40	~ 10	
RCP2-SA7C-I-56P-4-①-②-③-④	4	40	~ 15	

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

■ Stroke and Maximum Speed

Lead	Stroke 50 ~ 700 (50mm increments)	~ 800 (mm)
16	533	480
8	266	240
4	133	120

(Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
50/100	–
150/200	–
250/300	–
350/400	–
450/500	–
550/600	–
650/700	–
750/800	–

③ 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)	–
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.

④ Option List

Name	Option Code	See Page	Standard Price
Brake (Cable-exit end)	BE	→ A-25	–
Brake (Cable exiting left)	BL	→ A-25	–
Brake (Cable exiting right)	BR	→ A-25	–
Reversed-home	NM	→ A-33	–
Slider Roller	SR	→ A-36	–

■ Actuator Specifications

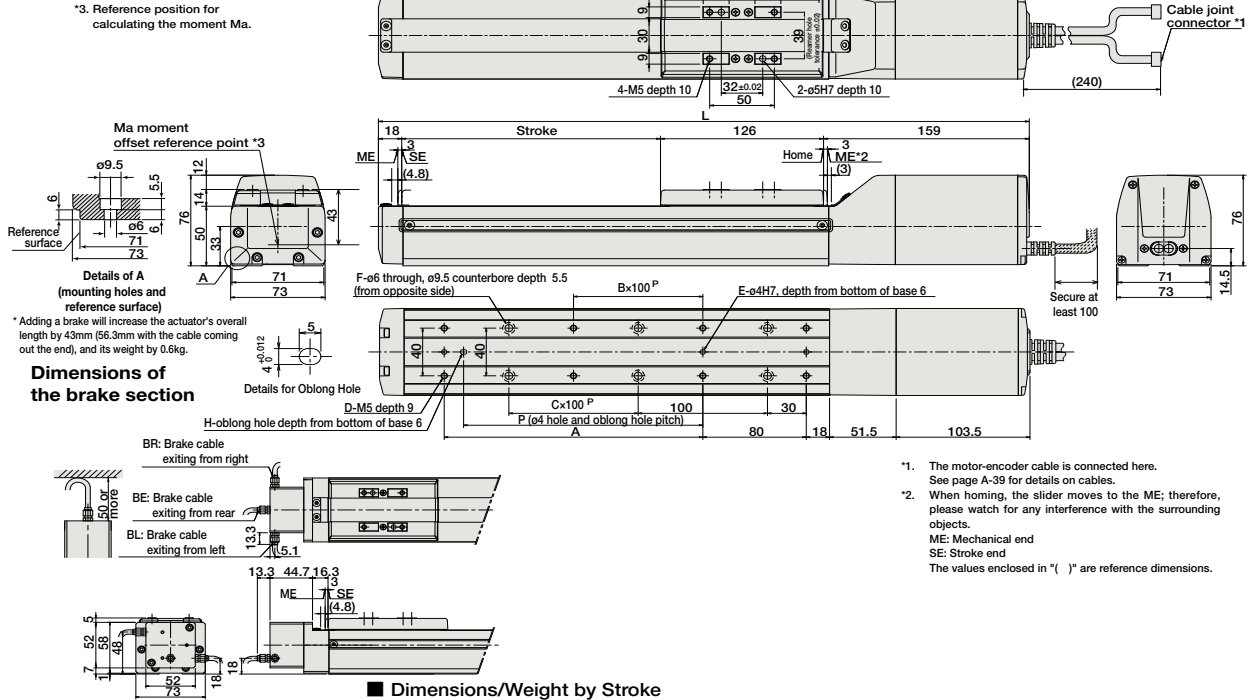| Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 50.4 N·m Mb: 71.9 N·m Mc: 138.0 N·m
Allowable Dynamic Moment (*)	Ma: 13.9 N·m Mb: 19.9 N·m Mc: 38.3 N·m
Overhang Load Length	Ma direction: 230mm or less; Mb·Mc direction: 230mm 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

Ma   Mb   Mc   Ma   Overhang Load Length   Mc

31   RCP2-SA7C
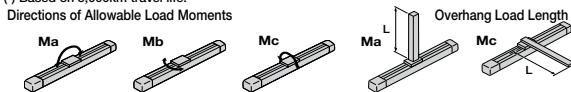
■ Dimensions

For Special Orders ☞ A-9

*For the Reversed-home model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

*3. Reference position for calculating the moment Ma.

Cable joint connector *1

Ma moment offset reference point *3

Details of A (mounting holes and reference surface)
* Adding a brake will increase the actuator's overall length by 43mm (56.3mm with the cable coming out the end), and its weight by 0.6kg.

Dimensions of the brake section

Reference surface

Details for Oblong Hole
Details for Oblong Hole

F-ø6 through, ø9.5 counterbore depth 5.5 (from opposite side)
B×100 P
E-ø4H7, depth from bottom of base 6

D-M5 depth 9
H-oblong hole depth from bottom of base 6
C×100 P
P (ø4 hole and oblong hole pitch)

Secure at least 100

ME
SE (4.8)
Home
ME*2 (3)

BR: Brake cable exiting from right
BE: Brake cable exiting from rear
BL: Brake cable exiting from left

*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.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	353	403	453	503	553	603	653	703	753	803	853	903	953	1003	1053	1103
A	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
B	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
C	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
P	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
Weight (kg)	3.1	3.3	3.6	3.8	4.0	4.2	4.5	4.7	4.9	5.1	5.4	5.6	5.8	6.0	6.3	6.5

② Compatible Controllers

The RCP2 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		PMEC-C-56PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	–	→P477
Solenoid Valve Type		PSEP-C-56PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.	3 points	DC24V	2A max.	–	→P487
Splash-Proof Solenoid Valve Type		PSEP-CW-56PI-NP-2-0		3 points	DC24V	2A max.	–	→P487
Positioner Type		PCON-C-56PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	–	→P525
Safety-Compliant Positioner Type		PCON-CG-56PI-NP-2-0		512 points	DC24V	2A max.	–	→P525
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-NP-2-0	Pulse train input type with differential line driver support	(–)	DC24V	2A max.	–	→P525
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-NP-2-0	Pulse train input type with open collector support	(–)	DC24V	2A max.	–	→P525
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated to serial communication	64 points	DC24V	2A max.	–	→P525
Field Network Type		RPCON-56P	Dedicated to field network	768 points	DC24V	2A max.	–	→P503
Program Control Type		PSEL-C-1-56PI-NP-2-0	Programmed operation is possible Can operate up to 2 axes	1500 points	DC24V	2A max.	–	→P557

* This is for the single-axis PSEL.
* ① is a placeholder for the power supply voltage (1: 100V / 2: 100～240V).

IAI

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