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

RCP3-SA3R
ROBO Cylinder, Slider Type, 32mm Width, Pulse Motor, Side-mounted Motor

Model Specification Items

RCP3 — SA3R — I — 28P — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	28P: Pulse motor, 28☐ size	6 : 6mm 4 : 4mm 2 : 2mm	50: 50mm ⟨ 300: 300mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M:5m X☐☐: Custom length	See options below. *Be sure to specify which side the motor is to be mounted (ML/MR)

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

CE RoHS

Photo above shows specification with motor side-mounted to the left (ML Option).
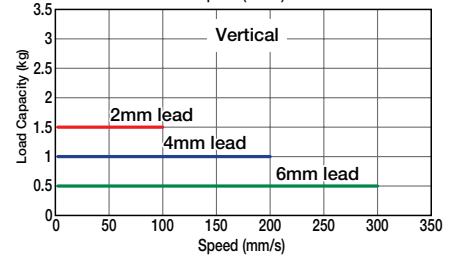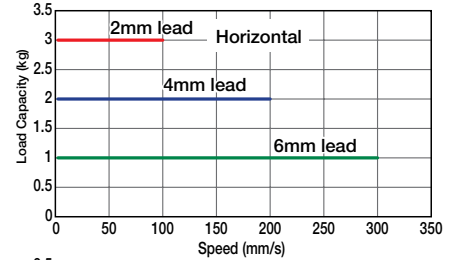
Technical References ☞ Appendix **P.5**

POINT Notes on selection

(1) Since the RCP3 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.
(2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
(3) See page A-71 for details on push motion.

■ Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.

Horizontal graph — Load Capacity (kg) vs Speed (mm/s):
- 2mm lead
- 4mm lead
- 6mm lead

Vertical graph — Load Capacity (kg) vs Speed (mm/s):
- 2mm lead
- 4mm lead
- 6mm lead

Actuator Specifications

■ Leads and Payloads

Model number	Lead (mm)	Max. Load Capacity Horizontal (kg)	Max. Load Capacity Vertical (kg)	Stroke (mm)
RCP3-SA3R-I-28P-6-①-P3-②-③-④	6	1	0.5	50~300 (every 50mm)
RCP3-SA3R-I-28P-4-①-P3-②-③-④	4	2	1	
RCP3-SA3R-I-28P-2-①-P3-②-③-④	2	3	1.5	

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

■ Stroke and Maximum Speed

Lead \ Stroke	50~300 (every 50mm)
6	300
4	200
2	100

(Unit: mm/s)

① Stroke

① Stroke (mm)	Standard price With cover	Standard price Without cover
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

③ Cable Length

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

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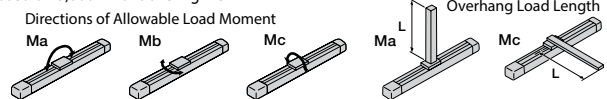* See page A-59 for cables for maintenance.

④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

Actuator Specifications

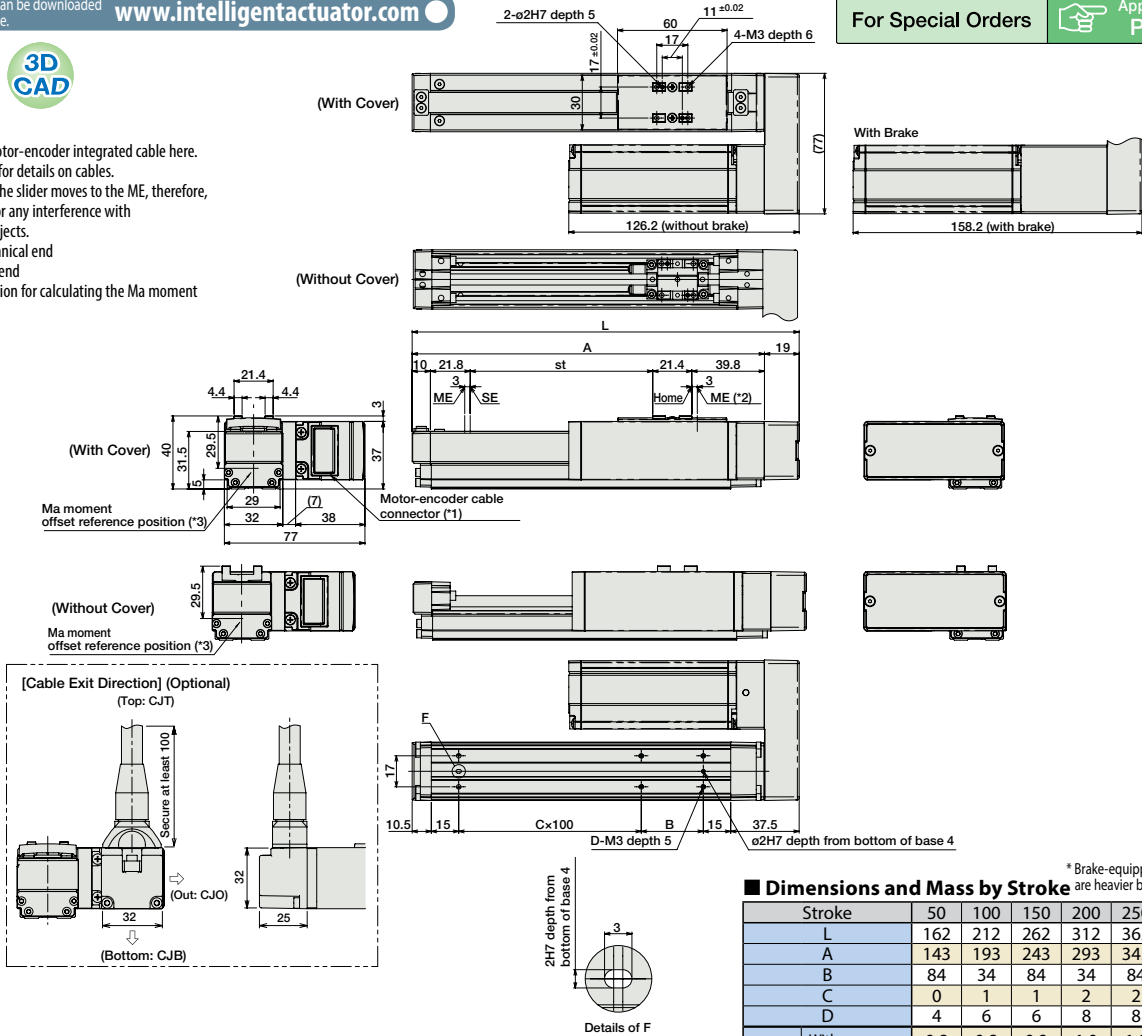| Item	Description
Drive System	Ball screw, ø6mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 5.0 N·m, Mb: 7.1 N·m, Mc: 7.9 N·m
Allowable dynamic moment (*)	Ma: 1.96 N·m, Mb: 2.84 N·m, Mc: 3.14 N·m
Allowable overhang	100mm or less
Ambient operating temperature, humidity	0 to 40℃, 85% RH or less (Non-condensing)

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

Directions of Allowable Load Moment   Overhang Load Length

Ma Mb Mc   Ma Mc

RCP3 ROBO Cylinder

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

■ Dimensional Drawings

● CAD drawings can be downloaded from the website. **www.intelligentactuator.com** ●

2D CAD **3D CAD**

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

(With Cover)
With Brake
126.2 (without brake)
158.2 (with brake)

2-ø2H7 depth 5
60
11 ±0.02
17
4-M3 depth 6
17 ±0.02
30
(77)

(Without Cover)

L
A
19
10 21.8 st 21.4 39.8
ME SE Home ME (*2)

(With Cover)
21.4
4.4 4.4
40
31.5
29.5
5
3
37
3
29
(7)
32 38
77
Motor-encoder cable connector (*1)
Ma moment offset reference position (*3)

(Without Cover)
29.5
Ma moment offset reference position (*3)

[Cable Exit Direction] (Optional)
(Top: CJT)
Secure at least 100
(Out: CJO)
32
32
25
(Bottom: CJB)

F
17
10.5 15 C×100 B 15 37.5
D-M3 depth 5 ø2H7 depth from bottom of base 4

2H7 depth from bottom of base 4
3
Details of F

* Brake-equipped models are heavier by 0.2kg.

■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300
L	162	212	262	312	362	412
A	143	193	243	293	343	393
B	84	34	84	34	84	34
C	0	1	1	2	2	3
D	4	6	6	8	8	10
Weight (kg) With cover	0.8	0.8	0.9	1.0	1.0	1.1
Weight (kg) Without cover	0.7	0.8	0.8	0.9	0.9	1.0

■ ② Applicable Controllers

RCP3 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		PMEC-C-28PI-①-2-⑩	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
Solenoid Valve Type		PSEP-C-28PI-①-2-0	Simple controller operable with the same signal as a solenoid valve	3 points	DC24V	Refer to P555	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-⑩-~-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected		DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-⑩-~-Ⅳ-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Positioner type High-output specification		PCON-CA-28PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-28PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)	DC24V	Refer to P618	—	→ P607
Field network type High-output specification		PCON-CA-28PI-Ⅳ-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points	DC24V	Refer to P618	—	→ P607
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-28PI-①-2-0	Pulse train input type with open collector support	(—)	DC24V	Refer to P628	—	→ P623
Serial Communication Type		PCON-SE-28PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P628	—	→ P623
Program Control Type		PSEL-CS-1-28PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

* This is for the single-axis PSEL.   * ① indicates I/O type (NP/PN).   * ⑩ indicates power supply voltage (1: 100V / 2: 100~240V).
* ⑩ indicates number of axes (1 to 8). * Ⅳ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.