

RCS2-RA13R

Robo Cylinder, Ultra High Thrust Rod Type, Actuator Width 130mm, 200V Servo Motor, Side-mounted Motor

Model Specification Items	RCS2 — RA13R — <input type="checkbox"/> — 750 — <input type="checkbox"/> — <input type="checkbox"/> — T2 — <input type="checkbox"/> — <input type="checkbox"/>
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental A: Absolute
	750: 750W Servo motor
	2.5: 2.5mm 1.25: 1.25mm
	50: 50mm 200: 200mm (50mm pitch increments)
	T2: SCON SSEL XSEL-P/Q XSEL-R/S
	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom Length R <input type="checkbox"/> : Robot Cable
	See options below. * Please be sure to specify one of the codes for the motor mounting direction and the cable exit direction.

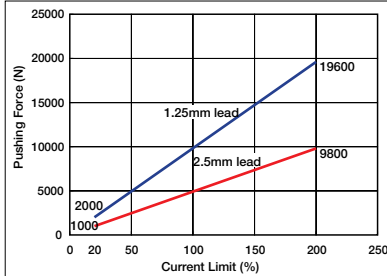
* See page Pre-47 for details on the model descriptions.



*CE compliance is optional.



Pushing Force vs. Current Limit



Note:

- The correlation between the pushing force and the current limit are only rough guide values, and may deviate from the actual numbers.
- The pushing force may be inconsistent if the current limit is low. Therefore, please set it at 20% or higher.
- The travel speed while the pushing force is acting is fixed at 10mm/s. The graph shows pushing action at 10mm/s. Please note that the pushing force will decrease if the speed changes.
- Depending on operational conditions, the pushing force may decrease due to the rise in the temperature of the motor.

*Continuous pushing is allowed if the current limit value during push motion is equal to 70% or less, but there is a pushing time limit when 71% or more. See page A-83 for the details.

POINT Notes on selection

- (1) When performing pushing operation, duration of continuous use is preset for the set pushing force. In addition, the continuous thrust (with load and duty factored in) must be less than the rated thrust. For details, please see selection reference material (→page A-83).
- (2) The load capacity is based on operation at an acceleration of 0.02G for 2.5mm-lead, and 0.01G for 1.25mm-lead. This is the upper limit of the acceleration.
- (3) The values for the horizontal load capacity assume the use of an external guide, so that there is no external force from any direction other than the forward/backward direction of the rod.
- (4) The brake option requires, in addition to the actuator and the controller, a brake box (see accessories on page 282).

Technical References Appendix P.5

Actuator Specifications

Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max Acceleration (G)	Max. Load Capacity		Rated thrust (N)	Continuous Pushing Force (N)	Maximum Push Force (N)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)				
RCS2-RA13R-①-750-2.5-②-T2③-④	750	2.5	0.02	400	200	5106	3567	9800	50~200 (every 50mm)
RCS2-RA13R-①-750-1.25-②-T2③-④		1.25	0.01	500	300	10211	7141	19600	

Code explanation ① Encoder ② Stroke ③ Cable Length ④ Options

* The values for the horizontal load capacity reflect the use of an external guide.
* See page A-71 for details on push motion.

Stroke and Maximum Speed

Stroke Lead	Stroke (mm)			
	50	100	150	200
2.5	85	120	125	
1.25		62		

(Unit: mm/s)

① Encoder Type/② Stroke

② Stroke (mm)	Standard price			
	① Encoder Type			
	Incremental		Absolute	
	1t type (2.5mm lead)	2t type (1.25mm lead)	1t type (2.5mm lead)	2t type (1.25mm lead)
50	—	—	—	—
100	—	—	—	—
150	—	—	—	—
200	—	—	—	—

③ Cable Length

Type	Cable symbol	Standard Price
Standard	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)	—
	R16 (16m) ~ R20 (20m)	—

* See page A-59 for cables for maintenance.

④ Options

Name	Option code	See page	Standard price
Brake (with brake box)	B	→ A-42	—
Brake (without brake box)	BN	→ A-42	—
CE compliance	CE	→ A-42	—
Top-mounted motor	MT1/MT2/MT3	→ P282	—
Right-mounted motor	MR1/MR2	→ P282	—
Left-mounted motor	ML1/ML3	→ P282	—
Flange	FL	→ A-46	—
Foot bracket	FT	→ A-49	—
Load cell type (with cable track)	LCT	→ A-51	—
Load cell type (without cable track)	LCN	→ A-51	—

(Note:)
The load cell type option can be operable only when the SCON-CA controller is used.
The load cell type (with cable track) option and a flange option cannot be selected simultaneously.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø32mm, rolled C10
Positioning Repeatability	±0.01mm
Backlash	0.2mm or less
Rod diameter	ø50mm (ball spline)
Allowable load moment of the rod	120 N·m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)
Push force service life	10 million pushes (*1)

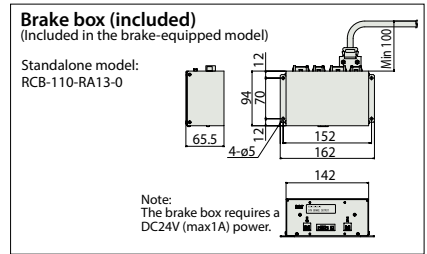
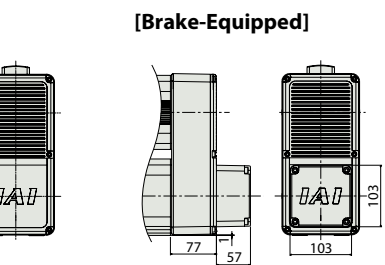
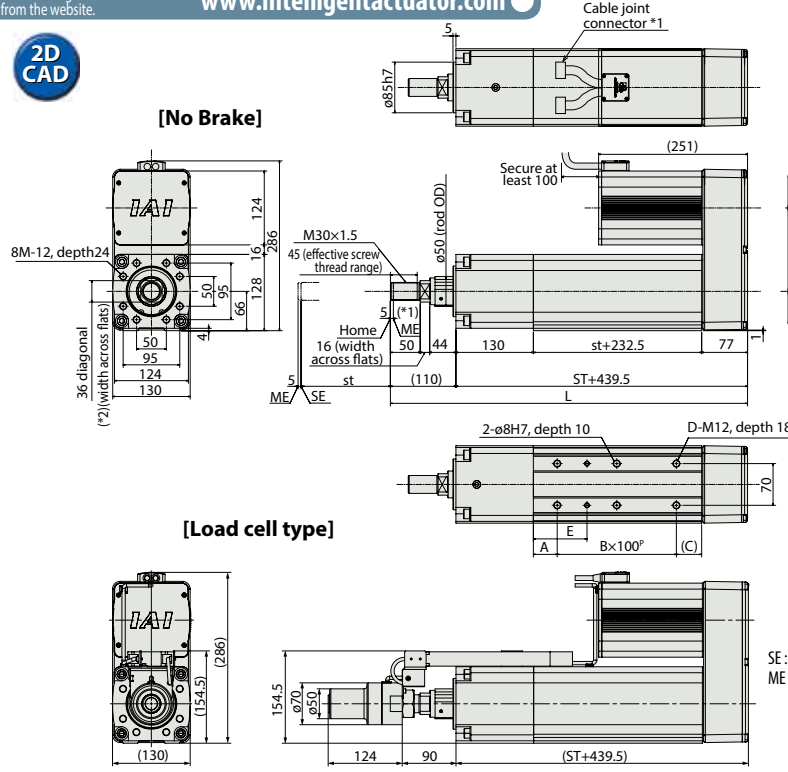
(*1) The number of pushes arwe based on the maximum pushing force and a distance of 1mm.

Dimensional Drawings

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



For Special Orders Appendix P.15



Dimensions and Weight by Stroke RCS2-RA13R

* Adding a brake will increase the actuator's overall length by 57mm, and its weight by 2.0kg.

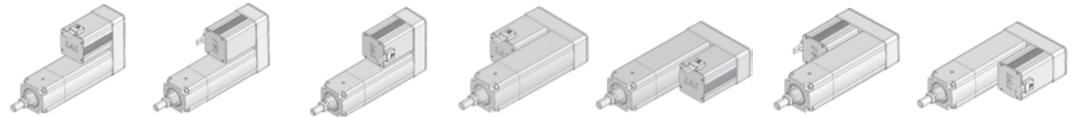
Stroke	50	100	150	200
L	599.5	649.5	699.5	749.5
A	40	65	40	65
B	2	2	3	3
C	42.5	67.5	42.5	67.5
D	6	6	8	8
E	90	115	90	115
Weight (kg)	33	34	35	36

- (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (*2) During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
- (*3) The orientation of the bolt varies depending on the product.

Note: The brake-equipped model (option code: "-B") always comes with a brake box. If you want to order just the brake-equipped actuator, specify the option code "-BN".

Motor-mounting direction / Cable exit direction (options)

Note: Please be sure to specify one of the codes for the motor mounting direction and the cable exit direction.



Option Code	MT1	MT2	MT3	MR1	ML1	MR2	ML3
Motor-mounting direction	Top (standard)	Top	Top	Right	Left	Right	Left
Cable exit direction	Top (standard)	Right	Left	Top	Top	Right	Left

Applicable Controllers

RCS2 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
Positioner mode		(Standard) SCON-CA-750①-NP-2-2	Up to 512 positioning points are supported.	512 points	Single-Phase 200VAC (SCON-CA/SSEL only)	1569VA max.	—	→ P643
Solenoid valve mode		(Load cell type) SCON-CA-750S①-NP-2-2	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	(—)	Three-phase 200VAC (XSEL-P/Q/R/S only)			
Program control type 1 or 2 axes		SSEL-CS-1-750①-NP-2	Program operation is supported Up to two axes can be operated	20,000 points			—	→ P685
Program control type 1 or 6 axes		XSEL-④-1-750①-N1-EEE-2-④	Program operation is supported Up to eight axes can be operated	Varies depending on the number of axes connected			—	→ P695

* This is for the single-axis SSEL, and XSEL. * ① Indicates the encoder type (I: Incremental / A: Absolute). * ④ Indicates the XSEL type (P / Q / R / S). * ④ Indicates the power-supply voltage type (1: 100 V / 2: Single-phase 200 V / 3: Three-phase 200 V). (Note) The load cell type option can be operable only when the SCON-CA controller is used.

- 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