RCS2-RA13R High Thrust Rod Type (Servo Press Model with Load Cell)

Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 130* mm | 230V AC Servo Motor

Model Specification Items

RCS2 — RA13R — WA — 750 — ☐ — ☐ — T2 — ☐ — ☐

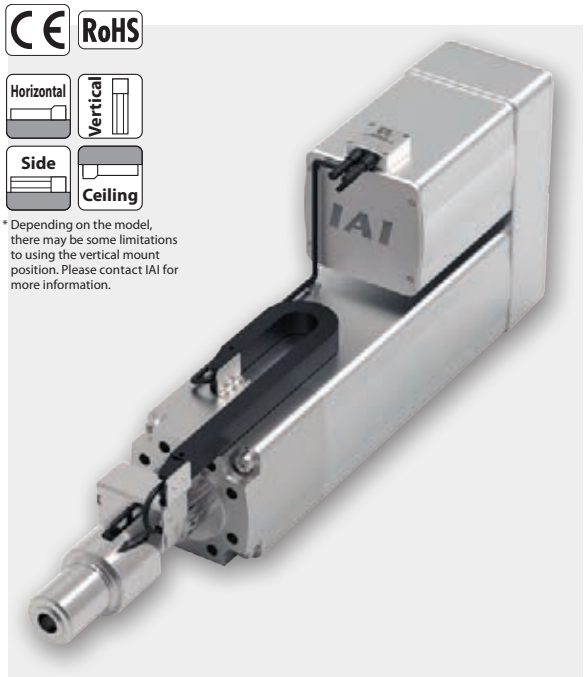
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCS2	RA13R	WA: Battery-less Absolute	750: Servo motor 750W	2.5:2.5mm 1.25:1.25mm	50: 50mm ↕ 200: 200mm (Every 50mm)	T2: SCON-CB/CGB (For servo press only)	N : None P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	Refer to Options table below. * One of motor mount direction type needs to be selected from MT1/MT2/MT3/MR1/MR2/ML1/ML3.

* Does not include a controller.
* Please contact IAI for more information about the model specification items.
* Body width does not include the width of the side-mounted motor.

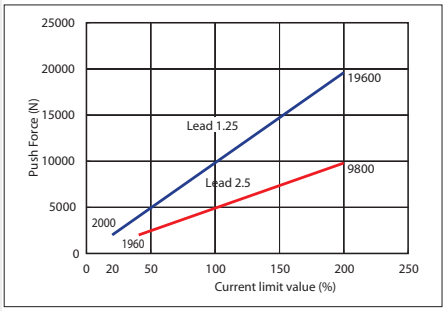
CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position. Please contact IAI for more information.



Correlation Diagram of Push Force and Current Limit Value



Caution:
- The correlation between push force and current limit value is strictly for reference purposes. Actual numbers may vary slightly.
- The push force will be unstable when the current limit value is low. Use at 20% or more for lead 1.25 and 40% or more for lead 2.5.

POINT Selection Notes

(1) For push-motion operation, check the allowable time period of continuous push-motion set with a different thrust force. Also, please check that the allowable continuous operational thrust force for the actual push cycle is less than the allowable continuous operational thrust force and that the duty cycle is 50% or less. Please refer to the Selection Guidelines (P.28) for more information.

(2) The value of payload is when operating at an acceleration of 0.02G for lead 2.5 and 0.01G for lead 1.25. The value listed above is the upper limit of acceleration.

(3) Customer's tooling is to be mounted on the load cell itself. In case any radial or moment load is applied to the load cell, please consider adding the external guides, etc. to offset those side loads. The value of the horizontal payload assumes that there is an external guide and that the rod is not subjected to external force other than in the moving direction.

(4) For the brake option, a brake box (see P.16) is required in addition to the main unit and controller.

(5) Servo Press with load cell should not be used for pulling motion. It will damage the load cell.

Actuator Specifications

Lead and Payload

Model Number	Motor wattage (W)	Lead (mm)	Max. acceleration (G)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Max. push force (N)	Stroke (mm)
RCS2-RA13R-WA-750-2.5-①-T2-②-③	750	2.5	0.02	15	15	5106	9800	50~200 (Every 50mm)
RCS2-RA13R-WA-750-1.25-①-T2-②-③		1.25	0.01	15	15	10211	19600	

Legend: ① Stroke ② Cable Length ③ Option

* Max. horizontal payload means max. weight on the customer's external guide.
** Max. push force can be achieved only within 1~10mm/s speed range.

Stroke and Max Speed

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

(Unit: mm/s)

Cable Length

Type	Cable Code
Standard	**P**(1m)
	S(3m)
	M(5m)
Specified length (Standard cable)	**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)

* Please contact IAI for maintenance cables.

Actuator Specifications

Item	Description
Drive system	Ball screw ø32mm rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.2mm or less
Load cell rated capacity	20000N
Loading repeatability (*1)	±0.5% F.S (*2)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (non-condensing)

(*1) Ratio (in percentage) of the load variations caused by the repeated operations to the load cell rated capacity
(*2) F.S.: Full Scale, the maximum measurable value.

Options

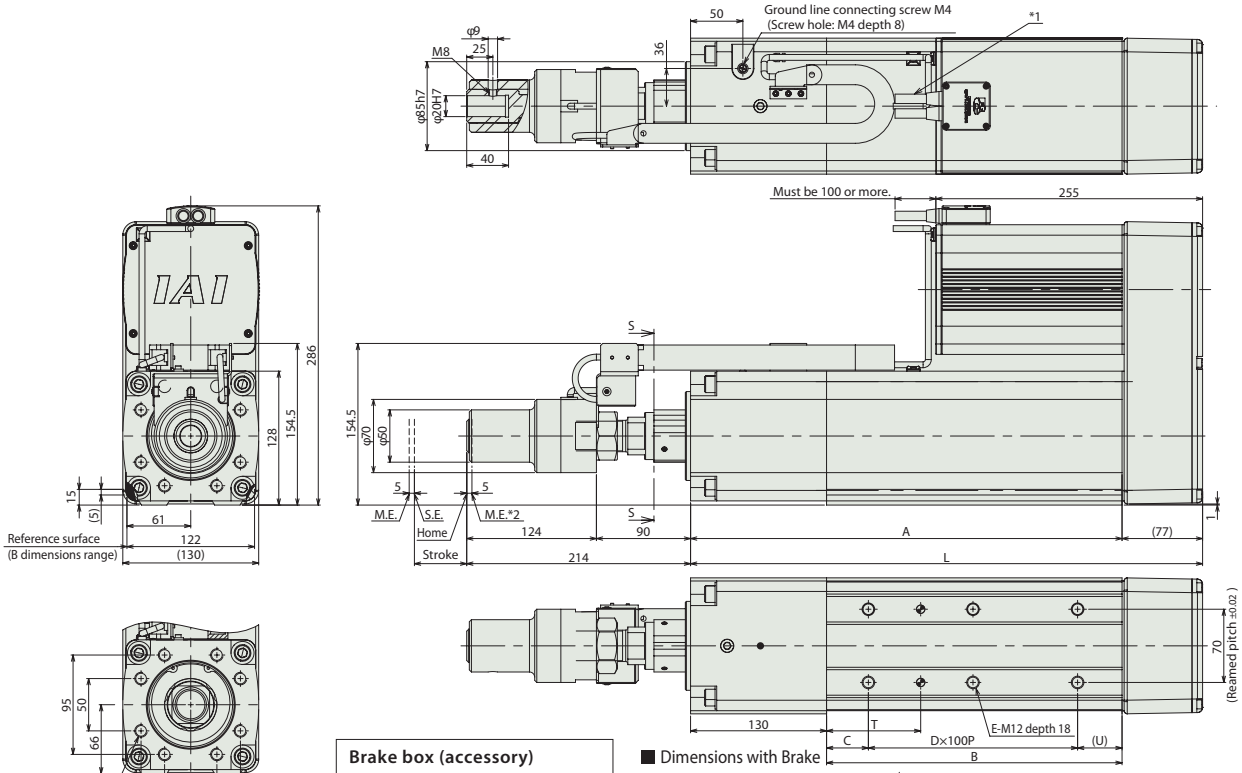
Name	Option Code	Reference Page
Brake (With brake box)	**B**	See P.35
Brake (Without brake box) (Note 2)	**BN**	See P.35
Flange (Front) (Note 1)	**FL**	See P.36
Foot bracket (*1) (Note 3)	**FT**	See P.37
With load cell (with cable track for wiring) (*2) (Note 1)	**LCT**	See P.37
With load cell (without cable track for wiring) (*2)	**LCN**	See P.37
Motor top side-mounted	**MT1/MT2/MT3**	See P.37
Motor right side-mounted (Note 3)	**MR1/MR2**	See P.37
Motor left side-mounted (Note 3)	**ML1/ML3**	See P.37

(*1) Refer to P. 37 for the number of brackets included.
(*2) Please make sure to select one of these for the load cell option (LCT/LCN) in the box of Model Specification Items.
(Note 1) Load cell option (with cable track for wiring) "LCT" and flange option "FL" cannot be selected together.
(Note 2) When selecting the brake option (without brake box) "BN" and using it as the second axis of the brake box, a cable must be separately purchased. Please refer to P.40 for more information.
(Note 3) Option "MR1/MR2/ML1/ML3" and option "FT" cannot be selected together.

Dimensions

CAD drawings can be downloaded from our website.
www.robocylinder.de

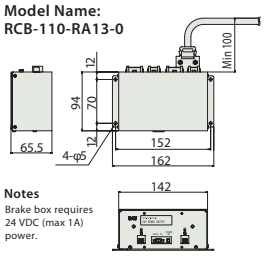
*1. Connect the motor-encoder cables. Please contact IAI for more details on the cable.
*2. While the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the mechanical end.
M.E: Mechanical end S.E.: Stroke end
*3. The direction of width across flats varies depending on the product. Flats cannot be used for vertical or horizontal reference planes.



Brake box (accessory)

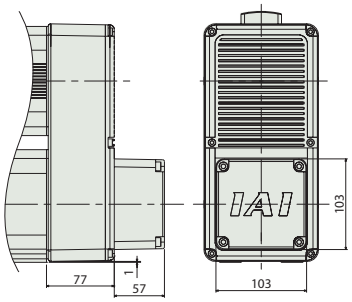
(Accessories for brake equipped specification)

Model Name:
RCB-110-RA13-0



Notes
Brake box requires 24 VDC (max 1A) power.

■ Dimensions with Brake



Notes

The specification with brake (option model name "-B") always comes with a brake box.
To purchase only the actuator body with brake, select the option model name "-BN".

■ Dimensions and Mass by Stroke

RCS2-RA13R

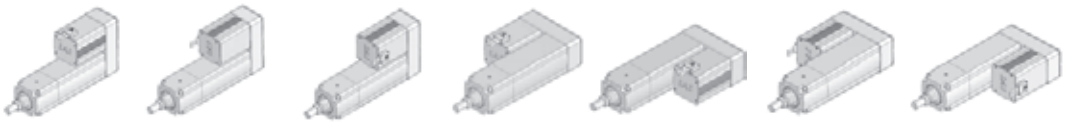
*** The brake option has a 57mm longer total length and 2kg heavier weight.**

Stroke	50	100	150	200
L	489.5	539.5	589.5	639.5
A	412.5	462.5	512.5	562.5
B	282.5	332.5	382.5	432.5
C	40	65	40	65
D	2	2	3	3
E	6	6	8	8
T	90	115	90	115
U	42.5	67.5	42.5	67.5
Mass (kg)	35.5	36.5	37.5	38.5

Side-mounted motor direction / Cable exit position (Option)

Notes

Be sure to select a symbol in the model number for the side-mounted motor direction and cable exit position.



Option Code	MT1	MT2	MT3	MR1	ML1	MR2	ML3
Side-mounted motor direction	Top (standard)	Top	Top	Right side	Left side	Right side	Left side
Cable exit position	Top (standard)	Right side	Left side	Top	Top	Right side	Left side

Applicable Controllers

The RCS2 series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method					Maximum number of positioning points	Reference page
				Positioner	Pulse train	Program	Press program	Network * Option		
SCON-CB/CGB (For servo press only)		1	Single-phase 230VAC	–	–	–	●	DeviceNet, CC-Link, PROFIBUS, CompoNet, EtherCAT, EtherNet/IP, POWERLINK	–	Refer to the SCON-CB/CGB-F servo press function manual.