

# RCS2-RA13R

## High-Payload Rod Type (Position Type without Load Cell)

Battery-less  
Absolute

Motor  
Unit  
Type

Side-mounted  
Motor

Body Width  
130\*  
mm

200v  
AC Servo  
Motor

### Model Specification Items

RCS2

RA13R

WA

750

Lead

Stroke

T2

Cable Length

Options

Series

Type

Encoder Type

Motor Type

Lead

Stroke

Applicable Controllers

Cable Length

Options

WA: Battery-less  
Absolute

750: Servo  
motor  
750W

2.5: 2.5mm  
1.25: 1.25mm

50: 50mm  
200:  
200mm  
(Every 50mm)

T2: SCON  
SSEL  
XSEL-P/Q  
XSEL-RA/SA

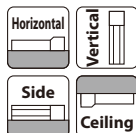
N : None  
P : 1m  
S : 3m  
M : 5m  
X□□ : Specified length  
R□□ : Robot cable

Refer to Options  
table below.  
\* One of motor mount  
direction type needs  
to be selected from  
MT1/MT2/MT3/MR1/  
MR2/ML1/ML3.

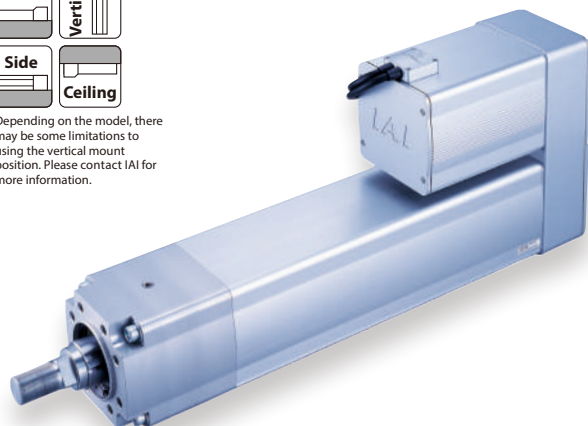
\* Does not include a controller.

\* Please contact IAI for more information about the model specification items.

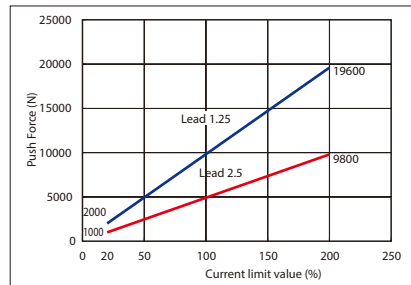
\* Body width does not include the width of the side-mounted motor.



\* 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 current limit value should be 20% or more because the push force will be unstable when the current limit value is low.
- The travel speed during push-motion operation is fixed at 10mm/s. Please note that the graph shows push-motion at 10mm/s, and the push force will decrease as the speed changes.
- Depending on the operating conditions, the push force may decrease due to the temperature rise of the motor.



- 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.
- 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.
- Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please refer to P.31 for more information.
- 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.
- Loads can be applied to the rod tip. Please refer to P.33 for more information.
- For the brake option, a brake box (see P.22) is required in addition to the main unit and controller.

### Actuator Specifications

#### Lead and Payload

Model Number	Motor wattage (W)	Lead (mm)	Max. acceleration (G)	Max. payload (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	400	5106	9800	50~200 (Every 50mm)
RCS2-RA13R-WA-750-1.25-①-T2-②-③		1.25	0.01	500	10211	19600	

Legend: ① Stroke ② Cable Length ③ Option \* Max. horizontal payload means max. weight on the customer's external guide.

\*\* Speed limitation applies to push motion. See the manual or contact IAI.

#### Stroke and Max Speed

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

(Unit: mm/s)

#### ① Stroke

① Stroke (mm)	RCS2-RA13R	
	1t Type (Lead 2.5)	2t Type (Lead 1.25)
50	○	○
100	○	○
150	○	○
200	○	○

#### ② 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.

#### ③ Options

Name	Option Code	Reference Page
Brake (With brake box)	B	See P.35
Brake (Without brake box)	BN (*1)	See P.35
Flange	FL	See P.36
Foot Bracket	FT (*2)	See P.37
Motor top side-mounted	MT1/MT2/MT3	See P.38
Motor right side-mounted	MR1/MR2 (*2)	See P.38
Motor left side-mounted	ML1/ML3 (*2)	See P.38

(\*1) Option: When selecting the brake (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.42 for more information.

(\*2) Option: MR1/MR2/ML1/ML3 and FT cannot be selected together.

### Actuator Specifications

Item	Description
Drive system	Ball screw $\phi$ 32mm rolled C10
Positioning repeatability	$\pm$ 0.01mm
Backlash	0.2mm or less
Rod diameter	$\phi$ 50mm (ball spline)
Allowable moment load to rod	120N-m Please see P.33
Ambient operating temp. & humidity	0~40°C, 85% RH or less (non-condensing)

