

# RCS2-RA13R

ROBO Cylinder Ultra High Thrust Rod Type 130mm Width 200V Servo Motor  
Side-Mounted Motor

■ Configuration: **RCS2** — **RA13R** —  — **750** —  —  — **T2** —  —

Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

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

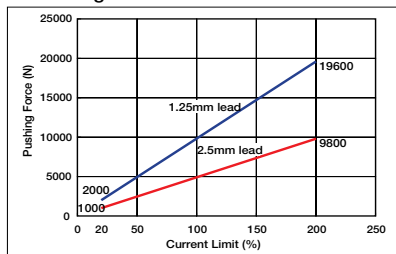
N : None  
P : 1m  
S : 3m  
M : 5m  
X  : Custom  
R  : Robot cable

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-35 for an explanation of the naming convention.



### 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.

Technical References P. A-5

- POINT**  
Notes on Selection
- 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 (→ A-71).
  - The load capacity is based on operation at an acceleration of 0.02G for 2.5mm-lead, and 0.01 for 1.25-lead. This is the upper limit of the acceleration.
  - 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.
  - The brake option requires, in addition to the actuator and the controller, a brake box (see accessories on P248).

### Actuator Specifications

#### Lead and Load Capacity

Model	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-T2-③-④	750	2.5	0.02	400	200	5106	3567	9800	50~200 (50mm increments)
RCS2-RA13R-①-750-1.25-②-T2-③-④		1.25	0.01	500	300	10211	7141	19600	

Legend: ① Encoder ② Stroke ③ Cable length ④ Options

#### Stroke and Maximum Speed

Lead (mm)	Stroke (mm)	Maximum Speed (mm/s)			
		50	100	150	200
2.5	85	120	125		
1.25		62			

(Unit: mm/s)

### Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder			
	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 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 (with brake box)	B	→ P248	-
Brake (without brake box)	BN	→ P248	-
Top-mounted motor	MT1/MT2/MT3	→ P248	-
Right-mounted motor	MR1/MR2	→ P248	-
Left-mounted motor	ML1/ML3	→ P248	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-

### Actuator Specifications

Item	Description
Drive System	Ball screw ø32mm C10 grade
Positioning Repeatability	±0.01mm
Lost Motion	0.2mm or less
Rod Diameter	ø50mm (ball spline)
Allowable Load Moment of the Rod	120 N·m
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)
Push Force Service Life	1000 pushes (*1)

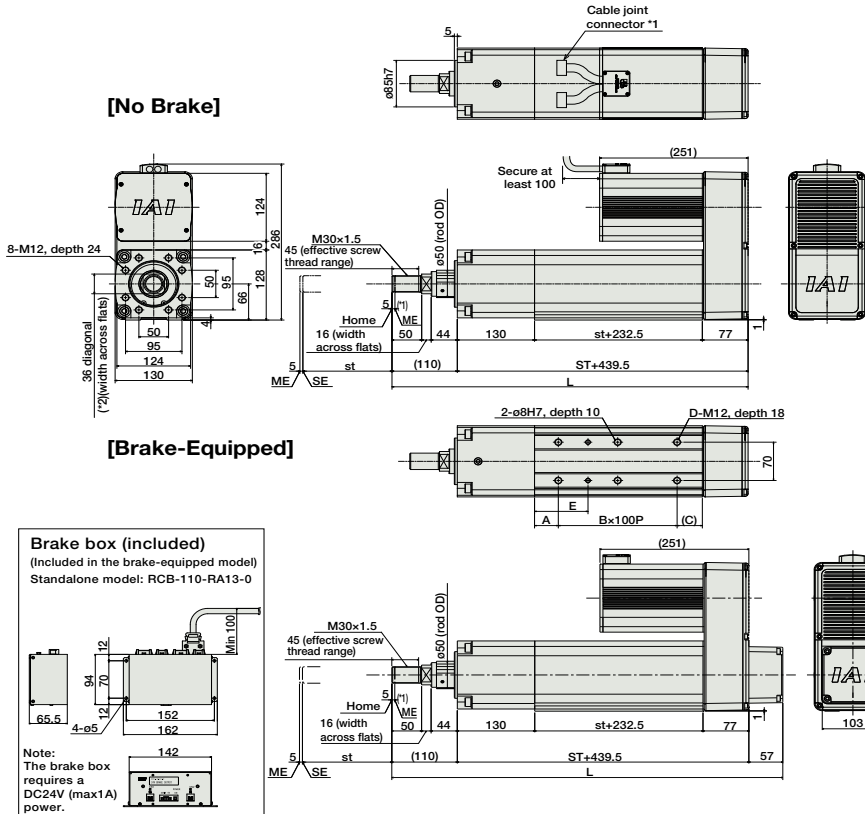
(\*1) The number of pushes are based on maximum pushing force and a distance of 1mm.

# 247

RCS2-RA13R

Dimensions

For Special Orders P. A-9



- The motor-encoder cable is connected here. See page A-39 for details on cables.
- When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.
- The orientation of the bolt will vary depending on the product.

SE: Stroke end  
ME: Mechanical end

**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".

■ Dimensions/Weight by Stroke

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

RCS2-RA13R (with brake)

Stroke	50	100	150	200
L	656.5	706.5	756.5	806.5
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)	35	36	37	38

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

Compatible Controllers

The RCS2 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
Positioner Mode		SCON-C-750①-NP-2-2	Positioning is possible for up to 512 points	512 points	Single-Phase AC 200V	1569VA max. * When operating a 750W single-axis model	-	→ P547
Solenoid Valve Mode			Operable with same controls as solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				

\* ① is a placeholder for the encoder type (I: incremental, A: absolute).



RCS2-RA13R **248**

- 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