RCS2-RGD4R

Robo Cylinder, Rod Type with Double Guide, ø37mm Diameter, 200V Servo Motor, Side-mounted Motor

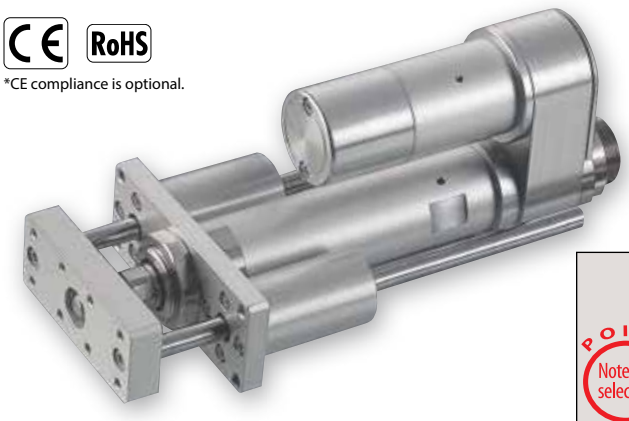
Model Specification Items: **RCS2** — **RGD4R** — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCS2	RGD4R	I: Incremental A: Absolute	20: 20W Servo motor 30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm 〜 300: 300mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X☐☐: Custom Length R☐☐: Robot Cable	See options below.

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

CE RoHS

*CE compliance is optional.



Technical References — Appendix P.5

POINT — Notes on selection

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.

(2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model). 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. See the technical resources (page A-112) for the allowable weight using the supplied guide alone.

(4) See page A-71 for details on push motion.

Actuator Specifications

■ Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity Horizontal (kg)	Max. Load Capacity Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-RGD4R-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50~300 (every 50mm)
RCS2-RGD4R-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCS2-RGD4R-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCS2-RGD4R-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCS2-RGD4R-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCS2-RGD4R-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

■ Stroke and Maximum Speed

Lead \ Stroke	50~300 (every 50mm)
12	600
6	300
3	150

(Unit: mm/s)

Code explanation ① Encoder ② Stroke ③ Applicable controller ④ Cable length ⑤ Options *See page A-71 for details on push motion.

①Encoder Type/②Stroke

②Stroke (mm)	Standard price ①Encoder Type Incremental Motor Output (W) 20W	Incremental 30W	Absolute Motor Output (W) 20W	Absolute 30W
50	—	—	—	—
100	—	—	—	—
150	—	—	—	—
200	—	—	—	—
250	—	—	—	—
300	—	—	—	—

④Cable 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)	—
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-59 for cables for maintenance.

⑤Options

Name	Option code	See page	Standard price
Brake	**B**	→ A-42	—
CE compliance	**CE**	→ A-42	—
Foot bracket	**FT**	→ A-49	—
Flange bracket (back)	**FLR**	→ A-46	—
Home sensor	**HS**	→ A-50	—
Non-motor end specification	**NM**	→ A-52	—
Clevis bracket	**QR**	→ A-53	—
Back-mounting plate	**RP**	→ A-54	—

*The home sensor (HS) cannot be used on the non-motor end models.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Rod diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

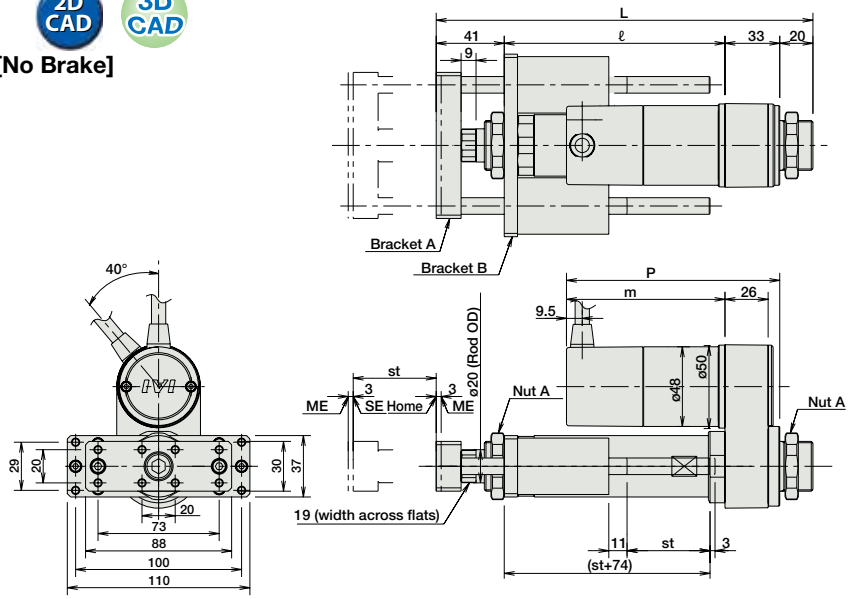
Dimensional Drawings

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

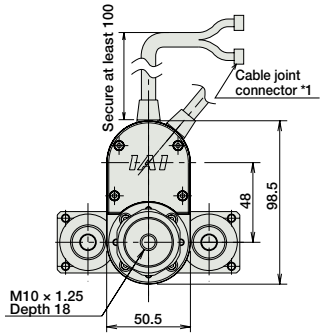
For Special Orders Appendix P.15

2D CAD 3D CAD

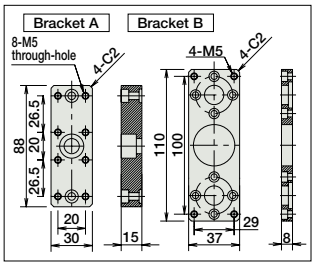
[No Brake]

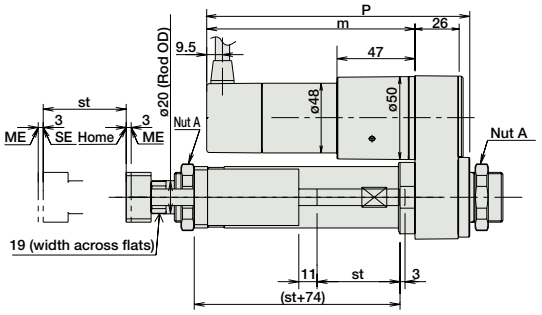


(*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
(*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
ME : Mechanical end SE : Stroke end
(*3) The orientation of the bolt varies depending on the product.



[Brake-Equipped]





■ Dimensions and Weight by Stroke

RCS2-RGD4R (without brake)

Stroke		50	100	150	200	250	300
L	20W	227	277	327	377	427	477
	30W	227	277	327	377	427	477
ℓ		133	183	233	283	333	383
m	20W	80.5					
	30W	95.5					
P	20W	113.5					
	30W	128.5					
Weight (kg)		1.9	2.2	2.3	2.6	2.7	3.0

RCS2-RGD4R (with brake)

Stroke		50	100	150	200	250	300
L	20W	227	277	327	377	427	477
	30W	227	277	327	377	427	477
ℓ		133	183	233	283	333	383
m	20W	123.w5					
	30W	138.5					
P	20W	156.5					
	30W	171.5					
Weight (kg)		2.1	2.4	2.5	2.8	2.9	3.2

③ Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-20Ⓘ-NP-2-Ⓘ SCON-CA-30DⒾ-NP-2-Ⓘ	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	126 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643
Solenoid valve mode			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	(—)			—	
Positioner multi-axis, network type		MSCON-C-1-20Ⓘ-Ⓥ-0-Ⓘ MSCON-C-1-30DⒾ-Ⓥ-0-Ⓘ	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points			—	→ P655
Program control type, 1 to 2 axes		SSEL-CS-1-20Ⓘ-NP-2-Ⓘ SSEL-CS-1-30DⒾ-NP-2-Ⓘ	Program operation is supported. Up to 2 axes can be operated.	20,000 points			—	→ P685
Program control type, 1 to 8 axes		XSEL-Ⓙ-1-20Ⓘ-N1-EEE-2-Ⓥ XSEL-Ⓙ-1-30DⒾ-N1-EEE-2-Ⓥ	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected			—	→ P695

* This is for the single-axis MSCON, SSEL, and XSEL.
* Ⓘ indicates the encoder type (I: Incremental / A: Absolute).
* Ⓘ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).
* Ⓙ indicates the XSEL type (J / K / P / Q / R / S).
* Ⓥ indicates the power-supply voltage type (1: 100 V / 2: Single-phase 200V / 3: Three-phase 200V).
* Ⓥ indicates field network specification symbol.