



## Rod Type

**RCP3**  
**RCP2**

**ERC2**  
**RCA2**

**RCA**  
**RCS2**



RCP3-RA2AC

RCP2-RA3C

RCP2-RGS4C

RCP2-RGD4C

RCP2-SRA4R

RCP2-RA10C

RCA2-RP3N

RCA2-GS3N

RCA2-GD3N

RCA2-SD3N

ERC2-RA6C

RCA-RA4C

RCA-RA4D

RCA-RA4R

RCA-RGS4C

RCA-RGD4C

RCS2-RA5C

RCS2-SRA7BD

RCS2-RA13R

<b>RCP3 series</b> Pulse Motor Type	Mini Rod Type	Coupling Type	22mm Width	RCP3-RA2AC	131
			28mm Width	RCP3-RA2BC	133
		Side-Mounted Motor Type	22mm Width	RCP3-RA2AR	135
			28mm Width	RCP3-RA2BR	137

<b>RCP2 series</b> Pulse Motor Type	Standard Type	Coupling Type	25mm Width	RCP2-RA2C	139		
			35mm Width	RCP2-RA3C	141		
			45mm Width	RCP2-RA4C	143		
			64mm Width	RCP2-RA6C	145		
			100mm Width	RCP2-RA10C	147		
			Short-Length Side-Mounted Motor Type	45mm Width	RCP2-SRA4R	149	
	Single-Guide Type	Coupling Type	45mm Width	RCP2-RGS4C	151		
			64mm Width	RCP2-RGS6C	153		
			Short-Length Side-Mounted Motor Type	45mm Width	RCP2-SRGS4R	155	
			Double-Guide Type	Coupling Type	35mm Width	RCP2-RGD3C	157
					45mm Width	RCP2-RGD4C	159
					64mm Width	RCP2-RGD6C	161
	Short-Length Side-Mounted Motor Type	45mm Width	RCP2-SRGD4R	163			

- 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

<b>ERC2 series</b>	Rod Type	Standard Type	58mm Width	ERC2-RA6C	<b>165</b>
			68mm Width	ERC2-RA7C	<b>167</b>
	Single-Guide Type	58mm Width	ERC2-RGS6C	<b>169</b>	
			68mm Width	ERC2-RGS7C	<b>171</b>
	Double-Guide Type	58mm Width	ERC2-RGD6C	<b>173</b>	
			68mm Width	ERC2-RGD7C	<b>175</b>

<b>RCA2 series</b>  24V Servo Motor Type	Mini Rod Type	Nut-Mount Type	28mm Width	RCA2-RN3N	<b>177</b>
			34mm Width	RCA2-RN4N	<b>179</b>
	Tapped Hole Type	28mm Width	RCA2-RP3N	<b>181</b>	
			34mm Width	RCA2-RP4N	<b>183</b>
	Single-Guide Free Mount Type	28mm Width	RCA2-GS3N	<b>185</b>	
			34mm Width	RCA2-GS4N	<b>187</b>
	Double-Guide Free Mount Type	28mm Width	RCA2-GD3N	<b>189</b>	
			34mm Width	RCA2-GD4N	<b>191</b>
	Double-Guide Slide Unit Type	60mm Width	RCA2-SD3N	<b>193</b>	
			72mm Width	RCA2-SD4N	<b>195</b>

<b>RCA series</b>  24V Servo Motor Type	Standard Type	Coupling Type	ø32mm	RCA-RA3C	<b>197</b>
			ø37mm	RCA-RA4C	<b>199</b>
		Built-In Type	ø32mm	RCA-RA3D	<b>201</b>
				ø37mm	RCA-RA4D
		Side-Mounted Motor Type	ø32mm	RCA-RA3R	<b>205</b>
				ø37mm	RCA-RA4R
	Short-Length Side-Mounted Motor Type	45mm Width	RCA-SRA4R	<b>209</b>	
	Single-Guide Type	Coupling Type	ø32mm	RCA-RGS3C	<b>211</b>
			ø37mm	RCA-RGS4C	<b>213</b>
		Built-In Type	ø32mm	RCA-RGS3D	<b>215</b>
				ø37mm	RCA-RGS4D
		Short-Length Side-Mounted Motor Type	45mm Width	RCA-SRGS4R	<b>219</b>
	Double-Guide Type	Coupling Type	ø32mm	RCA-RGD3C	<b>221</b>
			ø37mm	RCA-RGD4C	<b>223</b>
		Built-In Type	ø32mm	RCA-RGD3D	<b>225</b>
				ø37mm	RCA-RGD4D
Side-Mounted Motor Type		ø32mm	RCA-RGD3R	<b>229</b>	
			ø37mm	RCA-RGD4R	<b>231</b>
Short-Length Side-Mounted Motor Type	45mm Width	RCA-SRGD4R	<b>233</b>		

<b>RCS2 series</b>  200V Servo Motor Type	Standard Type	Coupling Type	ø37mm	RCS2-RA4C	<b>235</b>
			55mm Width	RCS2-RA5C	<b>237</b>
		Built-In Type	ø37mm	RCS2-RA4D	<b>239</b>
		Short-Length Side-Mounted Motor Type	75mm Width	RCS2-SRA7BD	<b>241</b>
	Side-Mounted Motor Type	ø37mm	RCS2-RA4R	<b>243</b>	
			55mm Width	RCS2-RA5R	<b>245</b>
			130mm Width	RCS2-RA13R	<b>247</b>
	Single-Guide Type	Coupling Type	ø37mm	RCS2-RGS4C	<b>249</b>
			55mm Width	RCS2-RGS5C	<b>251</b>
		Built-In Type	ø37mm	RCS2-RGS4D	<b>253</b>
Short-Length Side-Mounted Motor Type	75mm Width	RCS2-SRGS7BD	<b>255</b>		
Double-Guide Type	Coupling Type	ø37mm	RCS2-RGD4C	<b>257</b>	
		55mm Width	RCS2-RGD5C	<b>259</b>	
	Built-In Type	ø37mm	RCS2-RGD4D	<b>261</b>	
Short-Length Side-Mounted Motor Type	75mm Width	RCS2-SRGD7BD	<b>263</b>		
Side-Mounted Motor Type	ø37mm	RCS2-RGD4R	<b>265</b>		

# RCP3-RA2AC

ROBO Cylinder Mini Rod Type Motor Unit Coupling Type 22mm Width  
Pulse Motor Lead Screw

■ Configuration: **RCP3** — **RA2AC** — **I** — **20P** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20P: Pulse motor  
20 □ size

4S: 4mm lead screw  
2S: 2mm lead screw  
1S: 1mm lead screw

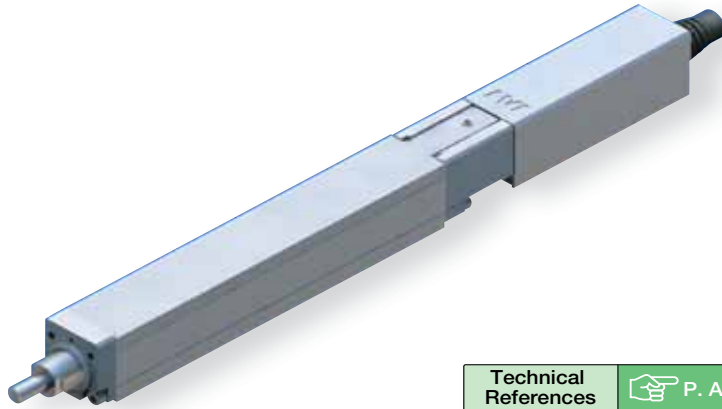
25: 25mm  
100: 100mm (25mm pitch increments)

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X □ □: Custom Length

B: Brake  
NM: Reversed-home

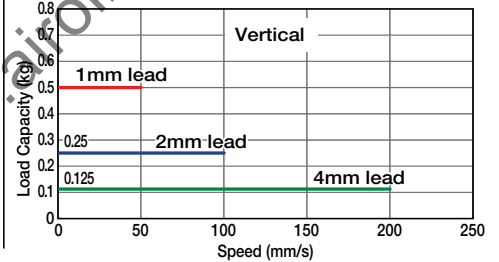
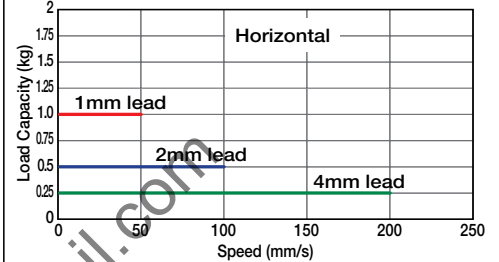
\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

- POINT** Notes on Selection
- (1) The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - (2) The horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.
  - (3) The maximum pushing force is exerted at 5mm/s.
  - (4) If the actuator is used in a dusty environment, its service life will become significantly shorter.
  - (5) This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### ■ Lead and Load Capacity

Model	Feed Screw	Lead (mm)	Max. Load Capacity		Maximum Push Force (N)	Positioning Repeatability (mm)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)			
RCP3-RA2AC-I-20P-4S-①-②-③-④	Lead Screw	4	0.25	0.125	See page A-68.	±0.05	25 ~ 100 (25mm increments)
RCP3-RA2AC-I-20P-2S-①-②-③-④		2	0.5	0.25			
RCP3-RA2AC-I-20P-1S-①-②-③-④		1	1	0.5			

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

#### ■ Stroke and Maximum Speed

Lead	Stroke		
	25 (mm)	50 ~ 100 (mm)	100 ~ 200 (mm)
4	180	200	
2	100		
1	50		

(Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price	
	Feed Screw	Lead Screw
25	-	-
50	-	-
75	-	-
100	-	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
		-

\* The RCP3 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Lead screw Ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum (white alumite treated)
Guide	Sliding guide
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

Dimensions

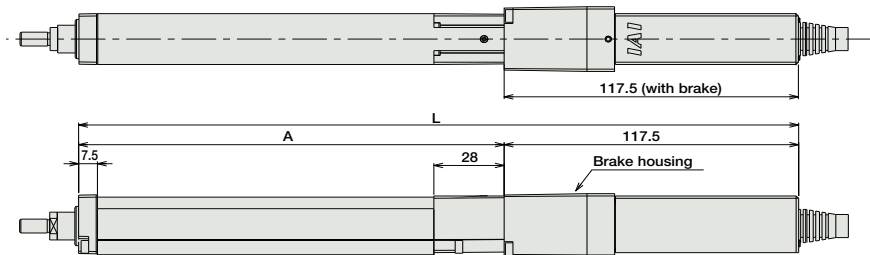
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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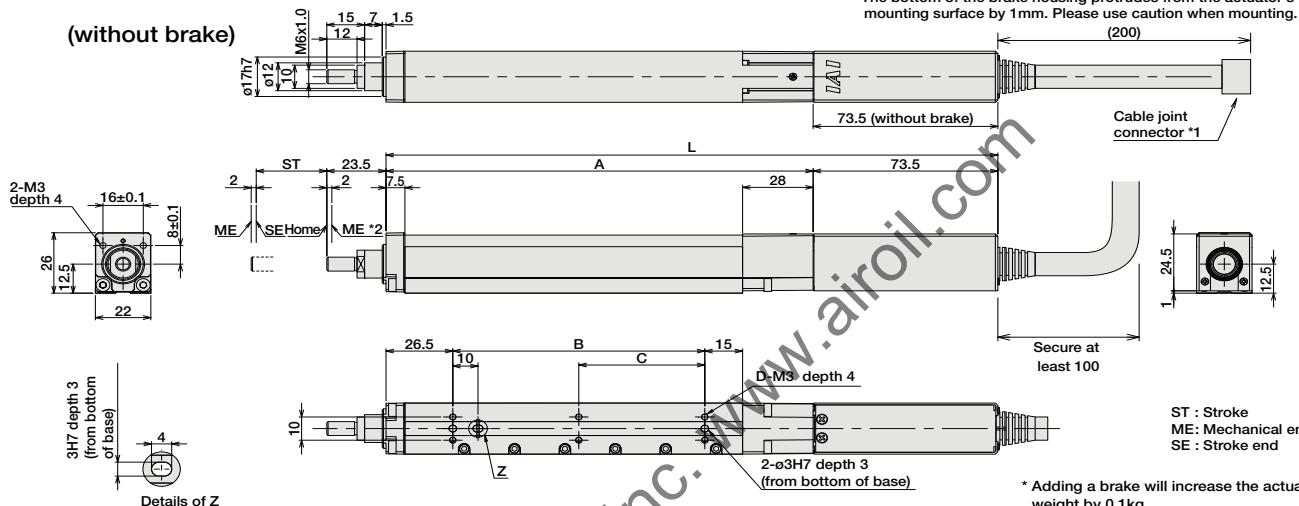


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.

(with brake)



(without brake)



\* Adding a brake will increase the actuator's weight by 0.1 kg.

■ Dimensions/Weight by Stroke

Stroke	25	50	75	100	
L	No Brake	168	193	218	243
	Brake-equipped	212	237	262	287
A	94.5	119.5	144.5	169.5	
B	25	50	75	100	
C	0	0	0	50	
D	4	4	4	6	
Weight (kg)	0.27	0.29	0.31	0.33	

② Compatible Controllers

The RCP3 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
Solenoid Valve Type		PMEC-C-20PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
	Splash-Proof Solenoid Valve Type		PSEP-C-20PI-NP-2-0				Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.	-
Positioner Type			PCON-C-20PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V		2A max.
	Safety-Compliant Positioner Type		PCON-CG-20PI-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RPCON-20P	Dedicated to field network	768 points			-	→ P503
Program Control Type		PSEL-C-1-20PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points			-	→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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

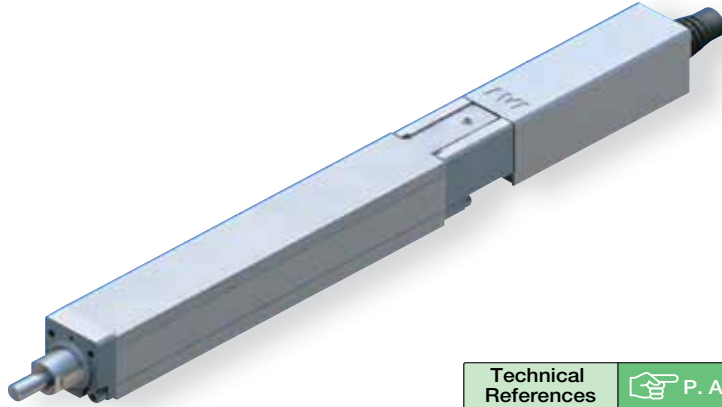
# RCP3-RA2BC

ROBO Cylinder Mini Rod Type Motor Unit Coupling Type 28mm Width  
Pulse Motor Lead Screw

■ Configuration: **RCP3** — **RA2BC** — **I** — **20P** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I: Incremental * The Simple absolute encoder is also considered type "I".	20P: Pulse motor 20 □ size	6S : 6mm lead screw 4S : 4mm lead screw 2S : 2mm lead screw	25: 25mm 150: 150mm (25mm pitch increments)	P1: PCON RPCON PSEL P3: PMEC PSEP	N : None P : 1m S : 3m M : 5m X □ □ : Custom Length	B : Brake NM : Reversed-home		

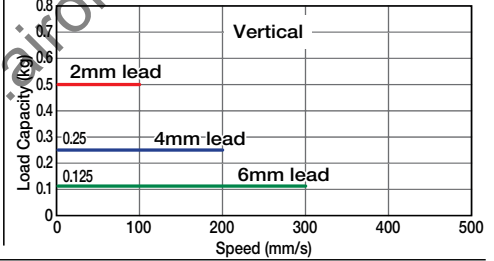
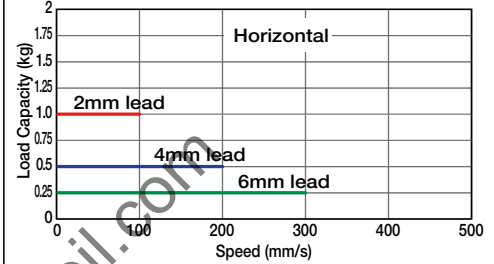
\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

- POINT** Notes on Selection
- (1) The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - (2) The horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.
  - (3) The maximum pushing force is exerted at 5mm/s.
  - (4) If the actuator is used in a dusty environment, its service life will become significantly shorter.
  - (5) This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

Model	Feed Screw	Lead (mm)	Max. Load Capacity		Maximum Push Force (N)	Positioning Repeatability (mm)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)			
RCP3-RA2BC-I-20P-6S-①-②-③-④	Lead Screw	6	0.25	0.125	See page A-68.	±0.05	25 ~ 150 (25mm increments)
RCP3-RA2BC-I-20P-4S-①-②-③-④		4	0.5	0.25			
RCP3-RA2BC-I-20P-2S-①-②-③-④		2	1	0.5			

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

#### Stroke and Maximum Speed

Stroke / Lead	25 (mm)	50 (mm)	75~150 (mm)
	6	180	280
4	180	200	
2	100		

(Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
25	Feed Screw
50	Lead Screw
75	-
100	-
125	-
150	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
		-

\* The RCP3 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Lead screw ø6mm C10 grade
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum (white alumite treated)
Guide	Sliding guide
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 5 million cycles Vertical: 10 million cycles

Dimensions

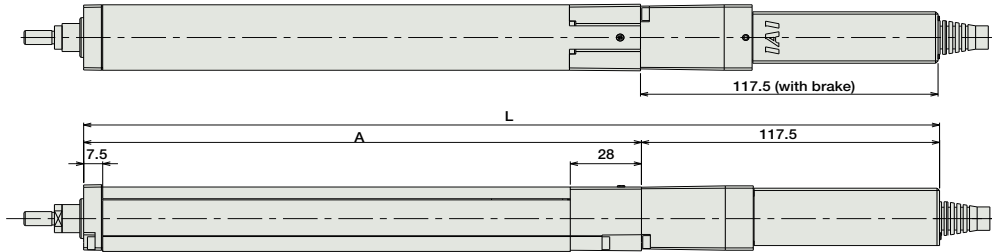
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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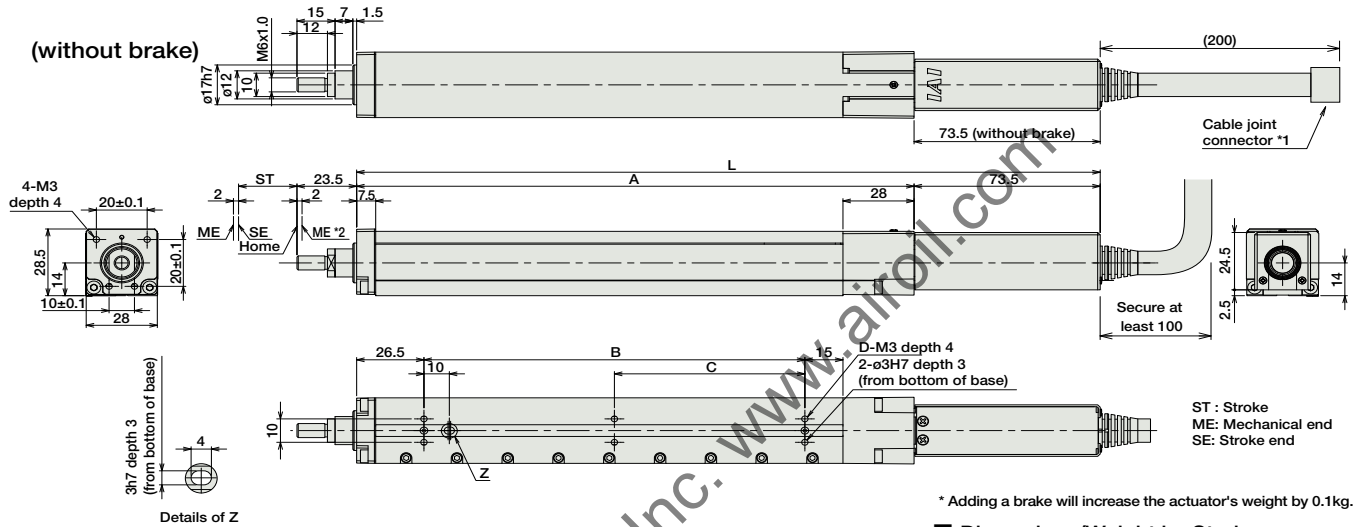


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.

(with brake)



(without brake)



\* Adding a brake will increase the actuator's weight by 0.1kg.

■ Dimensions/Weight by Stroke

Stroke	25	50	75	100	125	150	
L	No Brake	168	193	218	243	268	293
	Brake-equipped	212	237	262	287	312	337
A	94.5	119.5	144.5	169.5	194.5	219.5	
B	25	50	75	100	125	150	
C	0	0	0	50	62.5	75	
D	4	4	4	6	6	6	
Weight (kg)	0.3	0.34	0.38	0.41	0.44	0.47	

② Compatible Controllers

The RCP3 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
Solenoid Valve Type		PMEC-C-20PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-20PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-20PI-NP-2-0						
Positioner Type		PCON-C-20PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-20PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-20P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-20PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- 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

# RCP3-RA2AR

ROBO Cylinder Mini Rod Type Side-Mounted Motor 22mm Width  
Pulse Motor Lead Screw

■ Configuration: **RCP3** — **RA2AR** — **I** — **20P** — [ ] — [ ] — [ ] — [ ] — [ ]

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20P: Pulse motor  
20 □ size

4S: 4mm lead screw  
2S: 2mm lead screw  
1S: 1mm lead screw

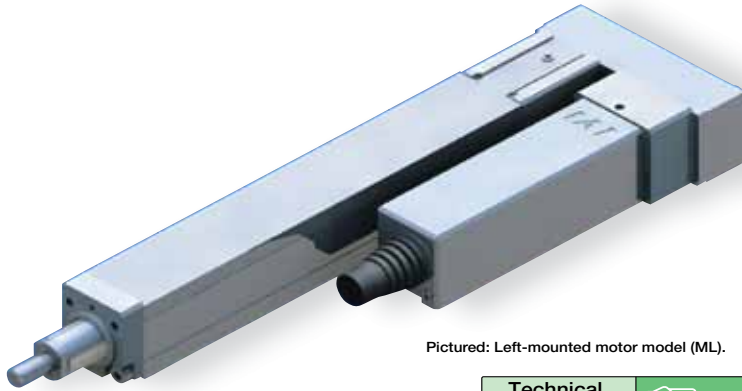
25: 25mm  
100: 100mm (25mm pitch increments)

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X □ □: Custom Length

See Options below  
\* Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-35 for an explanation of the naming convention.



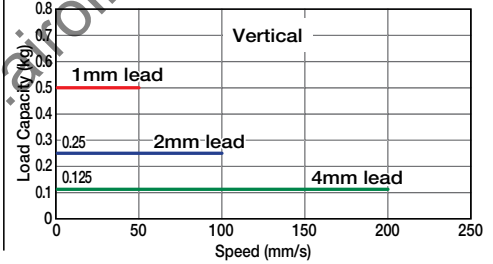
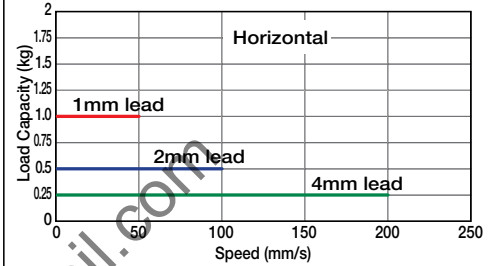
Pictured: Left-mounted motor model (ML).

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- POINT** Notes on Selection
- The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - The horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.
  - The maximum pushing force is exerted at 5mm/s.
  - If the actuator is used in a dusty environment, its service life will become significantly shorter.
  - This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

Model	Feed Screw	Lead (mm)	Max. Load Capacity		Maximum Push Force (N)	Positioning Repeatability (mm)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)			
RCP3-RA2AR-I-20P-4S-①-②-③-④	Lead Screw	4	0.25	0.125	See page A-68.	±0.05	25 ~ 100 (25mm increments)
RCP3-RA2AR-I-20P-2S-①-②-③-④		2	0.5	0.25			
RCP3-RA2AR-I-20P-1S-①-②-③-④		1	1	0.5			

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

#### Stroke and Maximum Speed

Lead	Stroke		
	25 (mm)	50 ~ 100 (mm)	100 ~ 200 (mm)
4	180	200	
2	100		
1	50		

(Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price	
	Feed Screw	Lead Screw
25	-	-
50	-	-
75	-	-
100	-	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
		-

\* The RCP3 comes standard with a robot cable.

\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Left-Mounted Motor (Standard)	ML	→ A-33	-
Right-Mounted Motor	MR	→ A-33	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Lead screw Ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum (white alumite treated)
Guide	Sliding guide
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

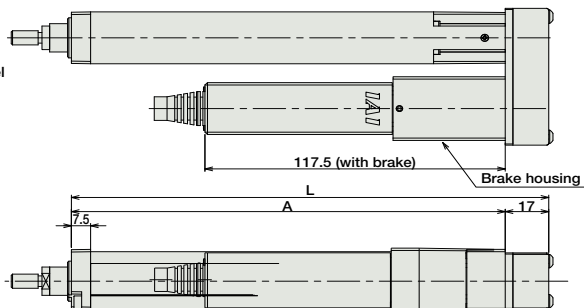
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

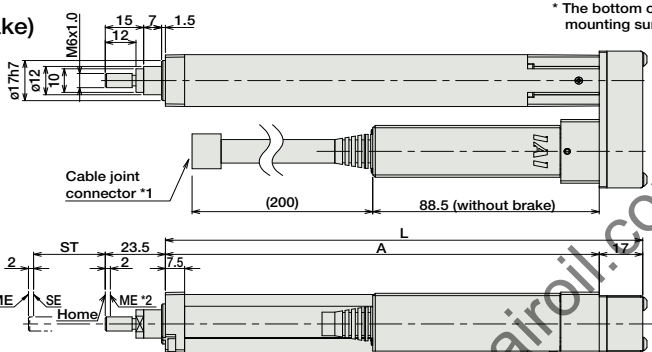


\* The figure below shows the left-mounted motor model

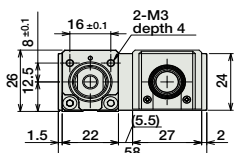
(with brake)



(without brake)



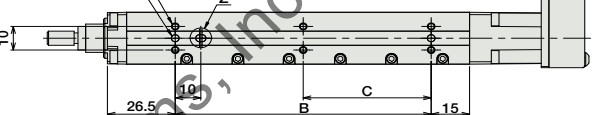
\* The bottom of the brake housing protrudes from the actuator's mounting surface by 1m. Please use caution when mounting.



3H7 depth 3 (from bottom of base)



D-M3 depth 5  
2-ø3H7 depth 3 (from bottom of base)



ST : Stroke  
ME : Mechanical end  
SE : Stroke end

\* Adding a brake will increase the actuator's weight by 0.1kg.

■ Dimensions/Weight by Stroke

Stroke	25	50	75	100
L	111.5	136.5	161.5	186.5
A	94.5	119.5	144.5	169.5
B	25	50	75	100
C	0	0	0	50
D	4	4	4	6
Weight (kg)	0.29	0.32	0.34	0.36

② Compatible Controllers

The RCP3 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
Solenoid Valve Type		PMEC-C-20PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-20PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-20PI-NP-2-0						
Positioner Type		PCON-C-20PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-20PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-20P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-20PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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



# RCP3-RA2BR

ROBO Cylinder Mini Rod Type Side-Mounted Motor 28mm Width  
Pulse Motor Lead Screw

■ Configuration: **RCP3** — **RA2BR** — **I** — **20P** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20P: Pulse motor  
20 □ size

6S: 6mm lead screw  
4S: 4mm lead screw  
2S: 2mm lead screw

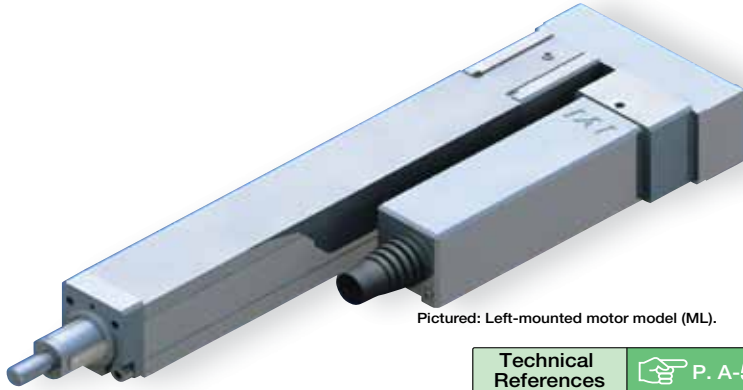
25: 25mm  
150: 150mm (25mm pitch increments)

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X □ □: Custom Length

See Options below  
\* Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-35 for an explanation of the naming convention.

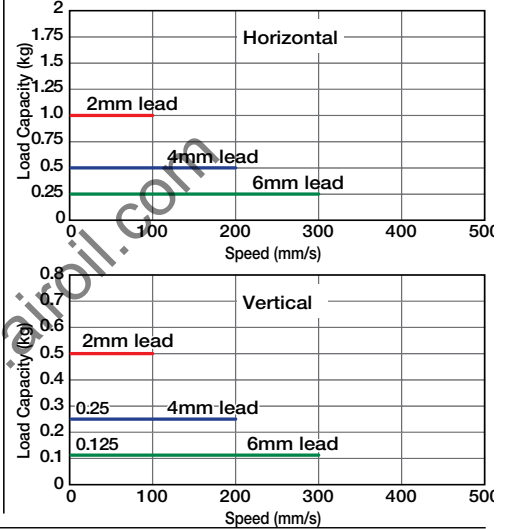


Pictured: Left-mounted motor model (ML).

Technical References P. A-5

- POINT** Notes on Selection
- (1) The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - (2) The horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.
  - (3) The maximum pushing force is exerted at 5mm/s.
  - (4) If the actuator is used in a dusty environment, its service life will become significantly shorter.
  - (5) This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications						
■ Lead and Load Capacity				■ Stroke and Maximum Speed		
Model	Feed Screw	Lead (mm)	Max. Load Capacity Horizontal (kg) Vertical (kg)	Maximum Push Force (N)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-RA2BR-I-20P-6S-①-②-③-④	Lead Screw	6	0.25 0.125	See page A-68.	±0.05	25 ~ 150 (25mm increments)
RCP3-RA2BR-I-20P-4S-①-②-③-④		4	0.5 0.25			
RCP3-RA2BR-I-20P-2S-①-②-③-④		2	1 0.5			

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

Lead	Stroke and Maximum Speed			
	Stroke (mm)	25 (mm)	50 (mm)	75 ~ 150 (mm)
Lead Screw	6	180	280	300
	4	180	200	
	2	100		

(Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
25	Feed Screw
50	Lead Screw
75	-
100	-
125	-
150	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
	-	-

\* The RCP3 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Left-Mounted Motor (Standard)	ML	→ A-33	-
Right-Mounted Motor	MR	→ A-33	-
Reversed-home	NM	→ A-33	-

Actuator Specifications

Item	Description
Drive System	Lead screw ø6mm C10 grade
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum (white alumite treated)
Guide	Sliding guide
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

Dimensions

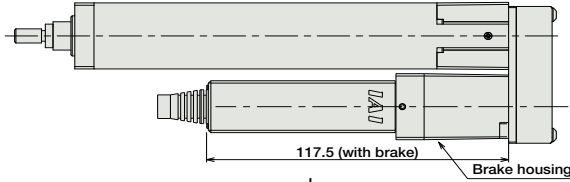
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



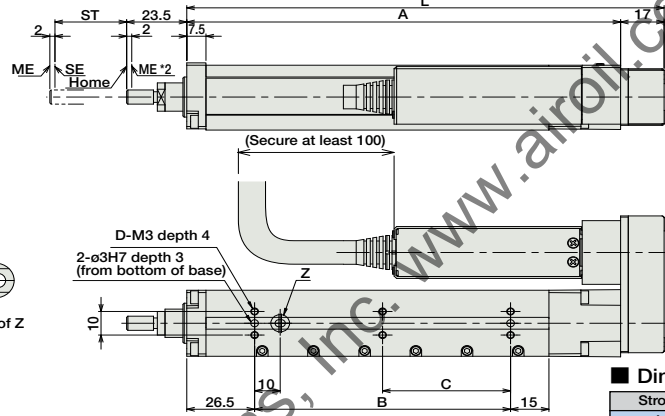
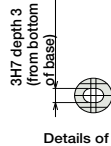
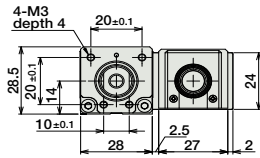
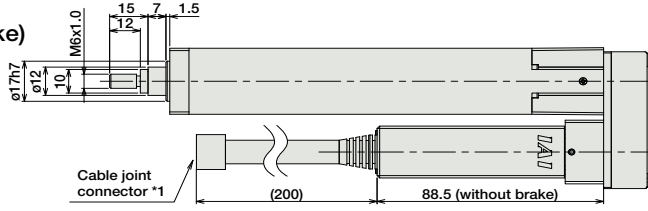
\* The diagram below shows a left-mounted motor model.

For Special Orders P. A-9

(with brake)



(without brake)



ST : Stroke  
ME : Mechanical end  
SE : Stroke end

\* Adding a brake will increase the actuator's weight by 0.1kg.

■ Dimensions/Weight by Stroke

Stroke	25	50	75	100	125	150
L	111.5	136.5	161.5	186.5	211.5	236.5
A	94.5	119.5	144.5	169.5	194.5	219.5
B	25	50	75	100	125	150
C	0	0	0	50	62.5	75
D	4	4	4	6	6	6
Weight (kg)	0.33	0.37	0.4	0.43	0.46	0.49

② Compatible Controllers

The RCP3 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
Solenoid Valve Type		PMEC-C-20PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-20PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		PSEP-CW-20PI-NP-2-0						
Positioner Type		PCON-C-20PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-20PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RCON-20P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-20PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- 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

# RCP2-RA2C

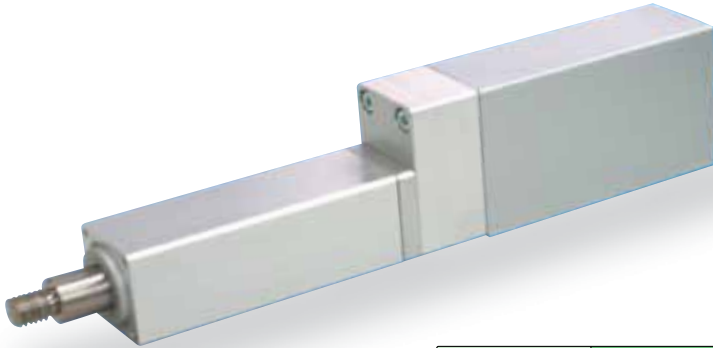
ROBO Cylinder Rod Type 25mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RA2C** — **I** — **20P** —  —  —  —  —

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

I: Incremental \* The Simple absolute encoder is also considered type "I".  
 20P: Pulse motor 20 □ size  
 1 : 1mm  
 25: 25mm  
 100: 100mm (25mm pitch increments)  
 P1: PCON  
 RPCON  
 PSEL  
 P3: PMEC  
 PSEP  
 N : None  
 P : 1m  
 S : 3m  
 M : 5m  
 X □ □ : Custom Length  
 R □ □ : Robot cable  
 FL : Flange  
 FT : Foot bracket

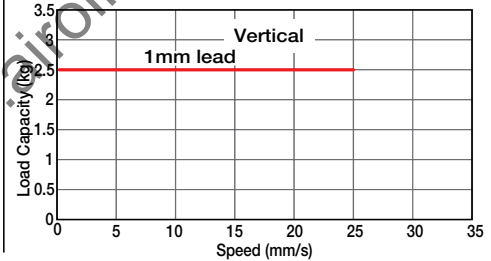
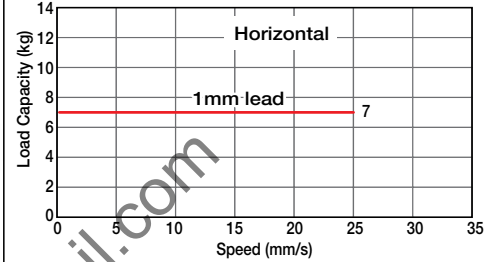
\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

- POINT** Notes on Selection
- (1) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (2) The load capacity is based on operation at an acceleration of 0.05G. 0.05G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.

■ Speed vs. Load Capacity  
 Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### ■ Lead and Load Capacity

Model	Lead (mm)	Max. Load Capacity		Maximum Push Force (N)(Note 1)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA2C-I-20P-1-①-②-③-④	7	7	2.5	100	25 ~ 100 (25mm increments)

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options (Note 1) See page A-69 for the pushing force graphs. (Unit: mm/s)

#### ■ Stroke and Maximum Speed

Stroke / Lead	25 ~ 100 (25mm increments)	
	1	25

#### ① Stroke List

Stroke (mm)	Standard Price
25	-
50	-
75	-
100	-

#### 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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	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
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø6mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø12mm
Non-rotating accuracy of rod	±2.1 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



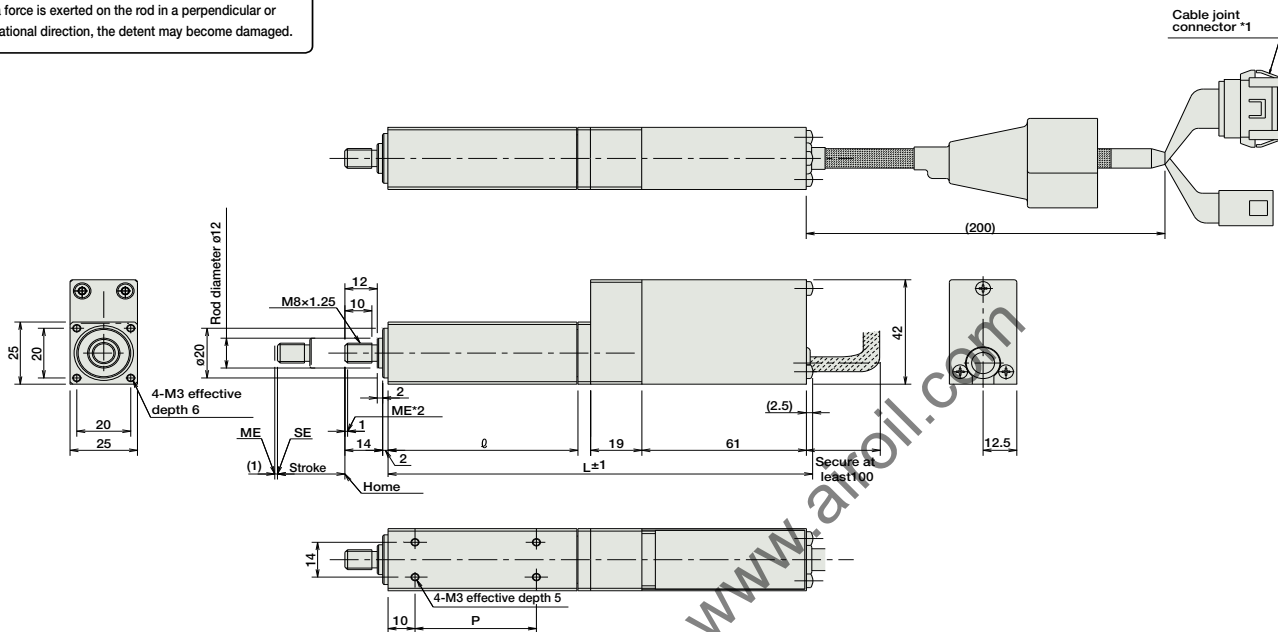
\* The RA2C is not available in reversed-home configuration, due to its construction.

For Special Orders P. A-9

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end

Note:

Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.



■ Dimensions/Weight by Stroke

Stroke	25	50	75	100
R	70	95	120	145
L	157.5	182.5	207.5	232.5
P	45	70	95	120
Weight (kg)	0.4	0.5	0.6	0.7

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-20PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
Splash-Proof Solenoid Valve Type		PSEP-C-20PI-NP-2-0 PSEP-CW-20PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Positioner Type		PCON-C-20PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-20PI-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RPCON-20P	Dedicated to field network	768 points			-	→ P503
Program Control Type		PSEL-C-1-20PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points			-	→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

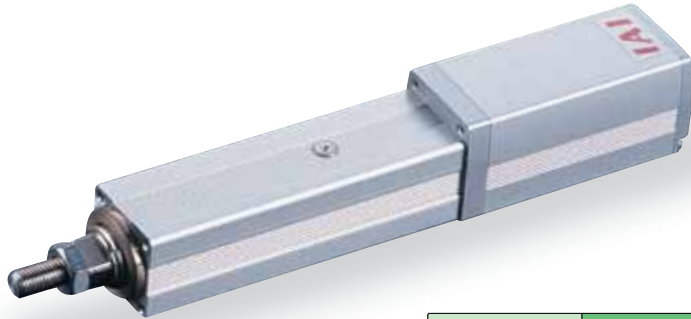
# RCP2-RA3C

ROBO Cylinder Rod Type 35mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RA3C** — **I** — **28P** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I: Incremental * The Simple absolute encoder is also considered type "I".	28P: Pulse motor 28 □ size	5 : 5mm 2.5 : 2.5mm	50: 50mm 200: 200mm (50mm pitch increments)	P1: PCON RPCON PSEL P3: PMEC PSEP	N : None P : 1m S : 3m M : 5m X □ □ : Custom R □ □ : Robot cable	FL : Flange FT : Foot bracket NM : Reversed-home		

\* See page Pre-35 for an explanation of the naming convention.



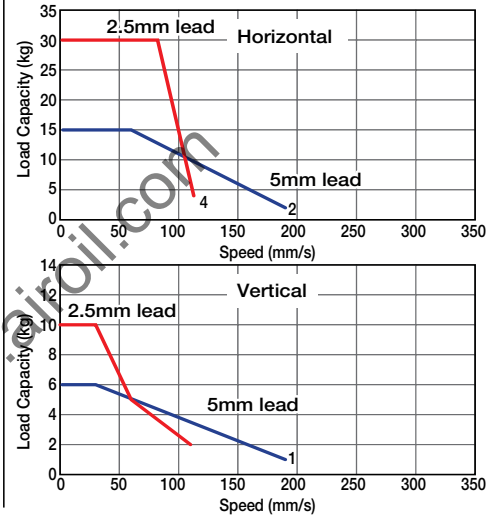
Technical References P. A-5



- (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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.

### ■ Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### ■ Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA3C-I-28P-5-①-②-③-④	5	~ 15	~ 6	73.5	50 ~ 200 (50mm increments)
RCP2-RA3C-I-28P-2.5-①-②-③-④	2.5	~ 30	~ 10	156.8	50 ~ 200 (50mm increments)

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

(Note 2) See page A-69 for the pushing force graphs.

#### ■ Stroke and Maximum Speed

Stroke Lead	50 ~ 200 (50mm increments)	
	Stroke (mm)	Maximum Speed (mm/s)
5	50	187
2.5	50	114

(Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
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)	-
	X21 (21m) ~ X25 (25m)	-
Robot Cable	R01 (1m) ~ R03 (3m)	-
	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	R11 (11m) ~ R15 (15m)	-
	R16 (16m) ~ R20 (20m)	-
	R21 (21m) ~ R25 (25m)	-

\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±1.5 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

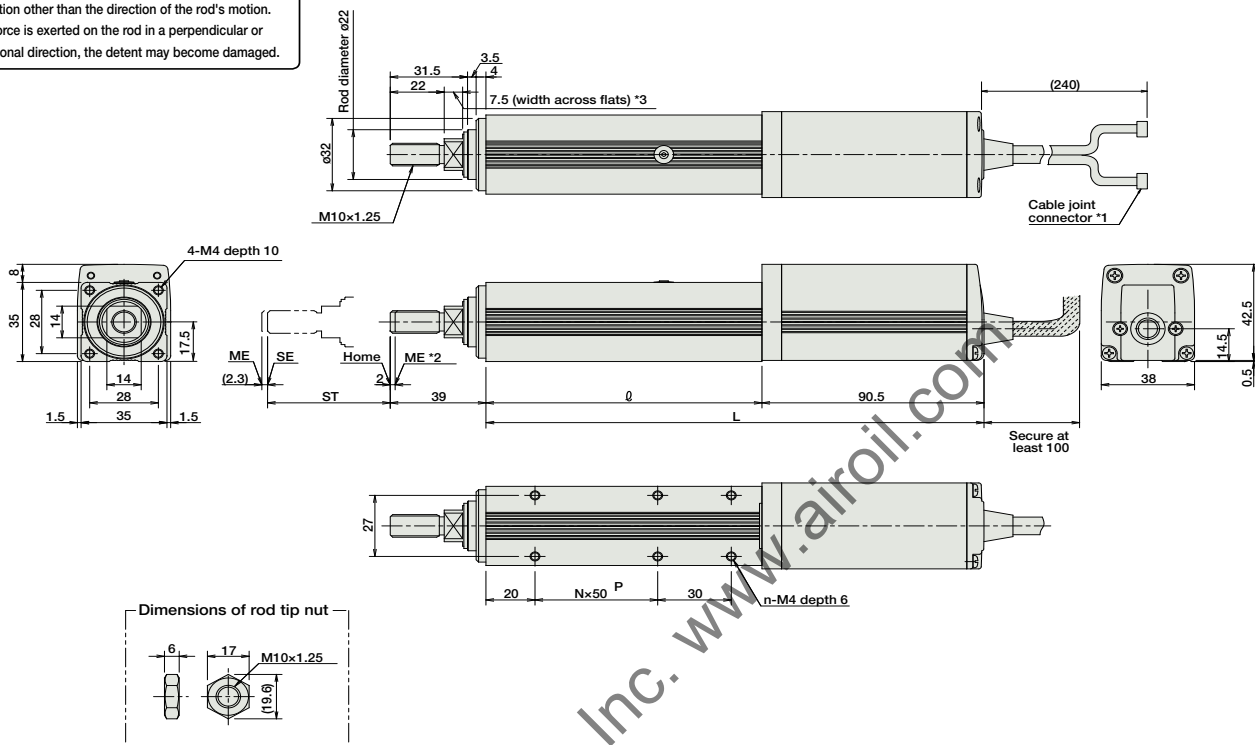


For Special Orders P. A-9

Note:

Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- \*3. The orientation of the bolt will vary depending on the product.



■ Dimensions/Weight by Stroke

Stroke	50	100	150	200
R	112.5	162.5	212.5	262.5
L	203	253	303	353
N	1	2	3	4
n	6	8	10	12
Weight (kg)	0.8	0.95	1.1	1.25

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-28SPI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
Splash-Proof Solenoid Valve Type		PSEP-C-28SPI-NP-2-0 PSEP-CW-28SPI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Positioner Type		PCON-C-28SPI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-28SPI-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28SPI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-28SPI-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		PCON-SE-28SPI-N-0-0	Dedicated to serial communication	64 points	DC24V	2A max.	-	→ P503
Field Network Type		RPCON-28SP	Dedicated to field network	768 points			-	
Program Control Type		PSEL-C-1-28SPI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points	DC24V	2A max.	-	→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- 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

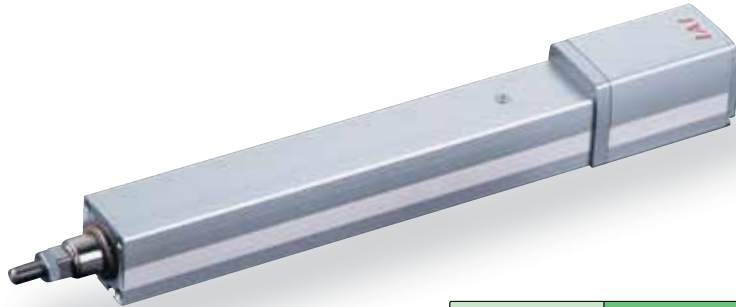
# RCP2-RA4C

ROBO Cylinder Rod Type 45mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RA4C** — **I** — **42P** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I: Incremental * The Simple absolute encoder is also considered type "I".			42P: Pulse motor 42 □ size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50: 50mm 300: 300mm (50mm pitch increments)	P1: PCON RPCON PSEL P3: PMEC PSEP	N : None P : 1m S : 3m M : 5m X □ : Custom R □ : Robot cable	B : Brake FL : Flange FT : Foot bracket NM : Reversed-home

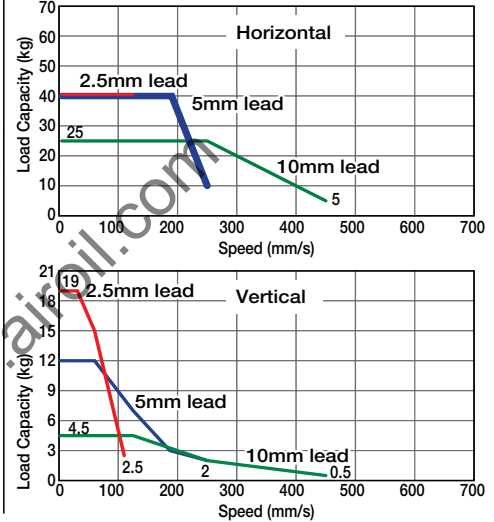
\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications				
■ Lead and Load Capacity			■ Stroke and Maximum Speed	
(Note 1) Please note that the maximum load capacity decreases as the speed increases.				
(Note 2) See page A-69 for the pushing force graphs. *The values enclosed in < > apply for vertical usage. (Unit: mm/s)				
Model	Lead (mm)	Max. Load Capacity (Note 1) Horizontal (kg) Vertical (kg)	Maximum Push Force (N)(Note 2)	Stroke (mm)
RCP2-RA4C-I-42P-10-①-②-③-④	10	~ 25 ~ 4.5	150	50 ~ 300 (50mm increments)
RCP2-RA4C-I-42P-5-①-②-③-④	5	~ 40 ~ 12	284	
RCP2-RA4C-I-42P-2.5-①-②-③-④	2.5	40 ~ 19	358	

① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	R11 (11m) ~ R15 (15m)	-
	R16 (16m) ~ R20 (20m)	-

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±1.5 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

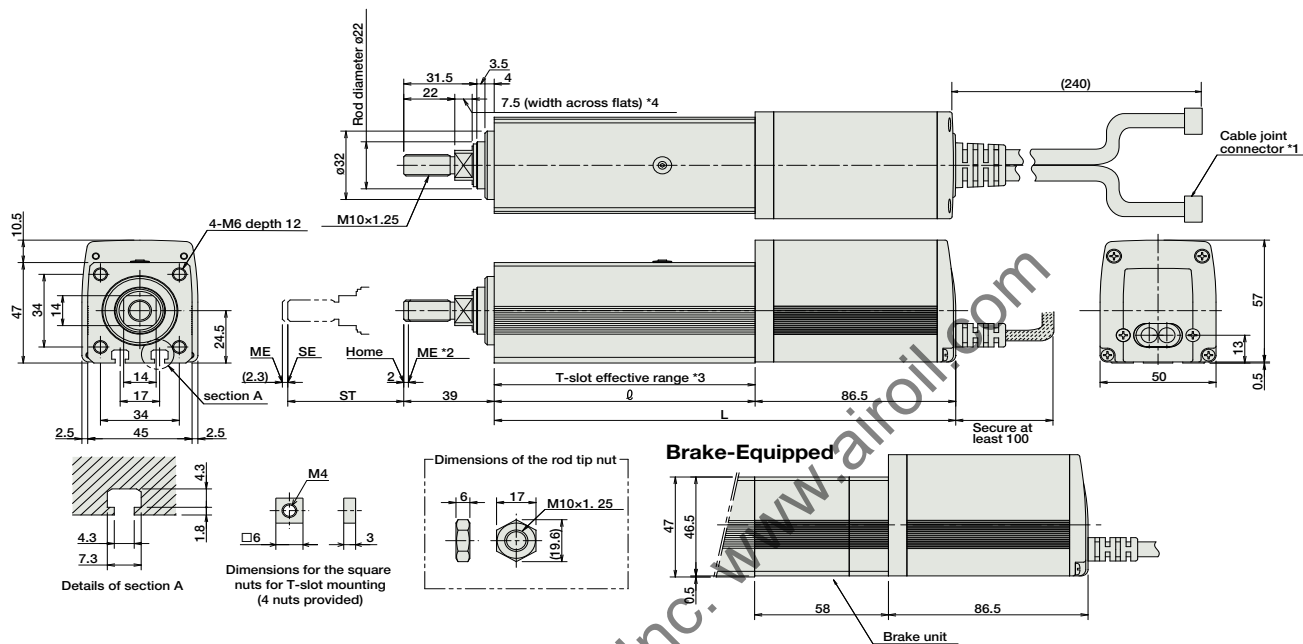


For Special Orders P. A-9

Note:

Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.
- \*3. Please note that there is no T-slot on the base of the brake unit.
- \*4. The orientation of the bolt will vary depending on the product.



\* Compared to the standard model, the brake-equipped model is longer by 58mm and heavier by 0.4kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
R	112.5	162.5	212.5	262.5	312.5	362.5
L	199	249	299	349	399	449
Weight (kg)	1.35	1.6	1.85	2.1	2.35	2.6

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-42PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-42PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-42PI-NP-2-0						
Positioner Type		PCON-C-42PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-42PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-42P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-42PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).



# RCP2-RA6C

ROBO Cylinder Rod Type 64mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RA6C** — **I** — **56P** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

56P: Pulse motor  
56 □ size

16 : 16mm  
8 : 8mm  
4 : 4mm

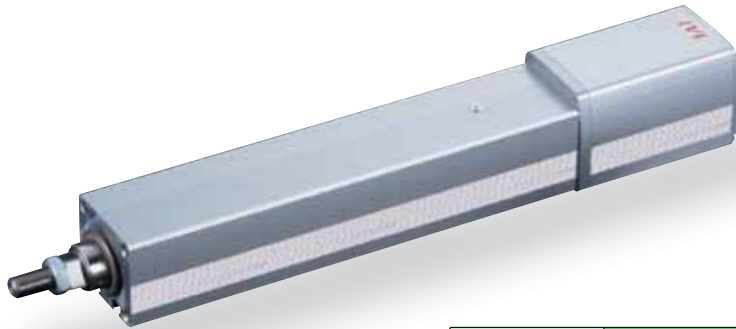
50: 50mm  
300: 300mm (50mm pitch increments)

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

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

B : Brake  
FL : Flange  
FT : Foot bracket  
NM : Reversed-home

\* See page Pre-35 for an explanation of the naming convention.

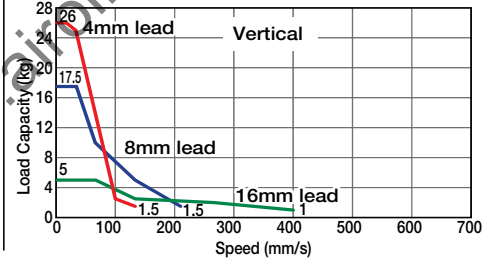
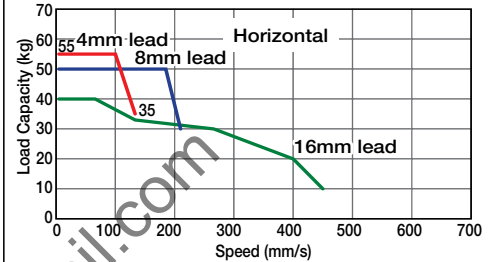


Technical References P. A-5



- (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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA6C-I-56P-16-①-②-③-④	16	~ 40	~ 5	240	50 ~ 300 (50mm increments)
RCP2-RA6C-I-56P-8-①-②-③-④	8	~ 50	~ 17.5	470	
RCP2-RA6C-I-56P-4-①-②-③-④	4	~ 55	~ 26	800	

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

(Note 2) See page A-69 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 300 (50mm increments)	
	Stroke (mm)	Maximum Speed (mm/s)
16	50 ~ 300	450 <400>
8	50 ~ 300	210
4	50 ~ 300	130

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### 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)	-
	X21 (21m) ~ X25 (25m)	-
Robot Cable	R01 (1m) ~ R03 (3m)	-
	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	R11 (11m) ~ R15 (15m)	-
	R16 (16m) ~ R20 (20m)	-
	R21 (21m) ~ R25 (25m)	-

\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø30mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

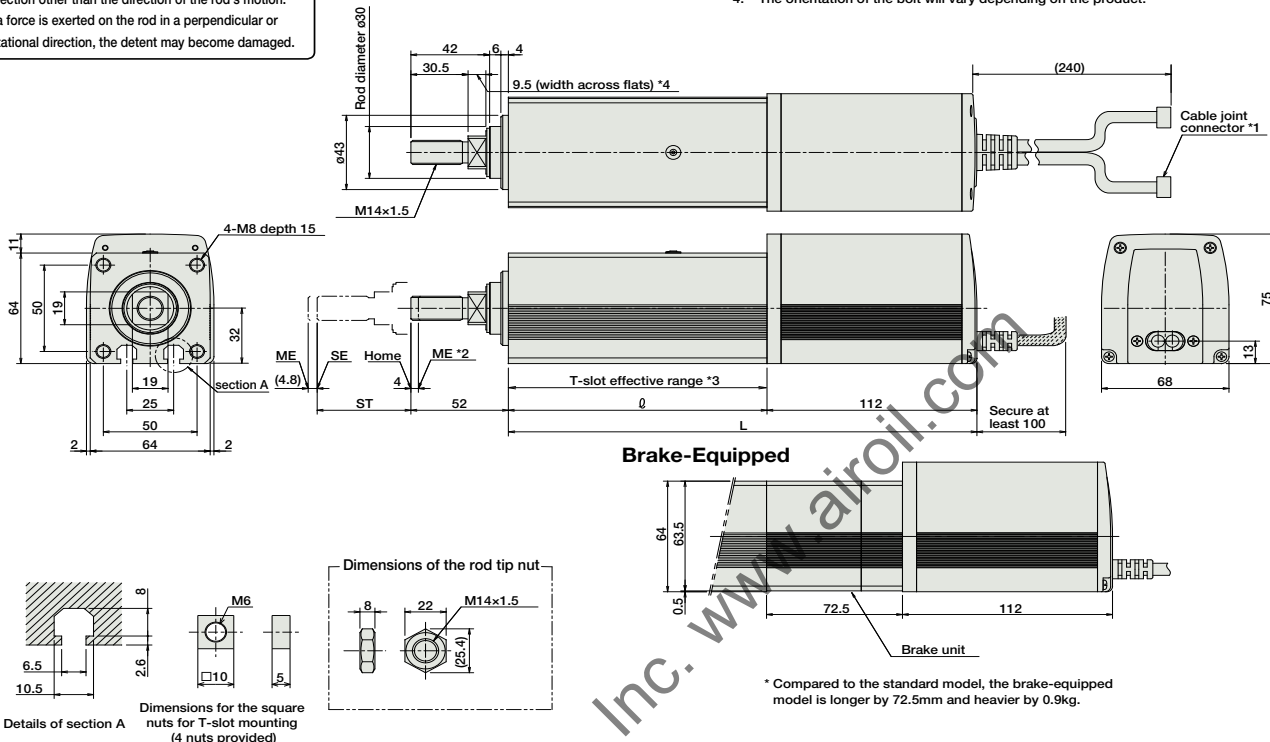


For Special Orders P. A-9

Note:

Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.
- \*3. Please note that there is no T-slot on the base of the brake unit.
- \*4. The orientation of the bolt will vary depending on the product.



\* Compared to the standard model, the brake-equipped model is longer by 72.5mm and heavier by 0.9kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
ℓ	138	188	238	288	338	388
L	250	300	350	400	450	500
Weight (kg)	3.1	3.6	4.1	4.6	5.1	5.6

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-56PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-56PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-56PI-NP-2-0						
Positioner Type		PCON-C-56PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-56PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-56P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-56PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

# RCP2-RA10C

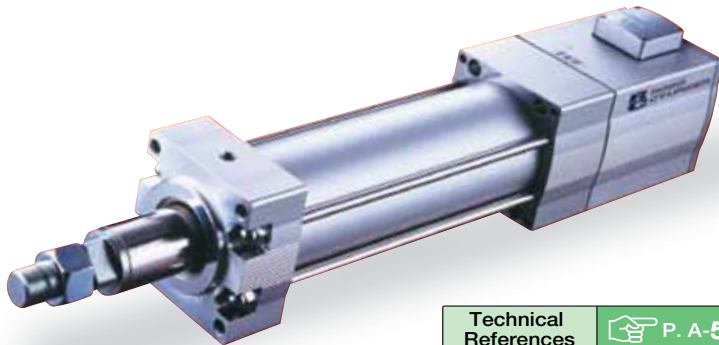
ROBO Cylinder Rod Type 100mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RA10C** — **I** — **86P** —  —  — **P2** —  —

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

I: Incremental 86P: Pulse motor 86 □ size 10 : 10mm 5 : 5mm 2.5 : 2.5mm 50: 50mm 300: 300mm (50mm pitch increments) P2: PCON-CF N : None P : 1m S : 3m M : 5m X □ : Custom R □ : Robot cable A1-A3 : Connector cable exit direction B : Brake FL : Flange FT : Foot bracket

\* See page Pre-35 for an explanation of the naming convention.

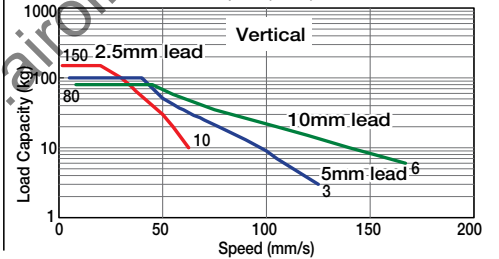
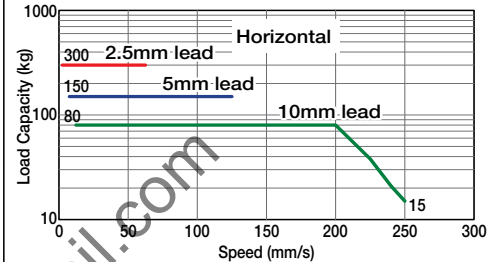


Technical References P. A-5

- POINT** Notes on Selection
- (1) Minimum speed is set per each lead. (10mm-lead: 10mm/s, 5mm-lead: 5mm/s, 2.5-lead: 1mm/s) Please note that if the actuator is operated below the minimum speed, vibration may occur.
  - (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.3G for 10mm-lead, 0.02G for 5mm-lead, and 0.01 for 2.5-lead. This is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA10C-I-86P-10-①-P2-②-③	10	~ 80	~ 80	1500	50 ~ 300 (50mm increments)
RCP2-RA10C-I-86P-5-①-P2-②-③	5	150	~ 100	3000	
RCP2-RA10C-I-86P-2.5-①-P2-②-③	2.5	300	~ 150	6000	

Legend ① Stroke ② Cable length ③ Options

(Note 2) See page A-70 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 300 (50mm increments)	
	10	250 <167>
5	125	
2.5	63	

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### ② 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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	R11 (11m) ~ R15 (15m)	-
	R16 (16m) ~ R20 (20m)	-

\* See page A-39 for cables for maintenance.

#### ③ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	A1 ~ A3	→ A-25	-
Brake	B	→ A-25	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø40mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

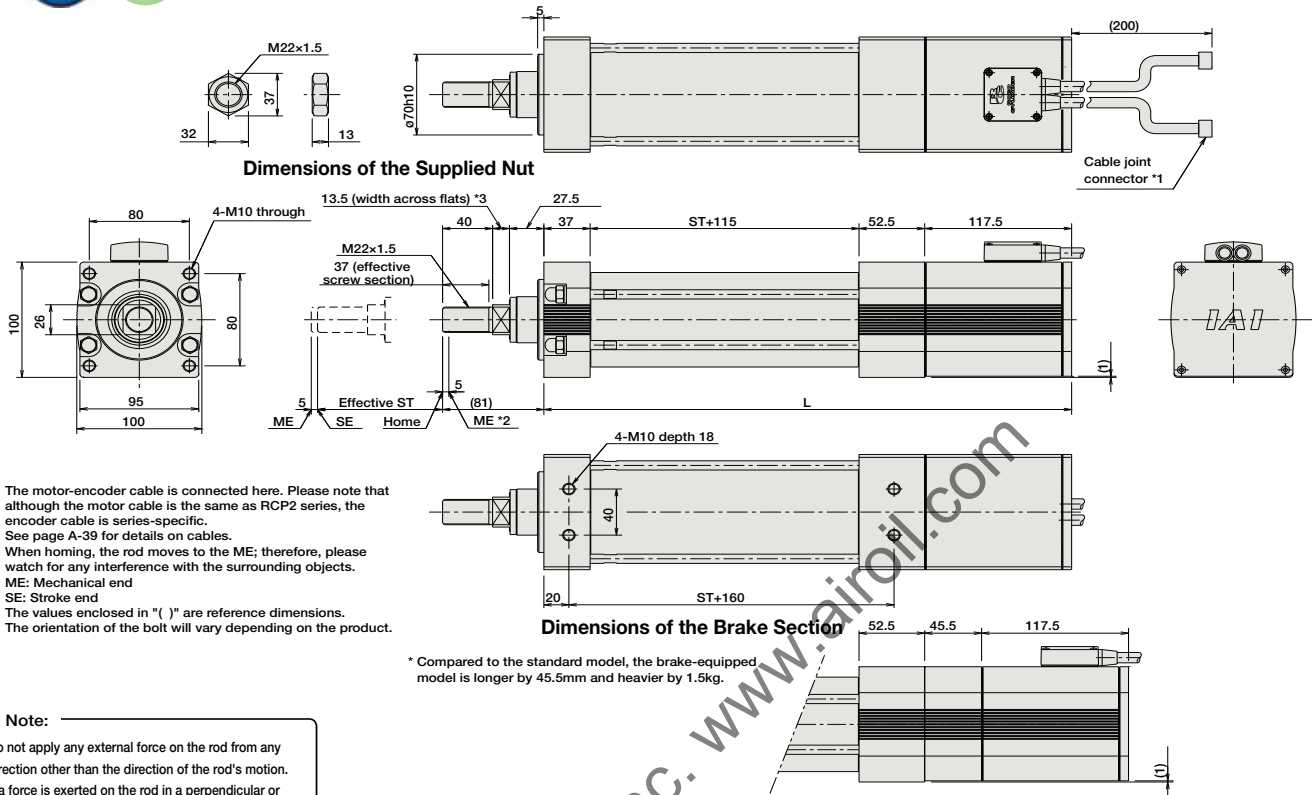
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



\* The RA10C is not available in reversed-home configuration, due to its construction.



- The motor-encoder cable is connected here. Please note that although the motor cable is the same as RCP2 series, the encoder cable is series-specific. See page A-39 for details on cables.
- When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.
- The orientation of the bolt will vary depending on the product.

Note:

Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.

Dimensions/Weight by Stroke

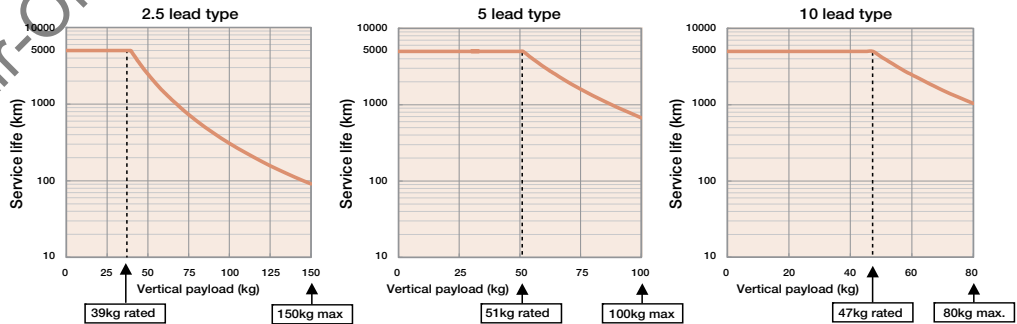
Stroke	50	100	150	200	250	300
L	372	422	472	522	572	622
Weight (kg)	9	9.5	10	10.5	11	11.5

Vertical Payload and Service Life

The service life of a rod-type ROBO Cylinder is 5,000km. However, since the RCP2-RA10C has a larger maximum thrust compared to other types, its service life will largely depend on the load capacity and pushing force used. Therefore, when selecting your product using the Speed vs. Load Capacity, or Pushing Force vs. Current Limit graphs, check the service life using the Load Capacity vs. Load Capacity, and Pushing Force vs. Load Capacity graphs.

Note:

The rated value is the maximum value that can meet a service life of 5,000km. The maximum value is the value at which it is still operable. Please note that operation with values exceeding the rated value will result in a decrease in the service life, as shown in the graphs.



Compatible Controllers

The controller for the RCP2-RA10C type is the following dedicated controller.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
Positioner Type		PCON-CF-86PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	6A max.	-	→ P525

- Note:
- Please note that the encoder cable is a dedicated cable for the CF model, which is different from the PCON-C/CG/CY/PL/PO/SE controllers.
  - The simple absolute unit cannot be 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
- 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

# RCP2-SRA4R

ROBO Cylinder Short-Length Rod Type 45mm Width Pulse Motor Side-Mounted Motor

■ Configuration: **RCP2** — **SRA4R** — **I** — **35P** —  —  —  —  —

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

I: Incremental \* The Simple absolute encoder is also considered type "I".  
 35P: Pulse motor 35 □ size  
 5 : 5mm  
 2.5 : 2.5mm  
 20: 20mm  
 200: 200mm (10mm pitch increments) \* 50mm increments over 100mm  
 P1: PCON RPCON PSEL P3: PMEC PSEP  
 N : None  
 P : 1m  
 S : 3m  
 M : 5m  
 X □ □ : Custom  
 See Options below

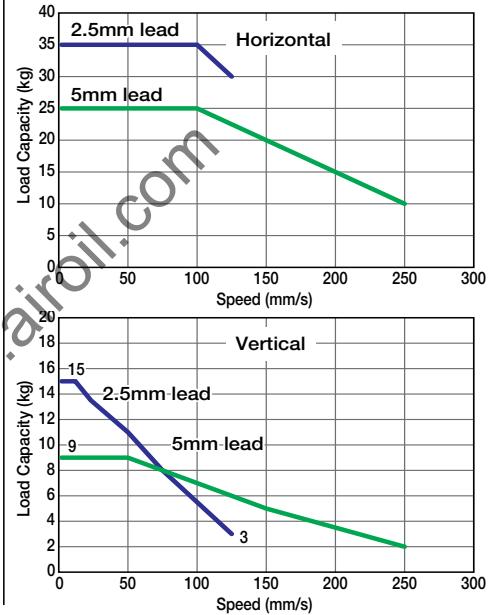
\* See page Pre-35 for an explanation of the naming convention.



Technical References

- POINT** Notes on Selection
- (1) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model, or when used vertically). This is the upper limit of the acceleration.
  - (3) The horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.

■ Speed vs. Load Capacity  
 Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



**Actuator Specifications**

■ Lead and Load Capacity (Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-SRA4R-I-35P-5-①-②-③-④	5	~ 25	~ 9	90	20 ~ 200 (10mm increments) (Note 3)
RCP2-SRA4R-I-35P-2.5-①-②-③-④	2.5	~ 35	~ 15	170	

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options (Note 2) See page A-69 for the pushing force graphs. (Note 3) 50mm increments over 100mm. (Unit: mm/s)

■ Stroke and Maximum Speed

Lead	Stroke	20 ~ 200 (10mm increments)
	5	
2.5		125

① Stroke List

Stroke (mm)	Standard Price
20 ~ 50	-
60 ~ 100	-
150	-
200	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
		-

\* The cable is a motor-encoder integrated cable, and is provided as a robot cable.  
 \* See page A-39 for cables for maintenance.

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Foot bracket 1 (base mounting)	FT	→ A-29	-
Foot bracket 2 (right/left side mounting)	FT2/FT4	→ A-31	-
Reversed-home	NM	→ A-33	-

\* The brake is available for strokes of 70mm or more.

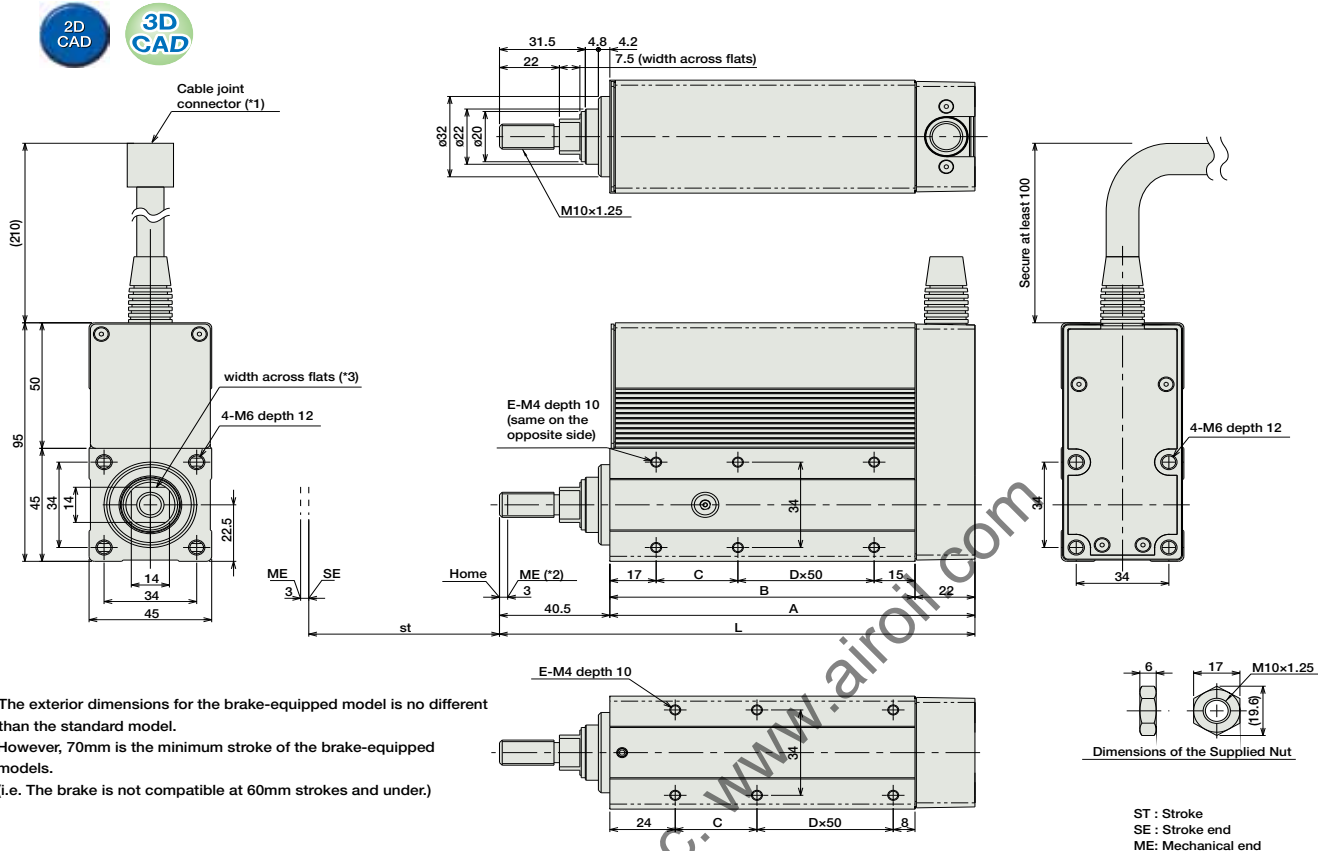
Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm
Non-rotating accuracy of rod	-
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



\* The exterior dimensions for the brake-equipped model is no different than the standard model. However, 70mm is the minimum stroke of the brake-equipped models. (i.e. The brake is not compatible at 60mm strokes and under.)

■ Dimensions/Weight by Stroke (Add 0.2kg for brake equipped)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	124.5	134.5	144.5	154.5	164.5	174.5	184.5	194.5	204.5	254.5	304.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	0.83	0.89	0.96	1.02	1.08	1.14	1.21	1.27	1.33	1.64	1.95

- (\*1) The motor-encoder cable is connected here. See page A-39 for details on cables.
- (\*2) When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.
- (\*3) The orientation of the bolt will vary depending on the product.

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-35PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-35PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		PSEP-CW-35PI-NP-2-0						
Positioner Type		PCON-C-35PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-35PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-35PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-35PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-35PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-35P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-35PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.  
\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- 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

# RCP2-RGS4C

ROBO Cylinder Rod Type with Single Guide 45mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RGS4C** — **I** — **42P** —  —  —  —  —

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

I: Incremental \* The Simple absolute encoder is also considered type "I".  
 42P: Pulse motor 42 □ size  
 10 : 10mm  
 5 : 5mm  
 2.5 : 2.5mm  
 50: 50mm  
 300: 300mm (50mm pitch increments)  
 P1: PCON  
 RPCON  
 PSEL  
 P3: PMEC  
 PSEP  
 N : None  
 P : 1m  
 S : 3m  
 M : 5m  
 X □ : Custom  
 R □ : Robot cable  
 B : Brake  
 FT : Foot bracket  
 NM: Reversed-home

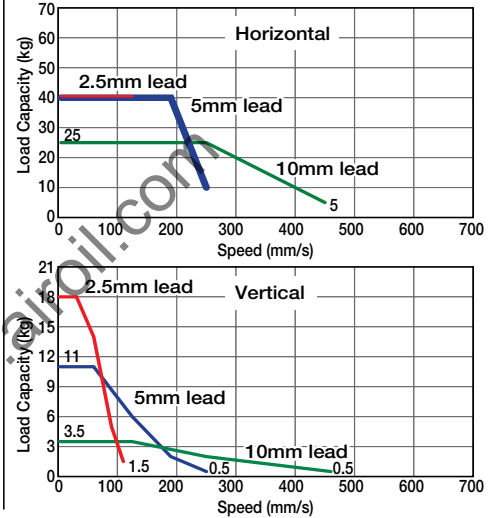
\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. See the technical resources (page A-82) for the allowable weight using the supplied guide alone.

■ Speed vs. Load Capacity  
 Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications					
■ Lead and Load Capacity				■ Stroke and Maximum Speed	
Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGS4C-I-42P-10-①-②-③-④	10	~ 25	~ 3.5	150	50 ~ 300 (50mm increments)
RCP2-RGS4C-I-42P-5-①-②-③-④	5	~ 40	~ 11	284	
RCP2-RGS4C-I-42P-2.5-①-②-③-④	2.5	40	~ 18	358	

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options (Note 2) See page A-69 for the pushing force graphs. \*The values enclosed in < > apply for vertical usage. (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide Guide rod diameter ø10mm Ball bush type
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

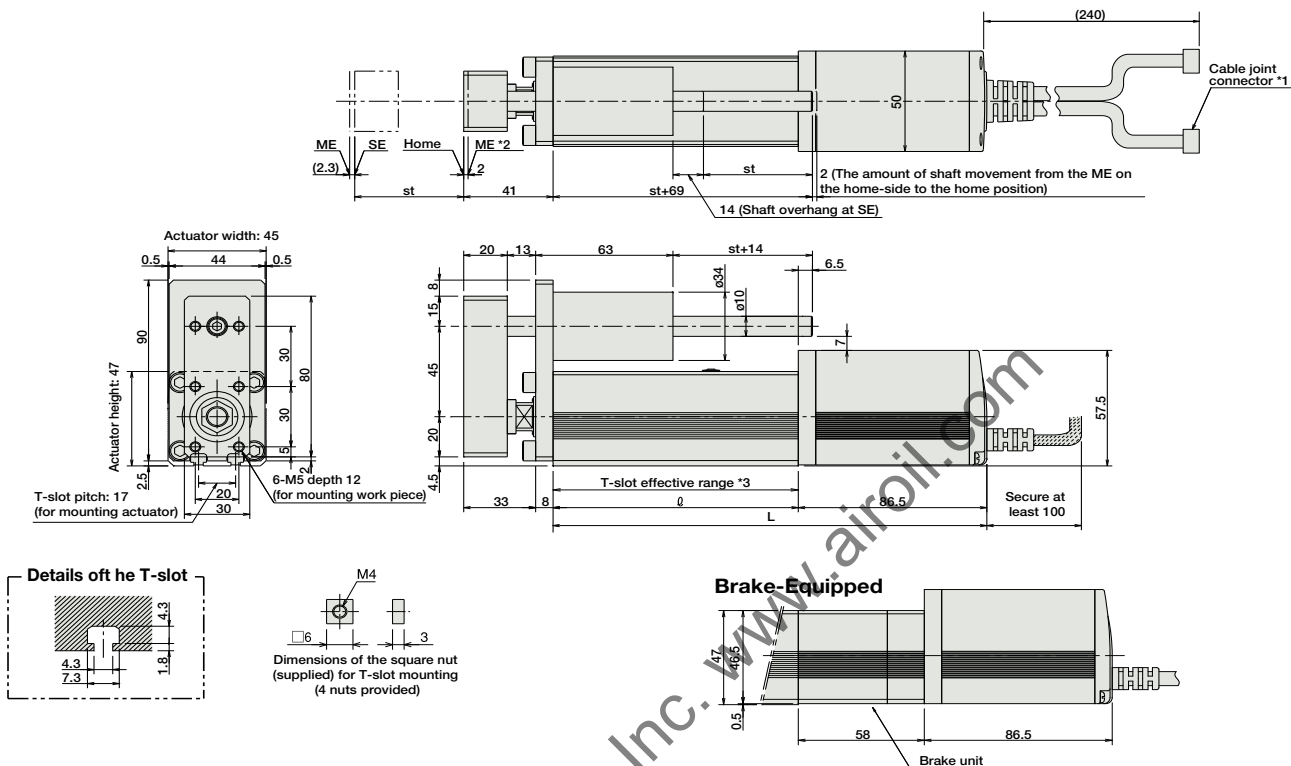
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders P. A-9

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.
- \*3. Please note that there is no T-slot on the bottom of the brake unit.



\* Compared to the standard model, the brake-equipped model is longer by 58mm and heavier by 0.4kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
ℓ	112.5	162.5	212.5	262.5	312.5	362.5
L	199	249	299	349	399	449
Weight (kg)	1.8	2.1	2.4	2.7	2.9	3.2

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-42PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-42PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-42PI-NP-2-0						
Positioner Type		PCON-C-42PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-42PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-42P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-42PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.  
\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- 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



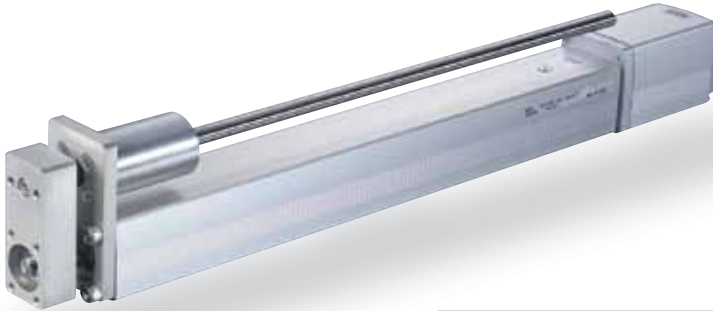
# RCP2-RGS6C

ROBO Cylinder Rod Type with Single Guide 64mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RGS6C** — **I** — **56P** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I: Incremental * The Simple absolute encoder is also considered type "I".			56P: Pulse motor 56 □ size	16 : 16mm 8 : 8mm 4 : 4mm	50: 50mm 300: 300mm (50mm pitch increments)	P1: PCON RPCON PSEL P3: PMEC PSEP	N : None P : 1m S : 3m M : 5m X □ □ : Custom R □ □ : Robot cable	B : Brake FT : Foot bracket NM: Reversed-home

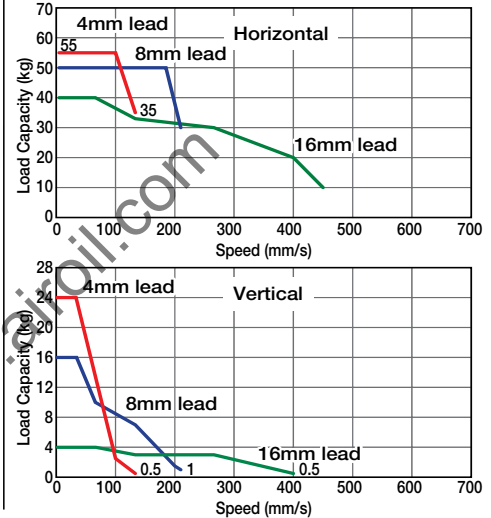
\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. See the technical resources (page A-82) for the allowable weight using the supplied guide alone.

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications						
■ Lead and Load Capacity			(Note 1) Please note that the maximum load capacity decreases as the speed increases.		■ Stroke and Maximum Speed	
Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)	Stroke / Lead
		Horizontal (kg)	Vertical (kg)			
RCP2-RGS6C-I-56P-16-①-②-③-④	16	~ 40	~ 4	240	50 ~ 300 (50mm increments)	50 ~ 300 (50mm increments)
RCP2-RGS6C-I-56P-8-①-②-③-④	8	~ 50	~ 16	470		450 <400>
RCP2-RGS6C-I-56P-4-①-②-③-④	4	~ 55	~ 24	800		210
						130

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options (Note 2) See page A-69 for the pushing force graphs. \*The values enclosed in < > apply for vertical usage. (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide Guide rod diameter ø12mm Ball bush type
Rod Diameter	ø30mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

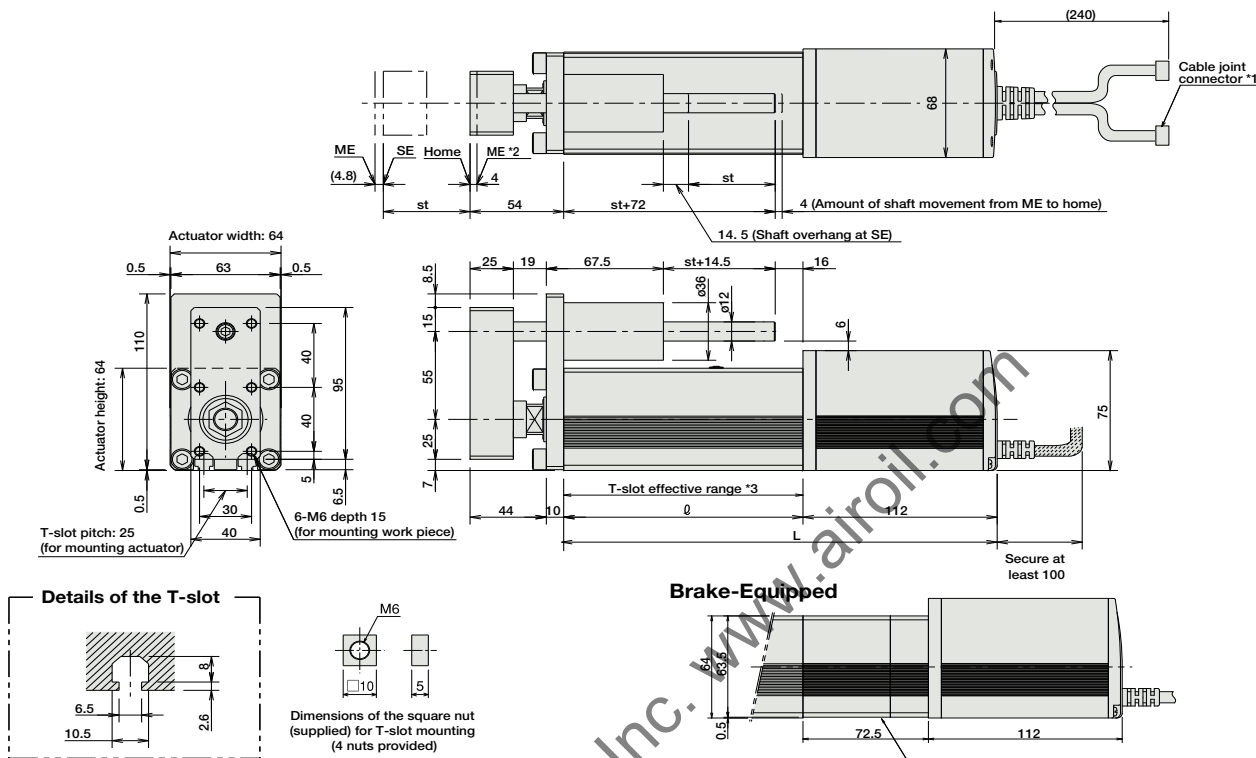
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders P. A-9

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( ) " are reference dimensions.
- \*3. Please note that there is no T-slot on the bottom of the brake unit.



\* Compared to the standard model, the brake-equipped model is longer by 72.5mm and heavier by 0.9kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
R	138	188	238	288	338	388
L	250	300	350	400	450	500
Weight (kg)	3.6	4.4	5.0	5.5	6.1	6.6

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-56PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
Splash-Proof Solenoid Valve Type		PSEP-C-56PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
		PSEP-CW-56PI-NP-2-0						→ P487
Positioner Type		PCON-C-56PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-56PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated to serial communication	64 points	DC24V	2A max.	-	→ P503
Field Network Type		RPCON-56P	Dedicated to field network	768 points				
Program Control Type		PSEL-C-1-56PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points	DC24V	2A max.	-	→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

# RCP2-SRGS4R

ROBO Cylinder Short Rod Type with Single Guide 45mm Width  
Pulse Motor Side-Mounted Motor

■ Configuration: **RCP2** — **SRGS4R** — **I** — **35P** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

35P: Pulse motor  
35  size

5 : 5mm  
2.5 : 2.5mm

20: 20mm  
200: 200mm  
(10mm pitch increments)  
\* Set in 50mm increments over 100mm

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

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

See options below

\* See page Pre-35 for an explanation of the naming convention.

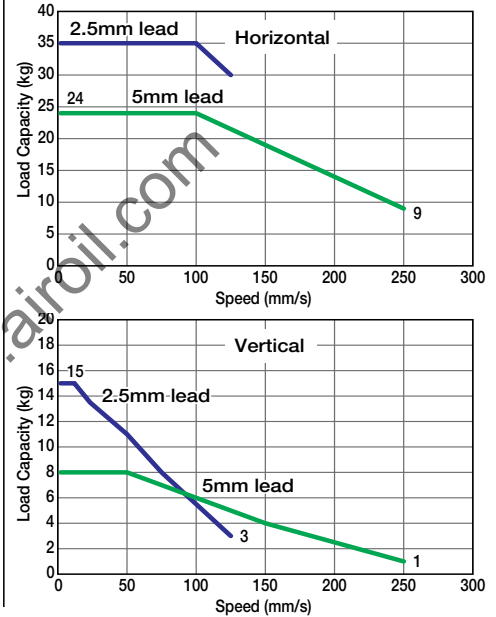


Technical References

- POINT** Notes on Selection
- Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model, or when used vertically). This is the upper limit of the acceleration.
  - The horizontal load capacity is based on the use of an external guide. See the technical resources (page A-82) for the allowable weight using the supplied guide alone.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-SRGS4R-I-35P-5-①-②-③-④	5	~ 24	~ 8	90	20 ~ 200 (10mm increments) (Note 3)
RCP2-SRGS4R-I-35P-2.5-①-②-③-④	2.5	~ 35	~ 15	170	

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

(Note 2) See page A-69 for the pushing force graphs.  
(Note 3) 50mm increments over 100mm.

(Unit: mm/s)

#### Stroke and Maximum Speed

Lead	Stroke	20 ~ 200 (10mm increments)
	5	250
2.5	125	

#### ① Stroke List

Stroke (mm)	Standard Price
20 ~ 50	-
60 ~ 100	-
150	-
200	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
		-

\* The cable is a motor-encoder integrated cable, and is provided as a robot cable.

\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Flange bracket (back)	FLR	→ A-28	-
Foot bracket 1 (base mounting)	FT	→ A-29	-
Foot bracket 2 (right/left side mounting)	FT2/FT4	→ A-31	-
Guide mounting direction	GS2 ~ GS4	→ A-156	-
Reversed-home	NM	→ A-33	-

- \* The brake is available for strokes of 70mm or more.
- \* Please be sure that the mounting direction of the guide is specified in the product name.
- \* The guide and the foot bracket cannot be mounted in the same direction.

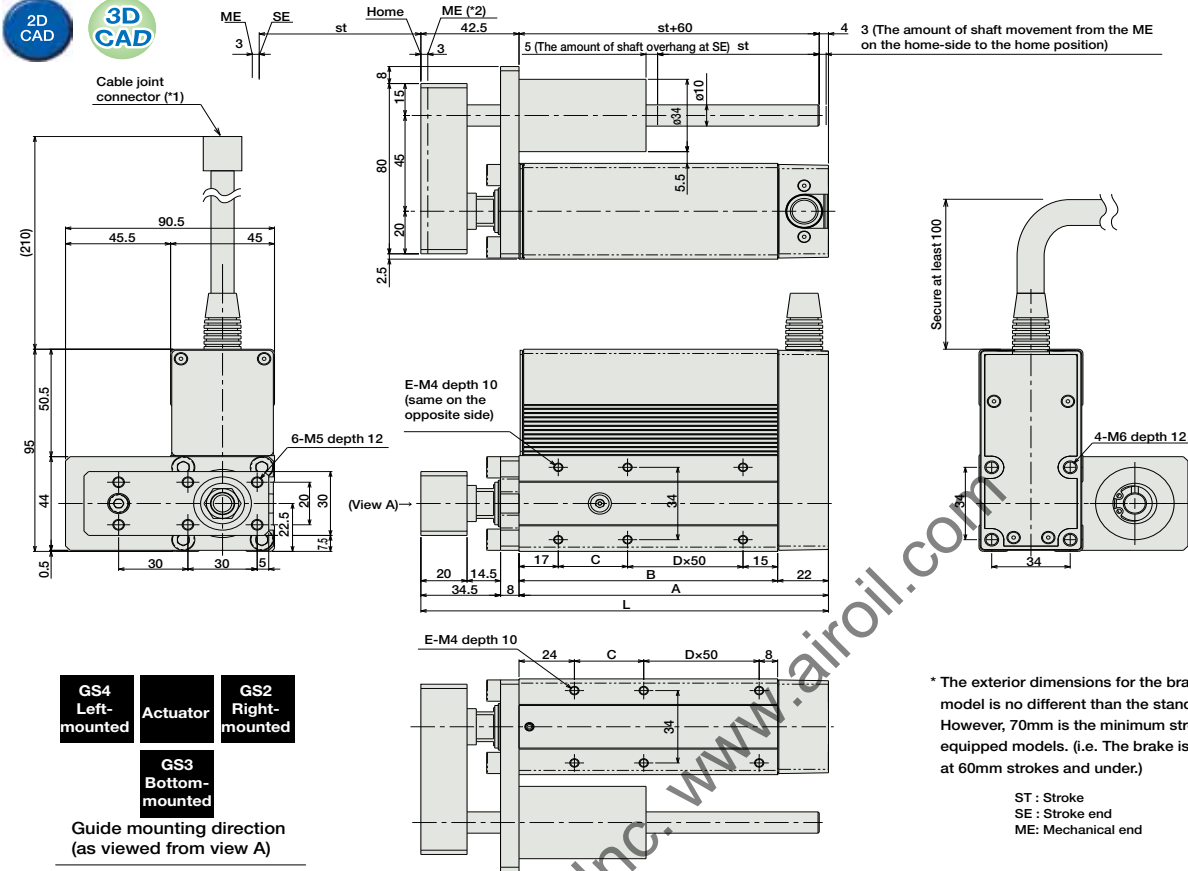
#### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



■ Dimensions/Weight by Stroke (Add 0.2kg for brake equipped)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	1.2	1.27	1.34	1.41	1.48	1.54	1.61	1.68	1.75	2.09	2.43

(\*1) The motor-encoder cable is connected here. See page A-39 for details on cables.  
(\*2) When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-35PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-35PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		PSEP-CW-35PI-NP-2-0						
Positioner Type		PCON-C-35PI-NP-2-0	Positioning is possible for up to 512 points	512 points			-	
Safety-Compliant Positioner Type		PCON-CG-35PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-35PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-35PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-35PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-35P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-35PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

# RCP2-RGD3C

ROBO Cylinder Rod Type with Double Guide 35mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RGD3C** — **I** — **28P** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

28P: Pulse motor  
28 □ size

5 : 5mm  
2.5 : 2.5mm

50: 50mm  
200: 200mm (50mm pitch increments)

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

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

FT : Foot bracket  
NM: Reversed-home

\* See page Pre-35 for an explanation of the naming convention.



\* Pictured: RGD4C

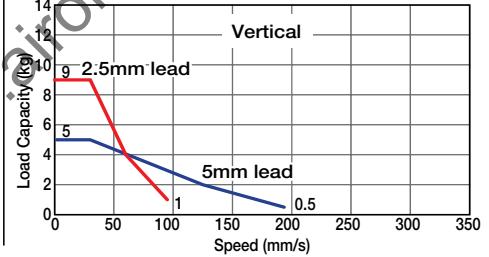
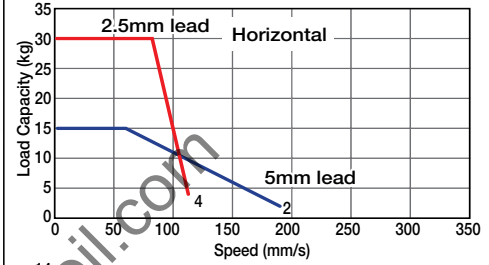
Technical References P. A-5



- (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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGD3C-I-28P-5-①-②-③-④	5	~ 15	~ 5	73.5	50 ~ 200 (50mm increments)
RCP2-RGD3C-I-28P-2.5-①-②-③-④	2.5	~ 30	~ 9	156.8	50 ~ 200 (50mm increments)

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

(Note 2) See page A-69 for the pushing force graphs.

(Unit: mm/s)

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 200 (50mm increments)	
	5	187
2.5	114 <93>	

#### ① Stroke List

Stroke (mm)	Standard Price
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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	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
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide Guide rod diameter ø10mm Ball bush type
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

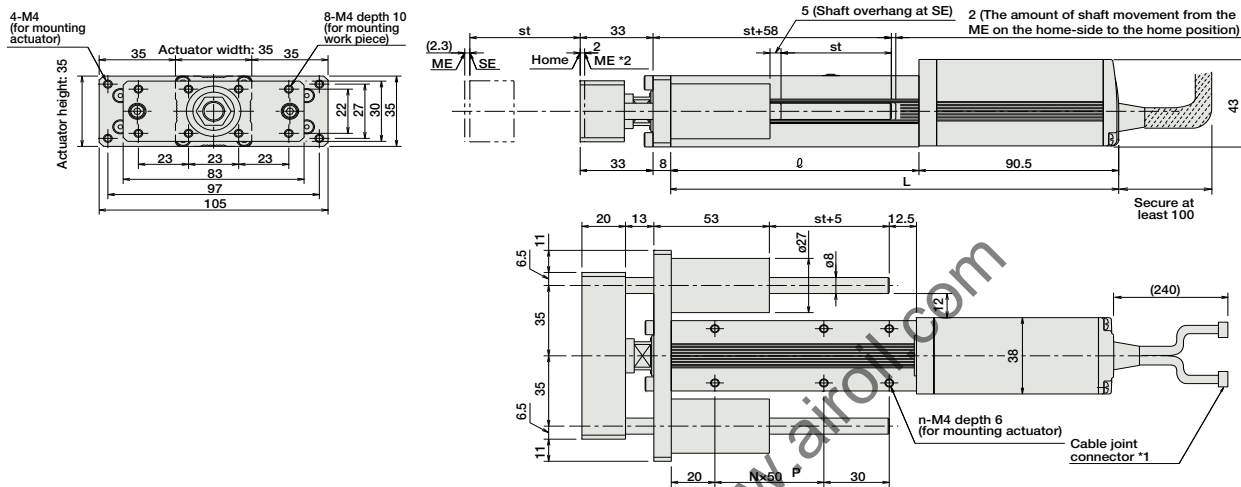
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.



■ Dimensions/Weight by Stroke

Stroke	50	100	150	200
ℓ	112.5	162.5	212.5	262.5
L	203	253	303	353
N	1	2	3	4
n	6	8	10	12
Weight (kg)	1.1	1.3	1.4	1.6

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-28SPI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-28SPI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-28SPI-NP-2-0					-	
Positioner Type		PCON-C-28SPI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-28SPI-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28SPI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-28SPI-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		PCON-SE-28SPI-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RPCON-28SP	Dedicated to field network	768 points			-	→ P503
Program Control Type		PSEL-C-1-28SPI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points			-	→ P557

\* This is for the single-axis PSEL.  
\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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

# RCP2-RGD4C

ROBO Cylinder Rod Type with Double Guide 45mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RGD4C** — **I** — **42P** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I: Incremental * The Simple absolute encoder is also considered type "I".			42P: Pulse motor 42 □ size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50: 50mm 300: 300mm (50mm pitch increments)	P1: PCON RPCON PSEL P3: PMEC PSEP	N : None P : 1m S : 3m M : 5m X □ : Custom R □ : Robot cable	B : Brake FT : Foot bracket NM: Reversed-home

\* See page Pre-35 for an explanation of the naming convention.



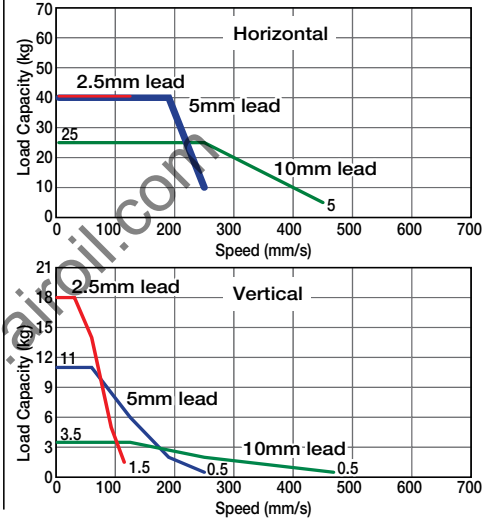
Technical References P. A-5



- (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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGD4C-I-42P-10-①-②-③-④	10	~ 25	~ 3.5	150	50 ~ 300 (50mm increments)
RCP2-RGD4C-I-42P-5-①-②-③-④	5	~ 40	~ 11	284	
RCP2-RGD4C-I-42P-2.5-①-②-③-④	2.5	40	~ 18	358	

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

(Note 2) See page A-69 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 200 (50mm increments)	250 (mm)	300 (mm)
10	458	458	350
5	250	237	175
2.5	125	118	87

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### 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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide Guide rod diameter ø10mm Ball bush type
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

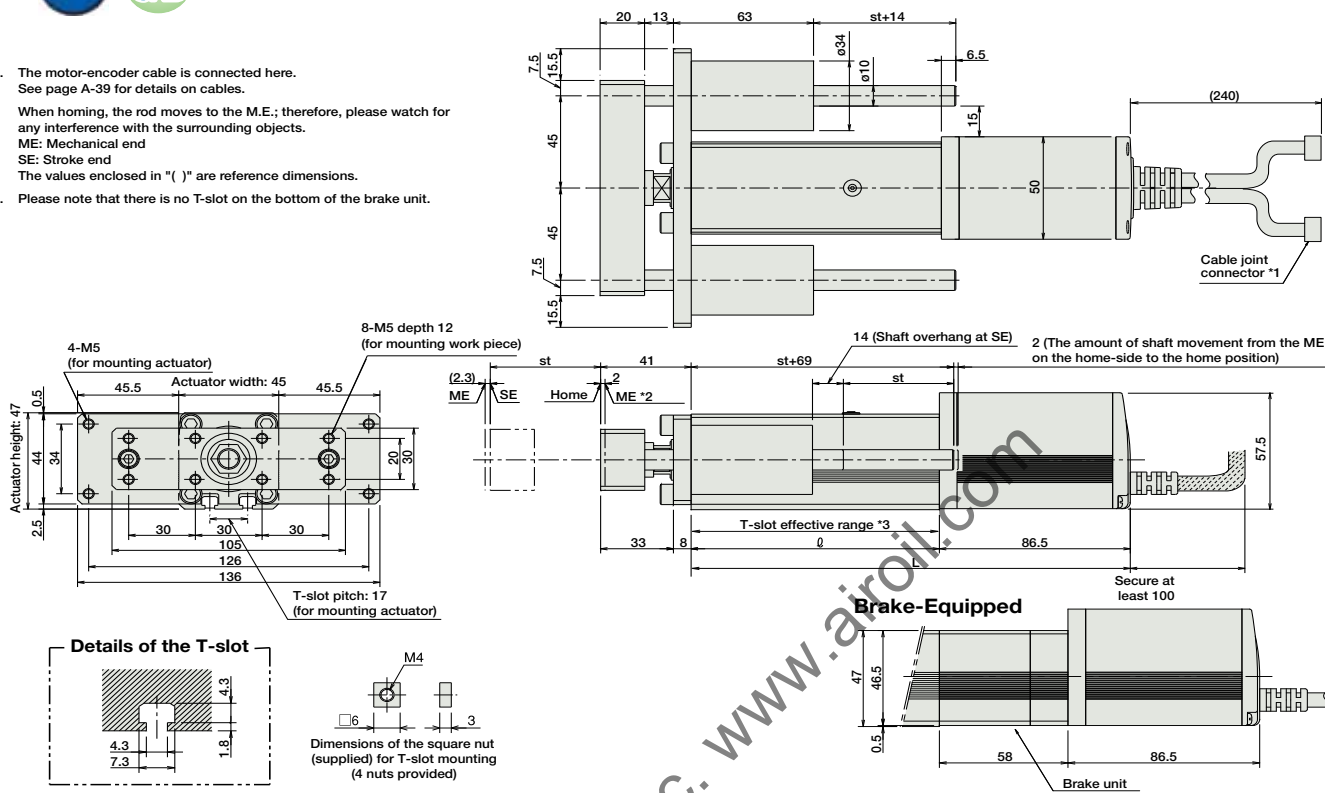
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.
- \*3. Please note that there is no T-slot on the bottom of the brake unit.



\* Compared to the standard model, the brake-equipped model is longer by 58mm and heavier by 0.4kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
ℓ	112.5	162.5	212.5	262.5	312.5	362.5
L	199	249	299	349	399	449
Weight (kg)	2.2	2.5	2.8	3.1	3.4	3.7

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-42PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
Splash-Proof Solenoid Valve Type		PSEP-C-42PI-NP-2-0 PSEP-CW-42PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Positioner Type		PCON-C-42PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-42PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated to serial communication	64 points	DC24V	2A max.	-	→ P503
Field Network Type		RPCON-42P	Dedicated to field network	768 points				
Program Control Type		PSEL-C-1-42PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points	DC24V	2A max.	-	→ P557

\* This is for the single-axis PSEL.  
\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).



# RCP2-RGD6C

ROBO Cylinder Rod Type with Double Guide 64mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RGD6C** — **I** — **56P** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

56P: Pulse motor  
56  size

16 : 16mm  
8 : 8mm  
4 : 4mm

50: 50mm  
300: 300mm (50mm pitch increments)

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

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

B : Brake  
FT : Foot bracket  
NM: Reversed-home

\* See page Pre-35 for an explanation of the naming convention.

\* Pictured: RGD4C

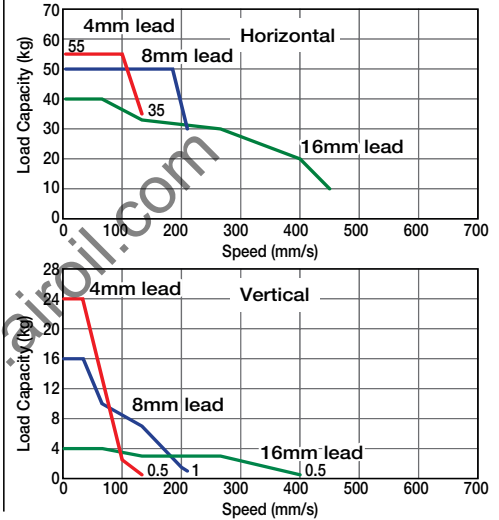


Technical References P. A-5

- 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) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGD6C-I-56P-16-①-②-③-④	16	~ 40	~ 4	240	50 ~ 300 (50mm increments)
RCP2-RGD6C-I-56P-8-①-②-③-④	8	~ 50	~ 16	470	
RCP2-RGD6C-I-56P-4-①-②-③-④	4	~ 55	~ 24	800	

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

(Note 2) See page A-69 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 300 (50mm increments)	
	Stroke	50 ~ 300 (50mm increments)
16	50 ~ 300	450 <400>
8	50 ~ 300	210
4	50 ~ 300	130

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### 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)	-
	X21 (21m) ~ X25 (25m)	-
Robot Cable	R01 (1m) ~ R03 (3m)	-
	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	R11 (11m) ~ R15 (15m)	-
	R16 (16m) ~ R20 (20m)	-
	R21 (21m) ~ R25 (25m)	-

\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide Guide rod diameter ø12mm Ball bush type
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

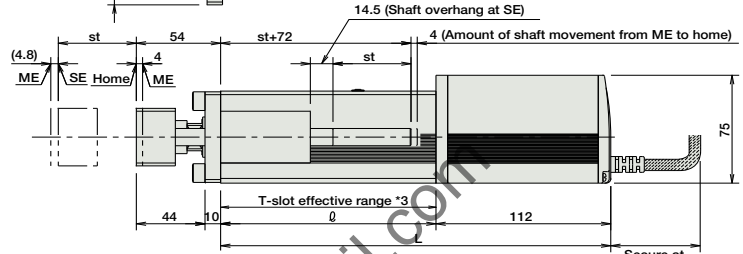
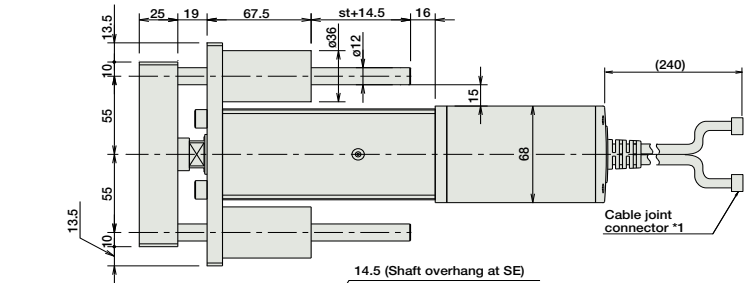
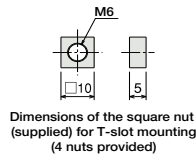
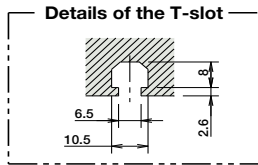
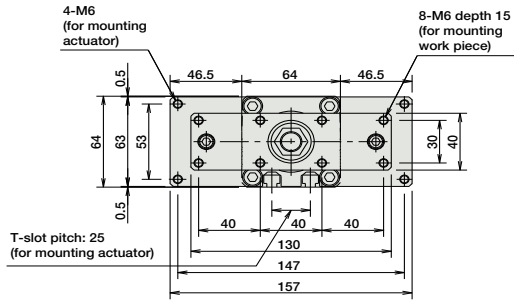
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

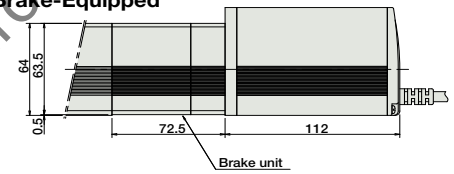
For Special Orders P. A-9



- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.
- \*3. Please note that there is no T-slot on the bottom of the brake unit.



Brake-Equipped



\* Compared to the standard model, the brake-equipped model is longer by 72.5mm and heavier by 0.9kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
ℓ	138	188	238	288	338	388
L	250	300	350	400	450	500
Weight (kg)	4.4	5.0	5.5	6.1	6.7	7.3

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-56PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-56PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		PSEP-CW-56PI-NP-2-0						
Positioner Type		PCON-C-56PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-56PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-56P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-56PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

- 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

# RCP2-SRGD4R

ROBO Cylinder Short-Length Rod Type with Double Guide 45mm Width  
Pulse Motor Side-Mounted Motor

■ Configuration: **RCP2** — **SRGD4R** — **I** — **35P** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

35P: Pulse motor  
35 □ size

5 : 5mm  
2.5 : 2.5mm

20: 20mm  
200: 200mm  
(10mm pitch increments)  
\* Set in 50mm increments over 100mm

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

N : None  
P : 1m  
S : 3m  
M : 5m  
X □ □ : Custom

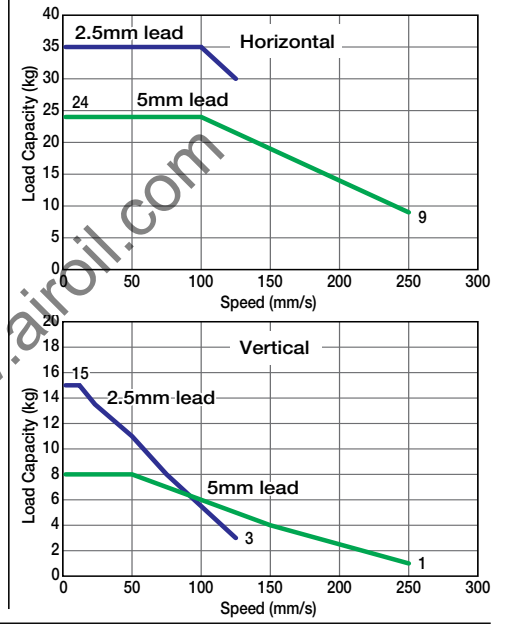
See Options below

\* See page Pre-35 for an explanation of the naming convention.



Technical References

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



- POINT** Notes on Selection
- Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model, or when used vertically). This is the upper limit of the acceleration.
  - The horizontal load capacity is based on the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

Actuator Specifications				
■ Lead and Load Capacity			(Note 1) Please note that the maximum load capacity decreases as the speed increases.	
Model		Lead (mm)	Max. Load Capacity (Note 1)	Maximum Push Force (N)(Note 2)
RCP2-SRGD4R-I-35P-5-①-②-③-④		5	~ 24 / ~ 8	90
RCP2-SRGD4R-I-35P-2.5-①-②-③-④		2.5	~ 35 / ~ 15	170
Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options				
■ Stroke and Maximum Speed			(Note 2) See page A-69 for the pushing force graphs. (Note 3) 50mm increments over 100mm.	
Stroke (mm)		Stroke (mm)	20 ~ 200 (10mm increments)	
Lead		5	250	
Lead		2.5	125	

① Stroke List

Stroke (mm)	Standard Price
20 ~ 50	-
60 ~ 100	-
150	-
200	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
	-	-

\* The cable is a motor-encoder integrated cable, and is provided as a robot cable.  
\* See page A-39 for cables for maintenance.

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket 1 (base mounting)	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

\* The brake can be used for strokes of 70mm or more.  
\* The foot bracket cannot be mounted on the side.

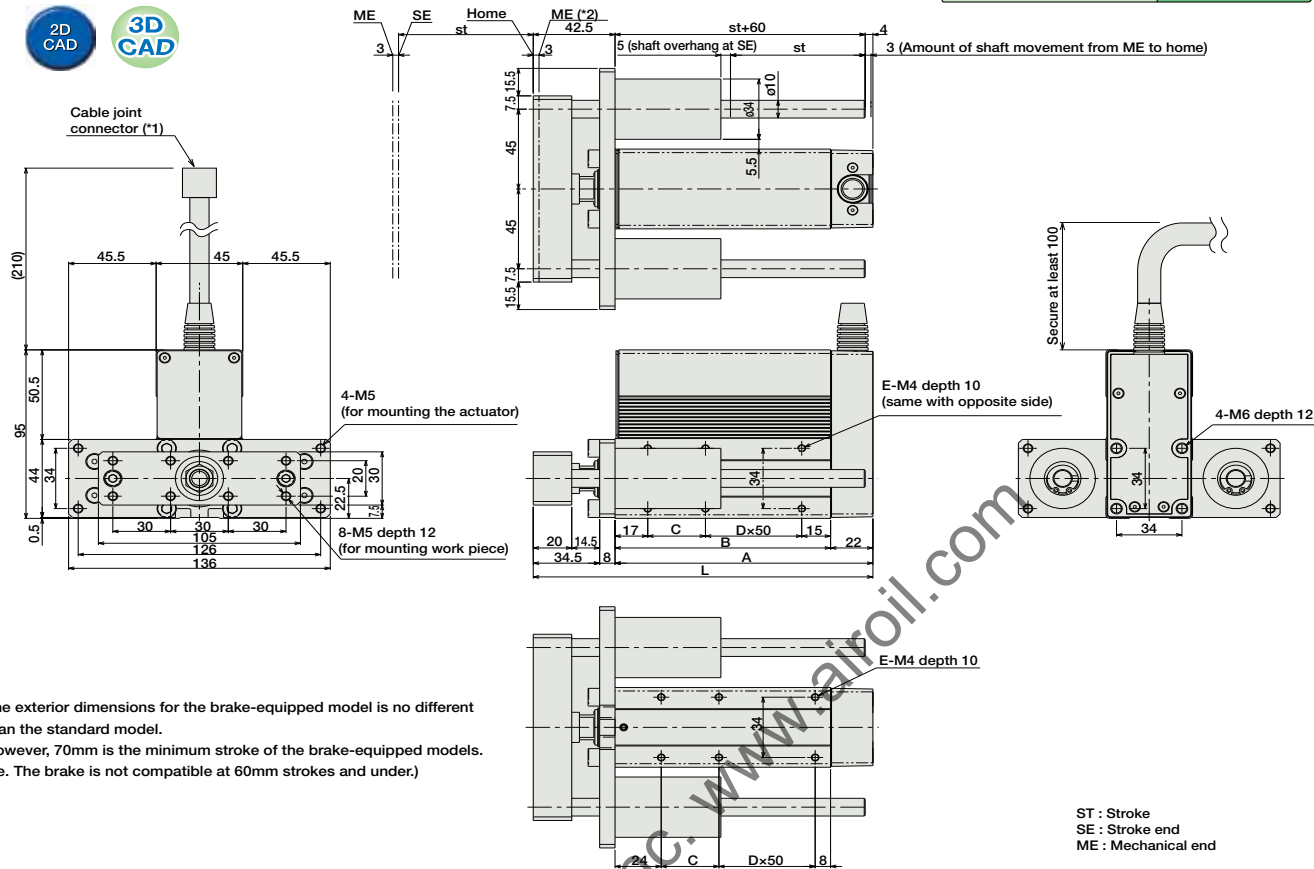
Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



\* The exterior dimensions for the brake-equipped model is no different than the standard model. However, 70mm is the minimum stroke of the brake-equipped models. (i.e. The brake is not compatible at 60mm strokes and under.)

Dimensions/Weight by Stroke (+0.2kg with brake)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	1.47	1.55	1.62	1.7	1.77	1.84	1.92	1.99	2.07	2.44	2.81

(\*1) The motor-encoder cable is connected here. See page A-39 for details on cables.

(\*2) When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.

② Compatible Controllers

The RCP2 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
Solenoid Valve Type		PMEC-C-35PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-35PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-35PI-NP-2-0					-	
Positioner Type		PCON-C-35PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-35PI-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-35PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-35PI-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		PCON-SE-35PI-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RPCON-35P	Dedicated to field network	768 points			-	→ P503
Program Control Type		PSEL-C-1-35PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points			-	→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).

# ERC2-RA6C

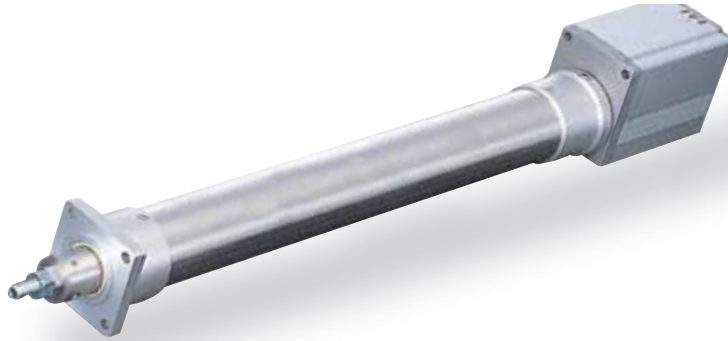
Controller-Integrated Rod Type 58mm Width Pulse Motor Straight Type

**Configuration:** **ERC2** — **RA6C** — **I** — **PM** —  —  —  —  —

Series — Type — Encoder — Motor — Lead — Stroke — I/O Type — Cable Length — Option

I: Incremental    PM: Pulse motor    12: 12mm    50: 50mm    NP: PIO (NPN) type    N: None P: 1m    B: Brake  
 6: 6mm    300: 300mm (50mm pitch increments)    PN: PIO (PNP) type    S: 3m M: 5m    FT: Foot bracket  
 X  : Custom    W  : Double-ended cable    R  : Robot cable  
 SE: SIO type    RW  : Double-ended Robot cable

\* See page Pre-35 for an explanation of the naming convention.

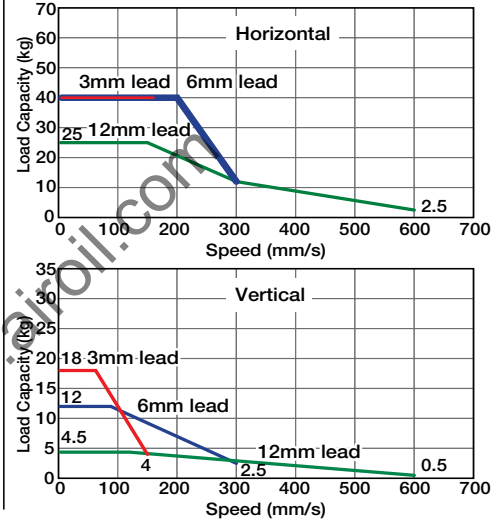


Technical References P. A-5



- 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.
- Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). This is the upper limit of the acceleration.
- The value for the horizontal load capacity is with an external guide.

**Speed vs. Load Capacity**  
 Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications					
Lead and Load Capacity			Stroke and Maximum Speed		
Model	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)	Maximum Push Force (N)(Note 2)
		Horizontal (kg)	Vertical (kg)		
ERC2-RA6C-I-PM-12-①-②-③-④	12	~ 25	~ 4.5	78	50~300 (50mm increments)
ERC2-RA6C-I-PM-6-①-②-③-④	6	~ 40	~ 12	157	
ERC2-RA6C-I-PM-3-①-②-③-④	3	40	~ 18	304	

Legend ① Stroke ② I/O Type ③ Cable length ④ Options (Note 2) See page A-64 for the pushing force graphs. (Unit: mm/s)

**① Stroke List**

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

**③ Cable List**

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
Double-Ended	W01 (1m) ~ W03 (3m)	-
	W04 (4m) ~ W05 (5m)	-
	W06 (6m) ~ W10 (10m)	-
Robot Cable	R01 (1m) ~ R03 (3m)	-
	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
Double-Ended Robot Cable	RW01 (1m) ~ RW03 (3m)	-
	RW04 (4m) ~ RW05 (5m)	-
	RW06 (6m) ~ RW10 (10m)	-

The values in < > apply to the SE type.  
 \* See page A-39 for cables for maintenance.

**④ Option List**

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

**Actuator Specifications**

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm special SUS type
Non-rotating accuracy of rod	±1.5 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

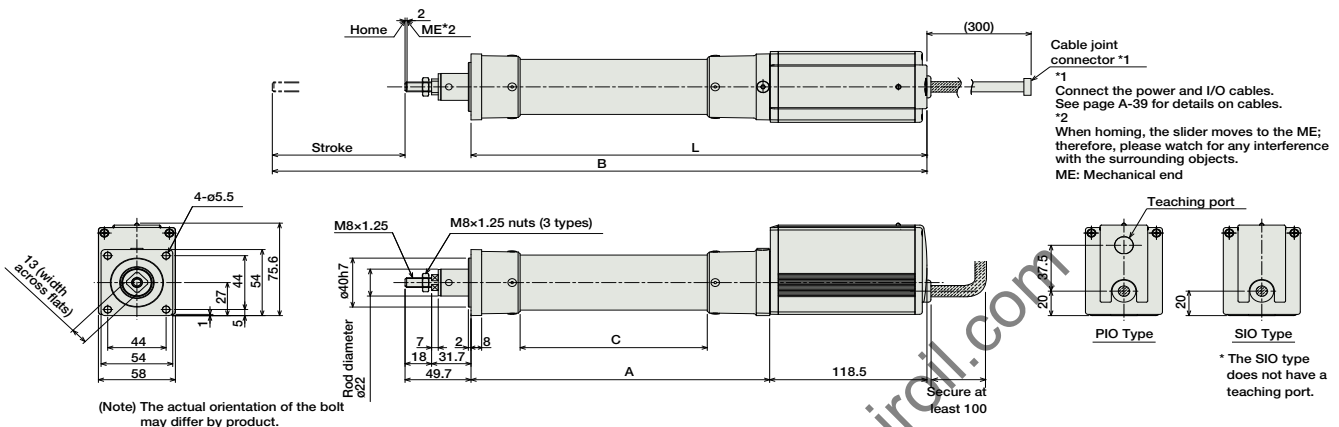
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



Note:

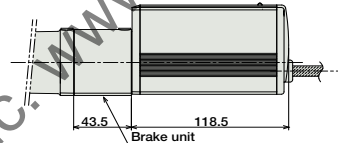
Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.

For Special Orders P. A-9



Brake Specifications Diagram

\* Compared to the standard model, the brake-equipped model is longer by 43.5mm and heavier by 0.5kg.



■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
L	293.5	343.5	393.5	443.5	493.5	543.5
A	175	225	275	325	375	425
B	393.2	493.2	593.2	693.2	793.2	893.2
C	91	141	191	241	291	341
Weight (kg)	1.6	1.7	1.8	2.0	2.1	2.2

I/O Type (Built-In Controller)

② I/O Type

The integrated controller in the ERC2 series can be selected from the following 3 types based on the type of external input and output (I/O). Select the controller according to your applications.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
PIO Type (NPN)		ERC2-RA6C-I-PM-□-□-NP-□-□	Easy to control, capable of positioning up to 16 points	16				
PIO Type (PNP)		ERC2-RA6C-I-PM-□-□-PN-□-□	Supports the PNP I/O, commonly used overseas.	16	DC24V	2A max.	-	→ P515
SIO Type		ERC2-RA6C-I-PM-□-□-SE-□-□	For connecting to a field network (gateway unit used)	64				

# ERC2-RA7C

Controller-Integrated Rod Type 68mm Width Pulse Motor Straight Type

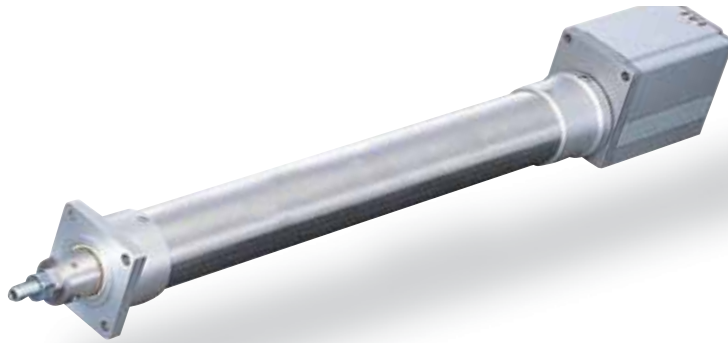
■ Configuration: **ERC2** — **RA7C** — **I** — **PM** —  —  —  —  —

Series — Type — Encoder — Motor — Lead — Stroke — I/O Type — Cable Length — Option

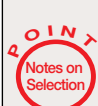
I: Incremental PM: Pulse motor 16 : 16mm 50: 50mm NP: PIO (NPN) type 300: 300mm (50mm pitch increments) 8 : 8mm 4 : 4mm PN: PIO (PNP) type SE: SIO type

N : None P : 1m B : Brake  
 S : 3m M : 5m FT : Foot bracket  
 X  : Custom NM: Reversed-home  
 W  : Double-ended cable  
 R  : Robot cable  
 RW  : Double-ended Robot cable

\* See page Pre-35 for an explanation of the naming convention.



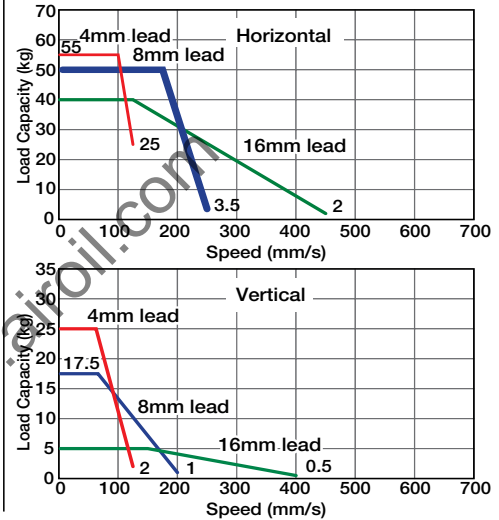
Technical References P. A-5



- (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) Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 4mm-lead model, or when used vertically). This is the upper limit of the acceleration.
- (4) The value for the horizontal load capacity is with an external guide.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
ERC2-RA7C-I-PM-16-①-②-③-④	16	~ 40	~ 5	220	50~300 (50mm increments)
ERC2-RA7C-I-PM-8-①-②-③-④	8	~ 50	~ 17.5	441	
ERC2-RA7C-I-PM-4-①-②-③-④	4	~ 55	~ 25	873	

Legend ① Stroke ② I/O Type ③ Cable length ④ Options

(Note 2) See page A-64 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke Lead	50~300 (50mm increments)	
	Stroke	Maximum Speed
16	450	<400>
8	250	<200>
4	125	

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	W01 (1m) ~ W03 (3m)	-
Double-Ended	W04 (4m) ~ W05 (5m)	-
	W06 (6m) ~ W10 (10m)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	RW01 (1m) ~ RW03 (3m)	-
Double-Ended Robot Cable	RW04 (4m) ~ RW05 (5m)	-
	RW06 (6m) ~ RW10 (10m)	-

The values in < > apply to the SE type. \* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø30mm special SUS type
Non-rotating accuracy of rod	±1.5 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

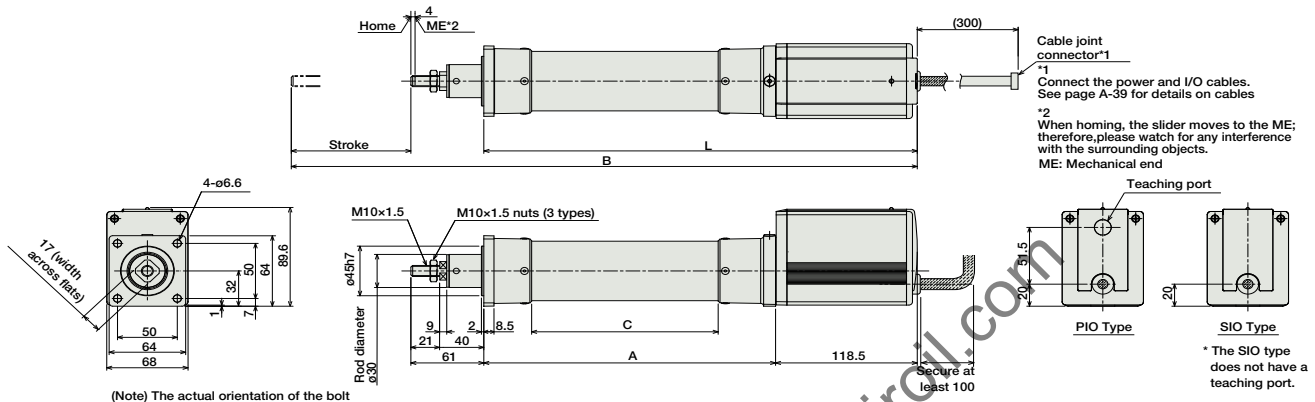
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



Note:

Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.

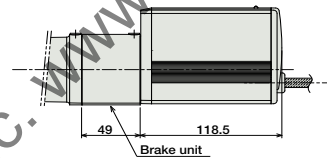
For Special Orders P. A-9



(Note) The actual orientation of the bolt may differ by product.

Brake Specifications Diagram

\* Compared to the standard model, the brake-equipped model is longer by 49mm and heavier by 0.5kg.



■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
L	312.5	362.5	412.5	462.5	512.5	562.5
A	194	244	294	344	394	444
B	423.5	523.5	623.5	723.5	823.5	923.5
C	106	156	206	256	306	356
Weight (kg)	2.7	2.9	3.0	3.2	3.3	3.5

I/O Type (Built-In Controller)

② I/O Type

The integrated controller in the ERC2 series can be selected from the following 3 types based on the type of external input and output (I/O). Select the controller according to your applications.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
PIO Type (NPN)		ERC2-RA7C-I-PM-□-□-NP-□-□	Easy to control, capable of positioning up to 16 points	16				
PIO Type (PNP)		ERC2-RA7C-I-PM-□-□-PN-□-□	Supports the PNP I/O, commonly used overseas.	16	DC24V	2A max.	-	→ P515
SIO Type		ERC2-RA7C-I-PM-□-□-SE-□-□	For connecting to a field network (gateway unit used)	64				

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- Gripper/Rotary Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo 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



# ERC2-RGS6C

Controller-Integrated Rod Type with Single Guide 58mm Width Pulse Motor  
Straight Type

■ Configuration: **ERC2** — **RGS6C** — **I** — **PM** —  —  —  —  —

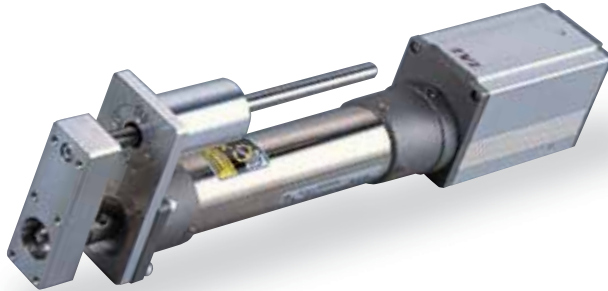
Series — Type — Encoder — Motor — Lead — Stroke — I/O Type — Cable Length — Option

I: Incremental PM: Pulse motor 12: 12mm 50: 50mm NP: PIO (NPN) type 300: 300mm (50mm pitch increments) 3: 3mm

N: None P: 1m S: 3m M: 5m X  : Custom W  : Double-ended cable R  : Robot cable SE: SIO type

B: Brake FT: Foot bracket NM: Reversed-home

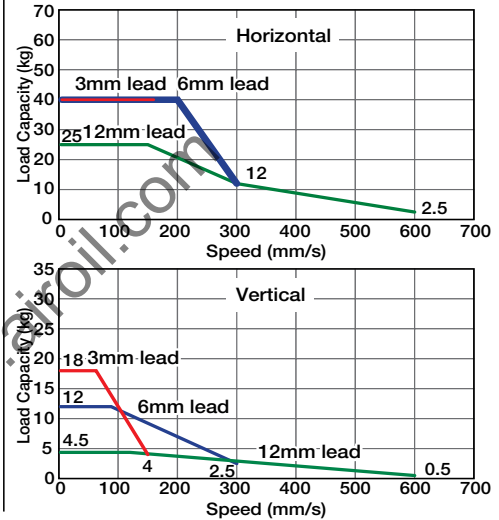
\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

- POINT** Notes on Selection
- 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.
  - Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported. In doing so, use the load capacity values without the weight of the guide (see right of page).
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). This is the upper limit of the acceleration.
  - The value for the horizontal load capacity is with an external guide.

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications					Stroke and Maximum Speed			
■ Lead and Load Capacity					■ Stroke and Maximum Speed			
Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)	Stroke / Lead	50~250 (50mm increments)	300 (mm)
		Horizontal (kg)	Vertical (kg)				600	500
ERC2-RGS6C-I-PM-12-①-②-③-④	12	~ 25	~ 4.5	78	50~300 (50mm increments)	12	600	500
ERC2-RGS6C-I-PM-6-①-②-③-④	6	~ 40	~ 12	157		6	300	250
ERC2-RGS6C-I-PM-3-①-②-③-④	3	40	~ 18	304		3	150	125

Legend ① Stroke ② I/O Type ③ Cable length ④ Options (Note 2) See page A-64 for the pushing force graphs. (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
Double-Ended	W01 (1m) ~ W03 (3m)	-
	W04 (4m) ~ W05 (5m)	-
	W06 (6m) ~ W10 (10m)	-
Robot Cable	R01 (1m) ~ R03 (3m)	-
	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
Double-Ended Robot Cable	RW01 (1m) ~ RW03 (3m)	-
	RW04 (4m) ~ RW05 (5m)	-
	RW06 (6m) ~ RW10 (10m)	-

The values in < > apply to the SE type.  
\* See page A-39 for cables for maintenance.

④ Option List


Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

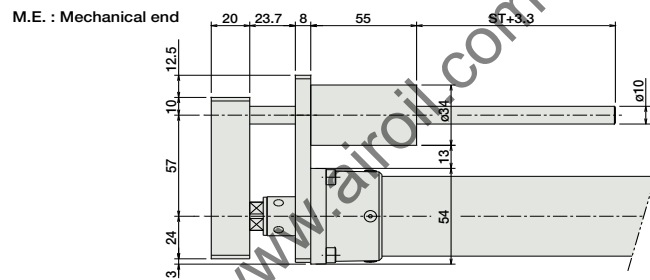
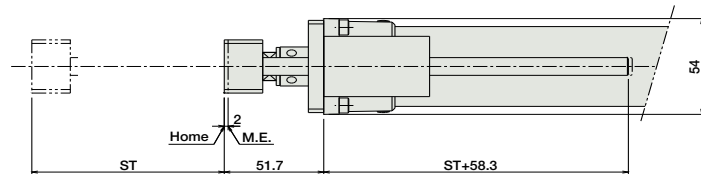
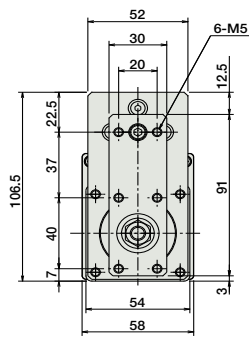
Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm special SUS type
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders  P. A-9



\* See page 166 for the dimensions of the actuator.




■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.2	0.2	0.3	0.3	0.3	0.4
Guide + actuator weight (kg)	1.8	1.9	2.1	2.3	2.4	2.6

I/O Type (Built-In Controller)

② I/O Type

The integrated controller in the ERC2 series can be selected from the following 3 types based on the type of external input and output (I/O). Select the controller according to your applications.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
PIO Type (NPN)		ERC2-RGS6C-I-PM-□-□-NP-□-□	Easy to control, capable of positioning up to 16 points	16	DC24V	2A max.	-	→ P515
PIO Type (PNP)		ERC2-RGS6C-I-PM-□-□-PN-□-□	Supports the PNP I/O, commonly used overseas.	16				
SIO Type		ERC2-RGS6C-I-PM-□-□-SE-□-□	For connecting to a field network (gateway unit used)	64				

# ERC2-RGS7C

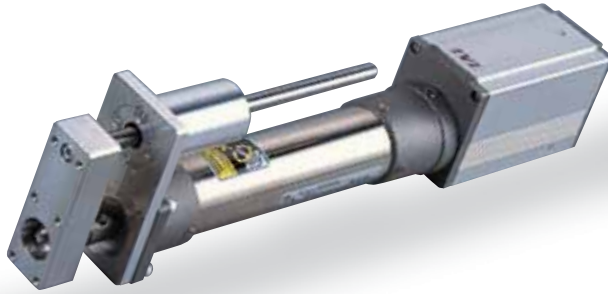
Controller-Integrated Rod Type 68mm Width Pulse Motor Straight Type

■ Configuration: **ERC2** — **RGS7C** — **I** — **PM** —  —  —  —  —

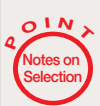
Series — Type — Encoder — Motor — Lead — Stroke — I/O Type — Cable Length — Option

I: Incremental PM: Pulse motor  
 16 : 16mm  
 8 : 8mm  
 4 : 4mm  
 50: 50mm  
 300: 300mm (50mm pitch increments)  
 NP : PIO (NPN) type  
 PN : PIO (PNP) type  
 SE : SIO type  
 N : None P : 1m  
 S : 3m M : 5m  
 X  : Custom  
 W  : Double-ended cable  
 R  : Robot cable  
 RW  : Double-ended Robot cable  
 B : Brake  
 FT : Foot bracket  
 NM : Reversed-home

\* See page Pre-35 for an explanation of the naming convention.



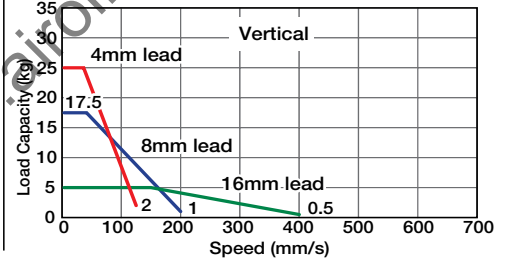
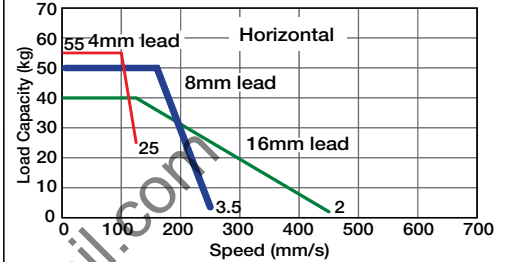
Technical References P. A-5



- (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) Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported. In doing so, use the load capacity values without the weight of the guide (see right of page).
- (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 4mm-lead model, or when used vertically). This is the upper limit of the acceleration.
- (4) The value for the horizontal load capacity is with an external guide.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
ERC2-RGS7C-I-PM-16-①-②-③-④	16	~ 40	~ 5	220	50~300 (50mm increments)
ERC2-RGS7C-I-PM-8-①-②-③-④	8	~ 50	~ 17.5	441	
ERC2-RGS7C-I-PM-4-①-②-③-④	4	~ 55	~ 25	873	

Legend ① Stroke ② I/O Type ③ Cable length ④ Options

(Note 2) See page A-64 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke / Lead	50~300 (50mm increments)	
	16	450 <400>
8	250 <200>	
4	125	

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	W01 (1m) ~ W03 (3m)	-
Double-Ended	W04 (4m) ~ W05 (5m)	-
	W06 (6m) ~ W10 (10m)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	RW01 (1m) ~ RW03 (3m)	-
Double-Ended Robot Cable	RW04 (4m) ~ RW05 (5m)	-
	RW06 (6m) ~ RW10 (10m)	-

The values in < > apply to the SE type.  
 \* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

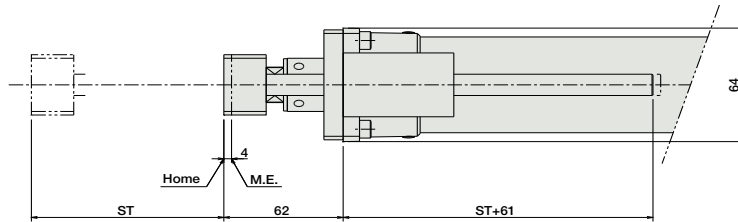
#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø30mm special SUS type
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

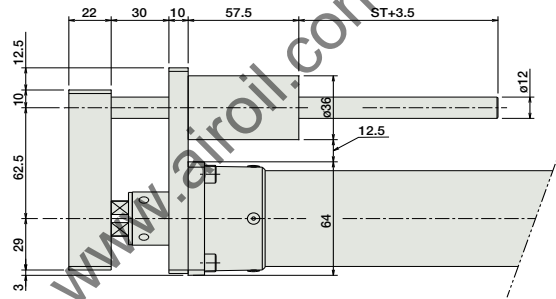
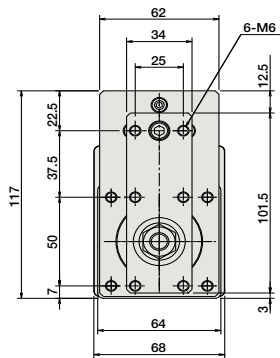
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



M.E. : Mechanical end



\* See page 168 for the dimensions of the actuator.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.3	0.3	0.4	0.4	0.5	0.5
Guide + actuator weight (kg)	3.0	3.2	3.4	3.6	3.8	4.0

I/O Type (Built-In Controller)

② I/O Type

The integrated controller in the ERC2 series can be selected from the following 3 types based on the type of external input and output (I/O). Select the controller according to your applications.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
PIO Type (NPN)		ERC2-RGS7C-I-PM-□-□-NP-□-□	Easy to control, capable of positioning up to 16 points	16	DC24V	2A max.	-	→ P515
PIO Type (PNP)		ERC2-RGS7C-I-PM-□-□-PN-□-□	Supports the PNP I/O, commonly used overseas.	16				
SIO Type		ERC2-RGS7C-I-PM-□-□-SE-□-□	For connecting to a field network (gateway unit used)	64				

- 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

# ERC2-RGD6C

Controller-Integrated Rod Type with Double Guide 58mm Width  
Pulse Motor Straight Type

■ Configuration: **ERC2** — **RGD6C** — **I** — **PM** —  —  —  —  —

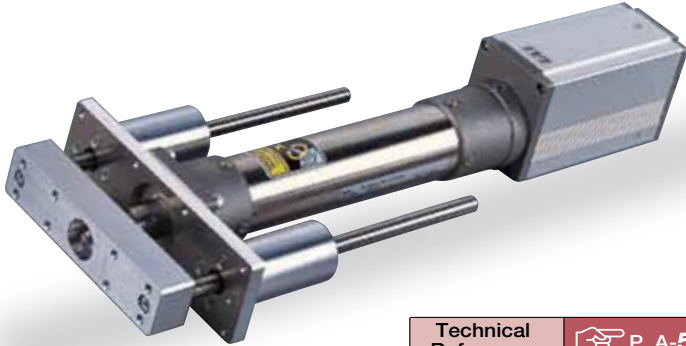
Series — Type — Encoder — Motor — Lead — Stroke — I/O Type — Cable Length — Option

I: Incremental PM: Pulse motor 12: 12mm 50: 50mm NP: PIO (NPN) type 3: 3mm 300: 300mm (50mm pitch increments) PN: PIO (PNP) type SE: SIO type

N: None P: 1m S: 3m M: 5m X  : Custom W  : Double-ended cable R  : Robot cable RW  : Double-ended Robot cable

B: Brake FT: Foot bracket NM: Reversed-home

\* See page Pre-35 for an explanation of the naming convention.

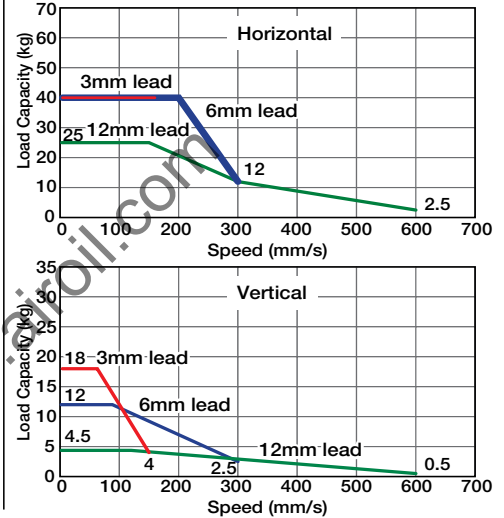


Technical References P. A-5



- 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.
- Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported. In doing so, use the load capacity values without the weight of the guide (see right of page).
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). This is the upper limit of the acceleration.
- The value for the horizontal load capacity is with an external guide.

■ Speed vs. Load Capacity  
Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications					
Lead and Load Capacity			Stroke and Maximum Speed		
Model	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)	Maximum Push Force (N)(Note 2)
		Horizontal (kg)	Vertical (kg)		
ERC2-RGD6C-I-PM-12-①-②-③-④	12	~ 25	~ 4.5	78	50~300 (50mm increments)
ERC2-RGD6C-I-PM-6-①-②-③-④	6	~ 40	~ 12	157	
ERC2-RGD6C-I-PM-3-①-②-③-④	3	40	~ 18	304	

Legend ① Stroke ② I/O Type ③ Cable length ④ Options (Note 2) See page A-64 for the pushing force graphs. (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
Double-Ended	W01 (1m) ~ W03 (3m)	-
	W04 (4m) ~ W05 (5m)	-
	W06 (6m) ~ W10 (10m)	-
Robot Cable	R01 (1m) ~ R03 (3m)	-
	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
Double-Ended Robot Cable	RW01 (1m) ~ RW03 (3m)	-
	RW04 (4m) ~ RW05 (5m)	-
	RW06 (6m) ~ RW10 (10m)	-

The values in < > apply to the SE type.  
\* See page A-39 for cables for maintenance.

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

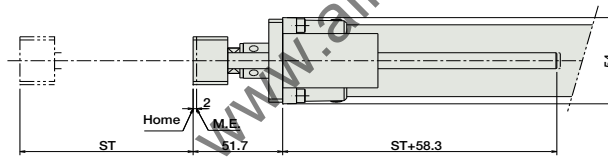
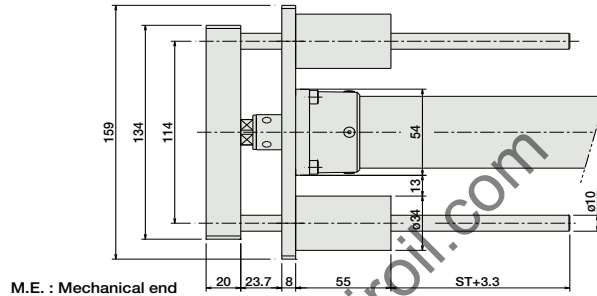
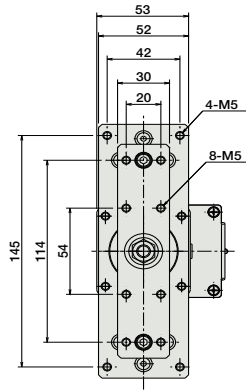
Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm special SUS type
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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\* See page 166 for the dimensions of the actuator.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.4	0.4	0.5	0.6	0.6	0.7
Guide + actuator weight (kg)	2.0	2.1	2.3	2.6	2.7	2.9

I/O Type (Built-In Controller)

② I/O Type

The integrated controller in the ERC2 series can be selected from the following 3 types based on the type of external input and output (I/O). Select the controller according to your applications.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
PIO Type (NPN)		ERC2-RGD6C-I-PM-□-□-NP-□-□	Easy to control, capable of positioning up to 16 points	16				
PIO Type (PNP)		ERC2-RGD6C-I-PM-□-□-PN-□-□	Supports the PNP I/O, commonly used overseas.	16	DC24V	2A max.	-	→ P515
SIO Type		ERC2-RGD6C-I-PM-□-□-SE-□-□	For connecting to a field network (gateway unit used)	64				

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Controllers Integrated
- 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

# ERC2-RGD7C

Controller-Integrated Rod Type 68mm Width Pulse Motor Straight Type

■ Configuration: **ERC2** — **RGD7C** — **I** — **PM** — [ ] — [ ] — [ ] — [ ] — [ ]

Series — Type — Encoder — Motor — Lead — Stroke — I/O Type — Cable Length — Option

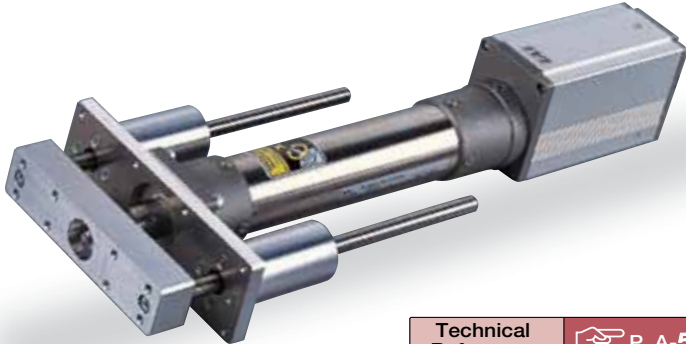
I: Incremental PM: Pulse motor 16 : 16mm 50: 50mm NP : PIO (NPN) type 300: 300mm (50mm pitch increments) 4 : 4mm

NP : PIO (PNP) type SE : SIO type

N : None P : 1m S : 3m M : 5m X [ ] : Custom W [ ] : Double-ended cable R [ ] : Robot cable RW [ ] : Double-ended Robot cable

B : Brake FT : Foot bracket NM : Reversed-home

\* See page Pre-35 for an explanation of the naming convention.



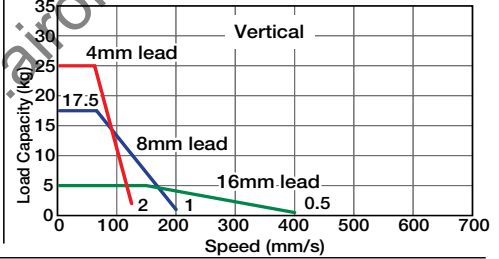
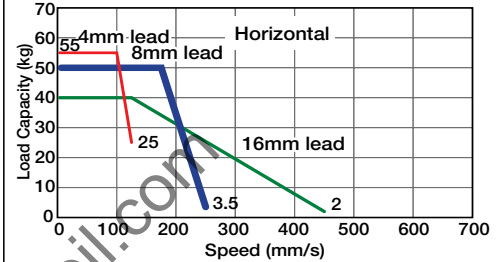
Technical References P. A-5



- 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.
- Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported. In doing so, use the load capacity values without the weight of the guide (see right of page).
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 4mm-lead model, or when used vertically). This is the upper limit of the acceleration.
- The value for the horizontal load capacity is with an external guide.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
ERC2-RGD7C-I-PM-16-①-②-③-④	16	~ 40	~ 5	220	50~300 (50mm increments)
ERC2-RGD7C-I-PM-8-①-②-③-④	8	~ 50	~ 17.5	441	
ERC2-RGD7C-I-PM-4-①-②-③-④	4	~ 55	~ 25	873	

Legend ① Stroke ② I/O Type ③ Cable length ④ Options

(Note 2) See page A-64 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke Lead	50~300 (50mm increments)
16	450 <400>
8	250 <200>
4	125

\*The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	W01 (1m) ~ W03 (3m)	-
Double-Ended	W04 (4m) ~ W05 (5m)	-
	W06 (6m) ~ W10 (10m)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	RW01 (1m) ~ RW03 (3m)	-
Double-Ended Robot Cable	RW04 (4m) ~ RW05 (5m)	-
	RW06 (6m) ~ RW10 (10m)	-

The values in < > apply to the SE type. \* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

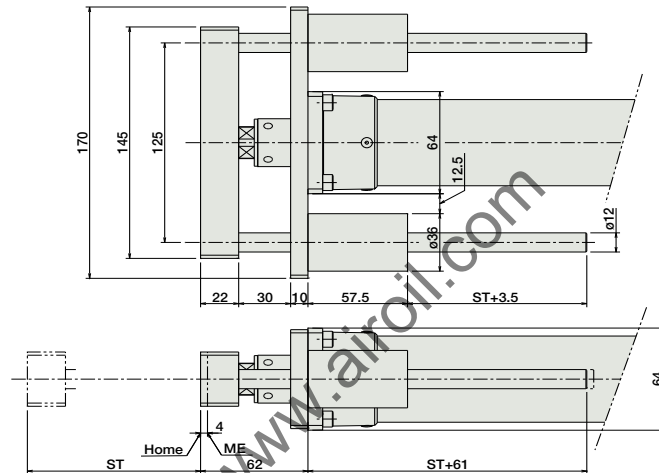
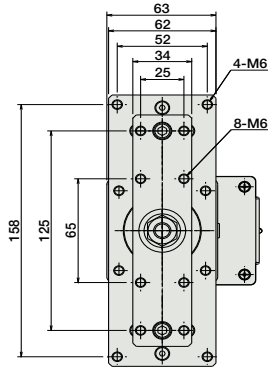
#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø30mm special SUS type
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



ME: Mechanical end

\* See page 168 for the dimensions of the actuator.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.5	0.6	0.7	0.8	0.9	1.0
Guide + actuator weight (kg)	3.2	3.5	3.7	4.0	4.2	4.5

I/O Type (Built-In Controller)

② I/O Type

The integrated controller in the ERC2 series can be selected from the following 3 types based on the type of external input and output (I/O). Select the controller according to your applications.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
PIO Type (NPN)		ERC2-RGD7C-I-PM-□-□-NP-□-□	Easy to control, capable of positioning up to 16 points	16				
PIO Type (PNP)		ERC2-RGD7C-I-PM-□-□-PN-□-□	Supports the PNP I/O, commonly used overseas.	16	DC24V	2A max.	-	→ P515
SIO Type		ERC2-RGD7C-I-PM-□-□-SE-□-□	For connecting to a field network (gateway unit used)	64				

- 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



# RCA2-RN3N

ROBO Cylinder Mini Rod Type Short-Length Nut-Mounting Type  
28mm Width 24V Servo Motor Lead Screw

■ Configuration: **RCA2** — **RN3N** — **I** — **10** — **30** — **30** — **30** — **30**

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

10: 10W Servo Motor

4S: 4mm lead screw  
2S: 2mm lead screw  
1S: 1mm lead screw

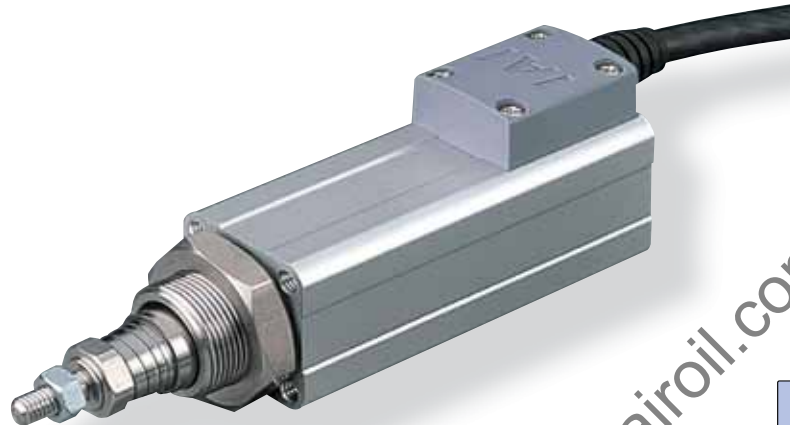
30: 30mm

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

K2: Connector Cable exit direction  
LA: Power-saving

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

- POINT**  
Notes on Selection
- The lead screw is not equipped with an anti-rotation device. Therefore, when using the actuator, add an anti-rotation device such as a guide to the end of the lead screw prior to use. (Without an anti-rotation device, the lead screw will rotate, and will not extend or retract.)
  - The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - Do not apply any external force on the rod from any direction other than the direction of the rod's motion.
  - This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RN3N-I-10-4S-30-①-②-③	10	Lead Screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-RN3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-RN3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible controller ② Cable length ③ Options

#### Stroke and Maximum Speed

Lead Screw	Stroke (mm)	
	4	30
4	200	
2	100	
1	50	

(Unit: mm/s)

#### Stroke List

Stroke (mm)	Standard Price	
	Feed Screw	Lead Screw
30	-	-

#### ② Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
		-

\* The RCA2 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

#### ③ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	-
Power-saving	LA	→ A-32	-

#### Actuator Specifications

Item	Description
Drive System	Lead Screw $\phi$ 4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

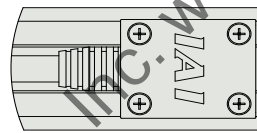
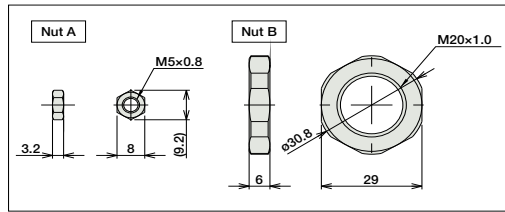
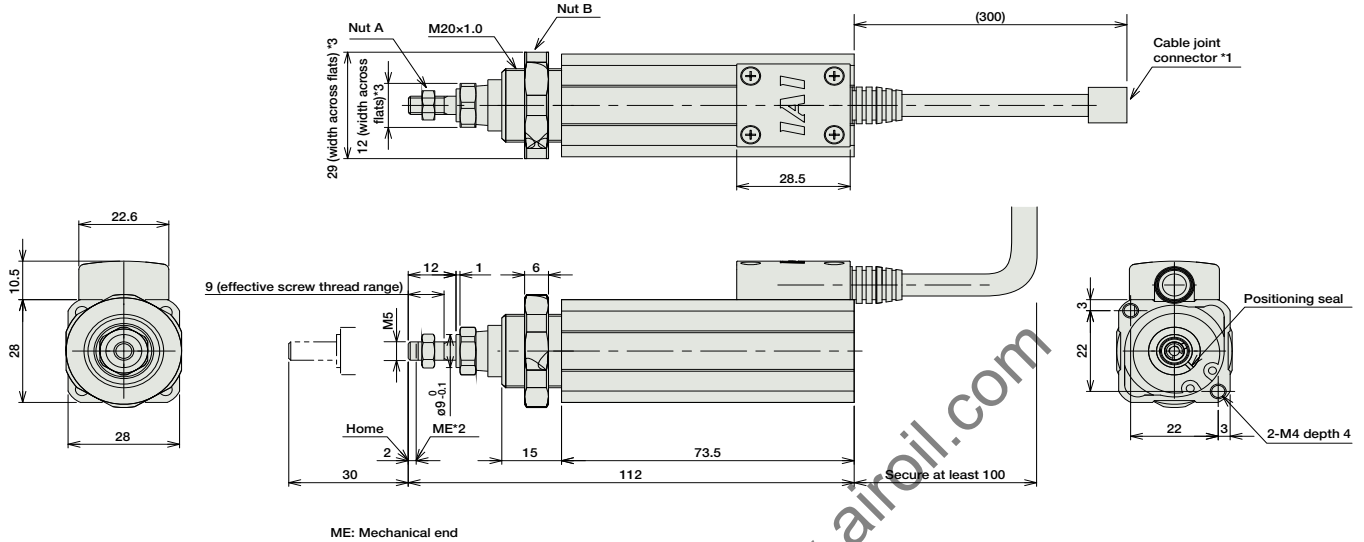
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.
- \*3 The orientation of the bolt will vary depending on the product.



Connector cable exit direction (Model: K2)

\* Rotates 180 degrees with respect to the standard model.

■ Dimensions/Weight by Stroke

Stroke	30
Weight (kg)	0.25

① Compatible Controllers

The RCA2 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	
Solenoid Valve Type		AMEC-C-10①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477	
Splash-Proof Solenoid Valve Type		ASEP-C-10①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487	
Positioner Type		ACON-C-10①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535	
Safety-Compliant Positioner Type		ACON-CG-10①-NP-2-0					-		
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10①-NP-2-0	Pulse train input type with differential line driver support	(-)			-		
Pulse Train Input Type (Open Collector)		ACON-PO-10①-NP-2-0	Pulse train input type with open collector support	-			-		
Serial Communication Type		ACON-SE-10①-N-0-0	Dedicated to serial communication	64 points			-		
Field Network Type		RACON-10①	Dedicated to field network	768 points			-		→ P503
Program Control Type		ASEL-C-1-10①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points			-		→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "LA" if the power-saving option is specified.

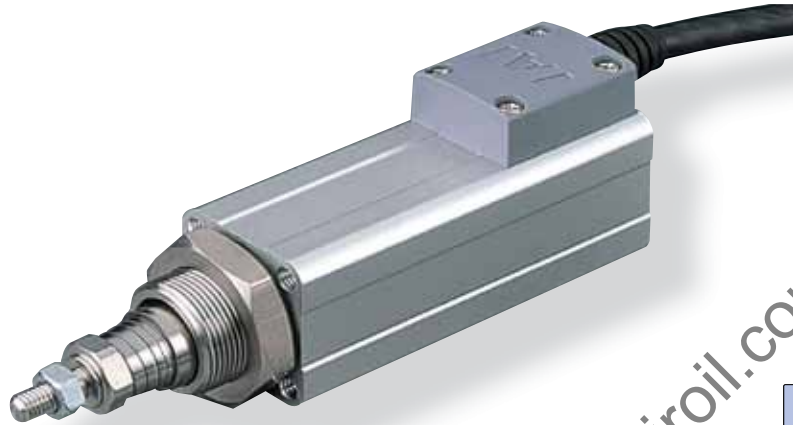
# RCA2-RN4N

ROBO Cylinder Mini Rod Type Short-Length Nut-Mounting Type  
34mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** — **RN4N** — **I** — **20** — **30** — **30** — **30** — **30**

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA2	RN4N	I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	6 : 6mm ball screw 4 : 4mm ball screw 2 : 2mm ball screw 6S : 6mm lead screw 4S : 4mm lead screw 2S : 2mm lead screw	30 : 30mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X □ □ : Custom	K2 : Connector Cable exit direction LA : Power-saving

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

- POINT**  
Notes on Selection
- The lead screw is not equipped with an anti-rotation device. Therefore, when using the actuator, add an anti-rotation device such as a guide to the end of the lead screw prior to use. (Without an anti-rotation device, the lead screw will rotate, and will not extend or retract.)
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2mm-lead model, lead screw model, or when used vertically). This is the upper limit of the acceleration.
  - Do not apply any external force on the rod from any direction other than the direction of the rod's motion.
  - When using the lead screw model, please use it for applications that are suitable for its characteristics. (See page Pre-42 for more information.)

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RN4N-I-20-6-30-①-②-③	20	Ball Screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-RN4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-RN4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-RN4N-I-20-6S-30-①-②-③	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-RN4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-RN4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible controller ② Cable length ③ Options

### Stroke and Maximum Speed

Lead	Stroke (mm)	
	6	30
Ball Screw	6	270 <220>
	4	200
	2	100
Lead Screw	6	220
	4	200
	2	100

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

### Stroke List

Stroke (mm)	Standard Price	
	Ball Screw	Lead Screw
30	-	-

### Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The RCA2 comes standard with a robot cable.

\* See page A-39 for cables for maintenance.

### Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	-
Power-saving	LA	→ A-32	-

### Actuator Specifications

Item	Description
Drive System	Ball screw/lead screw ø6mm C10 grade
Lost Motion	Ball screw: 0.1mm or less/Lead screw: 0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead Screw: Horizontal: 10 million cycles Vertical: 5 million cycles

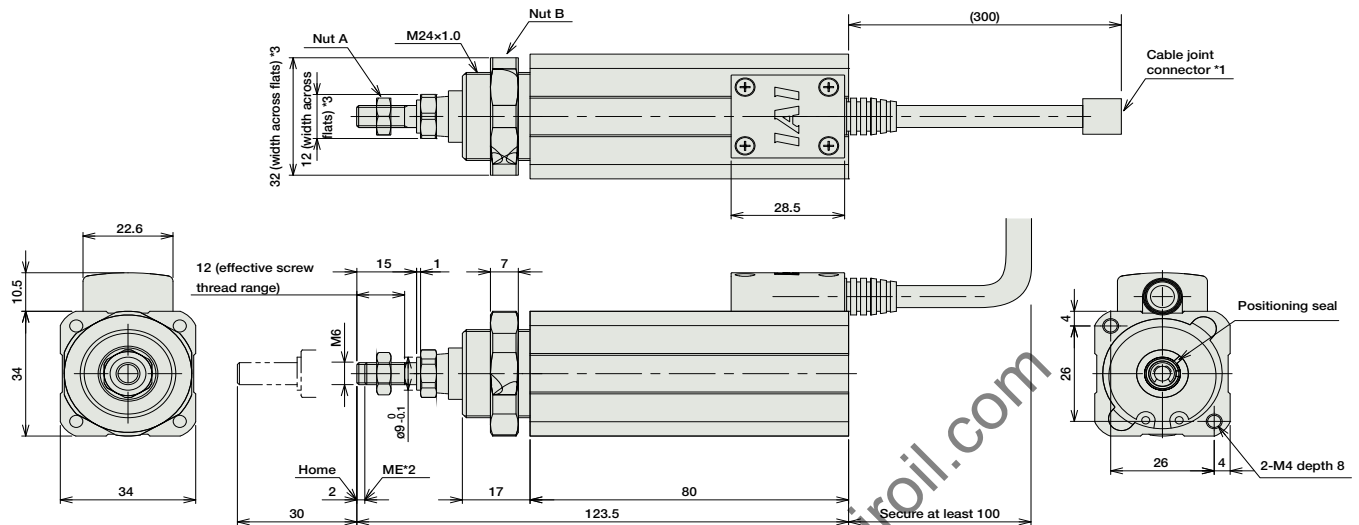
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

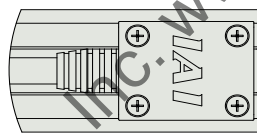
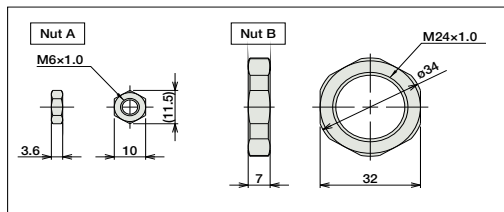
For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.
- \*3 The orientation of the bolt will vary depending on the product.



ME: Mechanical end



Connector cable exit direction (Model: K2)

\* Rotates 180 degrees with respect to the standard model.

■ Dimensions/Weight by Stroke

Stroke	30
Weight (kg)	0.5

① Compatible Controllers

The RCA2 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	
Solenoid Valve Type		AMEC-C-201①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477	
Splash-Proof Solenoid Valve Type		ASEP-C-201①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487	
Positioner Type		ACON-C-201①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535	
Safety-Compliant Positioner Type		ACON-CG-201①-NP-2-0					-		
Pulse Train Input Type (Differential Line Driver)		ACON-PL-201①-NP-2-0	Pulse train input type with differential line driver support	(-)			-		
Pulse Train Input Type (Open Collector)		ACON-PO-201①-NP-2-0	Pulse train input type with open collector support				-		
Serial Communication Type		ACON-SE-201①-N-0-0	Dedicated to serial communication	64 points			-		
Field Network Type		RACON-201①	Dedicated to field network	768 points			-		→ P503
Program Control Type		ASEL-C-1-201①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points			-		→ P567

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

# RCA2-RP3N

ROBO Cylinder Mini Rod Type Short-Length Tapped-Hole Mounting Type  
28mm Width 24V Servo Motor Lead Screw

■ Configuration: **RCA2** — **RP3N** — **I** — **10** — **30** — — — —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

10: 10W Servo Motor

4S: 4mm lead screw  
2S: 2mm lead screw  
1S: 1mm lead screw

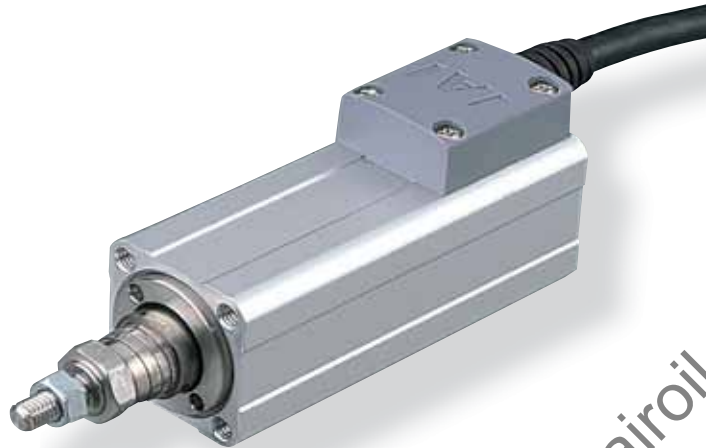
30: 30mm

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X □ □ : Custom

K2: Connector Cable exit direction  
LA: Power-saving

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

- POINT**  
Notes on Selection
- The lead screw is not equipped with an anti-rotation device. Therefore, when using the actuator, add an anti-rotation device such as a guide to the end of the lead screw prior to use. (Without an anti-rotation device, the lead screw will rotate, and will not extend or retract.)
  - The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - Do not apply any external force on the rod from any direction other than the direction of the rod's motion.
  - This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

**Actuator Specifications**

■ Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RP3N-I-10-4S-30-①-②-③	10	Lead Screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-RP3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-RP3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible controller ② Cable length ③ Options

■ Stroke and Maximum Speed

Lead	Stroke (mm)	
	4	30
Lead Screw	200	100
	50	

(Unit: mm/s)

**Stroke List**

Stroke (mm)	Standard Price
30	Feed Screw Lead Screw

**② Cable List**

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special Lengths	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
		—

\* The RCA2 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

**③ Option List**

Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	—
Power-saving	LA	→ A-32	—

**Actuator Specifications**

Item	Description
Drive System	Lead Screw ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

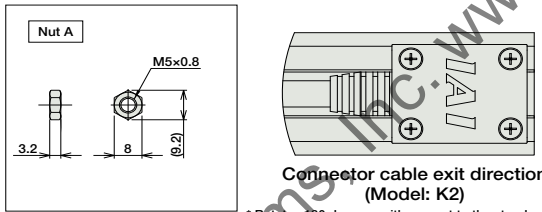
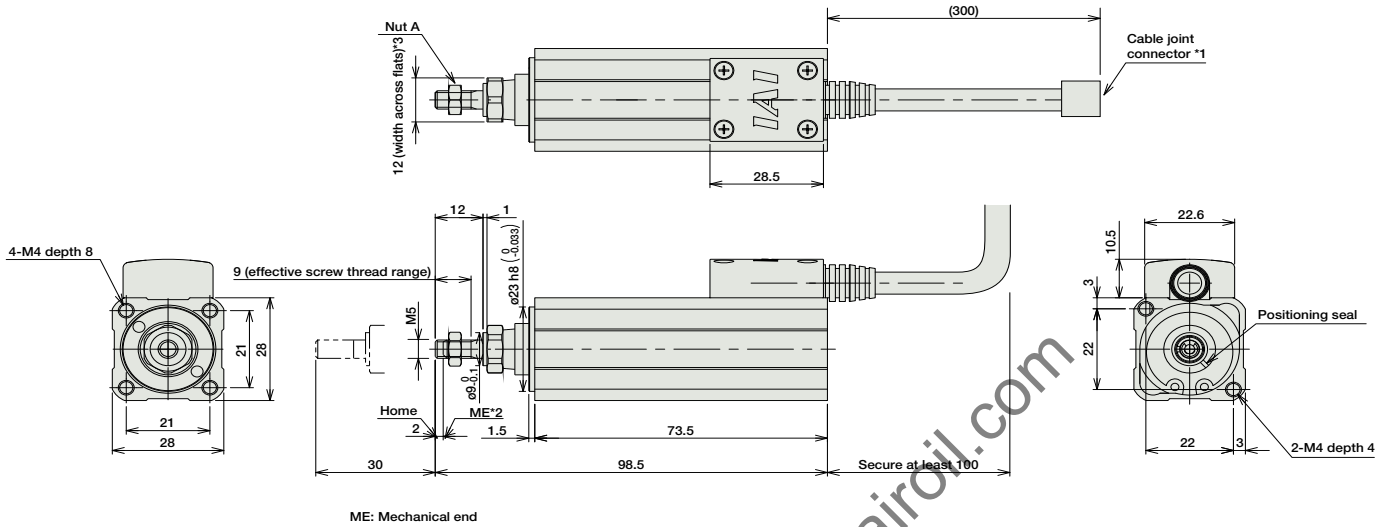
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.
- \*3 The orientation of the bolt will vary depending on the product.



■ Dimensions/Weight by Stroke

Stroke	30
Weight (kg)	0.2

① Compatible Controllers

The RCA2 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	
Solenoid Valve Type		AMEC-C-10①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477	
Splash-Proof Solenoid Valve Type		ASEP-C-10①-NP-2-0 ASEP-CW-10①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487	
Positioner Type		ACON-C-10①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535	
Safety-Compliant Positioner Type		ACON-CG-10①-NP-2-0					-		
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10①-NP-2-0	Pulse train input type with differential line driver support	(-)			-		
Pulse Train Input Type (Open Collector)		ACON-PO-10①-NP-2-0	Pulse train input type with open collector support	-					
Serial Communication Type		ACON-SE-10①-N-0-0	Dedicated to serial communication	64 points			-		
Field Network Type		RACON-10①	Dedicated to field network	768 points			-		→ P503
Program Control Type		ASEL-C-1-10①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points			-		→ P567

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

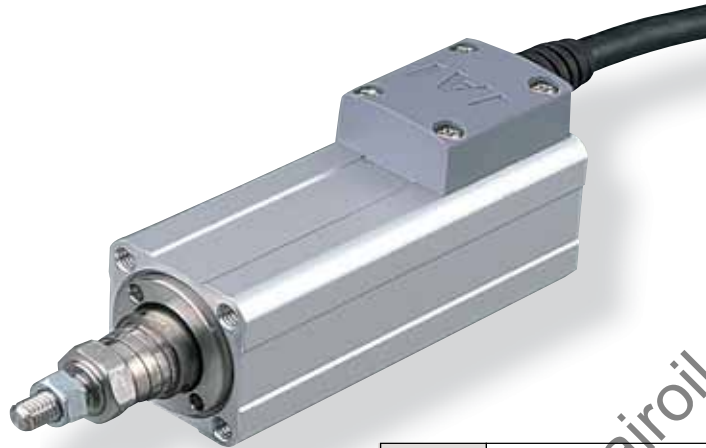
# RCA2-RP4N

ROBO Cylinder Mini Rod Type Short-Length Tapped-Hole Mounting Type  
34mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** — **RP4N** — **I** — **20** — **30** — **30** — **30** — **30**

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA2	RP4N	I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	6 : 6mm ball screw 4 : 4mm ball screw 2 : 2mm ball screw 6S : 6mm lead screw 4S : 4mm lead screw 2S : 2mm lead screw	30 : 30mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X □ □ : Custom	K2 : Connector Cable exit direction LA : Power-saving

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

- Notes on Selection**
- The lead screw is not equipped with an anti-rotation device. Therefore, when using the actuator, add an anti-rotation device such as a guide to the end of the lead screw prior to use. (Without an anti-rotation device, the lead screw will rotate, and will not extend or retract.)
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2mm-lead model, lead screw model, or when used vertically). This is the upper limit of the acceleration.
  - Do not apply any external force on the rod from any direction other than the direction of the rod's motion.
  - When using the lead screw model, please use it for applications that are suitable for its characteristics. (See page Pre-42 for more information.)

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RP4N-I-20-6-30-①-②-③	20	Ball Screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-RP4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-RP4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-RP4N-I-20-6S-30-①-②-③	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-RP4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-RP4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible controller ② Cable length ③ Options

### Stroke and Maximum Speed

Lead	Stroke (mm)	
	6	30
Ball Screw	6	270 <220>
	4	200
	2	100
Lead Screw	6	220
	4	200
	2	100

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

### Stroke List

Stroke (mm)	Standard Price	
	Ball Screw	Lead Screw
30	-	-

### Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The RCA2 comes standard with a robot cable.

\* See page A-39 for cables for maintenance.

### Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	-
Power-saving	LA	→ A-32	-

### Actuator Specifications

Item	Description
Drive System	Ball screw/lead screw ø6mm C10 grade
Lost Motion	Ball screw: 0.1mm or less/Lead screw: 0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead Screw: Horizontal: 10 million cycles Vertical: 5 million cycles

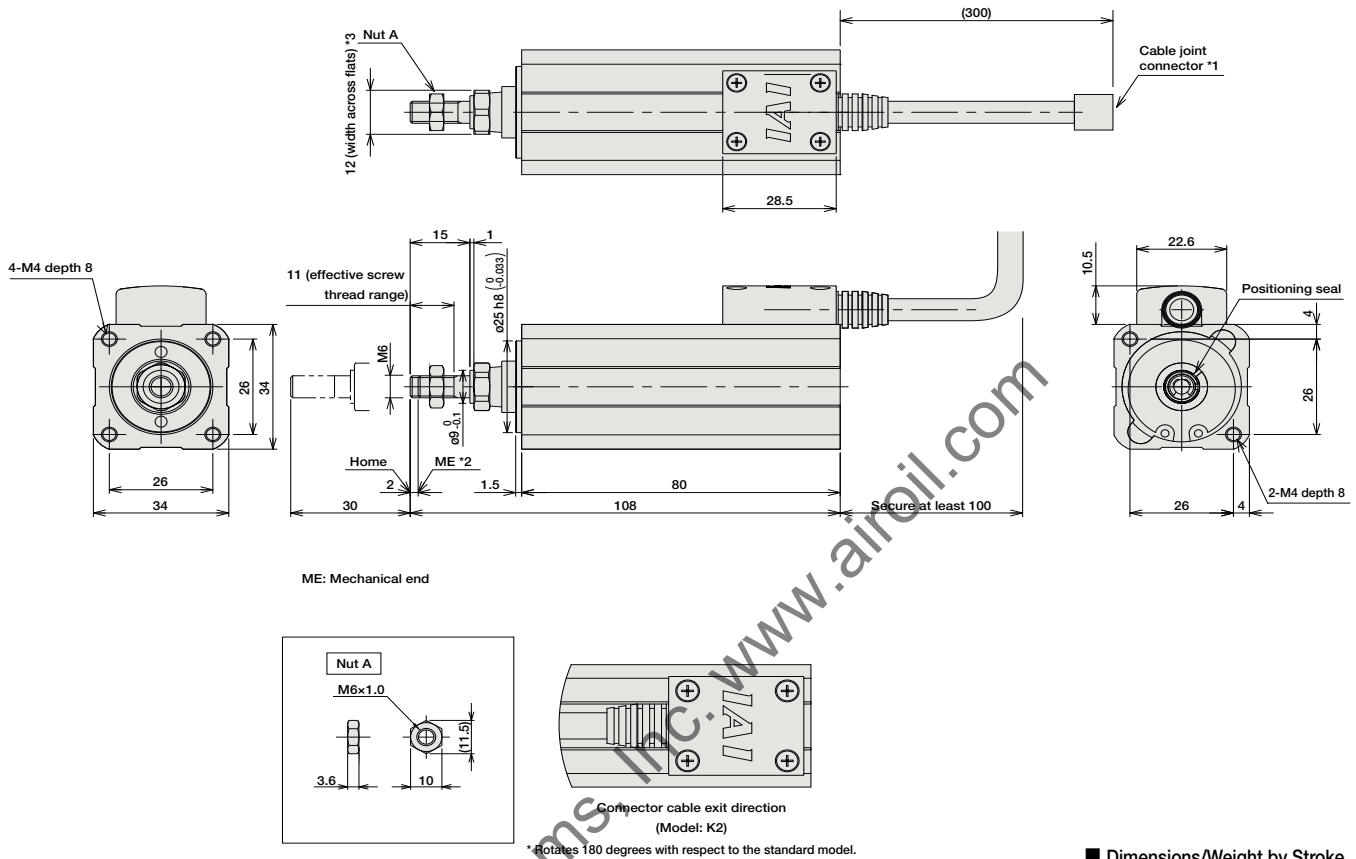
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.
- \*3 The orientation of the bolt will vary depending on the product.



■ Dimensions/Weight by Stroke

Stroke	30
Weight (kg)	0.42

① Compatible Controllers

The RCA2 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
Solenoid Valve Type		AMEC-C-20①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-20①-NP-2-0 ASEP-CW-20①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Positioner Type		ACON-C-20①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20①-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20①-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		ACON-SE-20①-N-0-0	Dedicated to serial communication	64 points	-	-	-	-
Field Network Type		RACON-20①	Dedicated to field network	768 points	-	-	-	→ P503
Program Control Type		ASEL-C-1-20①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points	-	-	-	→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "LA" if the power-saving option is specified.



# RCA2-GS3N

ROBO Cylinder Mini Rod Type Short-Length Mounting Type with Single Guide  
28mm Width 24V Servo Motor Lead Screw

■ Configuration: **RCA2** — **GS3N** — **I** — **10** — **30** — **30** — **30** — **30**

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

10: 10W Servo Motor

4S: 4mm lead screw  
2S: 2mm lead screw  
1S: 1mm lead screw

30: 30mm

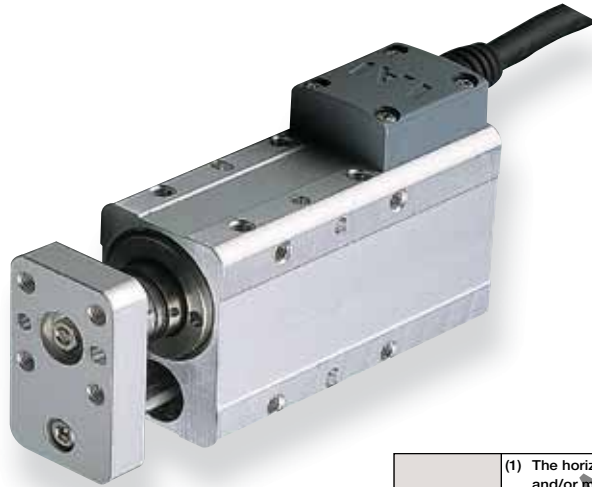
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X □ □ : Custom

K2: Connector Cable exit direction  
LA: Power-saving

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT**  
Notes on Selection
- (1) The horizontal load capacity is based on the use of a guide to prevent any radial and/or moment load on the rod. If no guide will be installed, see the Tip Load vs. Service Life graph (→ page A-81).
  - (2) The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - (3) This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-GS3N-I-10-4S-30-①-②-③	10	Lead Screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-GS3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-GS3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible controller ② Cable length ③ Options

### Stroke and Maximum Speed

Lead	Stroke (mm)	
	4	30
Lead Screw	200	100
	50	

(Unit: mm/s)

### Stroke List

Stroke (mm)	Standard Price
	30

### ② Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The RCA2 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

### ③ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	-
Power-saving	LA	→ A-32	-

### Actuator Specifications

Item	Description
Drive System	Lead screw ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

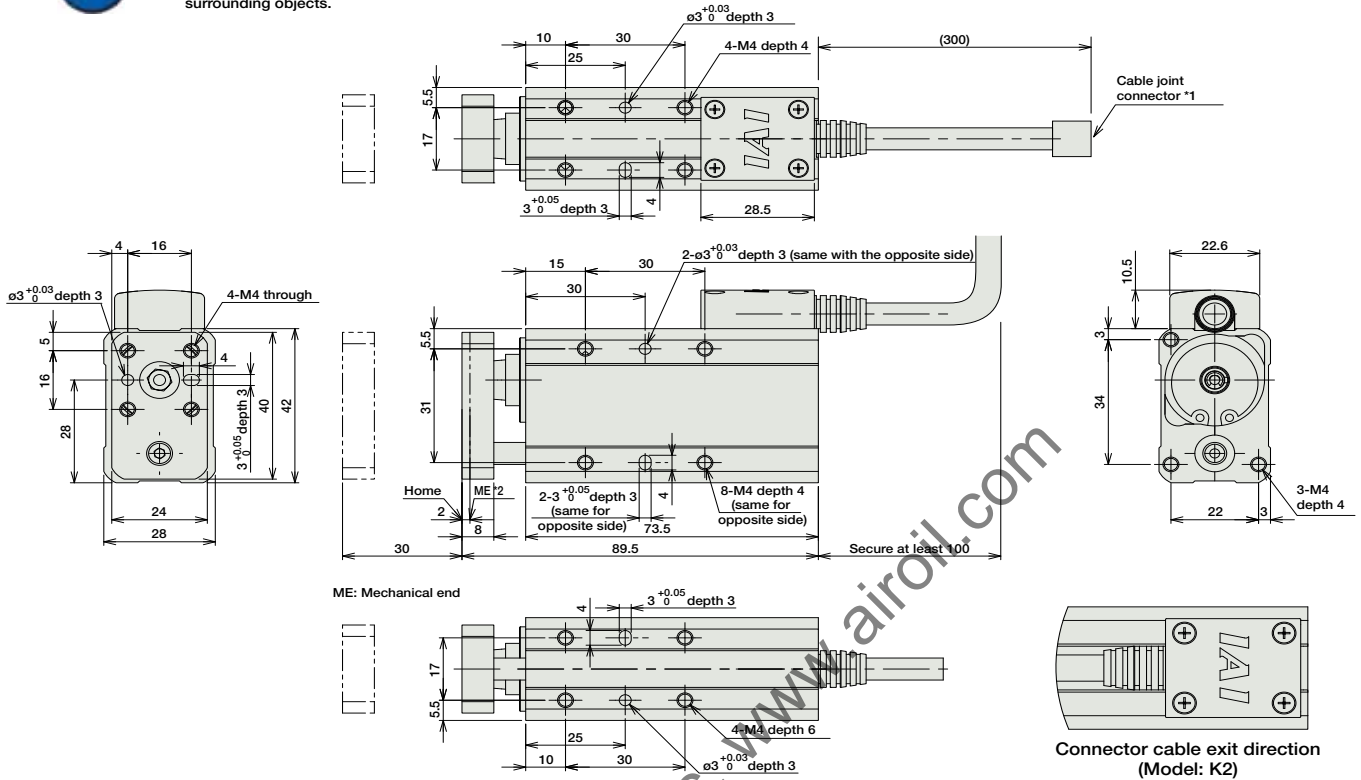
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.



\* Rotates 180 degrees with respect to the standard model.

■ Dimensions/Weight by Stroke

Stroke	30
Weight (kg)	0.32

① Compatible Controllers

The RCA2 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
Solenoid Valve Type		AMEC-C-10①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-10①-NP-2-0 ASEP-CW-10①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Positioner Type		ACON-C-10①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-10①-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-10①-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		ACON-SE-10①-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RACON-10①	Dedicated to field network	768 points			-	→ P503
Program Control Type		ASEL-C-1-10①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points			-	→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "LA" if the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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

# RCA2-GS4N

ROBO Cylinder Mini Rod Type Short-Length Free Mounting Type with Single Guide  
34mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** — **GS4N** — **I** — **20** — **30** — **30** — **30** — **30**

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20 : 20W Servo Motor

6: 6mm ball screw  
4: 4mm ball screw  
2: 2mm ball screw  
6S: 6mm lead screw  
4S: 4mm lead screw  
2S: 2mm lead screw

30 : 30mm

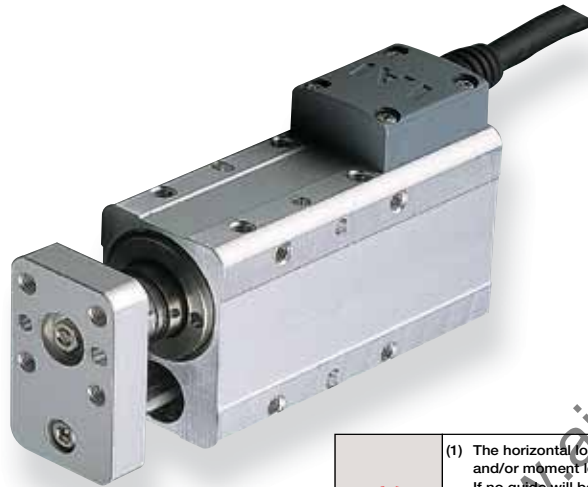
A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

N : None  
P : 1m  
S : 3m  
M : 5m  
X □ □ : Custom

K2 : Connector Cable exit direction  
LA : Power-saving

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT**  
Notes on Selection
- (1) The horizontal load capacity is based on the use of a guide to prevent any radial and/or moment load on the rod. If no guide will be installed, see the Tip Load vs. Service Life graph (→ page A-81).
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2mm-lead model, lead screw model, or when used vertically). This is the upper limit of the acceleration.
  - (3) When using the lead screw model, please use it for applications that are suitable for its characteristics. (See page Pre-42 for more information.)

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-GS4N-I-20-6-30-①-②-③	20	Ball Screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-GS4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-GS4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-GS4N-I-20-6S-30-①-②-③	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-GS4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-GS4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible controller ② Cable length ③ Options

### Stroke and Maximum Speed

Lead	Stroke	
	6 (mm)	30 (mm)
Ball Screw	6	270 <220>
	4	200
	2	100
Lead Screw	6	220
	4	200
	2	100

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

### Stroke List

Stroke (mm)	Standard Price	
	Feed Screw	
	Ball Screw	Lead Screw
30	-	-

### ② Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The RCA2 comes standard with a robot cable.

\* See page A-39 for cables for maintenance.

### ③ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	-
Power-saving	LA	→ A-32	-

### Actuator Specifications

Item	Description
Drive System	Ball screw/lead screw ø6mm C10 grade
Lost Motion	Ball screw: 0.1mm or less/lead screw: 0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead Screw Horizontal: 10 million cycles Vertical: 5 million cycles



# RCA2-GD3N

ROBO Cylinder Mini Rod Type Short-Length Mounting Type with Double Guide  
28mm Width 24V Servo Motor Lead Screw

■ Configuration: **RCA2** — **GD3N** — **I** — **10** — **30** — **30** — **30** — **30**

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

10 : 10W Servo Motor

4S: 4mm lead screw  
2S: 2mm lead screw  
1S: 1mm lead screw

30 : 30mm

A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

N : None  
P : 1m  
S : 3m  
M : 5m  
X □□ : Custom

K2 : Connector Cable exit direction  
LA : Power-saving

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

**POINT Notes on Selection**

- The horizontal load capacity is based on the use of a guide to prevent any radial and/or moment load on the rod. If no guide will be installed, see the Tip Load vs. Service Life graph (→ page A-82).
- The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
- This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-GD3N-I-10-4S-30-①-②-③	10	Lead Screw	4	0.25	0.125	25.1	±0.05	30
RCA2-GD3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-GD3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible controller ② Cable length ③ Options

#### Stroke and Maximum Speed

Lead	Stroke (mm)	
	4	30
Lead Screw	200	100
	50	

(Unit: mm/s)

#### Stroke List

Stroke (mm)	Standard Price
30	Feed Screw Lead Screw

#### ② Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special Lengths	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
		—

\* The RCA2 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

#### ③ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	—
Power-saving	LA	→ A-32	—

#### Actuator Specifications

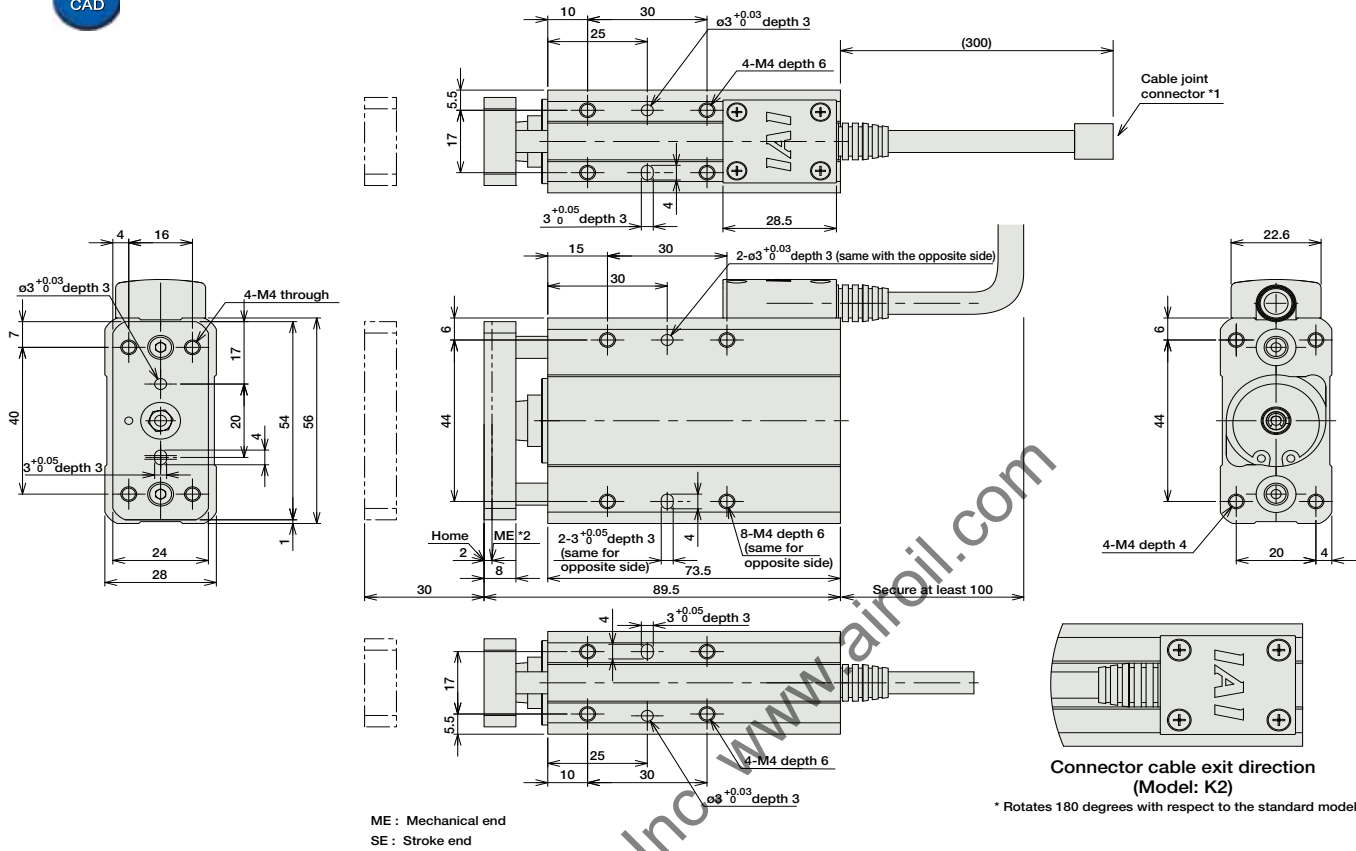
Item	Description
Drive System	Lead screw ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders P. A-9



ME : Mechanical end  
SE : Stroke end

\* Rotates 180 degrees with respect to the standard model.

- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.

■ Dimensions/Weight by Stroke

Stroke	30
Weight (kg)	0.41

① Compatible Controllers

The RCA2 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
Solenoid Valve Type		AMEC-C-10I①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-10I①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Splash-Proof Solenoid Valve Type		ASEP-CW-10I①-NP-2-0					-	
Positioner Type		ACON-C-10I①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-10I①-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10I①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-10I①-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		ACON-SE-10I①-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RACON-10①	Dedicated to field network	768 points			-	→ P503
Program Control Type		ASEL-C-1-10I①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points			-	→ P567

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

- 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

# RCA2-GD4N

ROBO Cylinder Mini Rod Type Short-Length Free Mounting Type with Double Guide  
34mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** — **GD4N** — **I** — **20** — **30** — **30** — **30** — **30**

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20 : 20W Servo Motor

6 : 6mm ball screw  
4 : 4mm ball screw  
2 : 2mm ball screw  
6S : 6mm lead screw  
4S : 4mm lead screw  
2S : 2mm lead screw

30 : 30mm

A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

N : None  
P : 1m  
S : 3m  
M : 5m  
X □ □ : Custom

K2 : Connector Cable exit direction  
LA : Power-saving

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

- POINT**  
Notes on Selection
- (1) The horizontal load capacity is based on the use of a guide to prevent any radial and/or moment load on the rod. If no guide will be installed, see the Tip Load vs. Service Life graph (→ page A-82).
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2mm-lead model, lead screw model, or when used vertically). This is the upper limit of the acceleration.
  - (3) When using the lead screw model, please use it for applications that are suitable for its characteristics. (See page Pre-42 for more information.)

Actuator Specifications									
■ Lead and Load Capacity									
Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)	
				Horizontal (kg)	Vertical (kg)				
RCA2-GD4N-I-20-6-30-①-②-③	20	Ball Screw	6	2	0.5	33.8	±0.02	30	
RCA2-GD4N-I-20-4-30-①-②-③			4	3	0.75	50.7			
RCA2-GD4N-I-20-2-30-①-②-③			2	6	1.5	101.5			
RCA2-GD4N-I-20-6S-30-①-②-③	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30	
RCA2-GD4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8			
RCA2-GD4N-I-20-2S-30-①-②-③			2	1	0.5	59.7			

Legend ① Compatible controller ② Cable length ③ Options

■ Stroke and Maximum Speed		
Lead	Stroke (mm)	
	6	30
Ball Screw	6	270 <220>
	4	200
	2	100
Lead Screw	6	220
	4	200
	2	100

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

Stroke List		
Stroke (mm)	Standard Price	
	Feed Screw	
	Ball Screw	Lead screw
30	-	-

② Cable List		
Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The RCA2 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

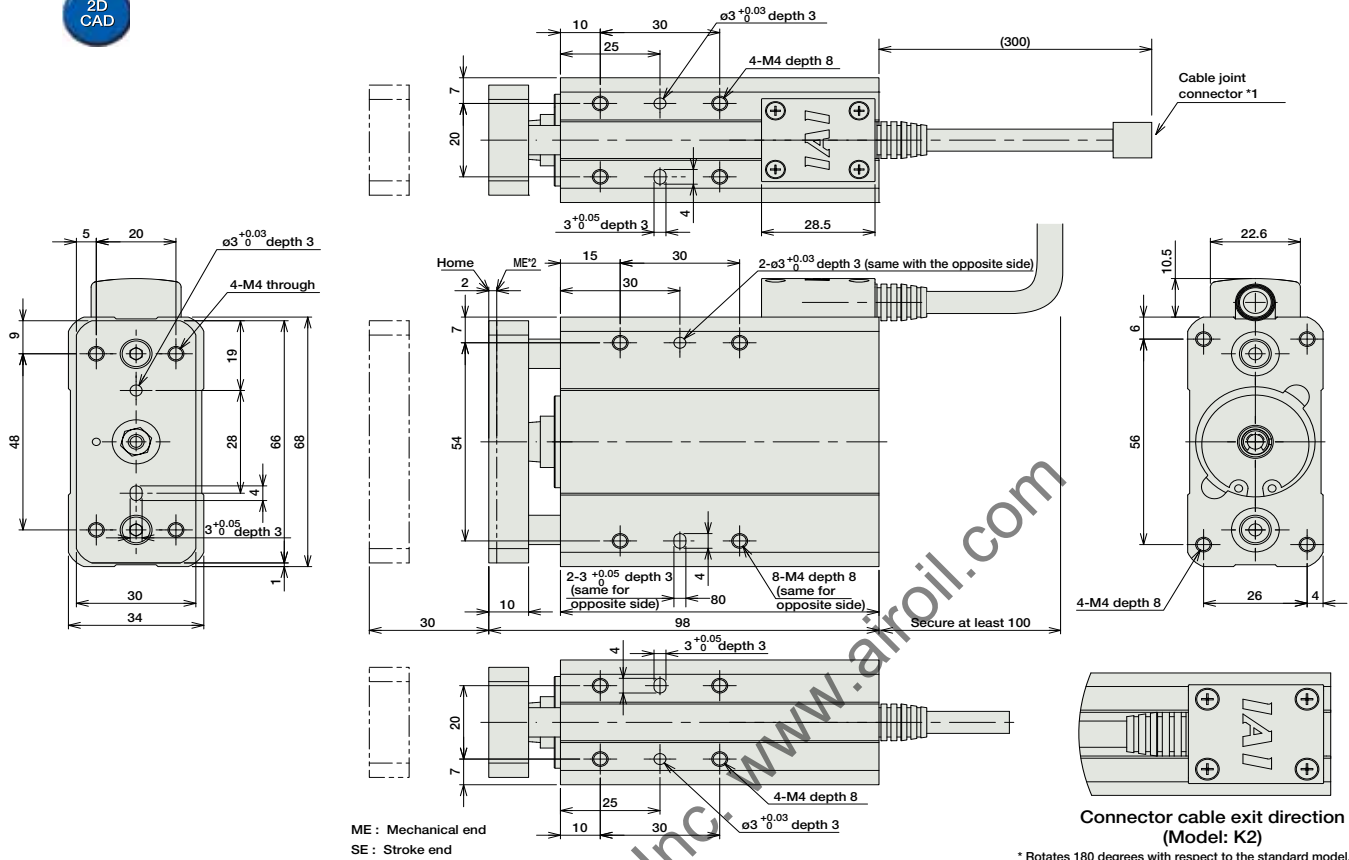
③ Option List			
Name	Option Code	See Page	Standard Price
Connector cable exit direction	K2	→ A-32	-
Power-saving	LA	→ A-32	-

Actuator Specifications	
Item	Description
Drive System	Ball screw/lead screw ø6mm C10 grade
Lost Motion	Ball screw: 0.1mm or less/lead screw: 0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead Screw Horizontal: 10 million cycles Vertical: 5 million cycles

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.

■ Dimensions/Weight by Stroke

Stroke	30
Weight (kg)	0.64

① Compatible Controllers

The RCA2 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
Solenoid Valve Type		AMEC-C-20①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-20①-NP-2-0 ASEP-CW-20①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Positioner Type		ACON-C-20①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20①-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20①-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		ACON-SE-20①-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RACON-20①	Dedicated to field network	768 points			-	→ P503
Program Control Type		ASEL-C-1-20①-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points			-	→ P567

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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



# RCA2-SD3N

ROBO Cylinder Mini Rod Type Short-Length Mounting Slide Unit Type with Double Guide  
60mm Width 24V Servo Motor Lead Screw

■ Configuration: **RCA2** — **SD3N** — **I** — **10** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

10 : 10W Servo Motor

4S : 4mm lead screw  
2S : 2mm lead screw  
1S : 1mm lead screw

25 : 25mm  
50 : 50mm

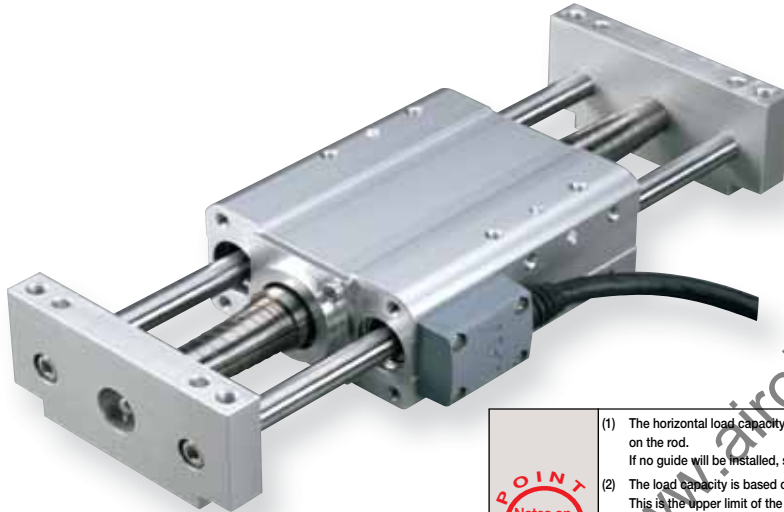
A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

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

LA : Power-saving

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT**  
Notes on Selection
- The horizontal load capacity is based on the use of a guide to prevent any radial and/or moment load on the rod. If no guide will be installed, see the Tip Load vs. Service Life graph (→ page A-82).
  - The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.
  - The values for the vertical load capacity are based on a setup in which the actuator is secured and the side bracket is moved. Please note that moving the actuator against the secured side bracket is not possible.
  - This model uses a lead screw. Please ensure that your usage is appropriate for its characteristics. (See page Pre-42 for more information.)

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (w)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-SD3N-I-10-4S-①-②-③-④	10	Lead screw	4	0.25	0.125 (*1)	25.1	±0.05	25 50
RCA2-SD3N-I-10-2S-①-②-③-④			2	0.5	0.25 (*1)	50.3		
RCA2-SD3N-I-10-1S-①-②-③-④			1	1	0.5 (*1)	100.5		

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

(\*1) When the actuator is fixed

#### Stroke and Maximum Speed

Lead	Stroke		25/50 (mm)
	Lead	Stroke	
Lead Screw	4	200	
	2	100	
	1	50	

(Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
25	Feed Screw
50	Lead Screw

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special Lengths	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
		—

\* The RCA2 comes standard with a robot cable.

\* See page A-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Power-saving	LA	→ A-32	—

#### Actuator Specifications

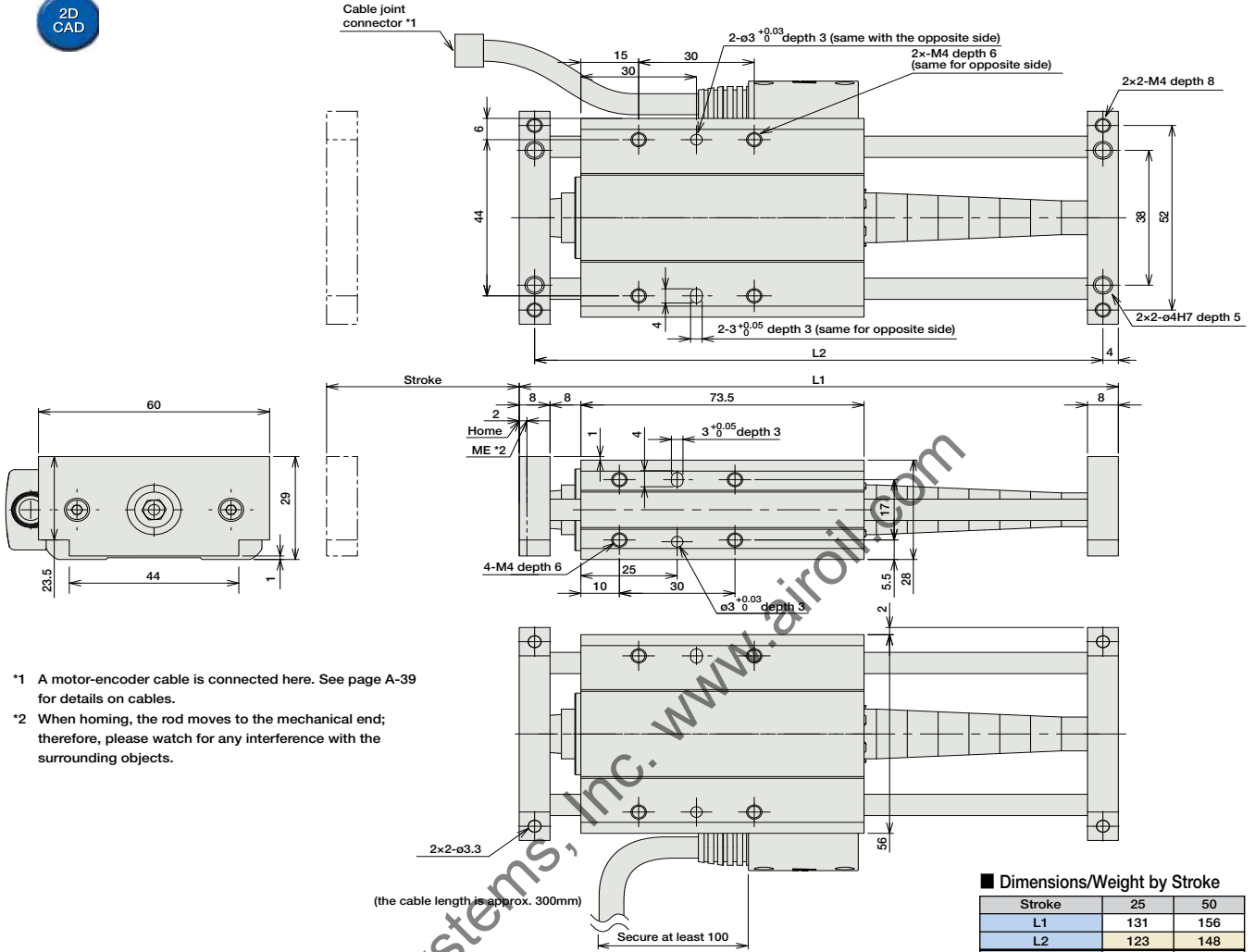
Item	Description
Drive System	Lead Screw $\phi$ 4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Horizontal: 10 million cycles Vertical: 5 million cycles

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9

2D CAD



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.

■ Dimensions/Weight by Stroke

Stroke	25	50
L1	131	156
L2	123	148
Weight (kg)	0.48	0.5

② Compatible Controllers

The RCA2 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
Solenoid Valve Type		AMEC-C-10①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-10①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Positioner Type		ACON-C-10①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-10①-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-10①-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		ACON-SE-10①-N-0-0	Dedicated to serial communication	64 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P503
Field Network Type		RACON-10①	Dedicated to field network	768 points			-	
Program Control Type		ASEL-C-1-10①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P567

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the code "LA" if the power-saving option is specified.

# RCA2-SD4N

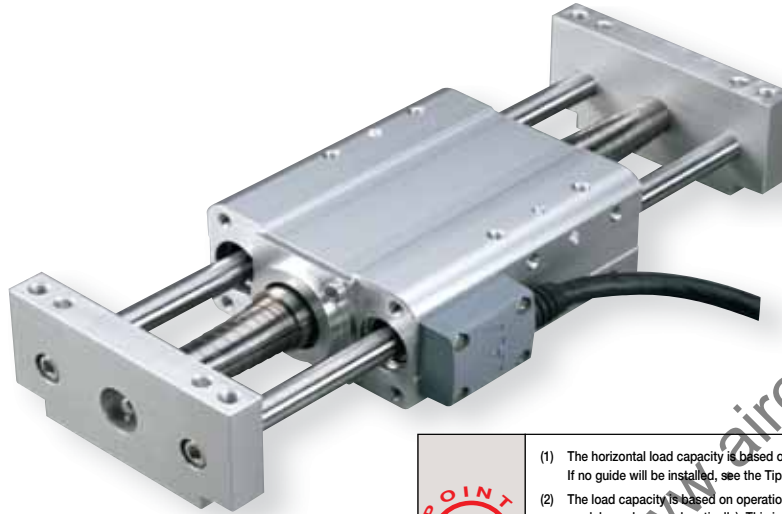
ROBO Cylinder Mini Rod Type Short-Length Slide Unit Type with Double Guide  
72mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** — **SD4N** — **I** — **20** — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	6: 6mm ball screw 4: 4mm ball screw 2: 2mm ball screw 6S: 6mm lead screw 4S: 4mm lead screw 2S: 2mm lead screw	25 : 25mm 50 : 50mm 75 : 75mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom	LA : Power-saving

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5



- (1) The horizontal load capacity is based on the use of a guide to prevent any radial and/or moment load on the rod. If no guide will be installed, see the Tip Load vs. Service Life graph (→ page A-82).
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2mm-lead model, lead screw model, or when used vertically). This is the upper limit of the acceleration.
- (3) The values for the vertical load capacity are based on a setup in which the actuator is secured and the side bracket is moved. Please note that moving the actuator against the secured side bracket is not possible.
- (4) When using the lead screw model, please use it for applications that are suitable for its characteristics. (See page Pre-42 for more information.)

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Feed Screw	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-SD4N-I-20-6-①-②-③-④	20	Ball Screw	6	2	0.5 (*1)	33.8	±0.02	25
RCA2-SD4N-I-20-4-①-②-③-④			4	3	0.75 (*1)	50.7		50
RCA2-SD4N-I-20-2-①-②-③-④			2	6	1.5 (*1)	101.5		75
RCA2-SD4N-I-20-6S-①-②-③-④	20	Lead Screw	6	0.25	0.125 (*1)	19.9	±0.05	25
RCA2-SD4N-I-20-4S-①-②-③-④			4	0.5	0.25 (*1)	29.8		50
RCA2-SD4N-I-20-2S-①-②-③-④			2	1	0.5 (*1)	59.7		75

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

(\*1) When the main unit is fixed

### Stroke and Maximum Speed

Lead	Stroke	Maximum Speed	
		25 (mm)	50 ~ 75 (mm)
Ball Screw	6	240 <200>	300
	4	200	200
	2	100	100
Lead Screw	6	200	300
	4	200	200
	2	100	100

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

### ① Stroke List

Stroke (mm)	Standard Price	
	Ball Screw	Lead Screw
25	-	-
50	-	-
75	-	-

### ③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The RCA2 comes standard with a robot cable.

\* See page A-39 for cables for maintenance.

### ④ Option List

Name	Option Code	See Page	Standard Price
Power-saving	LA	→ A-32	-

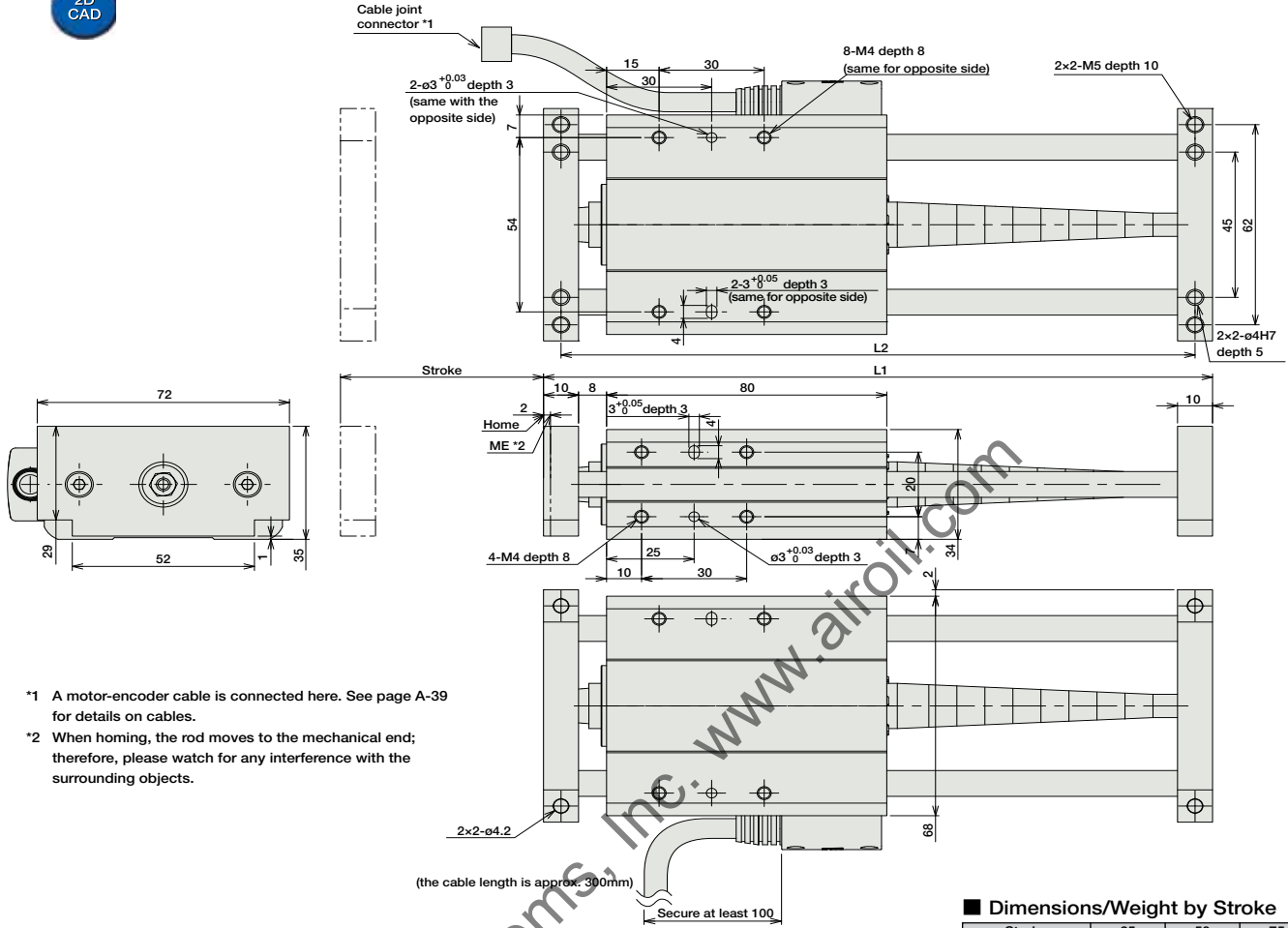
### Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw ø6mm C10 grade
Lost Motion	Ball screw: 0.1mm or less/Lead screw: 0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead Screw: Horizontal: 10 million cycles Vertical: 5 million cycles

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.

Dimensions/Weight by Stroke

Stroke	25	50	75
L1	141	166	191
L2	131	156	181
Weight (kg)	0.73	0.75	0.77

Compatible Controllers

The RCA2 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	
Solenoid Valve Type		AMEC-C-201①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477	
Splash-Proof Solenoid Valve Type		ASEP-C-201①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487	
Positioner Type		ACON-C-201①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	-	→ P535	
Safety-Compliant Positioner Type		ACON-CG-201①-NP-2-0					-		
Pulse Train Input Type (Differential Line Driver)		ACON-PL-201①-NP-2-0	Pulse train input type with differential line driver support	(-)			-		
Pulse Train Input Type (Open Collector)		ACON-PO-201①-NP-2-0	Pulse train input type with open collector support	-			-		
Serial Communication Type		ACON-SE-201①-N-0-0	Dedicated to serial communication	64 points			-		
Field Network Type		RACON-20①	Dedicated to field network	768 points			-		→ P503
Program Control Type		ASEL-C-1-201①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points			-		→ P567

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

# RCA-RA3C

ROBO Cylinder Rod Type ø32mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** — **RA3C** — **I** — **20** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20: 20W Servo Motor

10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
200: 200mm (50mm pitch increments)

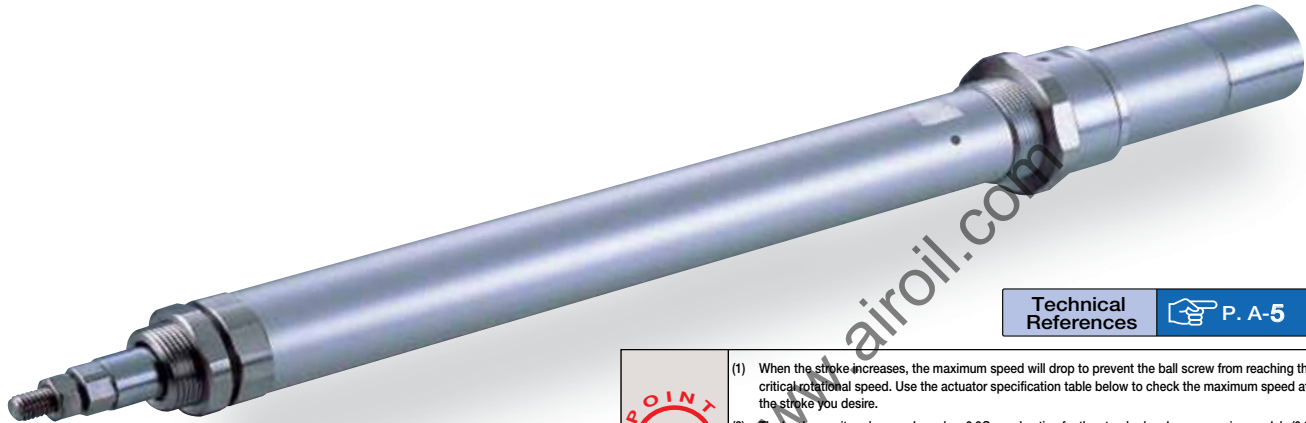
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

See Options below

\* See page Pre-35 for an explanation of the naming convention.

**For High Acceleration/Deceleration** **Power-saving**  
(Except the 2.5mm-lead model)



Technical References P. A-5

**POINT**  
Notes on Selection

- 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.
- The load capacity values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 2.5mm-lead), and 1G acceleration for the high-acceleration models (2.5mm-lead model excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
- 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.

Actuator Specifications						
■ Lead and Load Capacity						
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RA3C-I-20-10-①-②-③-④	20	10	4.0	1.5	36.2	50~200 (50mm increments)
RCA-RA3C-I-20-5-①-②-③-④	20	5	9.0	3.0	72.4	
RCA-RA3C-I-20-2.5-①-②-③-④	20	2.5	18.0	6.5	144.8	

■ Stroke and Maximum Speed		
Stroke Lead	50 ~ 200 (50mm increments)	
10	500	
5	250	
2.5	125	

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Power-saving (*3)	LA	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (front)	TRF	→ A-38	-
Trunnion bracket (back)	TRR	→ A-38	-

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*1) The high-acceleration/deceleration option is not available for 2.5mm-lead model.  
(\*2) The home sensor (HS) cannot be used on the reversed-home models.  
(\*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

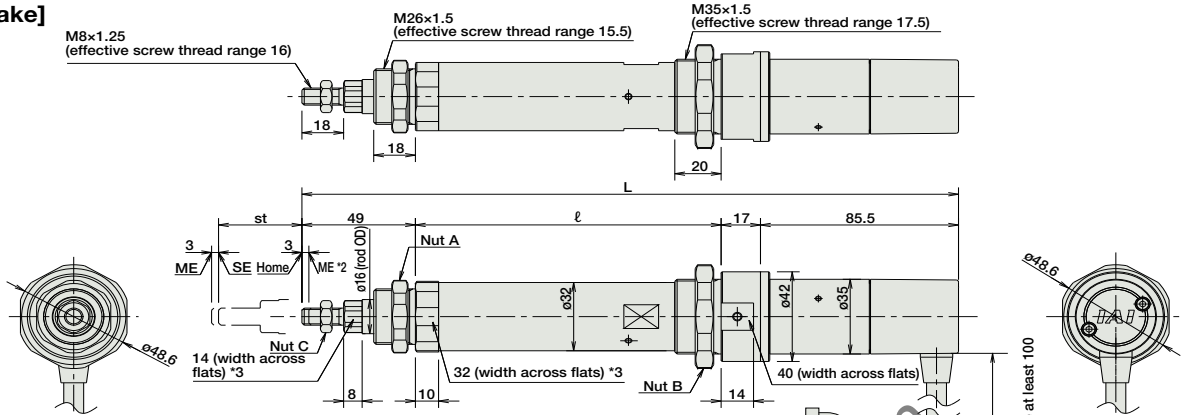
For Special Order P. A-9



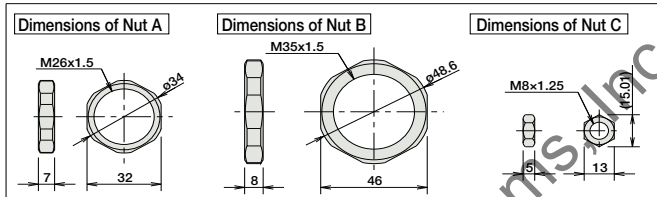
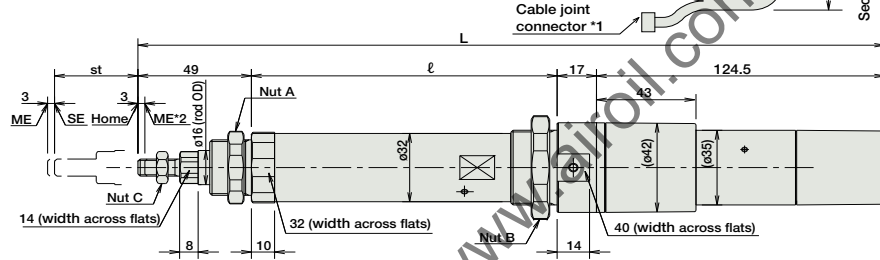
- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
  - \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
- ME: Mechanical end SE: Stroke end

\*3. The orientation of the bolt will vary depending on the product.

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCA-RA3C (without brake)				
Stroke	50	100	150	200
L	283.5	333.5	383.5	433.5
l	132	182	232	282
Weight (kg)	0.7	0.8	0.9	1.0

RCA-RA3C (with brake)				
Stroke	50	100	150	200
L	322.5	372.5	422.5	472.5
l	132	182	232	282
Weight (kg)	0.9	1.0	1.1	1.2

② Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20SI ① -NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI ① -NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI ① -NP-2-0						
Positioner Type		ACON-C-20SI ① -NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20SI ① -NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI ① -NP-2-0	Pulse train input type with differential line driver support	(-)				
Pulse Train Input Type (Open Collector)		ACON-PO-20SI ① -NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI ① -N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S ①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI ① -NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "HA" or "LA" if the high acceleration/deceleration option or the power-saving option is specified.

# RCA-RA4C ROBO Cylinder Rod Type ø37mm Diameter 24V Servo Motor Coupled

**■ Configuration:** RCA — RA4C — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

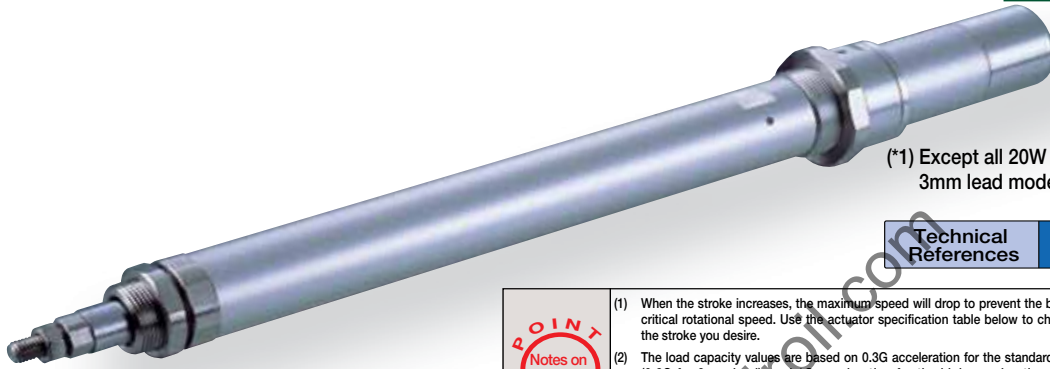
Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

I : Incremental    20 : 20W Servo Motor    12 : 12mm    50 : 50mm    A1 : ACON    N : None    See Options below  
 A : Absolute    30 : 30W Servo Motor    6 : 6mm    300 : 300mm (50mm pitch increments)    RACON    P : 1m  
 ASEL    M : 5m  
 A3 : AMEC    X [ ] : Custom  
 ASEP    R [ ] : Robot cable

\* The absolute models are only compatible with ASEL  
 Simple absolute encoders are considered incremental  
 \* See page Pre-35 for an explanation of the naming convention.

For High Acceleration/Deceleration

Power-saving



(\*1) Except all 20W models and 30W 3mm lead models

Technical References P. A-5

- POINT Notes on Selection**
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 3mm-lead), and 1G acceleration for the high-acceleration models (3mm-lead model excluded).  
(The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - 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.

Actuator Specifications

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity Horizontal (kg) / Vertical (kg)	Rated Thrust (N)	Stroke (mm)
RCA-RA4C-①-20-12-②-③-④-⑤	20	12	3.0 / 1.0	18.9	50~300 (50mm increments)
RCA-RA4C-①-20-6-②-③-④-⑤		6	6.0 / 2.0	37.7	
RCA-RA4C-①-20-3-②-③-④-⑤		3	12.0 / 4.0	75.4	
RCA-RA4C-①-30-12-②-③-④-⑤	30	12	4.0 / 1.5	28.3	
RCA-RA4C-①-30-6-②-③-④-⑤		6	9.0 / 3.0	56.6	
RCA-RA4C-①-30-3-②-③-④-⑤		3	18.0 / 6.5	113.1	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

■ Stroke and Maximum Speed

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

(Unit: mm/s)

Encoder & Stroke List

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

④ 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.

⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Power-saving (*3)	LA	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (front)	TRF	→ A-38	-
Trunnion bracket (back)	TRR	→ A-38	-

(\*1) The high-acceleration/deceleration option is not available for all 20W models and 30W model with 3mm lead.

(\*2) The home sensor (HS) cannot be used on the reversed-home models.

(\*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Order P. A-9

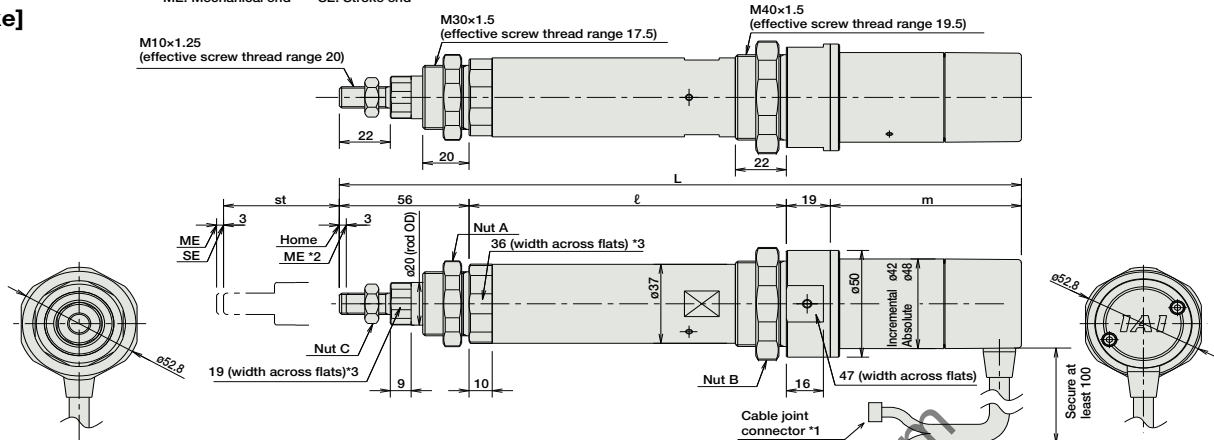


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.

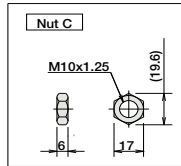
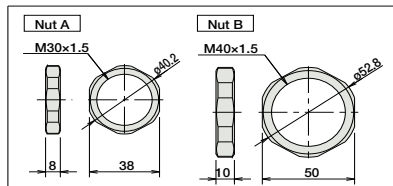
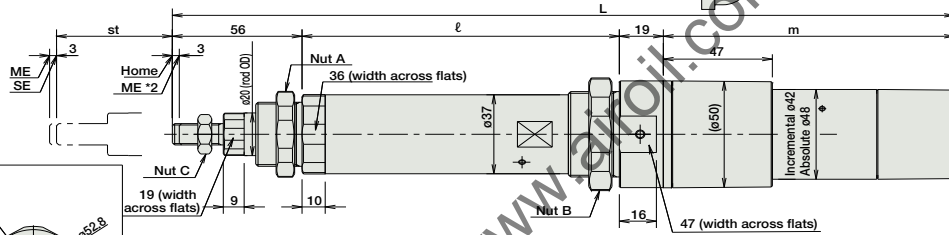
\*3. The orientation of the bolt will vary depending on the product.

ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



Dimensions/Weight by Stroke

RCA-RA4C (without brake)

Stroke		Stroke					
		50	100	150	200	250	300
L	20W	Increm. 279.5	329.5	379.5	429.5	479.5	529.5
	Absol.	292.5	342.5	392.5	442.5	492.5	542.5
L	30W	Increm. 294.5	344.5	394.5	444.5	494.5	544.5
	Absol.	307.5	357.5	407.5	457.5	507.5	557.5
ℓ		137	187	237	287	337	387
m	20W	Increm.	67.5				
	Absol.	80.5					
m	30W	Increm.	82.5				
	Absol.	95.5					
Weight (kg)		1.1	1.2	1.4	1.5	1.7	1.8

RCA-RA4C (with brake)

Stroke		Stroke					
		50	100	150	200	250	300
L	20W	Increm. 322.5	372.5	422.5	472.5	522.5	572.5
	Absol.	335.5	385.5	435.5	485.5	535.5	585.5
L	30W	Increm. 337.5	387.5	437.5	487.5	537.5	587.5
	Absol.	350.5	400.5	450.5	500.5	550.5	600.5
ℓ		137	187	237	287	337	387
m	20W	Increm.	110.5				
	Absol.	123.5					
m	30W	Increm.	125.5				
	Absol.	138.5					
Weight (kg)		1.3	1.4	1.6	1.7	1.9	2.0

Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-201 ② -NP-2-1 AMEC-C-301 ② -NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-201 ② -NP-2-0 ASEP-C-301 ② -NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-201 ② -NP-2-0 ASEP-CW-301 ② -NP-2-0						→ P487
Positioner Type		ACON-C-201 ② -NP-2-0 ACON-C-301 ② -NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak 30W 1.3A rated 4.4A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-201 ② -NP-2-0 ACON-CG-301 ② -NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-201 ② -NP-2-0 ACON-PL-301 ② -NP-2-0	Pulse train input type with differential line driver support	(-)				
Pulse Train Input Type (Open Collector)		ACON-PO-201 ② -NP-2-0 ACON-PO-301 ② -NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-201 ② -N-0-0 ACON-SE-301 ② -N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20 ② RACON-30 ②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20 ① ② -NP-2-0 ASEL-C-1-30 ① ② -NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.

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

\* ② is a placeholder for the code "HA" or "LA" if the high acceleration/deceleration option or the power-saving option is specified.



# RCA-RA3D

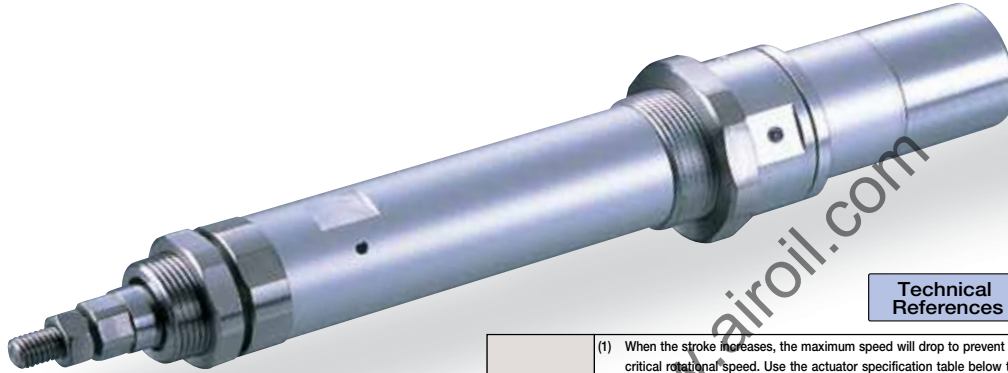
ROBO Cylinder Rod Type ø32mm Diameter 24V Servo Motor Built-In (Direct-Coupled) Motor

■ Configuration: **RCA** — **RA3D** — **I** — **20** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	RA3D	I: Incremental * The Simple absolute encoder is also considered type "I".	20: 20W Servo Motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 200: 200mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom R <input type="checkbox"/> : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- 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 2.5mm-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.
  - (4) Please note that models with built-in motor are not equipped with a brake.

### Actuator Specifications

#### ■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RA3D-I-20-10-①-②-③-④	20	10	4.0	1.5	36.2	50~200 (50mm increments)
RCA-RA3D-I-20-5-①-②-③-④		5	9.0	3.0	72.4	
RCA-RA3D-I-20-2.5-①-②-③-④		2.5	18.0	6.5	144.8	

#### ■ Stroke and Maximum Speed

Stroke Lead	50 ~ 200 (50mm increments)	
	Stroke (mm)	50 ~ 200 (50mm increments)
10	500	
5	250	
2.5	125	

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	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
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (front)	TRF	→ A-38	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

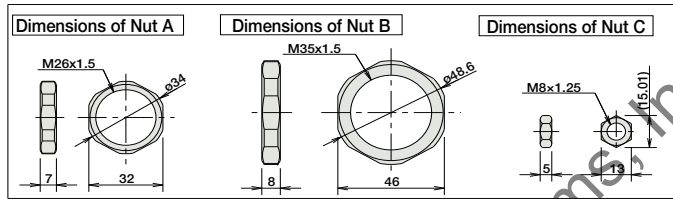
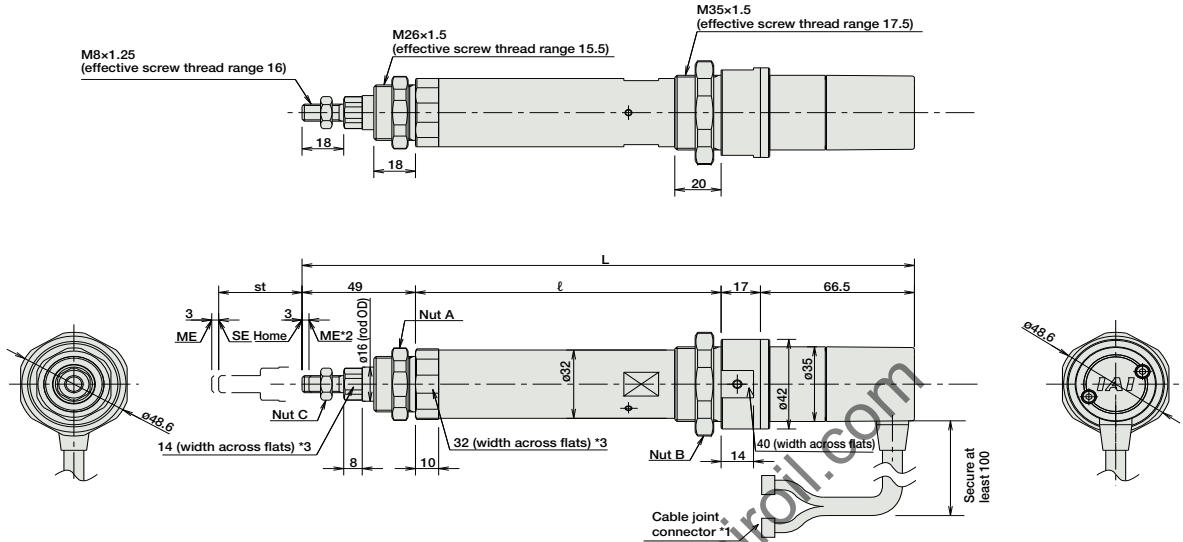
For Special Order P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

\*3 The orientation of the bolt will vary depending on the product.

[No Brake]



■ Dimensions/Weight by Stroke

RCA-RA3D (without brake)				
Stroke	50	100	150	200
L	264.5	314.5	364.5	414.5
ℓ	132	182	232	282
Weight (kg)	0.7	0.8	0.9	1.0

The RCA-RA3D models are not equipped with a brake.

② Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20SI-① NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI-① NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI-① NP-2-0						
Positioner Type		ACON-C-20SI-① NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20SI-① NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI-① NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	1.7A rated 5.1A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20SI-① NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI-① N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S ①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI-① NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

- 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

# RCA-RA4D

ROBO Cylinder Rod Type ø37mm Diameter 24V Servo Motor Built-In (Direct-Coupled) Motor

■ Configuration: **RCA** — **RA4D** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

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

I : Incremental Motor  
A : Absolute Motor

20 : 20W Servo Motor  
30 : 30W Servo Motor

12 : 12mm  
6 : 6mm  
3 : 3mm

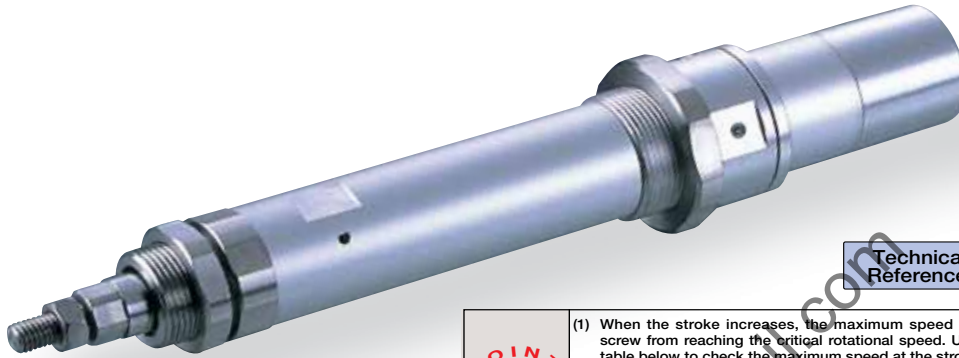
50 : 50mm  
300 : 300mm (50mm pitch increments)

A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

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

See Options below

\* See page Pre-35 for an explanation of the naming convention.  
\* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.



Power-saving

Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - 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.
  - 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.

**Actuator Specifications**

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RA4D-①-20-12-②-③-④-⑤	20	12	3.0	1.0	18.9	50~300 (50mm increments)
RCA-RA4D-①-20-6-②-③-④-⑤		6	6.0	2.0	37.7	
RCA-RA4D-①-20-3-②-③-④-⑤		3	12.0	4.0	75.4	
RCA-RA4D-①-30-12-②-③-④-⑤	30	12	4.0	1.5	28.3	
RCA-RA4D-①-30-6-②-③-④-⑤		6	9.0	3.0	56.6	
RCA-RA4D-①-30-3-②-③-④-⑤		3	18.0	6.5	113.1	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

■ Stroke and Maximum Speed

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

(Unit: mm/s)

**Encoder & Stroke List**

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

**④ 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.

**⑤ Option List**

Name	Option Code	See Page	Standard Price
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (front)	TRF	→ A-38	-
Trunnion bracket (back)	TRR	→ A-38	-

**Actuator Specifications**

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Order

P. A-9

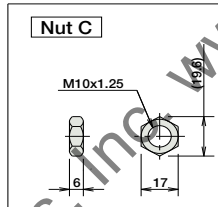
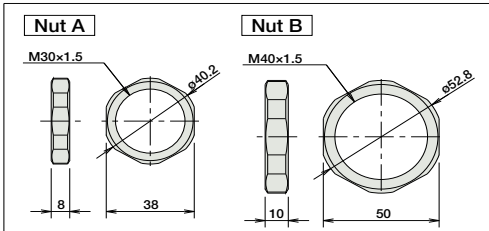
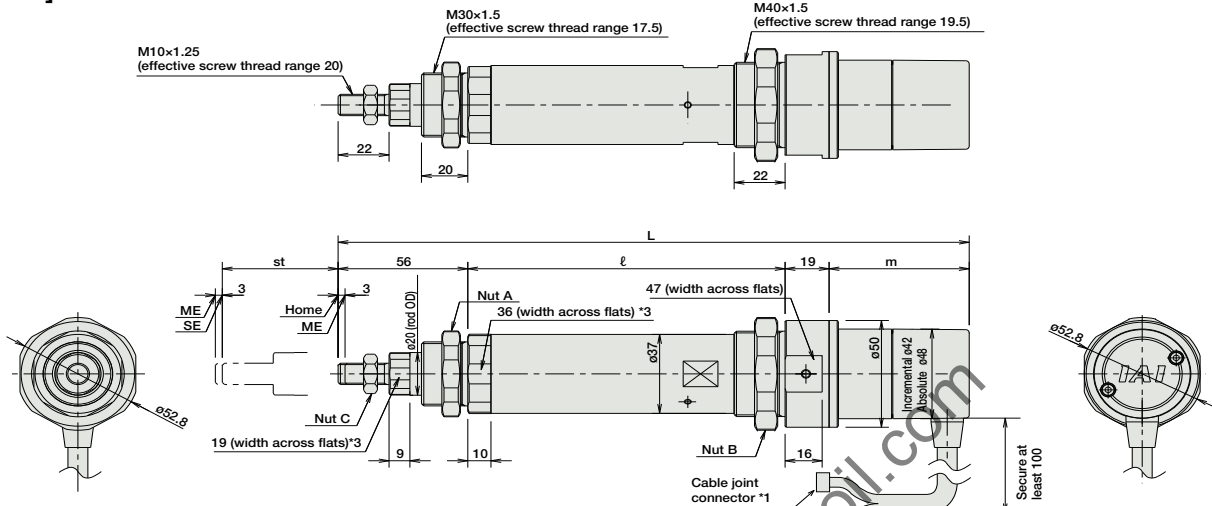
2D CAD

- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.

- \*3 The orientation of the bolt will vary depending on the product.

ME: Mechanical end SE: Stroke end

[No Brake]



Dimensions/Weight by Stroke

RCA-RA4D (without brake)		Stroke	50	100	150	200	250	300
L	20W	Incremental	257.5	307.5	357.5	407.5	457.5	507.5
		Absolute	270.5	320.5	370.5	420.5	470.5	520.5
L	30W	Incremental	272.5	322.5	372.5	422.5	472.5	522.5
		Absolute	285.5	335.5	385.5	435.5	485.5	535.5
		ℓ	137	187	237	287	337	387
m	20W	Incremental	45.5					
		Absolute	58.5					
m	30W	Incremental	60.5					
		Absolute	73.5					
Weight (kg)			1.0	1.2	1.3	1.5	1.6	1.8

Brake-equipped configuration is not available with the RCA-RA4D.

Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20I-2 NP-2-1 AMEC-C-30I-2 NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20I-2 NP-2-0 ASEP-C-30I-2 NP-2-0						
Splash-Proof Solenoid Valve Type		ASEP-CW-20I-2 NP-2-0 ASEP-CW-30I-2 NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Positioner Type		ACON-C-20I-2 NP-2-0 ACON-C-30I-2 NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
		ACON-CG-20I-2 NP-2-0 ACON-CG-30I-2 NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-2 NP-2-0 ACON-PL-30I-2 NP-2-0	Pulse train input type with differential line driver support	(-)				
Pulse Train Input Type (Open Collector)		ACON-PO-20I-2 NP-2-0 ACON-PO-30I-2 NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I-2 N-0-0 ACON-SE-30I-2 N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20I RACON-30I	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20-1 NP-2-0 ASEL-C-1-30-1 NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.

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

\* ② is a placeholder for the code "LA" if the power-saving option is specified.

# RCA-RA3R

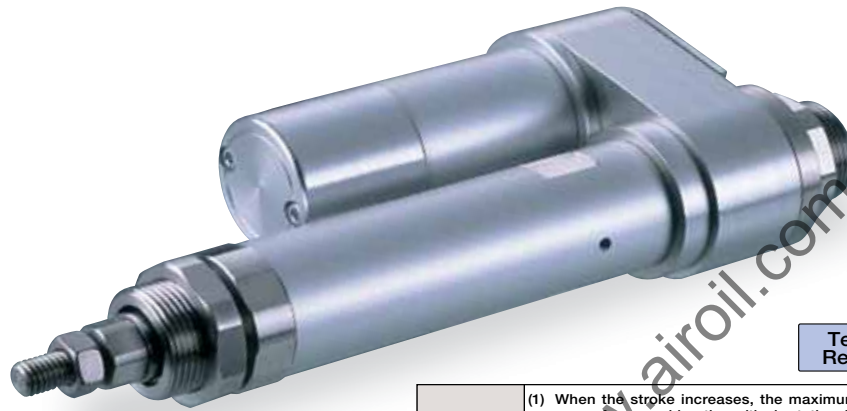
ROBO Cylinder Rod Type ø32mm Diameter 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA** — **RA3R** — **I** — **20** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	RA3R	I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50 : 50mm 200 : 200mm (50mm pitch increments)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X <input type="checkbox"/> : Custom R <input type="checkbox"/> : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT** Notes on Selection
- 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.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model). 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.

Actuator Specifications						
■ Lead and Load Capacity				■ Stroke and Maximum Speed		
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		Lead
RCA-RA3R-I-20-10-①-②-③-④	20	10	4.0	1.5	36.2	50~200 (50mm increments)
RCA-RA3R-I-20-5-①-②-③-④		5	9.0	3.0	72.4	500
RCA-RA3R-I-20-2.5-①-②-③-④		2.5	18.0	6.5	144.8	250
						125

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Clevis Bracket	QR	→ A-34	-
Back-mounting plate	RP	→ A-35	-
Trunnion bracket (front)	TRF	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

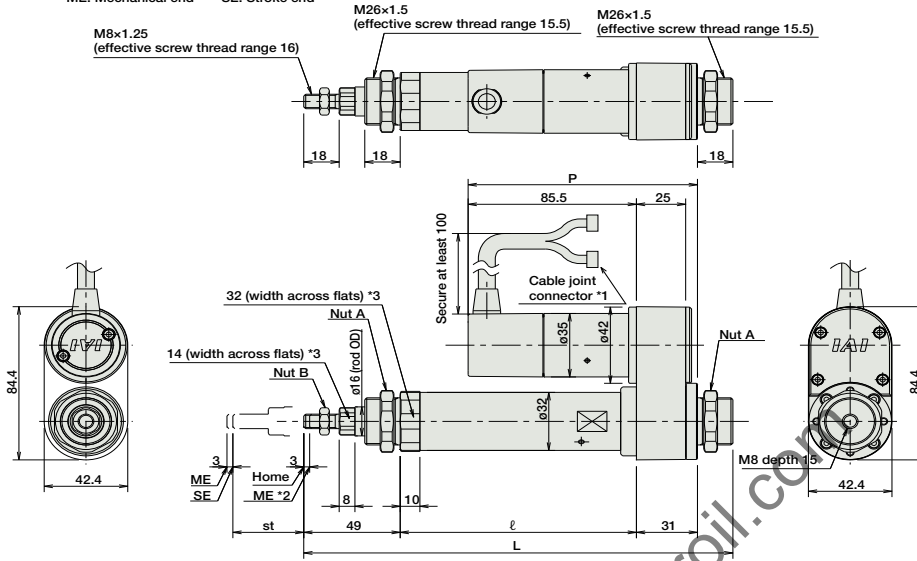
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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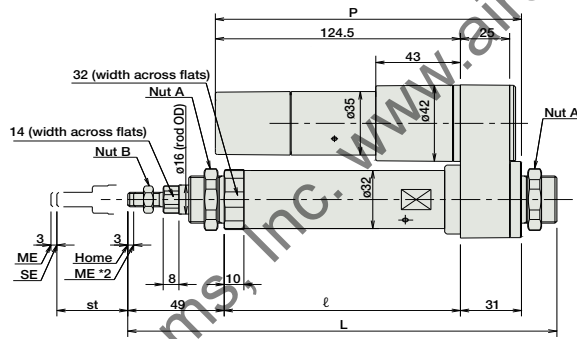
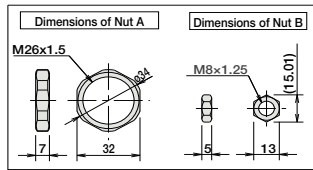


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
- \*3 The orientation of the bolt will vary depending on the product.

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCA-RA3R (without brake)				
Stroke	50	100	150	200
L	218	268	318	368
r	120	170	220	270
P	116.5			
Weight (kg)	0.8	0.9	1.0	1.1

RCA-RA3R (with brake)				
Stroke	50	100	150	200
L	218	268	318	368
r	120	170	220	270
P	155.5			
Weight (kg)	1.0	1.1	1.2	1.3

② Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20SI-① NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI-① NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI-① NP-2-0						→ P487
Positioner Type		ACON-C-20SI-① NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20SI-① NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI-① NP-2-0	Pulse train input type with differential line driver support	(-)				
Pulse Train Input Type (Open Collector)		ACON-PO-20SI-① NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI-① N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S ①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI-① NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the code "LA" if the power-saving option is specified.

- 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

# RCA-RA4R

ROBO Cylinder Rod Type ø37mm Diameter 24V Servo Motor Side-Mounted Motor

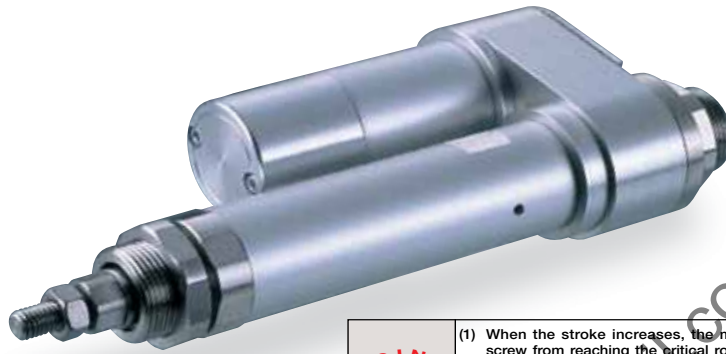
■ Configuration: **RCA** — **RA4R** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

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

I : Incremental Motor 20 : 20W Servo Motor 12 : 12mm 50 : 50mm A1 : ACON N : None  
 A : Absolute Motor 30 : 30W Servo Motor 6 : 6mm RACON P : 1m  
 3 : 3mm ASEL S : 3m  
 \* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental. A3 : AMEC M : 5m  
 See Options below  
 X [ ] : Custom  
 R [ ] : Robot cable

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT** Notes on Selection
- 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.
  - 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.
  - 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.

**Actuator Specifications**

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RA4R-①-20-12-②-③-④-⑤	20	12	3.0	1.0	18.9	50~300 (50mm increments)
RCA-RA4R-①-20-6-②-③-④-⑤		6	6.0	2.0	37.7	
RCA-RA4R-①-20-3-②-③-④-⑤		3	12.0	4.0	75.4	
RCA-RA4R-①-30-12-②-③-④-⑤	30	12	4.0	1.5	28.3	
RCA-RA4R-①-30-6-②-③-④-⑤		6	9.0	3.0	56.6	
RCA-RA4R-①-30-3-②-③-④-⑤		3	18.0	6.5	113.1	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

■ Stroke and Maximum Speed

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

(Unit: mm/s)

**Encoder & Stroke List**

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

**④ 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.

**⑤ Option List**

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Clevis Bracket	QR	→ A-34	-
Back-mounting plate	RP	→ A-35	-
Trunnion bracket (front)	TRF	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

**Actuator Specifications**

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

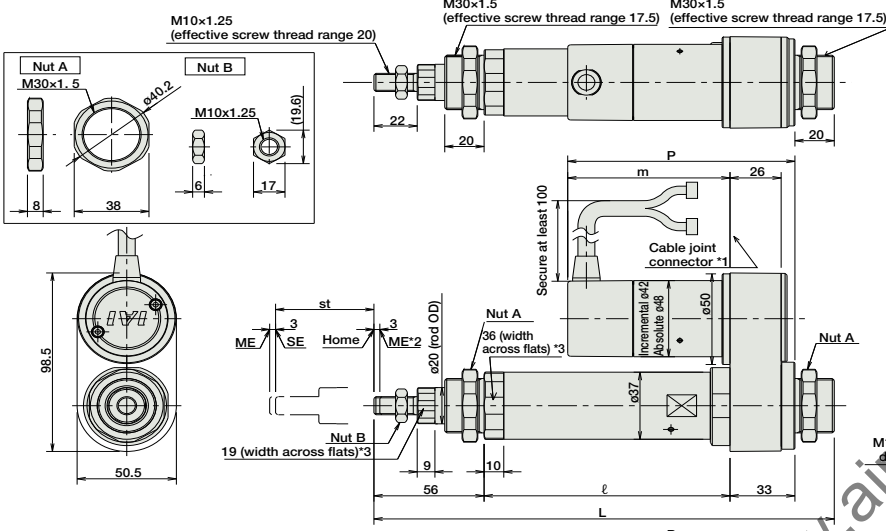
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3. The orientation of the bolt will vary depending on the product.

For Special Order P. A-9

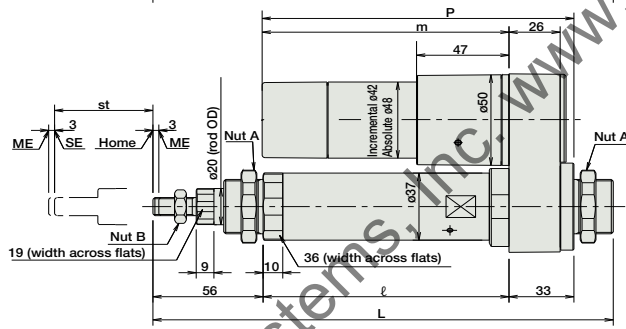
[No Brake]



Dimensions/Weight by Stroke  
RCA-RA4R (without brake)

Stroke	Stroke						
	50	100	150	200	250	300	
L	20W Increm.	234	284	334	384	434	484
	Absol.	234	284	334	384	434	484
30W	Increm.	234	284	334	384	434	484
	Absol.	234	284	334	384	434	484
ℓ		125	175	225	275	325	375
m	20W Increm.						67.5
	Absol.						80.5
30W	Increm.						82.5
	Absol.						95.5
P	20W Increm.						100.5
	Absol.						113.5
30W	Increm.						115.5
	Absol.						128.5
Weight (kg)		1.2	1.4	1.5	1.7	1.8	2.0

[Brake-Equipped]



RCA-RA4R (with brake)

Stroke	Stroke						
	50	100	150	200	250	300	
L	20W Increm.	234	284	334	384	434	484
	Absol.	234	284	334	384	434	484
30W	Increm.	234	284	334	384	434	484
	Absol.	234	284	334	384	434	484
ℓ		125	175	225	275	325	375
m	20W Increm.						110.5
	Absol.						123.5
30W	Increm.						125.5
	Absol.						138.5
P	20W Increm.						143.5
	Absol.						156.5
30W	Increm.						158.5
	Absol.						171.5
Weight (kg)		1.4	1.6	1.7	1.9	2.0	2.2

③ Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20①-② NP-2-1 AMEC-C-30①-② NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20①-② NP-2-0 ASEP-C-30①-② NP-2-0						
Splash-Proof Solenoid Valve Type		ASEP-CW-20①-② NP-2-0 ASEP-CW-30①-② NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Positioner Type		ACON-C-20①-② NP-2-0 ACON-C-30①-② NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20①-② NP-2-0 ACON-CG-30①-② NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20①-② NP-2-0 ACON-PL-30①-② NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	30W 1.3A rated 4.4A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20①-② NP-2-0 ACON-PO-30①-② NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20①-② N-0-0 ACON-SE-30①-② N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20② RACON-30②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20①-② NP-2-0 ASEL-C-1-30①-② NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "LA" if the power-saving option is specified.



# RCA-SRA4R

ROBO Cylinder Rod Type 45mm Diameter Servo Motor Short-Length Type  
Side-Mounted Motor

■ Configuration: **RCA** — **SRA4R** — **I** — **20** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	5 : 5mm 2.5 : 2.5mm	50 : 50mm 200 : 200mm (50mm pitch increments) * Set in 50mm increments over 100mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X <input type="checkbox"/> : Custom	See Options below

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

- Notes on Selection**
- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model, or when used vertically). This is the upper limit of the acceleration.
  - (2) The horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.

Actuator Specifications							
■ Lead and Load Capacity					■ Stroke and Maximum Speed		
Model	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Stroke	
		Horizontal (kg)	Vertical (kg)			Lead	20 ~ 200 (10mm increments)
RCA-SRA4R-I-20-5-①-②-③-④	5	9	3	41	20~200 (10mm increments) (Note 1)	5	250
RCA-SRA4R-I-20-2.5-①-②-③-④	2.5	18	6.5	81	20~200 (10mm increments) (Note 1)	2.5	125

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Note 1) 50mm increments over 100mm. (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
20~50	-
60~100	-
150	-
200	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The cable is a motor-encoder integrated cable, and is provided as a robot cable.  
\* See page A-39 for cables for maintenance.

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Foot bracket 1 (base mounting)	FT	→ A-29	-
Foot bracket 2 (right/left side mounting)	FT2/FT4	→ A-31	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-

\* The brake is available for strokes of 70mm or more.

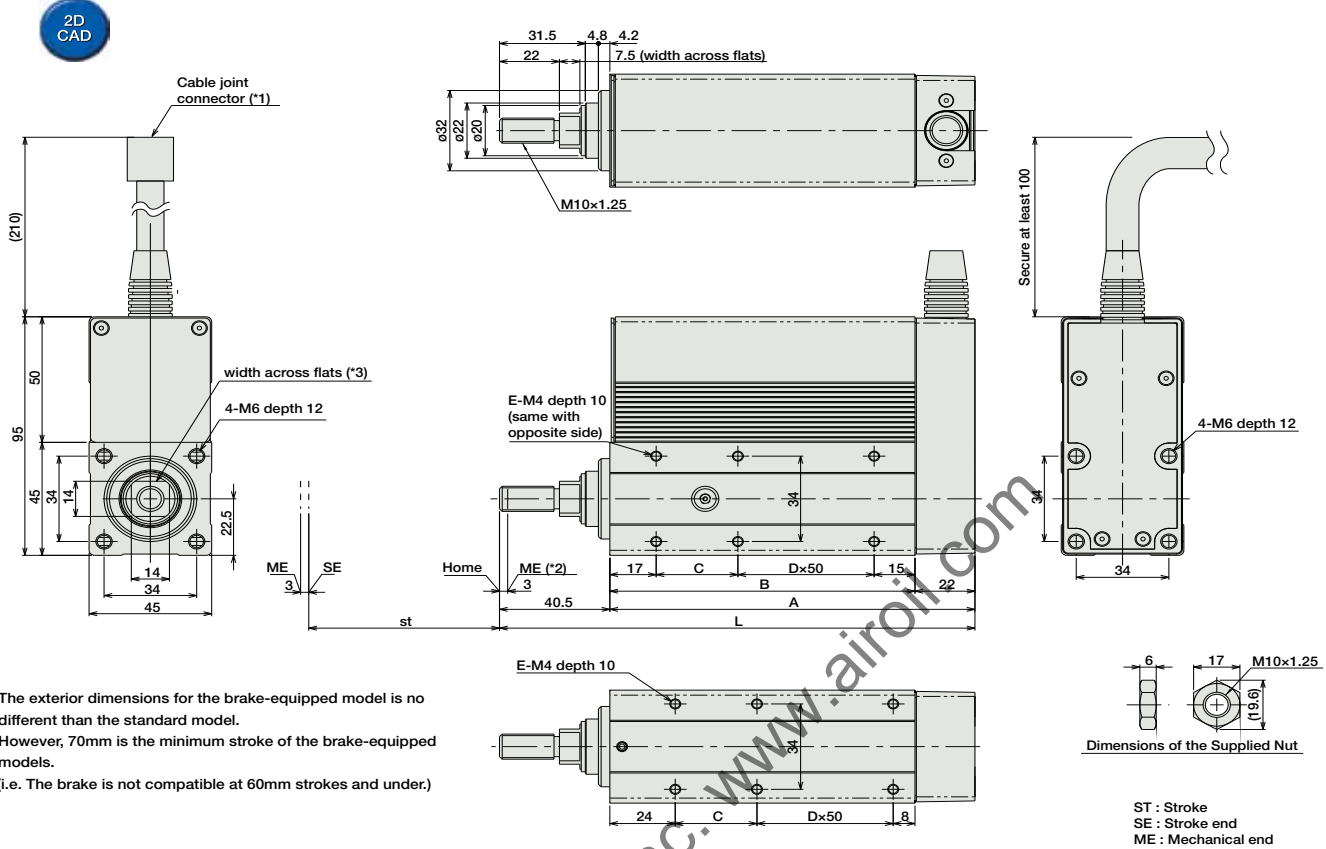
Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22mm
Non-rotating accuracy of rod	-
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Order P. A-9



\* The exterior dimensions for the brake-equipped model is no different than the standard model. However, 70mm is the minimum stroke of the brake-equipped models. (i.e. The brake is not compatible at 60mm strokes and under.)

Dimensions/Weight by Stroke (Add 0.2kg for brake equipped)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	124.5	134.5	144.5	154.5	164.5	174.5	184.5	194.5	204.5	254.5	304.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	0.78	0.84	0.9	0.96	1.03	1.09	1.15	1.21	1.27	1.59	1.9

- (\*1) The motor-encoder cable is connected here. See page A-39 for details on cables.
- (\*2) When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.
- (\*3) The orientation of the bolt will vary depending on the product.

Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20SI ① -NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI ① -NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI ① -NP-2-0						
Positioner Type		ACON-C-20SI ① -NP-2-0	Positioning is possible for up to 512 points	512 points				
Safety-Compliant Positioner Type		ACON-CG-20SI ① -NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI ① -NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	1.7A rated 5.1A peak		→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20SI ① -NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI ① -N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S ①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI ① -NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
① is a placeholder for the code "LA" if the power-saving option is specified.

- 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

# RCA-RGS3C

ROBO Cylinder Rod Type with Single Guide ø32mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** — **RGS3C** — **I** — **20** — [ ] — [ ] — [ ] — [ ] — [ ]

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20: 20W Servo Motor

10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
200: 200mm (50mm pitch increments)

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

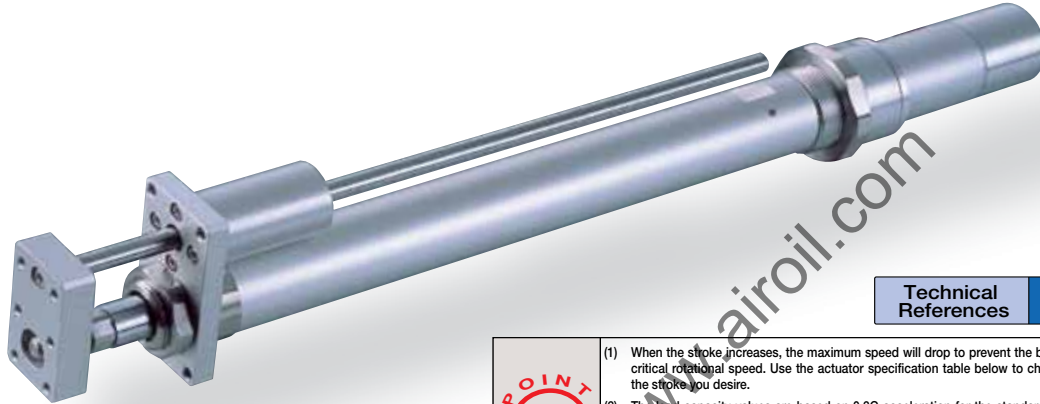
N: None  
P: 1m  
S: 3m  
M: 5m  
X [ ]: Custom  
R [ ]: Robot cable

See Options below

\* See page Pre-35 for an explanation of the naming convention.

**For High Acceleration/Deceleration**  
(Except the 2.5mm-lead model)

**Power-saving**



Technical References P. A-5

- Notes on Selection**
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 2.5mm-lead), and 1G acceleration for the high-acceleration models (2.5mm-lead model excluded).  
(The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - The values for the horizontal load capacity reflect the use of an external guide.  
See the technical resources (page A-81) for the allowable weight using the supplied guide alone.

### Actuator Specifications

#### ■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGS3C-I-20-10-①-②-③-④	20	10	4.0	1.2	36.2	50~200 (50mm increments)
RCA-RGS3C-I-20-5-①-②-③-④		5	9.0	2.7	72.4	
RCA-RGS3C-I-20-2.5-①-②-③-④		2.5	18.0	6.2	144.8	

#### ■ Stroke and Maximum Speed

Stroke / Lead	50 ~ 200 (50mm increments)	
	10	500
5	250	
2.5	125	

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Power-saving (*3)	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-


#### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø12mm, Ball bush type)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*1) The high-acceleration/deceleration option is not available for 2.5mm-lead model.  
(\*2) The home sensor (HS) cannot be used on the reversed-home models.  
(\*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

Dimensions

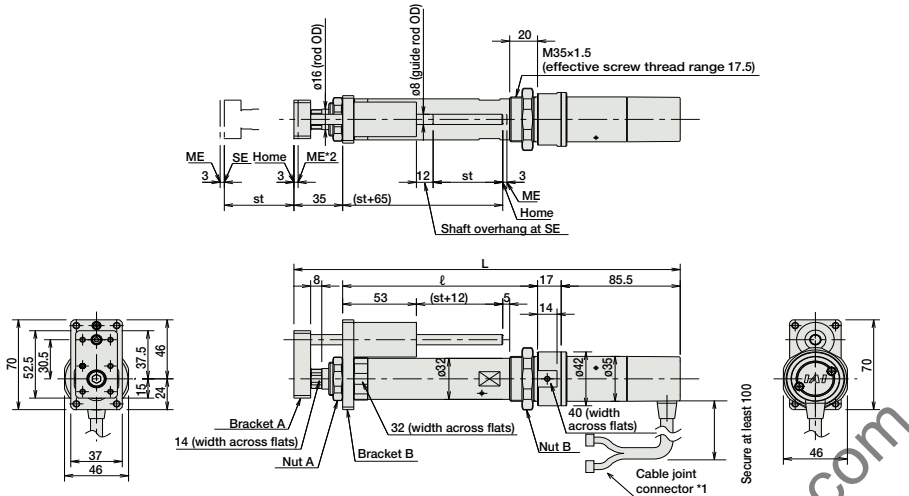
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Order  P. A-9

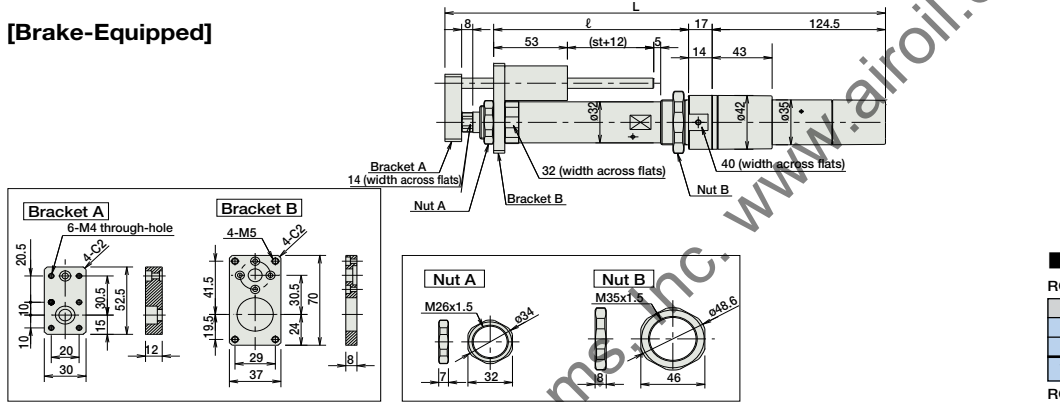


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCA-RGS3C (without brake)				
Stroke	50	100	150	200
L	277.5	327.5	377.5	427.5
ℓ	140	190	240	290
Weight (kg)	0.9	1.1	1.2	1.3

RCA-RGS3C (with brake)				
Stroke	50	100	150	200
L	316.5	366.5	416.5	466.5
ℓ	140	190	240	290
Weight (kg)	1.1	1.3	1.4	1.5

② Compatible controller

The RCA 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
Solenoid Valve Type		MEC-C-20SI ① -NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI ① -NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI ① -NP-2-0						
Positioner Type		ACON-C-20SI ① -NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20SI ① -NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI ① -NP-2-0	Pulse train input type with differential line driver support	(-)				
Pulse Train Input Type (Open Collector)		ACON-PO-20SI ① -NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI ① -N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S ①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI ① -NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "HA" or "LA" if the high acceleration/deceleration option or the power-saving option is specified.

- 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

# RCA-RGS4C

ROBO Cylinder Rod Type with Single Guide ø37mm Diameter 24V Servo Motor Coupled

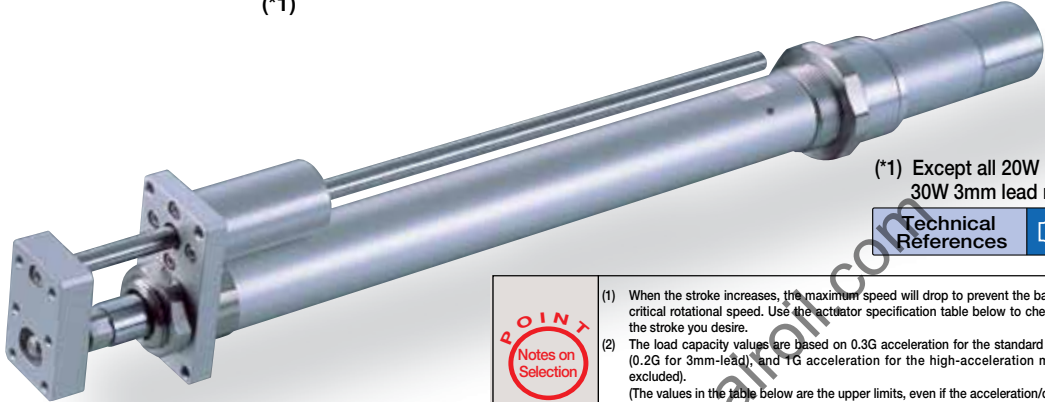
■ Configuration: **RCA** — **RGS4C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

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

I : Incremental 20 : 20W Servo Motor 12 : 12mm 50 : 50mm A1 : ACON N : None  
 A : Absolute 30 : 30W Servo Motor 6 : 6mm 300 : 300mm (50mm pitch increments) A2 : RACON P : 1m  
 A3 : AMEC M : 5m  
 X [ ] : Custom  
 R [ ] : Robot cable

\* See page Pre-35 for an explanation of the naming convention.  
 \* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.

**For High Acceleration/Deceleration** **Power-saving**  
 (\*1)



(\*1) Except all 20W models and 30W 3mm lead models

Technical References P. A-5

**POINT**  
Notes on Selection

- 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.
- The load capacity values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 3mm-lead), and 1G acceleration for the high-acceleration models (3mm-lead model excluded).  
(The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
- The values for the horizontal load capacity reflect the use of an external guide.  
See the technical resources (page A-81) for the allowable weight using the supplied guide alone.

Actuator Specifications					
■ Lead and Load Capacity					
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)
			Horizontal (kg)	Vertical (kg)	
RCA-RGS4C-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9
RCA-RGS4C-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7
RCA-RGS4C-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4
RCA-RGS4C-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3
RCA-RGS4C-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6
RCA-RGS4C-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

■ Stroke and Maximum Speed	
Stroke	50 ~ 300 (50mm increments)
12	600
6	300
3	150

(Unit: mm/s)

Encoder & Stroke List				
② Stroke (mm)	Standard Price			
	① Encoder			
	Incremental Motor Output (W)		Absolute Motor Output (W)	
	20W	30W	20W	30W
50	-	-	-	-
100	-	-	-	-
150	-	-	-	-
200	-	-	-	-
250	-	-	-	-
300	-	-	-	-

④ 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.

⑤ Option List			
Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Power-saving (*3)	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

Actuator Specifications	
Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*1) The high-acceleration/deceleration option is not available for all 20W models and 30W model with 3mm lead.  
 (\*2) The home sensor (HS) cannot be used on the reversed-home models.  
 (\*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

Dimensions

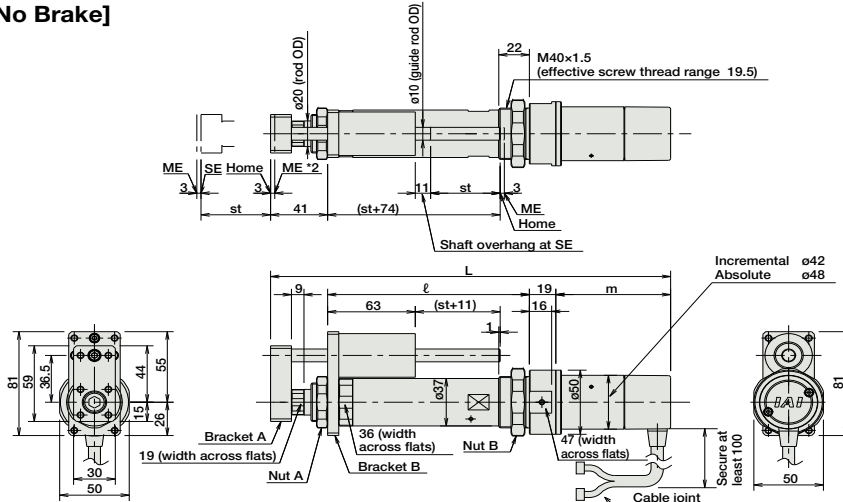
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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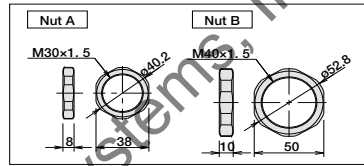
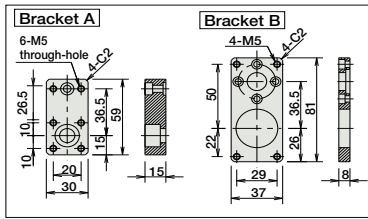
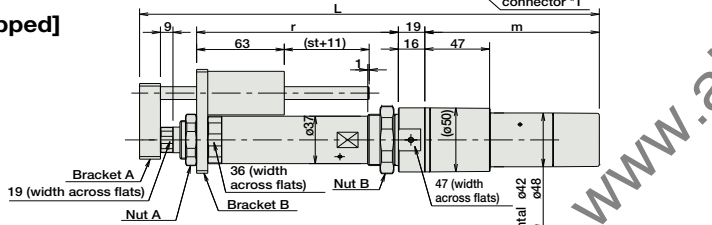


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



Dimensions/Weight by Stroke

RCA-RGS4C (without brake)

Stroke		50	100	150	200	250	300	
L	20W	Increm. 272.5	322.5	372.5	422.5	472.5	522.5	
		Absol. 285.5	335.5	385.5	435.5	485.5	535.5	
30W	Increm.	287.5	337.5	387.5	437.5	487.5	537.5	
	Absol.	300.5	350.5	400.5	450.5	500.5	550.5	
ℓ		145	195	245	295	345	395	
m	20W	Increm. 67.5						
		Absol. 80.5						
30W	Increm.	82.5						
	Absol.	95.5						
Weight (kg)		1.5	1.6	1.8	2.0	2.2	2.4	

RCA-RGS4C (with brake)

Stroke		50	100	150	200	250	300	
L	20W	Increm. 315.5	365.5	415.5	465.5	515.5	565.5	
		Absol. 328.5	378.5	428.5	478.5	528.5	578.5	
30W	Increm.	330.5	380.5	430.5	480.5	530.5	580.5	
	Absol.	343.5	393.5	443.5	493.5	543.5	593.5	
ℓ		145	195	245	295	345	395	
m	20W	Increm. 110.5						
		Absol. 123.5						
30W	Increm.	125.5						
	Absol.	138.5						
Weight (kg)		1.7	1.8	2.0	2.2	2.4	2.6	

Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-201 ② -NP-2-1 AMEC-C-301 ② -NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-201 ② -NP-2-0 ASEP-C-301 ② -NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-201 ② -NP-2-0 ASEP-CW-301 ② -NP-2-0						→ P487
Positioner Type		ACON-C-201 ② -NP-2-0 ACON-C-301 ② -NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-201 ② -NP-2-0 ACON-CG-301 ② -NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-201 ② -NP-2-0 ACON-PL-301 ② -NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	30W 1.3A rated 4.4A peak	-	→ P503
Pulse Train Input Type (Open Collector)		ACON-PO-201 ② -NP-2-0 ACON-PO-301 ② -NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-201 ② -N-0-0 ACON-SE-301 ② -N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20 ② RACON-30 ②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20 ① ② -NP-2-0 ASEL-C-1-30 ① ② -NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "HA" or "LA" if the high acceleration/deceleration option or the power-saving option is specified.

# RCA-RGS3D

ROBO Cylinder Rod Type with Single Guide ø32mm Diameter 24V Servo Motor Built-In Model

■ Configuration: **RCA** — **RGS3D** — **I** — **20** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20: 20W Servo Motor

10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
200: 200mm (50mm pitch increments)

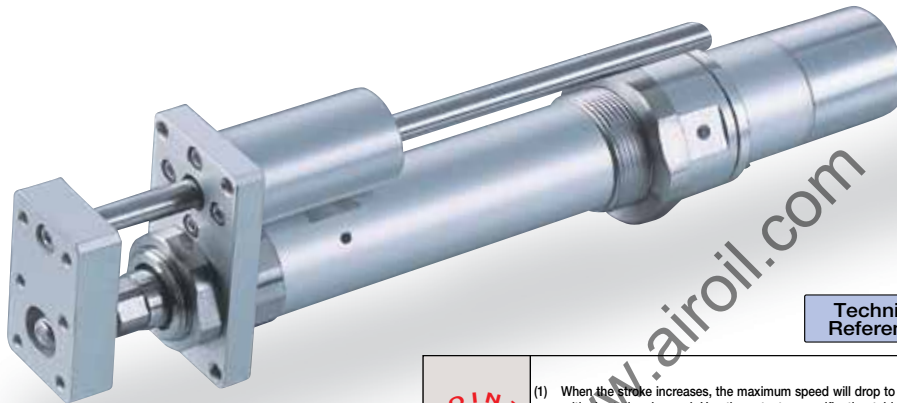
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

See Options below

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

**Notes on Selection**

- 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.
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model). This is the upper limit of the acceleration.
- The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-81) for the allowable weight using the supplied guide alone.

Actuator Specifications						
Lead and Load Capacity				Stroke and Maximum Speed		
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGS3D-I-20-10- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	10	4.0	1.2	36.2	50~200 (50mm increments)
RCA-RGS3D-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		5	9.0	2.7	72.4	
RCA-RGS3D-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		2.5	18.0	6.2	144.8	

Stroke	50 ~ 200 (50mm increments)
10	500
5	250
2.5	125

Legend  Stroke  Compatible controllers  Cable length  Options (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
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
Foot bracket	FT	→ A-29	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø12mm, Ball bush type)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

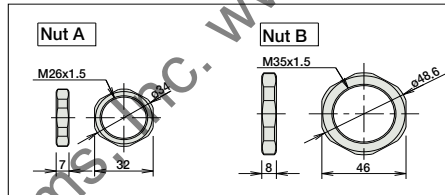
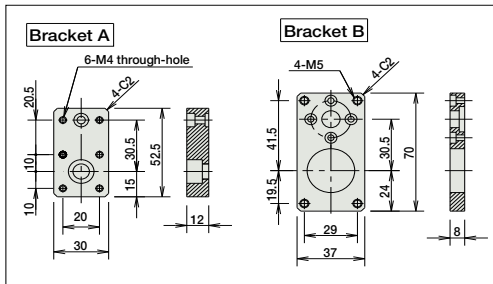
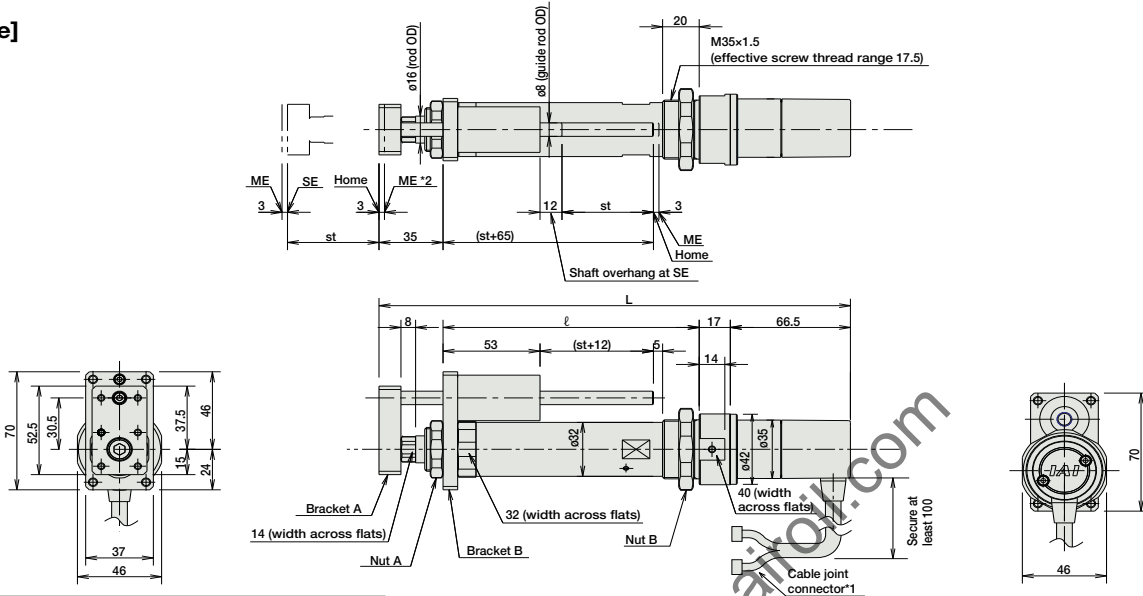
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Order P. A-9



- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[No Brake]



**Dimensions/Weight by Stroke**  
RCA-RGS3D (without brake)

Stroke	50	100	150	200
L	258.5	308.5	358.5	408.5
ℓ	140	190	240	290
Weight (kg)	0.9	1.1	1.2	1.3

Brake-equipped configuration is not available with the RCA-RGS3D.

② Compatible controller

The RCA 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
Solenoid Valve Type		AMEC-C-20SI ① -NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-20SI ① -NP-2-0 ASEP-CW-20SI ① -NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Positioner Type		ACON-C-20SI ① -NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20SI ① -NP-2-0		(-)				
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI ① -NP-2-0	Pulse train input type with differential line driver support	64 points	-	-	-	→ P503
Pulse Train Input Type (Open Collector)		ACON-PO-20SI ① -NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI ① -N-0-0	Dedicated to serial communication	768 points	-	-	-	→ P567
Field Network Type		RACON-20S ①	Dedicated to field network	1500 points	-	-	-	-
Program Control Type		ASEL-C-1-20SI ① -NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes					

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

- 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



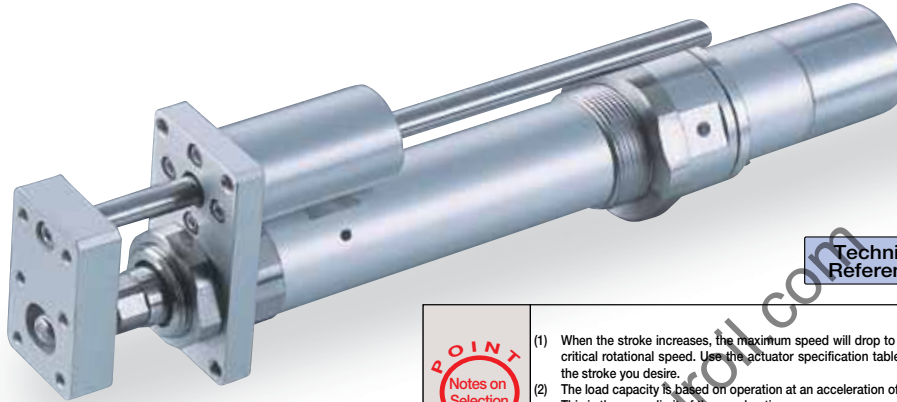
# RCA-RGS4D

ROBO Cylinder Rod Type with Single Guide ø37mm Diameter 24V Servo Motor Built-In Model

■ Configuration: **RCA** — **RGS4D** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
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)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below		

\* See page Pre-35 for an explanation of the naming convention.  
\* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.



Power-saving

Technical References P. A-5

**POINT**  
Notes on Selection

- 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.
- 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.
- The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-81) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGS4D-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50~300 (50mm increments)
RCA-RGS4D-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCA-RGS4D-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCA-RGS4D-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCA-RGS4D-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCA-RGS4D-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

### Stroke and Maximum Speed

Stroke Lead	50 ~ 300 (50mm increments)	
	Stroke (mm)	Maximum Speed (mm/s)
12	50	600
6	50	300
3	50	150

(Unit: mm/s)

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

### Encoder & Stroke List

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

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Foot bracket	FT	→ A-29	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

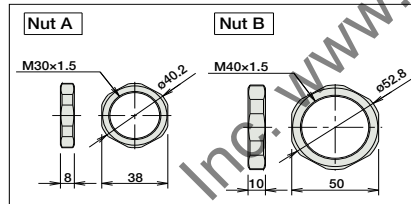
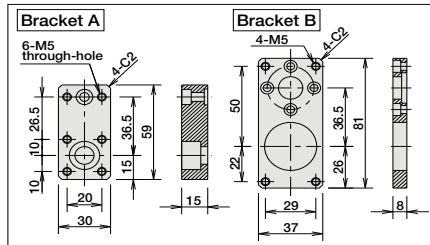
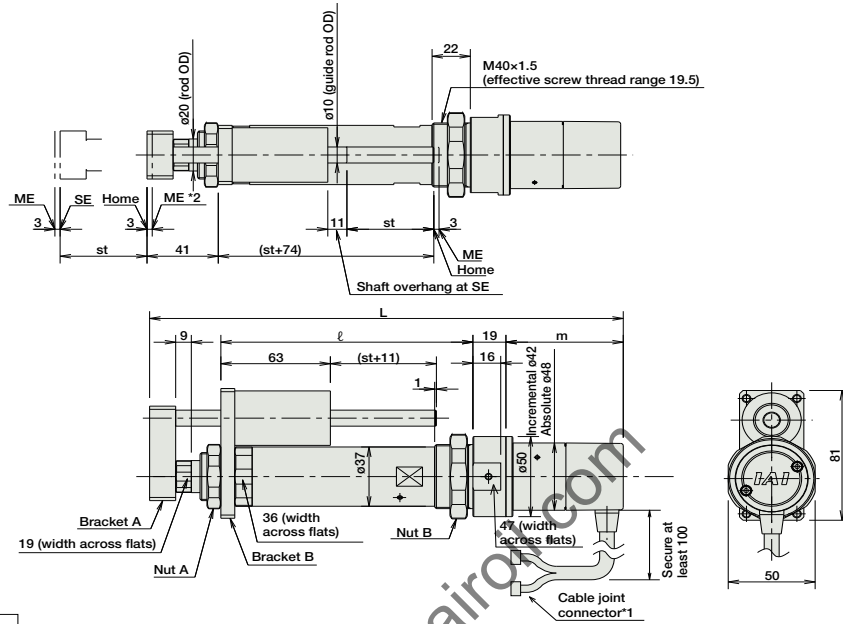
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Order P. A-9

- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[No Brake]



■ Dimensions/Weight by Stroke

RCA-RGS4D (without brake)		Stroke	50	100	150	200	250	300
L	20W	Increm.	250.5	300.5	350.5	400.5	450.5	500.5
		Absol.	263.5	313.5	363.5	413.5	463.5	513.5
L	30W	Increm.	265.5	315.5	365.5	415.5	465.5	515.5
		Absol.	278.5	328.5	378.5	428.5	478.5	528.5
		ℓ	145	195	245	295	345	395
m	20W	Increm.			45.5			
		Absol.			58.5			
m	30W	Increm.			60.5			
		Absol.			73.5			
Weight (kg)			1.3	1.5	1.7	1.9	2.1	2.3

Brake-equipped configuration is not available with the RCA-RGS4D.

③ Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-201 ②-NP-2-1 AMEC-C-301 ②-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-201 ②-NP-2-0 ASEP-C-301 ②-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-201 ②-NP-2-0 ASEP-CW-301 ②-NP-2-0						→ P487
Positioner Type		ACON-C-201 ②-NP-2-0 ACON-C-301 ②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-201 ②-NP-2-0 ACON-CG-301 ②-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-201 ②-NP-2-0 ACON-PL-301 ②-NP-2-0	Pulse train input type with differential line driver support	(-)		30W 1.3A rated 4.4A peak	-	
Pulse Train Input Type (Open Collector)		ACON-PO-201 ②-NP-2-0 ACON-PO-301 ②-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-201 ②-N-0-0 ACON-SE-301 ②-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-202 ② RACON-302 ②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20 ①②-NP-2-0 ASEL-C-1-30 ①②-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.

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

\* ② is a placeholder for the code "LA" if the power-saving option is specified.

# RCA-SRGS4R

ROBO Cylinder Rod Type with Single Guide 45mm Width Servo Motor  
Short-Length Model Side-Mounted Motor

■ Configuration: **RCA** — **SRGS4R** — **I** — **20** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	SRGS4R	I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	5 : 5mm 2.5 : 2.5mm	20 : 20mm 200 : 200mm (10mm pitch increments) * Set in 50mm increments over 100mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X <input type="checkbox"/> : Custom	See Options below

\* See page Pre-35 for an explanation of the naming convention.



Power-saving

Technical References P. A-5

- Notes on Selection**
- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model, or when used vertically). This is the upper limit of the acceleration.
  - (2) The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-82) for the allowable weight using the supplied guide alone.

Actuator Specifications							
■ Lead and Load Capacity					■ Stroke and Maximum Speed		
Model	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Stroke and Maximum Speed	
		Horizontal (kg)	Vertical (kg)			Stroke Lead	20 ~ 200 (10mm increments)
RCA-SRGS4R-I-20-5-①-②-③-④	5	9	2	41	20 ~ 200 (10mm increments) (Note 1)	5	250
RCA-SRGS4R-I-20-2.5-①-②-③-④	2.5	18	5.5	81	(Note 1)	2.5	125

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Note 1) 50mm increments over 100mm. (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
20 ~ 50	-
60 ~ 100	-
150	-
200	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
	-	-

\* The cable is a motor-encoder integrated cable, and is provided as a robot cable.  
\* See page A-39 for cables for maintenance.

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Flange bracket (back)	FLR	→ A-28	-
Foot bracket 1 (base mounting)	FT	→ A-29	-
Foot bracket 2 (right/left side mounting)	FT2/FT4	→ A-31	-
Guide mounting direction	GS2 ~ GS4	→ A-32	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-

Actuator Specifications

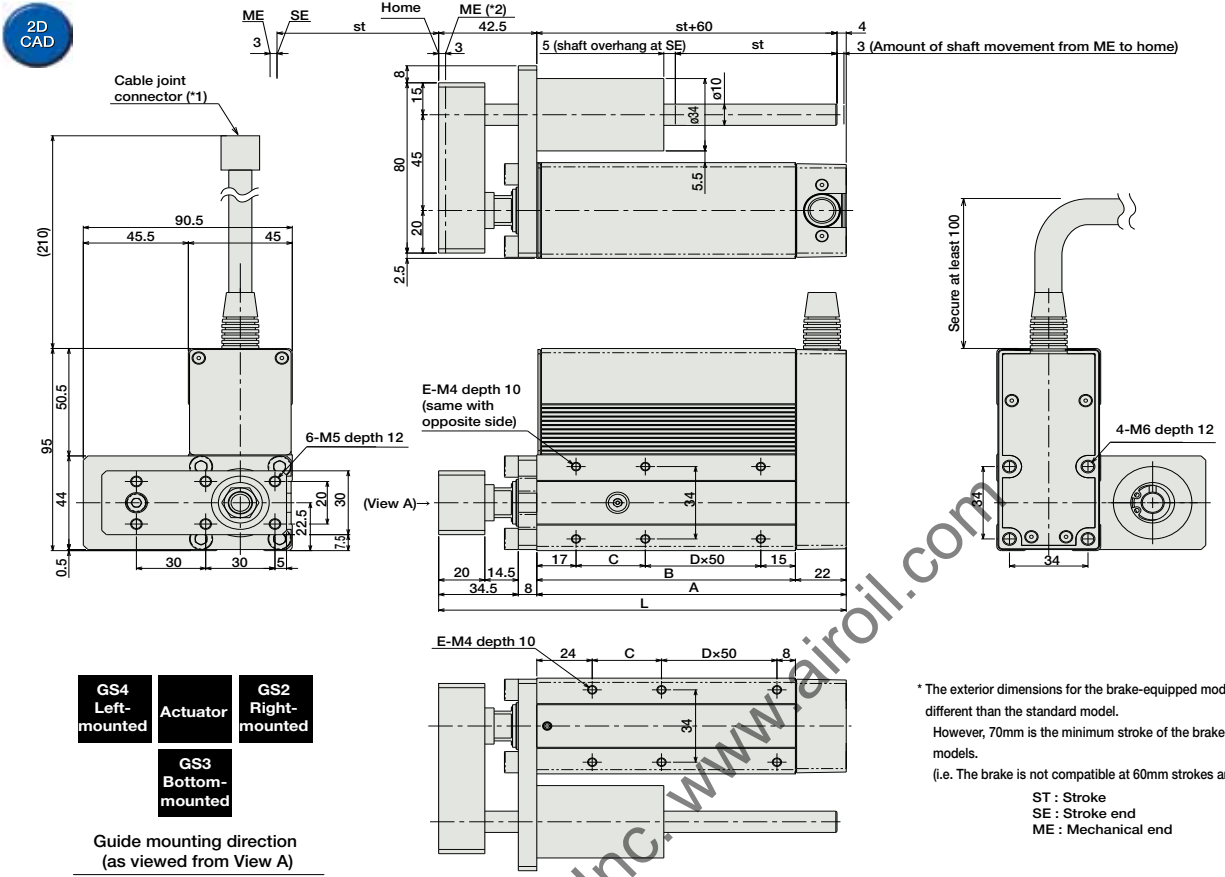
Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22 mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

\* The brake is available for strokes of 70mm or more.  
\* Please be sure that the mounting direction of the guide is specified in the product name.  
\* The guide and the foot bracket cannot be mounted in the same direction.

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Order P. A-9



Guide mounting direction (as viewed from View A)

\* The exterior dimensions for the brake-equipped model is no different than the standard model. However, 70mm is the minimum stroke of the brake-equipped models. (i.e. The brake is not compatible at 60mm strokes and under.)

ST : Stroke  
SE : Stroke end  
ME : Mechanical end

■ Dimensions/Weight by Stroke (Add 0.2kg for brake equipped)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	80	90	100	110	160	210
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	1.15	1.21	1.28	1.35	1.42	1.49	1.56	1.62	1.69	2.03	2.38

(\*1) The motor-encoder cable is connected here. See page A-39 for details on cables.

(\*2) When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.

② Compatible controller

The RCA 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
Solenoid Valve Type		AMEC-C-20SI①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI①-NP-2-0						→ P487
Positioner Type		ACON-C-20SI①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20SI①-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20S①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	1.7A rated 5.1A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20SI①-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI①-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI①-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "LA" if the power-saving option is specified.

# RCA-RGD3C

ROBO Cylinder Rod Type with Double Guide ø32mm Diameter 24V Servo Motor Coupled

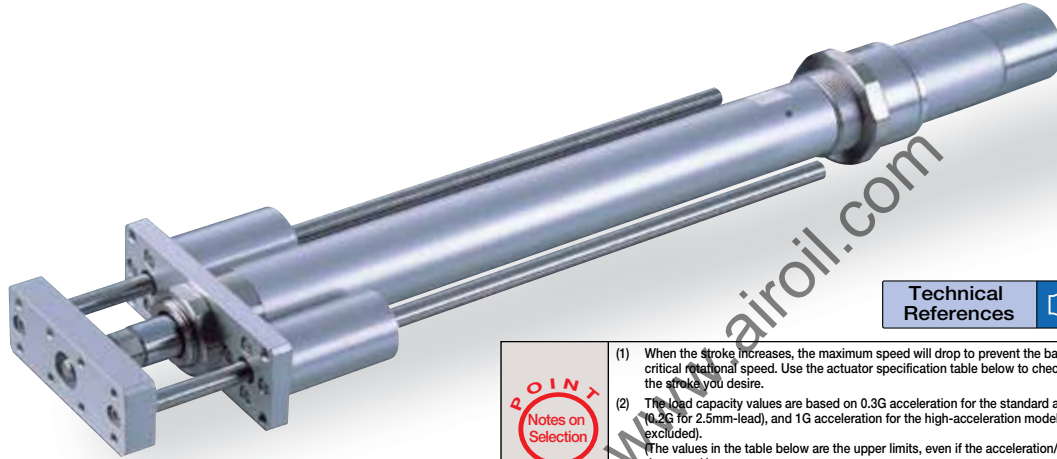
■ Configuration: **RCA** — **RGD3C** — **I** — **20** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	RGD3C	I: Incremental * The Simple absolute encoder is also considered type "I".	20: 20W Servo Motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 200: 200mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom R <input type="checkbox"/> : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

**For High Acceleration/Deceleration**  
(Except the 2.5mm-lead model)

**Power-saving**



Technical References P. A-5

- Notes on Selection**
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 2.5mm-lead), and 1G acceleration for the high-acceleration models (2.5mm-lead model excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

Actuator Specifications					
■ Lead and Load Capacity					
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCA-RGD3C-I-20-10- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	10	4	1.2	36.2
RCA-RGD3C-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		5	9	2.7	72.4
RCA-RGD3C-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		2.5	18	6.2	144.8

Legend  Stroke  Compatible controllers  Cable length  Options (Unit: mm/s)

■ Stroke and Maximum Speed	
Stroke / Lead	50 ~ 200 (50mm increments)
10	500
5	250
2.5	125

① Stroke List

Stroke (mm)	Standard Price
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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Power-saving (*3)	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*1) The high-acceleration/deceleration option is not available for 2.5mm-lead model.  
 (\*2) The home sensor (HS) cannot be used on the reversed-home models.  
 (\*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

Dimensions

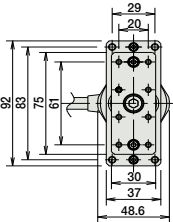
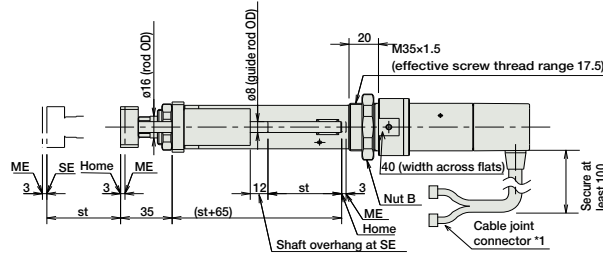
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9

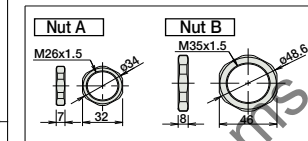
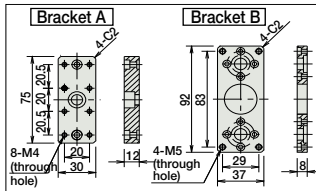
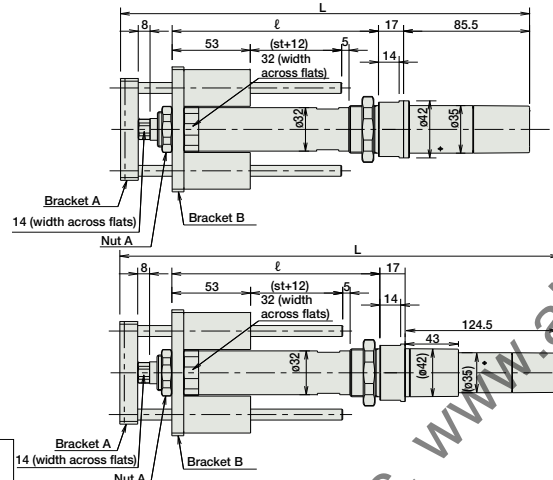


- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
  - \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
- ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCA-RGD3C (without brake)				
Stroke	50	100	150	200
L	277.5	327.5	377.5	427.5
ℓ	140	190	240	290
Weight (kg)	1.1	1.2	1.4	1.5
RCA-RGD3C (with brake)				
Stroke	50	100	150	200
L	316.5	366.5	416.5	466.5
ℓ	140	190	240	290
Weight (kg)	1.3	1.4	1.6	1.7

② Compatible controller

The RCA 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
Solenoid Valve Type		AMEC-C-20Si①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20Si①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-20Si①-NP-2-0						→ P487
Positioner Type		ACON-C-20Si①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20Si①-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20Si①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	1.7A rated 5.1A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20Si①-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20Si①-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20Si①-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the code "HA" or "LA" if the high acceleration/deceleration option or the power-saving option is specified.

# RCA-RGD4C

ROBO Cylinder Rod Type with Double Guide ø37mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** — **RGD4C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.  
\* See page Pre-35 for an explanation of the naming convention.

For High Acceleration/Deceleration (\*1)

Power-saving



(\*1) Except all 20W models and 30W 3mm lead models

Technical References P. A-5

- POINT** Notes on Selection
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 3mm-lead), and 1G acceleration for the high-acceleration models (3mm-lead model excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGD4C-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50~300 (50mm increments)
RCA-RGD4C-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCA-RGD4C-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCA-RGD4C-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCA-RGD4C-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCA-RGD4C-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

### Stroke and Maximum Speed

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

(Unit: mm/s)

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

### Encoder & Stroke List

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

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Power-saving (*3)	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

(\*1) The high-acceleration/deceleration option is not available for all 20W models and 30W model with 3mm lead.  
(\*2) The home sensor (HS) cannot be used on the reversed-home models.  
(\*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

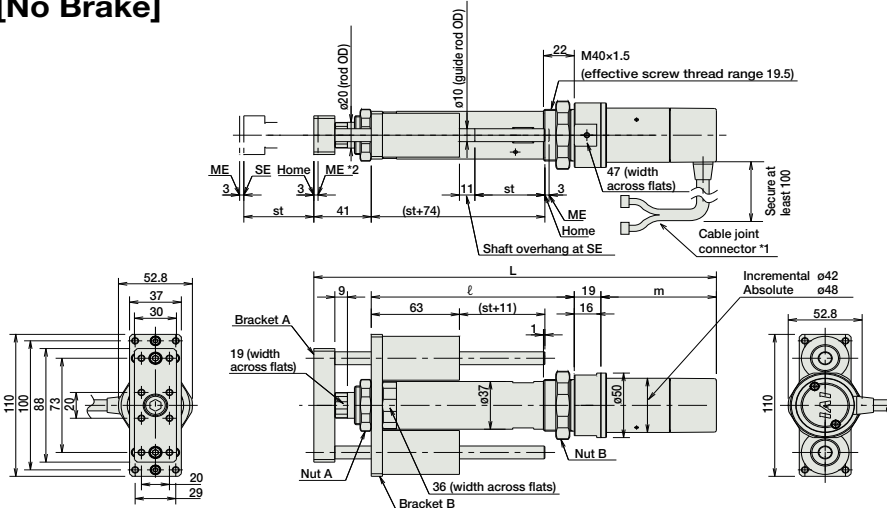
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9

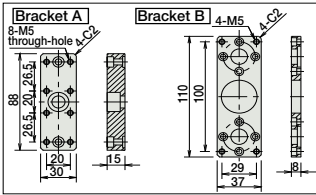
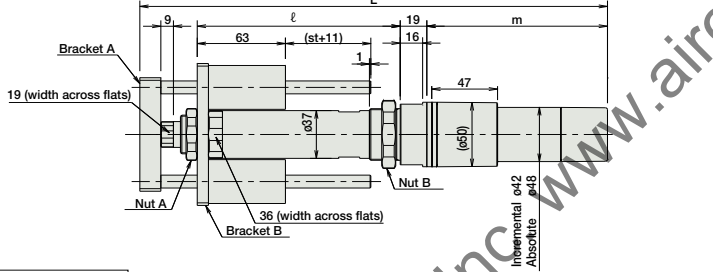


- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
  - \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
- ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCA-RGD4C (without brake)

Stroke	50	100	150	200	250	300	
L	20W	Increm. 272.5	322.5	372.5	422.5	472.5	522.5
		Absol. 285.5	335.5	385.5	435.5	485.5	535.5
	30W	Increm. 287.5	337.5	387.5	437.5	487.5	537.5
	Absol. 300.5	350.5	400.5	450.5	500.5	550.5	
ℓ		145	195	245	295	345	395
m	20W	Increm. 67.5					
		Absol. 80.5					
	30W	Increm. 82.5					
	Absol. 95.5						
Weight (kg)		1.8	2.0	2.2	2.4	2.6	2.8

RCA-RGD4C (with brake)

Stroke	50	100	150	200	250	300	
L	20W	Increm. 315.5	365.5	415.5	465.5	515.5	565.5
		Absol. 328.5	378.5	428.5	478.5	528.5	578.5
	30W	Increm. 330.5	380.5	430.5	480.5	530.5	580.5
	Absol. 343.5	393.5	443.5	493.5	543.5	593.5	
ℓ		145	195	245	295	345	395
m	20W	Increm. 110.5					
		Absol. 123.5					
	30W	Increm. 125.5					
	Absol. 138.5						
Weight (kg)		2.0	2.2	2.4	2.6	2.8	3.0

③ Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-201②-NP-2-1 AMEC-C-301②-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-201②-NP-2-0 ASEP-C-301②-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-201②-NP-2-0 ASEP-CW-301②-NP-2-0						→ P487
Positioner Type		ACON-C-201②-NP-2-0 ACON-C-301②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-201②-NP-2-0 ACON-CG-301②-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-201②-NP-2-0 ACON-PL-301②-NP-2-0	Pulse train input type with differential line driver support	(-)		30W 1.3A rated 4.4A peak	-	
Pulse Train Input Type (Open Collector)		ACON-PO-201②-NP-2-0 ACON-PO-301②-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-201②-N-0-0 ACON-SE-301②-NP-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20② RACON-30②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20①②-NP-2-0 ASEL-C-1-30①②-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "HA" or "LA" if the high acceleration/deceleration option or the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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



# RCA-RGD3D

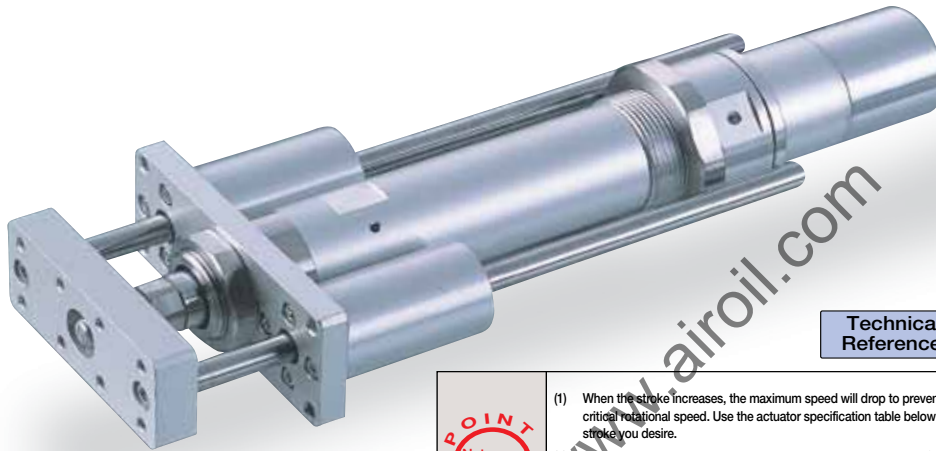
ROBO Cylinder Rod Type with Double Guide ø32mm Diameter 24V Servo Motor Built-In Model

■ Configuration: **RCA** — **RGD3D** — **I** — **20** —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	RGD3D	I: Incremental * The Simple absolute encoder is also considered type "I".	20: 20W Servo Motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 200: 200mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom R <input type="checkbox"/> : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model). This is the upper limit of the acceleration.
  - The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGD3D-I-20-10- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	10	4	1.2	36.2	50~200 (50mm increments)
RCA-RGD3D-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		5	9	2.7	72.4	
RCA-RGD3D-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		2.5	18	6.2	144.8	

### Stroke and Maximum Speed

Stroke Lead	50 ~ 200 (50mm increments)	
	10	500
5	250	
2.5	125	

Legend  Stroke  Compatible controllers  Cable length  Options

(Unit: mm/s)

### ① Stroke List

Stroke (mm)	Standard Price
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
Foot bracket	FT	→ A-29	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

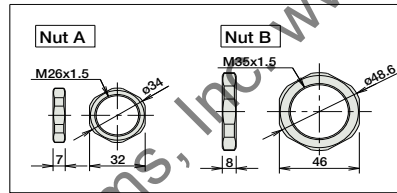
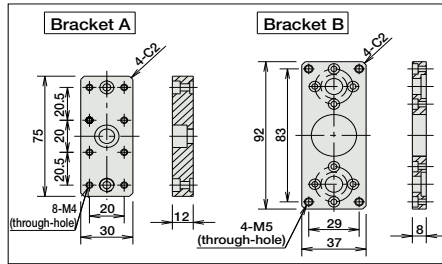
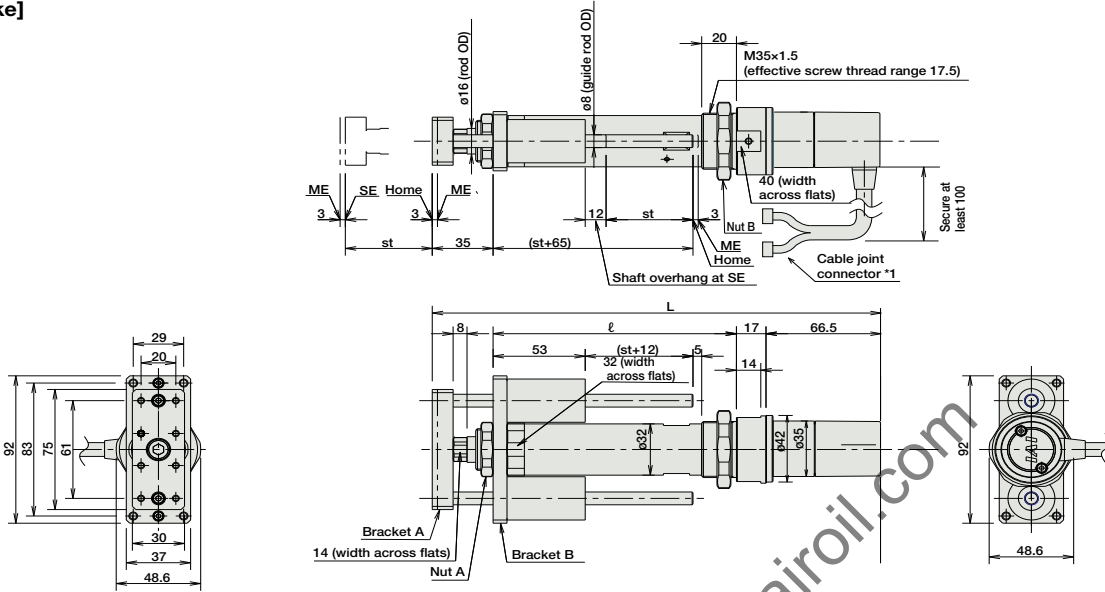
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[No Brake]



■ Dimensions/Weight by Stroke

RCA-RGD3D (without brake)				
Stroke	50	100	150	200
L	258.5	308.5	358.5	408.5
ℓ	140	190	240	290
Weight (kg)	1.1	1.2	1.4	1.5

Brake-equipped configuration is not available with the RCA-RGD3D.

② Compatible controller

The RCA 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
Solenoid Valve Type		AMEC-C-20SI①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					→ P487
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI①-NP-2-0						
Positioner Type		ACON-C-20SI①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-20SI①-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI①-NP-2-0	Pulse train input type with differential line driver support	(-)				
Pulse Train Input Type (Open Collector)		ACON-PO-20SI①-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI①-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "LA" if the power-saving option is specified.

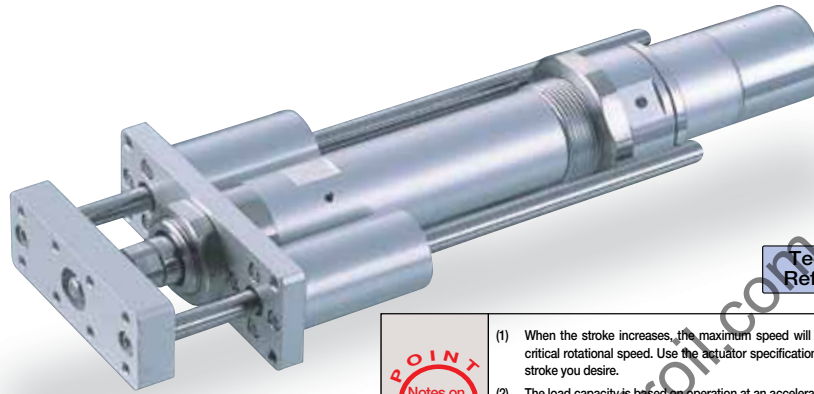
# RCA-RGD4D

ROBO Cylinder Rod Type with Double Guide ø37mm Diameter 24V Servo Motor  
Built-In Model

■ Configuration: **RCA** — **RGD4D** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
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)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below		

\* See page Pre-35 for an explanation of the naming convention.  
\* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.



Power-saving

Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - 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.
  - The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGD4D-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50~300 (50mm increments)
RCA-RGD4D-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCA-RGD4D-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCA-RGD4D-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCA-RGD4D-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCA-RGD4D-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

### Stroke and Maximum Speed

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

(Unit: mm/s)

## Encoder List & Stroke List

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

## ④ 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.

## ⑤ Option List

Name	Option Code	See Page	Standard Price
Foot bracket	FT	→ A-29	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

## Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

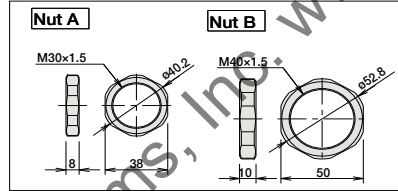
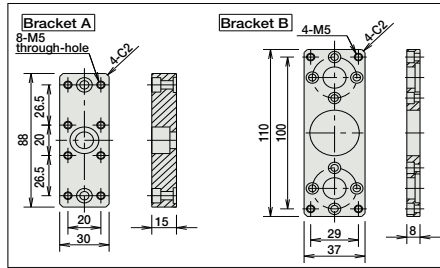
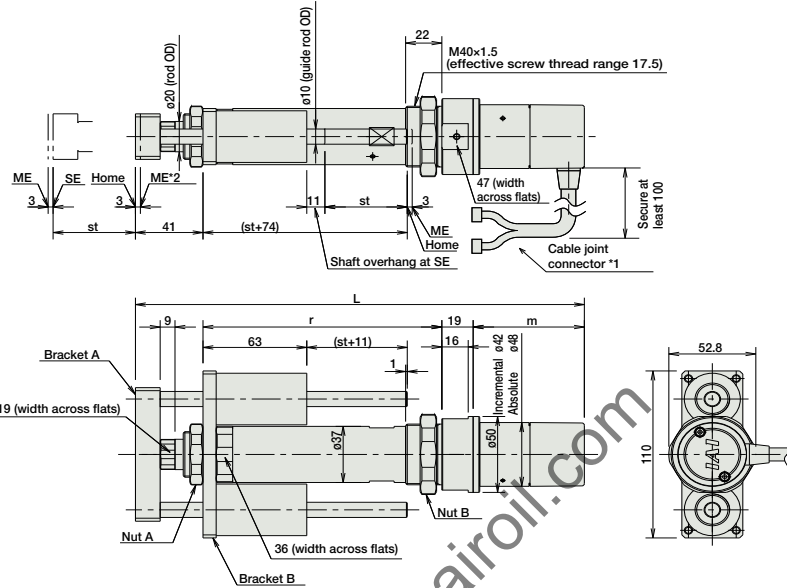
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[No Brake]



■ Dimensions/Weight by Stroke

RCA-RGD4D (without brake)

Stroke	RCA-RGD4D (without brake)						
	50	100	150	200	250	300	
L	20W	Incr. 250.5	300.5	350.5	400.5	450.5	500.5
		Absol. 263.5	313.5	363.5	413.5	463.5	513.5
L	30W	Incr. 265.5	315.5	365.5	415.5	465.5	515.5
		Absol. 278.5	328.5	378.5	428.5	478.5	528.5
ℓ		145	195	245	295	345	395
m	20W	Incr. 45.5					
		Absol. 58.5					
m	30W	Incr. 60.5					
		Absol. 73.5					
Weight (kg)		1.6	1.8	2.1	2.3	2.5	2.7

Brake-equipped configuration is not available with the RCA-RGD4D.

③ Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20①②-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		AMEC-C-30①②-NP-2-1						
Splash-Proof Solenoid Valve Type		ASEP-C-20①②-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.	3 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P487
		ASEP-C-30①②-NP-2-0						
Positioner Type		ACON-C-20①②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
		ACON-C-30①②-NP-2-0						
Safety-Compliant Positioner Type		ACON-CG-20①②-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20①②-NP-2-0	Pulse train input type with differential line driver support	(-)				
Pulse Train Input Type (Open Collector)		ACON-PO-20①②-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20①②-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20①②-NP-2-0	Programmed operation is possible	1500 points				→ P567
		ASEL-C-1-30①②-NP-2-0	Operation is possible on up to 2 axes					

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "LA" if the power-saving option is specified.

# RCA-RGD3R

ROBO Cylinder Rod Type with Double Guide ø32mm Diameter 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA** — **RGD3R** — **I** — **20** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

20: 20W Servo Motor

10 : 10mm  
5 : 5mm  
2.5 : 2.5mm

50 : 50mm  
200 : 200mm (50mm pitch increments)

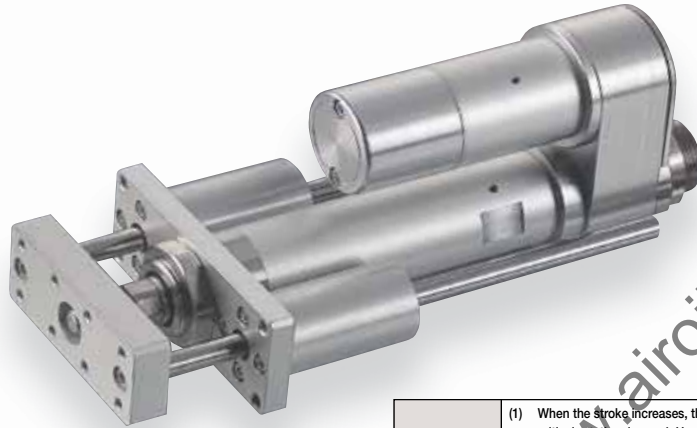
A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

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

See Options below

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

**POINT**  
Notes on Selection

- 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.
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model). 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. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

Actuator Specifications

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGD3R-I-20-10- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	10	4.0	1.2	36.2	50 ~ 200 (50mm increments)
RCA-RGD3R-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		5	9.0	2.7	72.4	
RCA-RGD3R-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		2.5	18.0	6.2	144.8	

■ Stroke and Maximum Speed

Stroke Lead	50 ~ 200 (50mm increments)	
	10	500
5	250	
2.5	125	

Legend  Stroke  Compatible controllers  Cable length  Options

(Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
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	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Clevis Bracket	QR	→ A-34	-
Back-mounting plate	RP	→ A-35	-

\* The home sensor (HS) cannot be used on the reversed-home models.

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø16mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

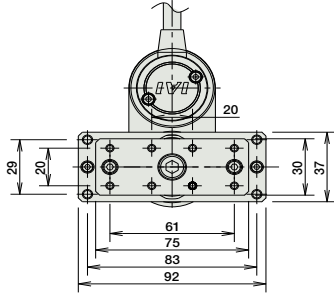
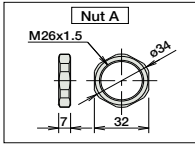
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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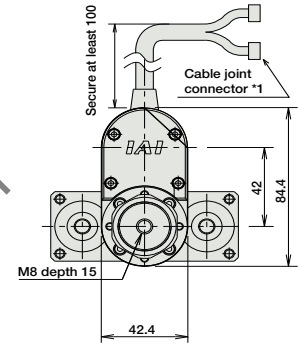
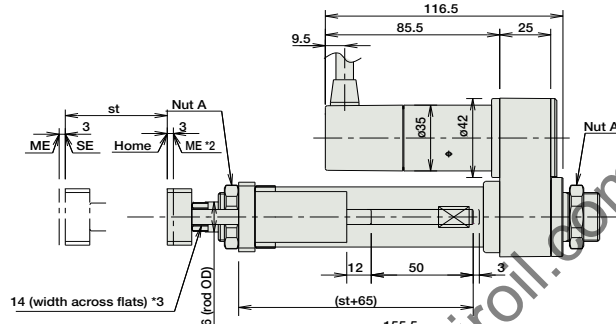
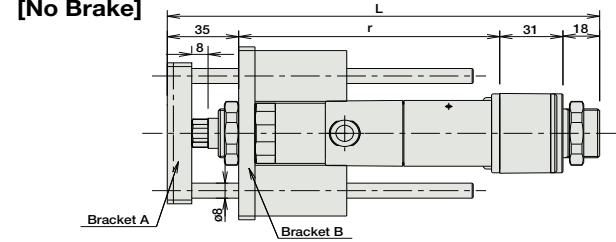


- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
  - \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
- ME: Mechanical end SE: Stroke end

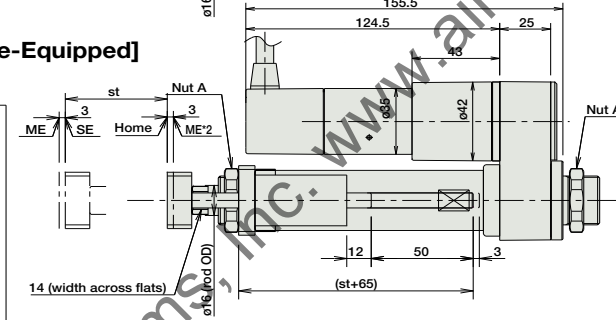
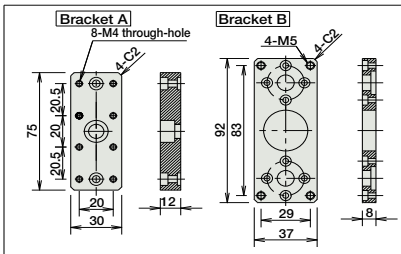
\*3. The orientation of the bolt will vary depending on the product.



[No Brake]



[Brake-Equipped]



Dimensions/Weight by Stroke

RCA-RGD3R (without brake)

Stroke	50	100	150	200
L	212	262	312	362
ℓ	128	178	228	278
Weight (kg)	1.2	1.3	1.5	1.6

RCA-RGD3R (with brake)

Stroke	50	100	150	200
L	212	262	312	362
ℓ	128	178	228	278
Weight (kg)	1.4	1.5	1.7	1.8

② Compatible controller

The RCA 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								
Solenoid Valve Type		AMEC-C-20SI②-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477								
		ASEP-C-20SI②-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.													
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI②-NP-2-0									→ P487					
Positioner Type		ACON-C-20SI②-NP-2-0	Positioning is possible for up to 512 points	512 points												
Safety-Compliant Positioner Type		ACON-CG-20SI②-NP-2-0														
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI②-NP-2-0	Pulse train input type with differential line driver support	(-)					DC24V	1.7A rated 5.1A peak	-	→ P535				
Pulse Train Input Type (Open Collector)		ACON-PO-20SI②-NP-2-0	Pulse train input type with open collector support													
Serial Communication Type		ACON-SE-20SI②-N-0-0	Dedicated to serial communication	64 points												
Field Network Type		RACON-20S②	Dedicated to field network	768 points												→ P503
Program Control Type		ASEL-C-1-20SI②-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567								

\* This is for the single-axis ASEL.  
 \* ② is a placeholder for the code "LA" if the power-saving option is specified.

# RCA-RGD4R

ROBO Cylinder Rod Type with Double Guide ø37mm Diameter 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA** — **RGD4R** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.  
\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - 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.
  - 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-83) for the allowable weight using the supplied guide alone.

### Actuator Specifications

#### ■ Lead and Load Capacity

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

#### ■ Stroke and Maximum Speed

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

(Unit: mm/s)

Legend ① Encoder ② Stroke ③ Compatible controller ④ Control length ⑤ Options

#### Encoder & Stroke List

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

#### ④ 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.

#### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Power-saving	LA	→ A-32	-
Reversed-home	NM	→ A-33	-
Clevis Bracket	QR	→ A-34	-
Back-mounting plate	RP	→ A-35	-

\* The home sensor (HS) cannot be used on the reversed-home models.

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
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 Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

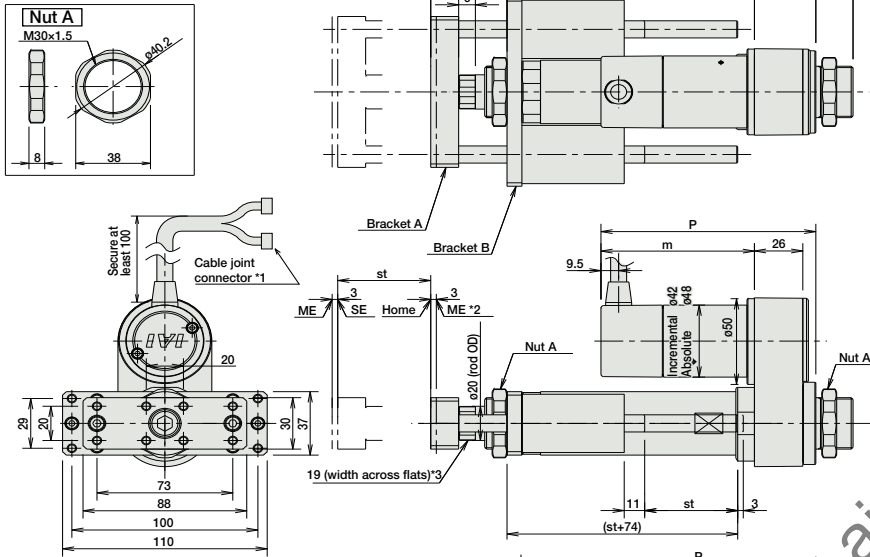
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 The orientation of the bolt will vary depending on the product.

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[No Brake]

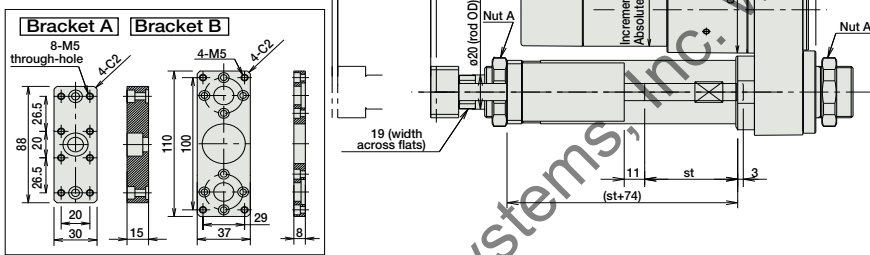


Dimensions/Weight by Stroke

RCA-RGD4R (without brake)

Stroke	50	100	150	200	250	300	
L	20W Incr.	227	277	327	377	427	477
	20W Absol.	227	277	327	377	427	477
L	30W Incr.	227	277	327	377	427	477
	30W Absol.	227	277	327	377	427	477
ℓ		133	188	233	288	333	383
m	20W Incr.	67.5					
	20W Absol.	80.5					
	30W Incr.	82.5					
P	20W Incr.	100.5					
	20W Absol.	113.5					
	30W Incr.	115.5					
30W Absol.	128.5						
Weight (kg)		1.9	2.2	2.3	2.6	2.7	3.0

[Brake-Equipped]



RCA-RGD4R (with brake)

Stroke	50	100	150	200	250	300	
L	20W Incr.	227	277	327	377	427	477
	20W Absol.	227	277	327	377	427	477
L	30W Incr.	227	277	327	377	427	477
	30W Absol.	227	277	327	377	427	477
ℓ		133	188	233	288	333	383
m	20W Incr.	110.5					
	20W Absol.	123.5					
	30W Incr.	125.5					
P	20W Incr.	138.5					
	20W Absol.	143.5					
	30W Incr.	156.5					
30W Absol.	158.5						
Weight (kg)		2.1	2.4	2.5	2.8	2.9	3.2

③ Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-201②-NP-2-1 AMEC-C-301②-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-201②-NP-2-0 ASEP-C-301②-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-201②-NP-2-0 ASEP-CW-301②-NP-2-0						→ P487
Positioner Type		ACON-C-201②-NP-2-0 ACON-C-301②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	20W 1.3A rated 4.4A peak	-	→ P535
Safety-Compliant Positioner Type		ACON-CG-201②-NP-2-0 ACON-CG-301②-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-201②-NP-2-0 ACON-PL-301②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	30W 1.3A rated 4.4A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-201②-NP-2-0 ACON-PO-301②-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-201②-N-0-0 ACON-SE-301②-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20② RACON-30②	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20①②-NP-2-0 ASEL-C-1-30①②-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "LA" if the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat 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



# RCA-SRGD4R

ROBO Cylinder Rod Type with Double Guide 45mm Width Servo Motor  
Short-Length Model

■ Configuration: **RCA** - **SRGD4R** - **I** - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	5 : 5mm 2.5 : 2.5mm	20 : 20mm 200 : 200mm (50mm pitch increments) * Set in 50mm increments over 100mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom	See Options below

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- Notes on Selection**
- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model, or when used vertically). This is the upper limit of the acceleration.
  - (2) The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

Actuator Specifications					
Lead and Load Capacity			Stroke and Maximum Speed		
Model	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCA-SRGD4R-I-20-5-①-②-③-④	5	9	2	41	20~200 (10mm increments)
RCA-SRGD4R-I-20-2.5-①-②-③-④	2.5	18	5.5	81	(Note 1)

Stroke	20 ~ 200 (10mm increments)	
	Lead	20 ~ 200 (10mm increments)
5		250
2.5		125

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Unit: mm/s)

① Stroke List

Stroke (mm)	Standard Price
20~50	-
60~100	-
150	-
200	-

③ Cable List

Type	Cable Symbol	Standard Price
Standard (Robot Cables)	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-

\* The cable is a motor-encoder integrated cable, and is provided as a robot cable.  
\* See page A-39 for cables for maintenance.

④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket 1 (base mounting)	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

\* The brake is available for strokes of 70mm or more.  
\* The foot bracket cannot be mounted on the side.

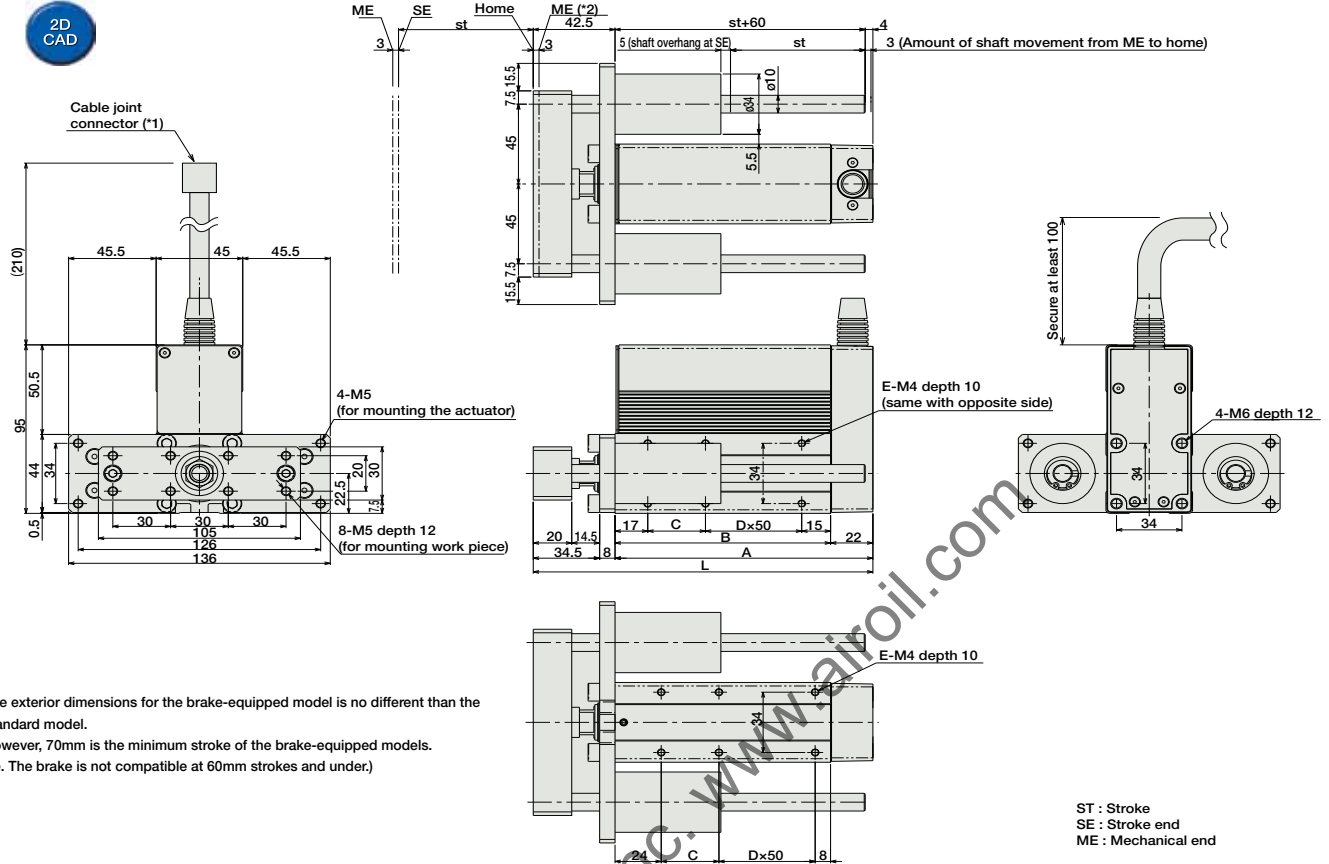
Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22 mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



\* The exterior dimensions for the brake-equipped model is no different than the standard model.  
However, 70mm is the minimum stroke of the brake-equipped models.  
(i.e. The brake is not compatible at 60mm strokes and under.)

- (\*1) The motor-encoder cable is connected here. See page A-39 for details on cables.
- (\*2) When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.

■ Dimensions/Weight by Stroke (Add 0.2kg for brake equipped)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	1.42	1.49	1.56	1.64	1.71	1.79	1.86	1.94	2.01	2.38	2.75

② Compatible Controllers

The RCA 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
Solenoid Valve Type		AMEC-C-20SI①-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI①-NP-2-0						→ P487
Positioner Type		ACON-C-20SI①-NP-2-0	Positioning is possible for up to 512 points	512 points			-	
Safety-Compliant Positioner Type		ACON-CG-20SI①-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	1.7A rated 5.1A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20SI①-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI①-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P567

\* This is for the single-axis ASEL.  
\* ① is a placeholder for the code "LA" if the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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

# RCS2-RA4C

ROBO Cylinder Rod Type ø37mm Diameter 200V Servo Motor Coupled

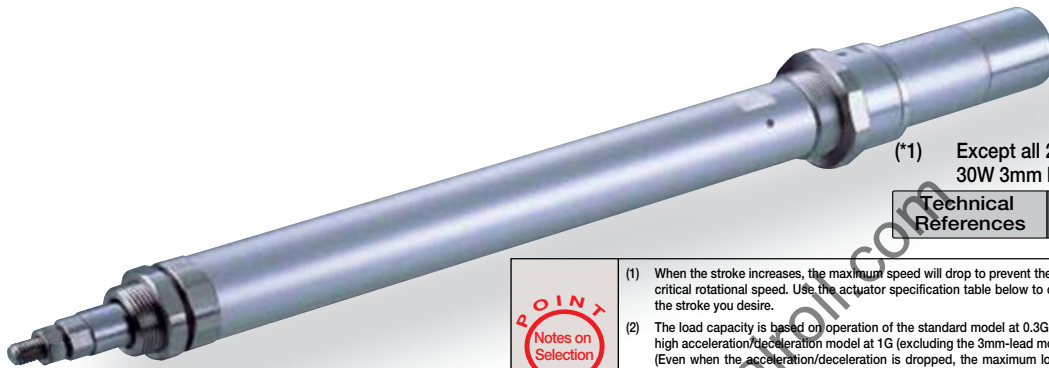
■ Configuration: **RCS2** — **RA4C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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 SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

## For High Acceleration/Deceleration

(\*1)



(\*1) Except all 20W models and 30W 3mm lead models

Technical References P. A-5

- POINT** Notes on Selection
- 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.
  - The load capacity is based on operation of the standard model at 0.3G (0.2G for 3mm-lead), and the high acceleration/deceleration model at 1G (excluding the 3mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
  - 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.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RA4C-①-20-12-②-③-④-⑤	20	12	3.0	1.0	18.9	50 ~ 300 (50mm increments)
RCS2-RA4C-①-20-6-②-③-④-⑤		6	6.0	2.0	37.7	
RCS2-RA4C-①-20-3-②-③-④-⑤		3	12.0	4.0	75.4	
RCS2-RA4C-①-30-12-②-③-④-⑤	30	12	4.0	1.5	28.3	
RCS2-RA4C-①-30-6-②-③-④-⑤		6	9.0	3.0	56.6	
RCS2-RA4C-①-30-3-②-③-④-⑤		3	18.0	6.5	113.1	

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 300 (50mm increments)	
	Stroke (mm)	Maximum Speed (mm/s)
12	50	600
6	50	300
3	50	150

(Unit: mm/s)

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

#### Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder Type			
	Incremental		Absolute	
	Motor power output		Motor power output	
	20W	30W	20W	30W
50	-	-	-	-
100	-	-	-	-
150	-	-	-	-
200	-	-	-	-
250	-	-	-	-
300	-	-	-	-

#### ④ 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.

#### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (front)	TRF	→ A-38	-
Trunnion bracket (back)	TRR	→ A-38	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

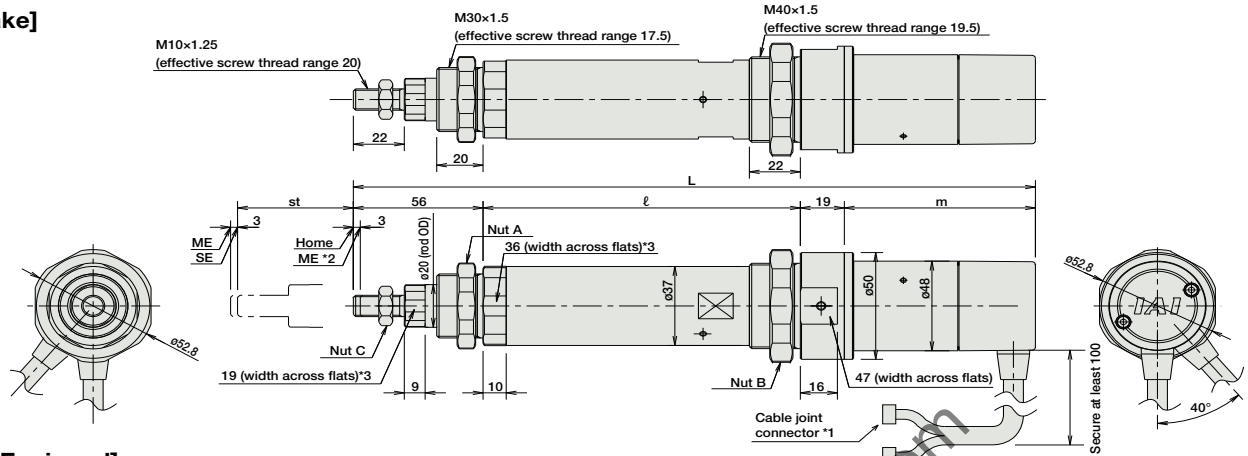
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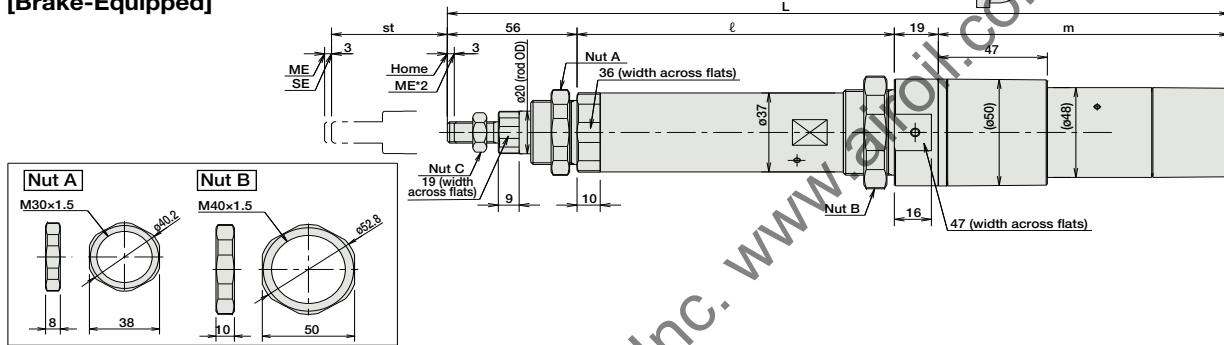
- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

\*3. The orientation of the bolt will vary depending on the product.

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCS2-RA4C (without brake)

Stroke	50	100	150	200	250	300
L	20W	292.5	342.5	392.5	442.5	492.5
	30W	307.5	357.5	407.5	457.5	507.5
m	20W	80.5				
	30W	95.5				
Weight (kg)	1.1	1.2	1.4	1.5	1.7	1.8

RCS2-RA4C (with brake)

Stroke	50	100	150	200	250	300
L	20W	335.5	385.5	435.5	485.5	535.5
	30W	350.5	400.5	450.5	500.5	550.5
m	20W	123.5				
	30W	138.5				
Weight (kg)	1.3	1.5	1.6	1.7	1.9	2.0

③ 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-20①②-NP-2-③ SCON-C-30D①②-NP-2-③	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max. * When operating a 150W single-Axes 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 for Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20①-NP-2-③ SSEL-C-1-30D①②-NP-2-③	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-④-1-20①-N1-EEE-2-⑤ XSEL-④-1-30D①②-N1-EEE-2-⑤	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

- \* For SSEL and XSEL, only applicable to the single-Axes model.
- \* ① is a placeholder for the encoder type (I: incremental / A: absolute).
- \* ② is a placeholder for the code "HA" if the high-acceleration/deceleration option is specified.
- \* ③ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).
- \* ④ is a placeholder for the XSEL type name ("J", "K", "P", "Q").
- \* ⑤ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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

# RCS2-RA5C

ROBO Cylinder Rod Type 55mm Width 200V Servo Motor Coupled

■ Configuration: **RCS2** — **RA5C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

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

I : Incremental  
A: Absolute

60 : 60W Servo Motor  
100 : 100W Servo Motor

16 : 16mm  
8 : 8mm  
4 : 4mm

50 : 50mm  
300 : 300mm (50mm pitch increments)

T1 : XSEL-J/K  
T2 : SCON  
SSEL  
XSEL-P/Q

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

See Options below

\* See page Pre-35 for an explanation of the naming convention.

## For High Acceleration/Deceleration



(\*1) Except all 60W models and 100W 4mm lead models

Technical References P. A-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 values are based on 0.3G acceleration for the standard model (0.2G for 4mm-lead), and 1G acceleration for the high-acceleration/deceleration models (0.2G for 4mm-lead). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
  - (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.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RA5C-①-60-16-②-③-④-⑤	60	16	12.0	2.0	63.8	50 ~ 300 (50mm increments)
RCS2-RA5C-①-60-8-②-③-④-⑤		8	25.0	5.0	127.5	
RCS2-RA5C-①-60-4-②-③-④-⑤		4	50.0	11.5	255.1	
RCS2-RA5C-①-100-16-②-③-④-⑤	100	16	15.0	3.5	105.8	
RCS2-RA5C-①-100-8-②-③-④-⑤		8	30.0	9.0	212.7	
RCS2-RA5C-①-100-4-②-③-④-⑤		4	60.0	18.0	424.3	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 250 (50mm increments)	300 (mm)
16	800	755
8	400	377
4	200	188

(Unit: mm/s)

#### Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder Type			
	Incremental		Absolute	
	Motor power output		Motor power output	
	60W	100W	60W	100W
50	-	-	-	-
100	-	-	-	-
150	-	-	-	-
200	-	-	-	-
250	-	-	-	-
300	-	-	-	-

#### ④ 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.

#### ⑤ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	A2	→ A-25	-
Brake	B	→ A-25	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-

(\*1) The high-acceleration/deceleration option is not available for all 60W models and 100W model with 4mm lead.

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø30mm
Non-rotating accuracy of rod	±0.7 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

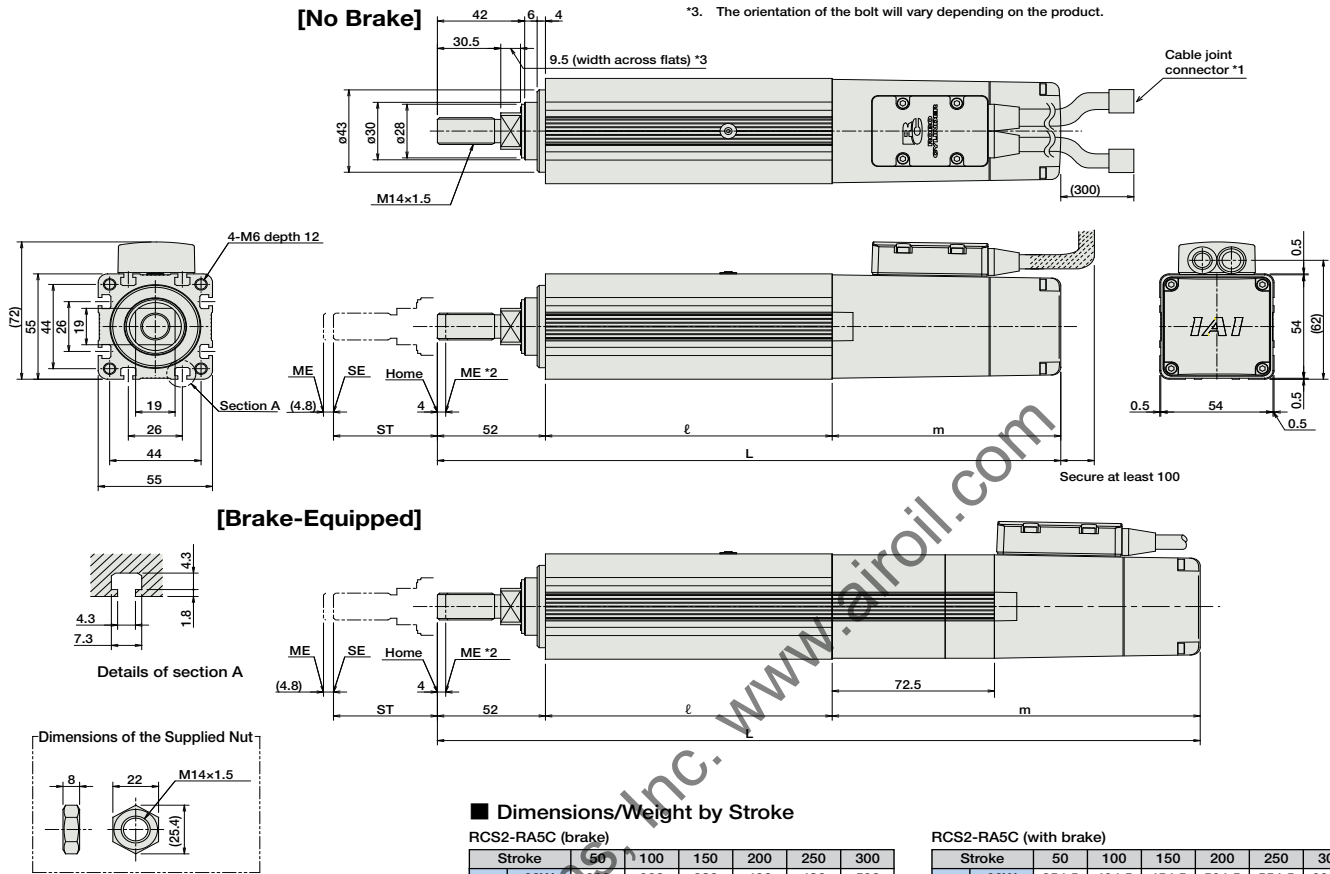
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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\* The RA5C is not available in reversed-home configuration, due to its construction.

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3. The orientation of the bolt will vary depending on the product.



■ Dimensions/Weight by Stroke

RCS2-RA5C (brake)

Stroke	50	100	150	200	250	300	
L	60W	282	332	382	432	482	532
	100W	300	350	400	450	500	550
ℓ	60W	138	188	238	288	338	388
	100W	92					
m	60W	110					
	100W	110					
Weight (kg)	1.9	2.2	2.5	2.8	3.1	3.4	

RCS2-RA5C (with brake)

Stroke	50	100	150	200	250	300	
L	60W	354.5	404.5	454.5	504.5	554.5	604.5
	100W	372.5	422.5	472.5	522.5	572.5	622.5
ℓ	60W	138	188	238	288	338	388
	100W	164.5					
m	60W	182.5					
	100W	182.5					
Weight (kg)	2.2	2.5	2.8	3.1	3.4	3.7	

③ 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-60①-NP-2-③ SCON-C-100①②-NP-2-③	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max. * When operating a 150W single-Axes 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	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-60①-NP-2-③ SSEL-C-1-100①②-NP-2-③	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-④-1-60①-N1-EEE-2-⑤ XSEL-④-1-100①②-N1-EEE-2-⑤	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-Axes model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "HA" if the high-acceleration/deceleration option is specified.  
 \* ③ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ④ is a placeholder for the XSEL type name ("J", "K", "P", "Q").  
 \* ⑤ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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

# RCS2-RA4D

ROBO Cylinder Rod Type ø37mm Diameter 200V Servo Motor Built-In (Direct-Coupled) Motor

■ Configuration: **RCS2** — **RA4D** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

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

I : Incremental  
A: Absolute

20 : 20W Servo Motor  
30 : 30W Servo Motor

12 : 12mm  
6 : 6mm  
3 : 3mm

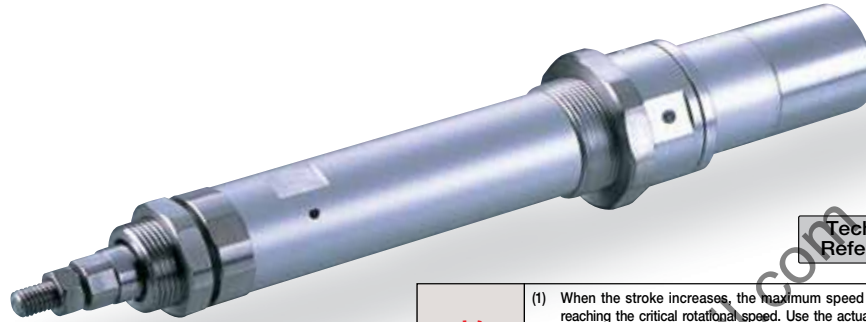
50 : 50mm  
300 : 300mm (50mm pitch increments)

T1 : XSEL-J/K  
T2 : SCON  
SSEL  
XSEL-P/Q

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

See Options below

\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-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.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RA4D-①-20-12-②-③-④-⑤	20	12	3.0	1.0	18.9	50 ~ 300 (50mm increments)
RCS2-RA4D-①-20-6-②-③-④-⑤		6	6.0	2.0	37.7	
RCS2-RA4D-①-20-3-②-③-④-⑤		3	12.0	4.0	75.4	
RCS2-RA4D-①-30-12-②-③-④-⑤	30	12	4.0	1.5	28.3	
RCS2-RA4D-①-30-6-②-③-④-⑤		6	9.0	3.0	56.6	
RCS2-RA4D-①-30-3-②-③-④-⑤		3	18.0	6.5	113.1	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

#### Stroke and Maximum Speed

Stroke	50 ~ 300 (50mm increments)
12	600
6	300
3	150

(Unit: mm/s)

#### Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder Type			
	Incremental		Absolute	
	Motor power output		Motor power output	
	20W	30W	20W	30W
50	-	-	-	-
100	-	-	-	-
150	-	-	-	-
200	-	-	-	-
250	-	-	-	-
300	-	-	-	-

#### ④ 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.

#### ⑤ Option List

Name	Option Code	See Page	Standard Price
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (front)	TRF	→ A-38	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

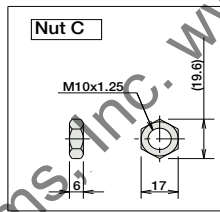
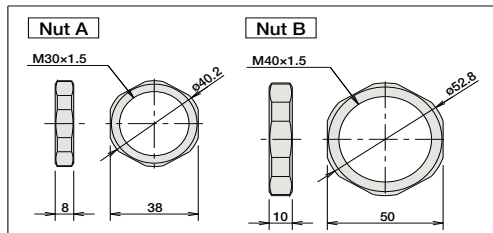
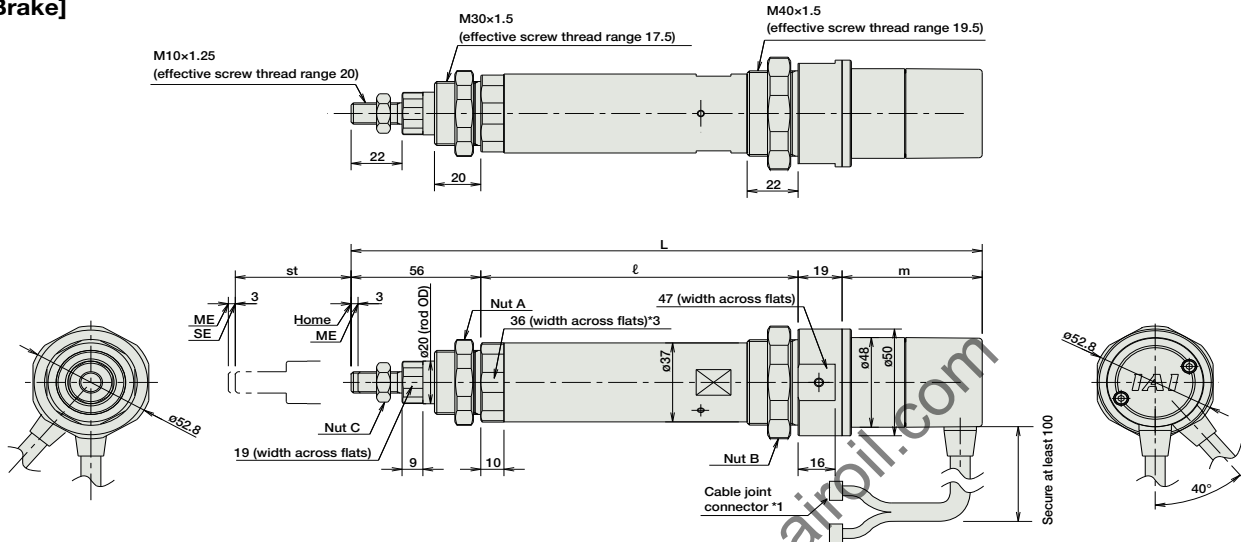
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3. The orientation of the bolt will vary depending on the product.

[No Brake]



■ Dimensions/Weight by Stroke

RCS2-RA4D (without brake)

Stroke	50	100	150	200	250	300
L	20W	270.5	320.5	370.5	420.5	520.5
	30W	285.5	335.5	385.5	435.5	535.5
ℓ	137	187	237	287	337	487
m	20W	58.5				
	30W	73.5				
Weight (kg)	1.0	1.2	1.3	1.5	1.6	1.8

Brake-equipped configuration is not available with the RCS2-RA4D.

③ 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-20 ①-NP-2-② SCON-C-30D ①-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max.  * When operating a 150W single-Axes 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	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20 ①-NP-2-② SSEL-C-1-30D ①-NP-2-②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-20 ①-N1-EEE-2-④ XSEL-③-1-30D ①-N1-EEE-2-④	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-Axes model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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



# RCS2-SRA7BD

ROBO Cylinder Rod Type 75mm Width 200V Servo Motor  
Short-Length Type

■ Configuration: **RCS2 — SRA7BD** —  —  —  —  —  —  —  —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I : Incremental	60 : 60W Servo Motor 100 : 100W Servo Motor 150 : 150W Servo Motor	16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm 300 : 300mm (50mm pitch increments)	T1 : XSEL-J/K T2 : SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X <input type="checkbox"/> : Custom R <input type="checkbox"/> : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.



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- (1) When operated at the rated acceleration, the maximum load capacity is the load capacity at the rated acceleration.
- (2) When operated at the maximum acceleration, the maximum load capacity is the load capacity at the maximum acceleration.
- (3) If positioning repeatability and/or lost motion is required, the rotation of the rod must be restricted. In this case, select a model with a guide, or add a separate guide.
- (4) The standard model may exhibit vibration of the rod at long strokes. If this is an issue, select a model with a guide, or add a separate guide.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Rated Acceleration (G)	Load Capacity at Rated Acceleration		Maximum Acceleration (G)	Load Capacity at Max. Acceleration		Rated Thrust (N)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)		Horizontal (kg)	Vertical (kg)		
RCS2-SRA7BD-I-60-16-①-②-③-④	60	16	0.25	5	2	0.35	2.5	1	63	
RCS2-SRA7BD-I-60-8-①-②-③-④		8	0.15	10	5	0.25	5	2.5		
RCS2-SRA7BD-I-60-4-①-②-③-④		4	0.05	20	10	0.15	10	5		254
RCS2-SRA7BD-I-100-16-①-②-③-④	100	16	0.3	10	3.5	0.4	5	1.5	103	
RCS2-SRA7BD-I-100-8-①-②-③-④		8	0.2	22	9	0.3	10	4.5		207
RCS2-SRA7BD-I-100-4-①-②-③-④		4	0.1	40	19.5	0.2	20	9		414
RCS2-SRA7BD-I-150-16-①-②-③-④	150	16	0.3	15	6.5	0.4	7.5	3	157	
RCS2-SRA7BD-I-150-8-①-②-③-④		8	0.2	35	14.5	0.3	17.5	7		314
RCS2-SRA7BD-I-150-4-①-②-③-④		4	0.1	55	22.5	0.2	27.5	11		628

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

### Stroke and Maximum Speed

Lead	Stroke	50 ~ 300 (50mm increments)
	16	800
8	400	
4	200	

(Unit: mm/s)

### ① Stroke List

Stroke (mm)	Standard Price		
	Motor power output		
	60W	100W	150W
50	-	-	-
100	-	-	-
150	-	-	-
200	-	-	-
250	-	-	-
300	-	-	-

### 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
Connector cable exit direction	A1 ~ A3	→ A-25	-
Brake	B	→ A-25	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
Extended rod tip	RE	→ A-35	-

### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø35mm
Non-rotating accuracy of rod	-
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

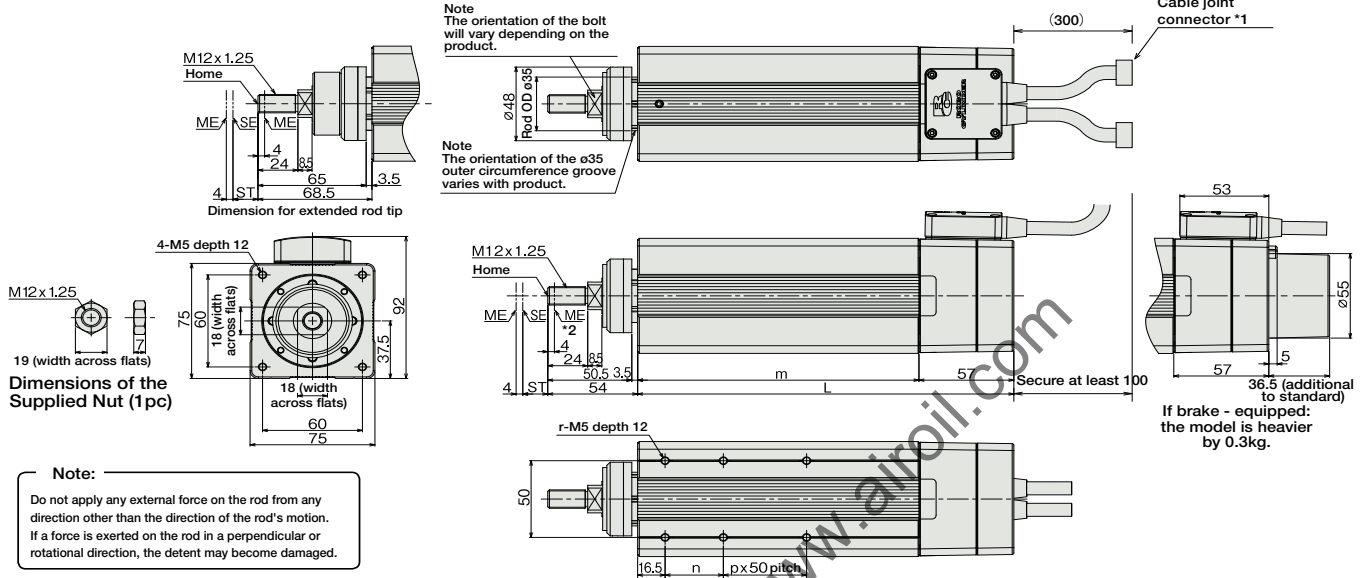
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



\* The SRA7BD is not available in reversed-home configuration, due to its construction.

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



■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300	
L	60W	126	176	226	276	326	376
	100W	133	176	226	276	326	376
	150W	145	176	226	276	326	376
m	60W	69	119	169	219	269	319
	100W	76	119	169	219	269	319
	150W	88	119	169	219	269	319
n	25	35	35	35	35	35	
p	0	0	1	2	3	4	
r	4	4	6	8	10	12	
Weight (kg)	60W	2.4	2.9	3.5	4.1	4.6	5.2
	100W	2.6	3.1	3.7	4.2	4.8	5.4
	150W	2.9	3.3	3.9	4.4	5	5.6

② 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-①I-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max.  * When operating a 150W 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	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-①I-NP-2-②	Programmed operation is possible. Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-①I-N1-EEE-2-④	Programmed operation is possible. Operation is possible on up to 6 axes	20000 points			-	→ P587

Note: The SRA7BD type actuator cannot be connected to the 5th and 6th axis of the XSEL-P/Q controller.

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a place holder for the motor output (W) (60, 100, 150).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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

# RCS2-RA4R

ROBO Cylinder Rod Type ø37mm Diameter 200V Servo Motor  
Side-Mounted Motor

■ Configuration: **RCS2** — **RA4R** —  —  —  —  —  —  —  —  —

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

I : Incremental  
A : Absolute

20 : 20W Servo Motor  
30 : 30W Servo Motor

12 : 12mm  
6 : 6mm  
3 : 3mm

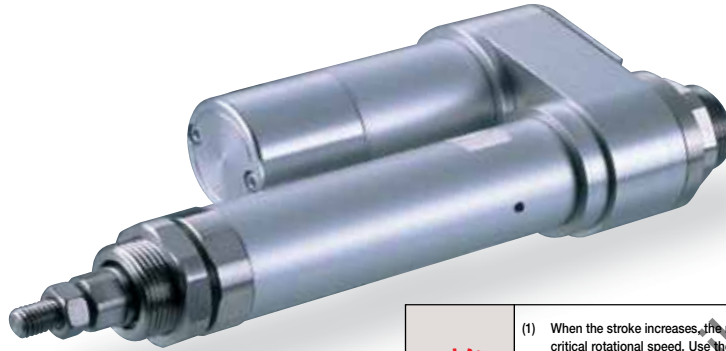
50 : 50mm  
300 : 300mm (50mm pitch increments)

T1 : XSEL-J/K  
T2 : SCON  
SSEL  
XSEL-P/Q

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

See Options below

\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - 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.
  - 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.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RA4R-①-20-12-②-③-④-⑤	20	12	3.0	1.0	18.9	50 ~ 300 (50mm increments)
RCS2-RA4R-①-20-6-②-③-④-⑤		6	6.0	2.0	37.7	
RCS2-RA4R-①-20-3-②-③-④-⑤		3	12.0	4.0	75.4	
RCS2-RA4R-①-30-12-②-③-④-⑤	30	12	4.0	1.5	28.3	
RCS2-RA4R-①-30-6-②-③-④-⑤		6	9.0	3.0	56.6	
RCS2-RA4R-①-30-3-②-③-④-⑤		3	18.0	6.5	113.1	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

#### Stroke and Maximum Speed

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

(Unit: mm/s)

#### Encoder & Stroke List

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

#### ④ 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.

#### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (front)	FL	→ A-27	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Knuckle joint	NJ	→ A-34	-
Reversed-home	NM	→ A-33	-
Clevis Bracket	QR	→ A-34	-
Back-mounting plate	RP	→ A-35	-
Trunnion bracket (front)	TRF	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

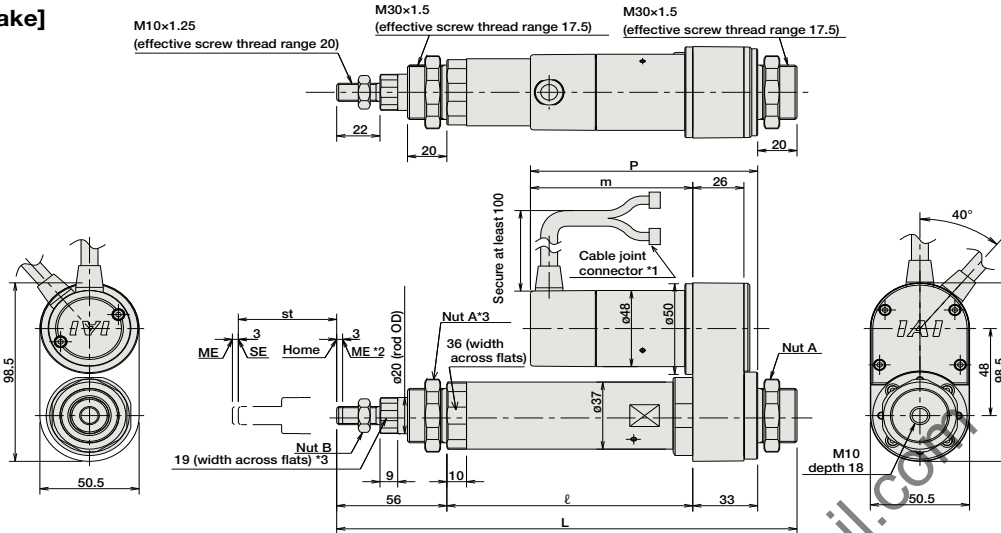
For Special Orders P. A-9



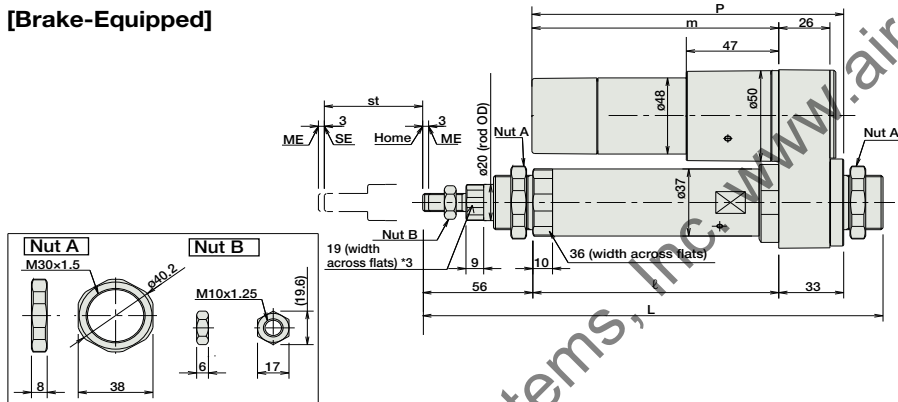
- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

\*3. The orientation of the bolt will vary depending on the product.

[No Brake]



[Brake-Equipped]



Dimensions/Weight by Stroke

RCS2-RA4R (without brake)							
Stroke	50	100	150	200	250	300	
L	20W	234	284	334	384	434	484
	30W	234	284	334	384	434	484
ℓ	125	175	225	275	325	375	
m	20W	80.5					
	30W	95.5					
P	20W	113.5					
	30W	128.5					
Weight (kg)	1.2	1.4	1.5	1.7	1.8	2.0	

RCS2-RA4R (with brake)							
Stroke	50	100	150	200	250	300	
L	20W	234	284	334	384	434	484
	30W	234	284	334	384	434	484
ℓ	125	175	225	275	325	375	
m	20W	123.5					
	30W	138.5					
P	20W	156.5					
	30W	171.5					
Weight (kg)	1.4	1.6	1.7	1.9	2.0	2.2	

3 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-20 ①-NP-2-② SCON-C-30D ①-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max.  * When operating a 150W 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	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20 ①-NP-2-② SSEL-C-1-30D ①-NP-2-②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points	-	-	→ P577	
Program Control 1-6 Axes Type			Programmed operation is possible Operation is possible on up to 6 axes	20000 points				→ P587

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

# RCS2-RA5R

ROBO Cylinder Rod Type 55mm Width 200V Servo Motor Side-Mounted Motor

■ Configuration: **RCS2** — **RA5R** —  — **60** —  —  —  —  —  —

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

I : Incremental  
A : Absolute

60 : 60W Servo Motor

16 : 16mm  
8 : 8mm  
4 : 4mm

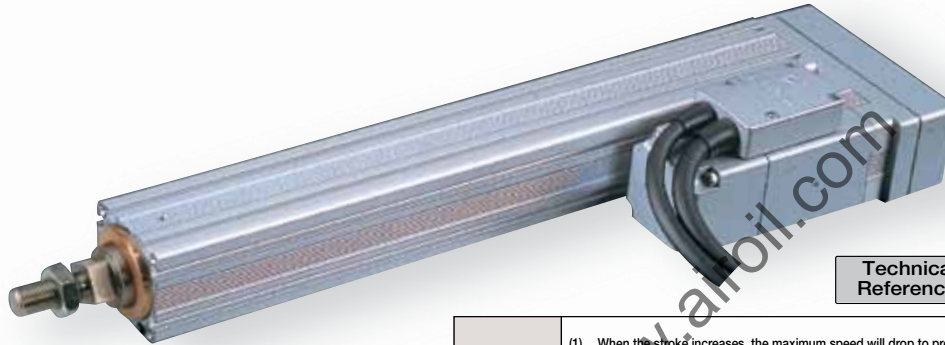
50 : 50mm  
300 : 300mm (50mm pitch increments)

T1 : XSEL-J/K  
T2 : SCON  
SSEL  
XSEL-P/Q

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

See Options below  
\* Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

**POINT**  
Notes on Selection

- 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.
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 4mm-lead model). 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.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RA5R-①-60-16-②-③-④-⑤	60	16	12.0	2.0	63.8	50 ~ 300 (50mm increments)
RCS2-RA5R-①-60-8-②-③-④-⑤		8	25.0	5.0	127.5	
RCS2-RA5R-①-60-4-②-③-④-⑤		4	50.0	11.5	255.1	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

### Stroke and Maximum Speed

Stroke Lead	50 ~ 250 (50mm increments)	300 (mm)
	16	800
8	400	377
4	200	188

(Unit: mm/s)

### Encoder & Stroke List

② Stroke (mm)	Standard Price	
	① Encoder	
	Incremental	Absolute
50	I	A
100	-	-
150	-	-
200	-	-
250	-	-
300	-	-

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	A2	→ A-25	-
Brake	B	→ A-25	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
Left-Mounted Motor (Standard)	ML	→ A-33	-
Right-Mounted Motor	MR	→ A-33	-

### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø30mm
Non-rotating accuracy of rod	±0.7 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

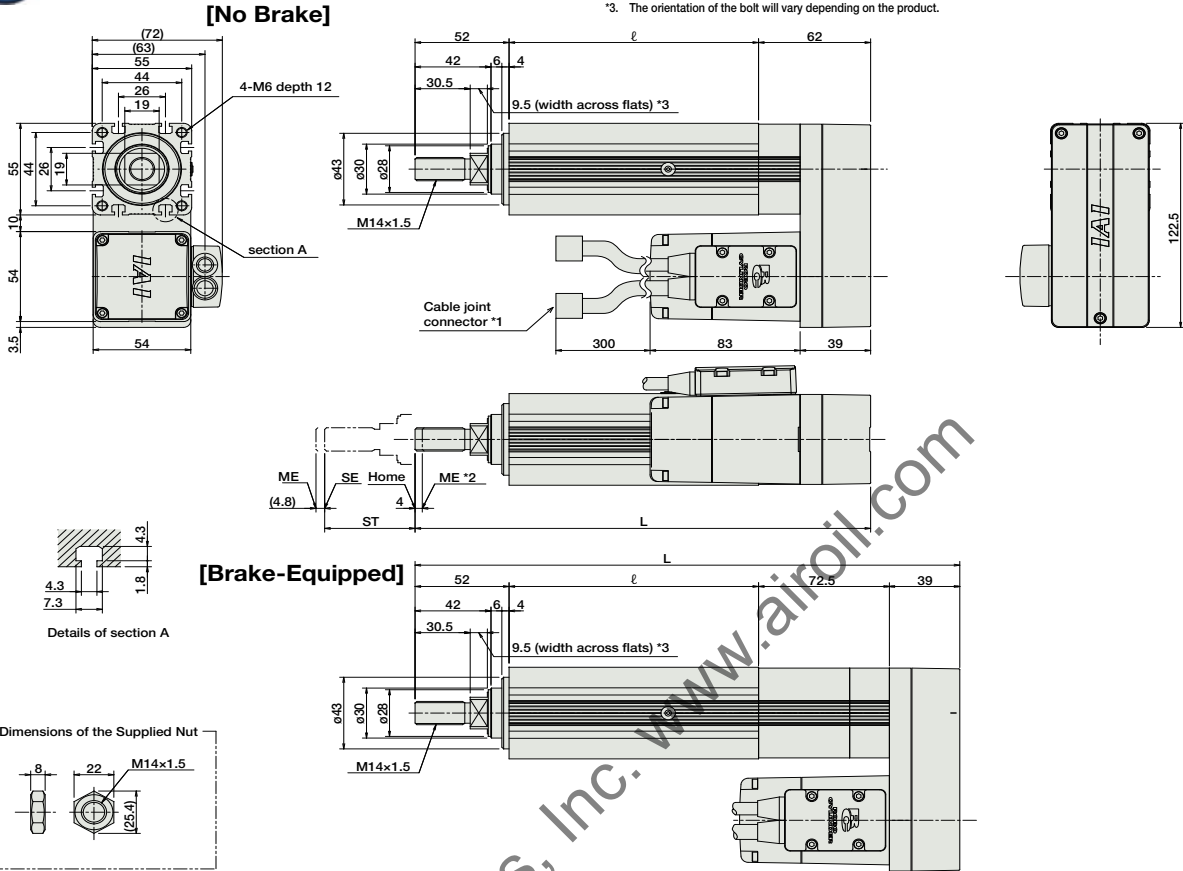
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9

2D CAD

\* The RA5R is not available in reversed-home configuration, due to its construction.

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3. The orientation of the bolt will vary depending on the product.



■ Dimensions/Weight by Stroke

RCS2-RA5R (without brake)

Stroke	50	100	150	200	250	300
L	252	302	352	402	452	502
ℓ	138	188	238	288	338	388
Weight (kg)	2.3	2.6	2.9	3.2	3.5	3.8

RCS2-RA5R (with brake)

Stroke	50	100	150	200	250	300
L	301.5	351.5	401.5	451.5	501.5	551.5
ℓ	138	188	238	288	338	388
Weight (kg)	2.6	2.9	3.2	3.5	3.8	4.1

③ 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-60①-NP-2②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max.  * When operating a 150W 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	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-60①-NP-2②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-60①-N1-EEE-2④	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, 3: 3-phase 200V).

- 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

# 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

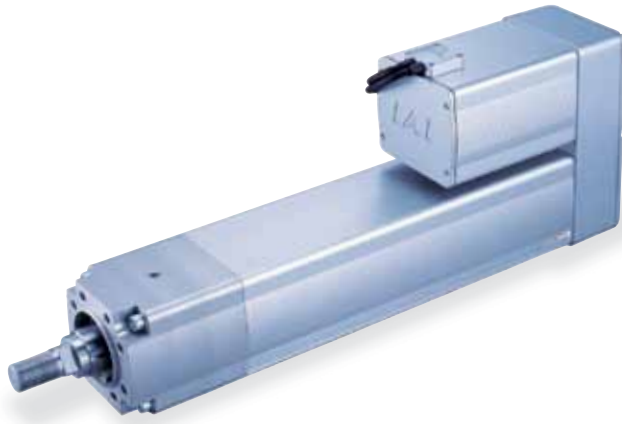
50 : 50mm  
200 : 200mm (50mm pitch increments)

T2 : SCON

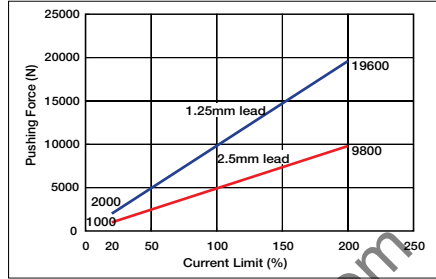
N : None  
P : 1m  
S : 3m  
M : 5m  
X  : Custom  
R  : Robot cable

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)			
	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)

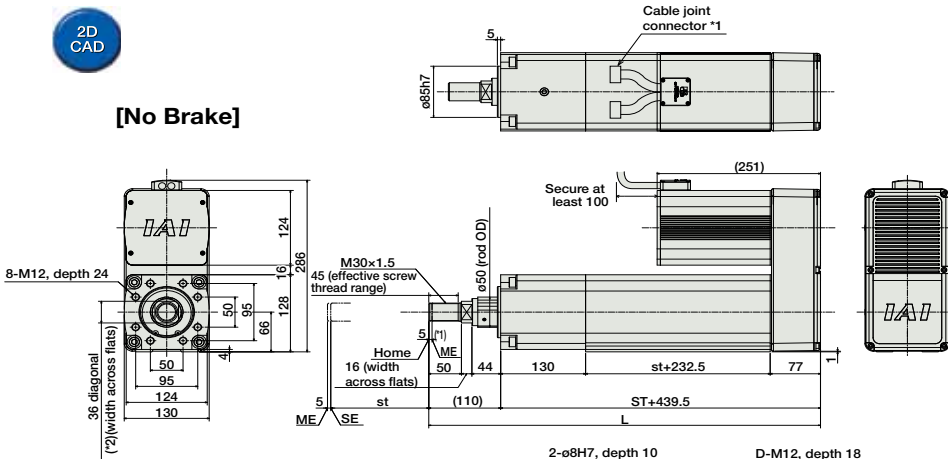
(\*1) The number of pushes are based on maximum pushing force and a distance of 1mm.

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders P. A-9

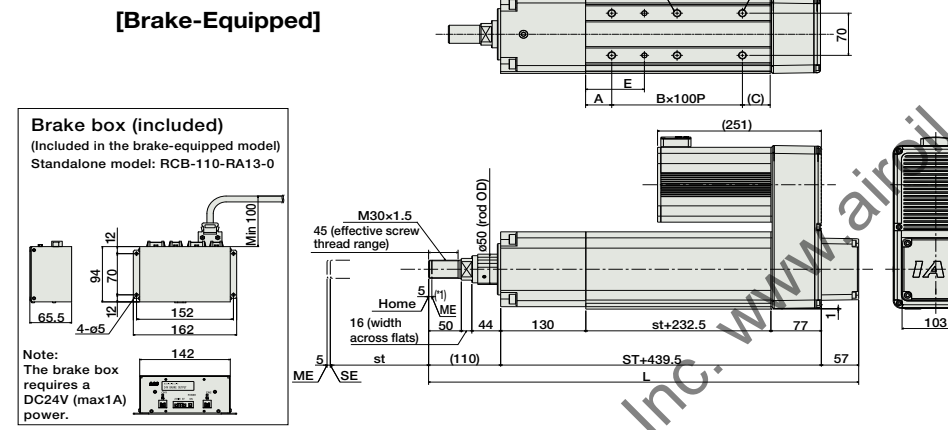


[No Brake]

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.
- \*3. 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".



[Brake-Equipped]

**Brake box (included)**  
(Included in the brake-equipped model)  
Standalone model: RCB-110-RA13-0

Note:  
The brake box requires a DC24V (max1A) power.

■ Dimensions/Weight by Stroke  
RCS2-RA13R (without brake)

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).

- 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



# RCS2-RGS4C

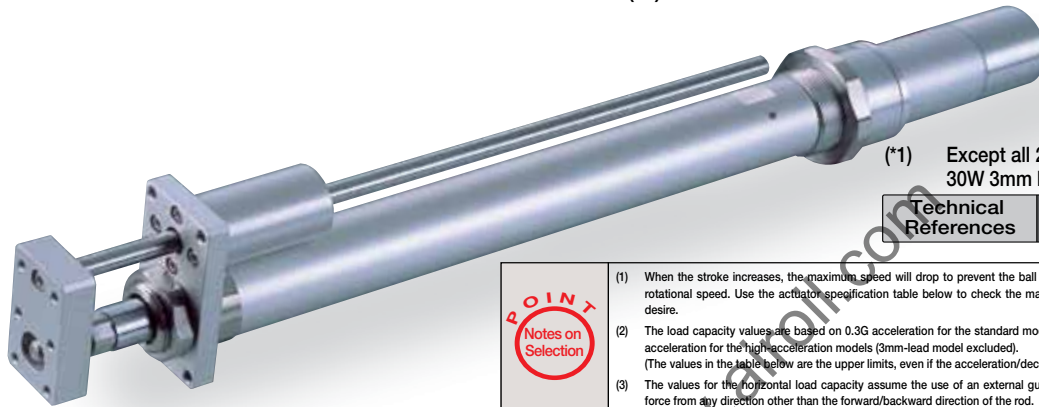
ROBO Cylinder Rod Type with Single Guide ø37mm Diameter 200V Servo Motor  
Coupled

■ Configuration: **RCS2** — **RGS4C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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 SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

**For High Acceleration/Deceleration (\*1)**



(\*1) Except all 20W models and 30W 3mm lead models

Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard model (0.2G for 3mm-lead), and 1G acceleration for the high acceleration models (3mm-lead model excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - 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-81) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RGS4C-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50 ~ 300 (50mm increments)
RCS2-RGS4C-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCS2-RGS4C-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCS2-RGS4C-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCS2-RGS4C-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCS2-RGS4C-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

### Stroke and Maximum Speed

Stroke	50 ~ 300 (50mm increments)
12	600
6	300
3	150

(Unit: mm/s)

### Encoder & Stroke List

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

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

(\*1) The high-acceleration/deceleration option is not available for all 20W models and 30W model with 3mm lead.

(\*2) The home sensor (HS) cannot be used on the reversed-home models.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

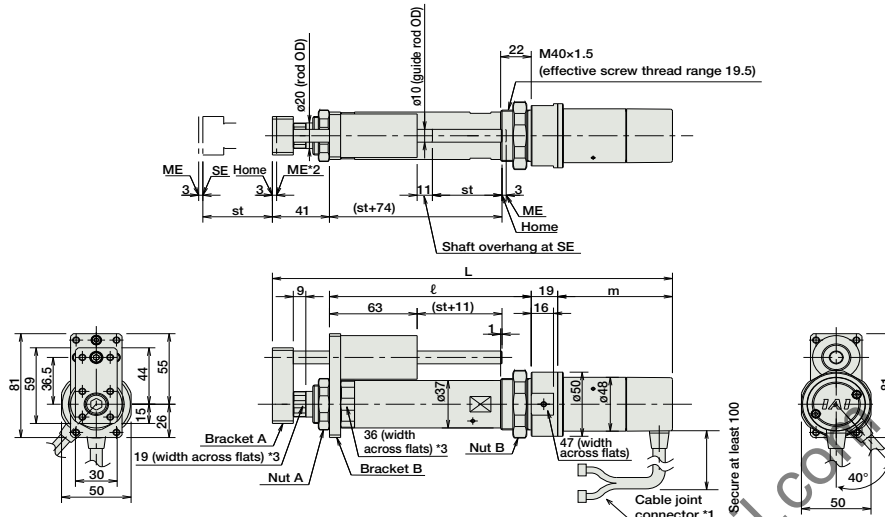
For Special Orders P. A-9



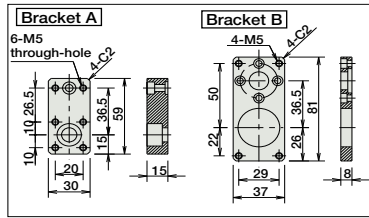
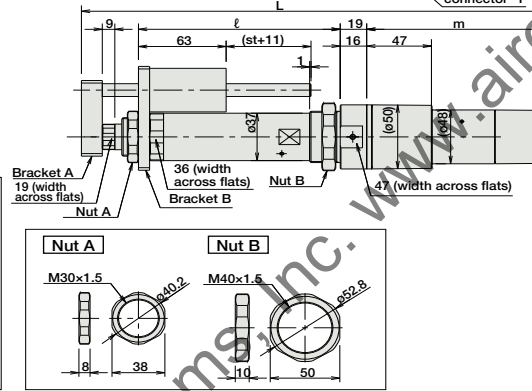
- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

\*3. The orientation of the bolt will vary depending on the product.

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCS2-RGS4C (without brake)						
Stroke	50	100	150	200	250	300
L	20W	285.5	335.5	385.5	435.5	535.5
	30W	300.5	350.5	400.5	450.5	550.5
ℓ	145	195	245	295	345	395
m	20W	80.5				
	30W	95.5				
Weight (kg)	1.5	1.6	1.8	2.0	2.2	2.4

RCS2-RGS4C (with brake)						
Stroke	50	100	150	200	250	300
L	20W	328.5	378.5	428.5	478.5	578.5
	30W	343.5	393.5	443.5	493.5	593.5
ℓ	145	195	245	295	345	395
m	20W	123.5				
	30W	138.5				
Weight (kg)	1.7	1.8	2.0	2.2	2.4	2.6

③ 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-20①-NP-2-③ SCON-C-30D①②-NP-2-③	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V 3-Phase AC 200V (XSEL-P/Q only)	Maximum 360VA * Single-axis model operated at 150W	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20①-NP-2-③ SSEL-C-1-30D①②-NP-2-③	Programmed operation is possible Operation is possible on up to 2 axes	20000 points	-	-	-	→ P577
Program Control 1-6 Axes Type			Programmed operation is possible Operation is possible on up to 6 axes	20000 points				

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "HA" if the high-acceleration/deceleration option is specified.  
 \* ③ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ④ is a placeholder for the XSEL type name ("J", "K", "P", "Q").  
 \* ⑤ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

# RCS2-RGS5C

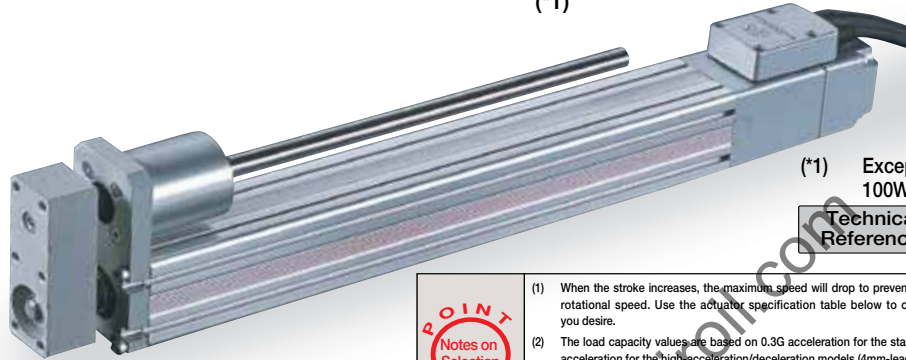
ROBO Cylinder Rod Type with Single Guide ø55mm Diameter 200V Servo Motor  
Coupled

■ Configuration: **RCS2** — **RGS5C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I : Incremental A : Absolute	60 : 60W Servo Motor 100 : 100W Servo Motor	16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm 300 : 300mm (50mm pitch increments)	T1 : XSEL-J/K T2 : SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

## For High Acceleration/Deceleration (\*1)



(\*1) Except all 60W models and 100W 4mm lead models

Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard model (0.2G for 4mm-lead), and 1G acceleration for the high acceleration/deceleration models (4mm-lead excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - 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-82) for the allowable weight using the supplied guide alone.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RGS5C-①-60-16-②-③-④-⑤	60	16	12.0	1.3	63.8	50 ~ 300 (50mm increments)
RCS2-RGS5C-①-60-8-②-③-④-⑤		8	25.0	4.3	127.5	
RCS2-RGS5C-①-60-4-②-③-④-⑤		4	50.0	10.8	255.1	
RCS2-RGS5C-①-100-16-②-③-④-⑤	100	16	15.0	2.8	105.8	
RCS2-RGS5C-①-100-8-②-③-④-⑤		8	30.0	8.3	212.7	
RCS2-RGS5C-①-100-4-②-③-④-⑤		4	60.0	17.3	424.3	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 250 (50mm increments)	300 (mm)
16	800	755
8	400	377
4	200	188

(Unit: mm/s)

#### Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder			
	Incremental		Absolute	
	Motor Output (W)		Motor Output (W)	
	60W	100W	60W	100W
50	-	-	-	-
100	-	-	-	-
150	-	-	-	-
200	-	-	-	-
250	-	-	-	-
300	-	-	-	-

#### ④ 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.

#### ⑤ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	A2	→ A-25	-
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Guide mounting direction	GS2 ~ GS4	→ P252	-
High-acceleration/deceleration (*1)	HA	→ A-32	-

(\*1) The high-acceleration/deceleration option is not available for all 60W models and 100W model with 4mm lead.

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø12mm, Ball bush type)
Rod Diameter	ø30mm
Non-rotating accuracy of rod	±0.1 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

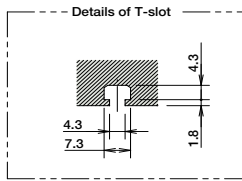
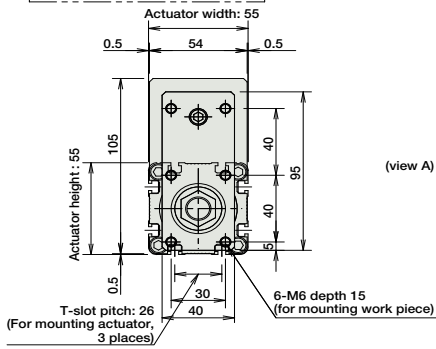
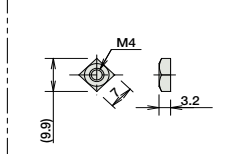
For Special Orders P. A-9



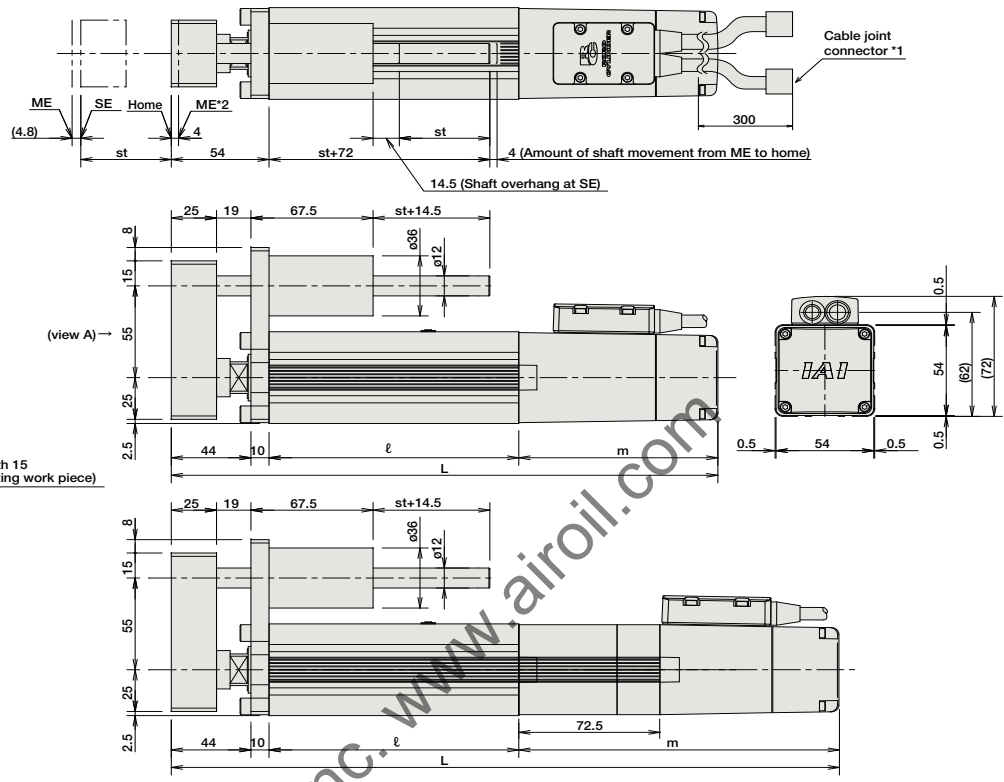
\* The RGS5C is not available in reversed-home configuration, due to its construction.

\*1. The motor-encoder cable is connected here. See page A-39 for details on cables.  
\*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

Dimensions of the Supplied Nut



- (Standard) Top-mounted
- GS4 Left-mounted
- GS2 Right-mounted
- GS3 Bottom-mounted



■ Dimensions/Weight by Stroke

RCS2-RGS5C (without brake)						
Stroke	50	100	150	200	250	300
L	60W	284	334	384	434	484
	100W	302	352	402	452	502
ℓ	60W	138	188	238	288	338
	100W					
m	60W	92				
	100W	110				
Weight (kg)	2.5	2.8	3.2	3.6	3.9	4.3

RCS2-RGS5C (with brake)						
Stroke	50	100	150	200	250	300
L	60W	356.5	406.5	456.5	506.5	556.5
	100W	374.5	424.5	474.5	524.5	574.5
ℓ	60W	138	188	238	288	338
	100W	164.5				
m	60W	164.5				
	100W	182.5				
Weight (kg)	2.8	3.1	3.5	3.9	4.2	4.6

Guide mounting direction (as viewed from view A)

③ 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-60①-NP-2-③ SCON-C-100①②-NP-2-③	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V 3-Phase AC 200V (XSEL-P/Q only)	Maximum 360VA * Single-axis model operated at 150W	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-60①-NP-2-③ SSEL-C-1-100①②-NP-2-③	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type			Programmed operation is possible Operation is possible on up to 6 axes	20000 points				

\* For SSEL and XSEL, only applicable to the single-axis model.  
 ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 ② is a placeholder for the code "HA" if the high-acceleration/deceleration option is specified.  
 ③ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 ④ is a placeholder for the XSEL type name ("J", "K", "P", "Q").  
 ⑤ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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

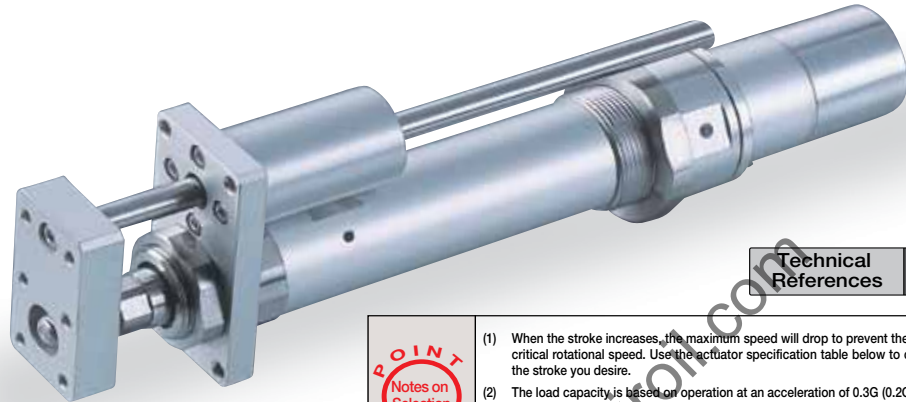
# RCS2-RGS4D

ROBO Cylinder Rod Type with Single Guide ø37mm Diameter 200V Servo Motor  
Built-In Model

■ Configuration: **RCS2** — **RGS4D** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I : Incremental A : Absolute	60 : 60W 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 SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - 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.
  - 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-82) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RGS4D-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50 ~ 300 (50mm increments)
RCS2-RGS4D-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCS2-RGS4D-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCS2-RGS4D-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCS2-RGS4D-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCS2-RGS4D-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

### Stroke and Maximum Speed

Stroke	50 ~ 300 (50mm increments)
12	600
6	300
3	150

(Unit: mm/s)

### Encoder & Stroke List

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

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Foot bracket	FT	→ A-29	-
Home sensor	HS	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø10mm, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

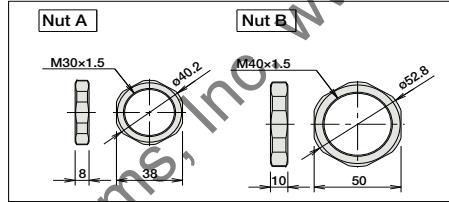
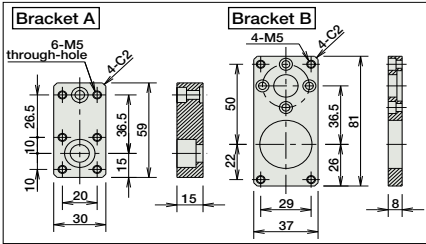
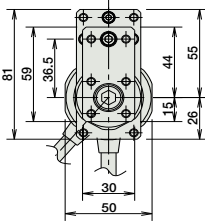
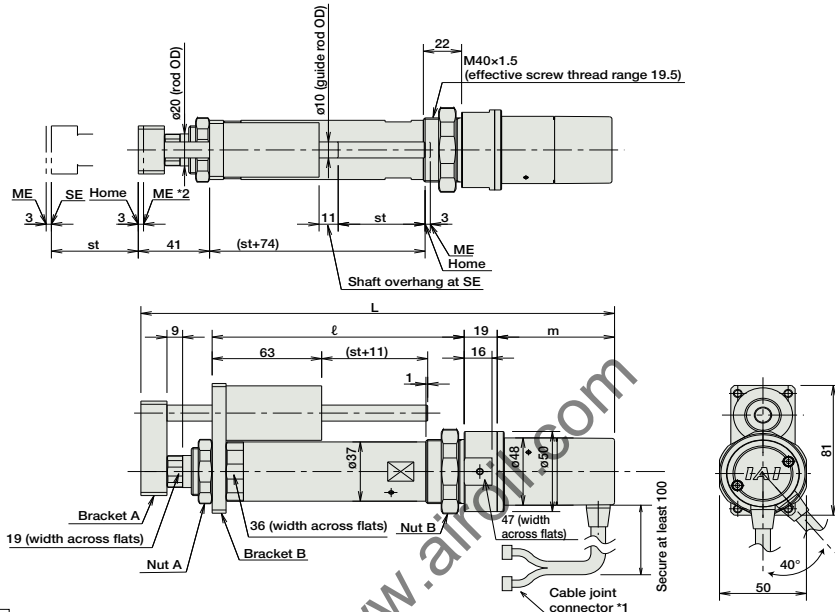
## Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end



### ■ Dimensions/Weight by Stroke

RCS2-RGS4D (without brake)

Stroke	50	100	150	200	250	300
L	20W 263.5	313.5	363.5	413.5	463.5	513.5
	30W 278.5	328.5	378.5	428.5	478.5	528.5
ℓ	145	195	245	295	345	395
m	20W	58.5				
	30W	73.5				
Weight (kg)	1.3	1.5	1.7	1.9	2.1	2.3

RCS2-RGS4D does not come in a brake-equipped configuration.

### ③ 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-20①-NP-2-② SCON-C-30D①-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V 3-Phase AC 200V (XSEL-P/Q only)	Maximum 360VA * Single-axis model operated at 150W	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20①-NP-2-② SSEL-C-1-30D①-NP-2-②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-20①-N1-EEE-2-④ XSEL-③-1-30D①-N1-EEE-2-④	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (1: incremental / A: absolute).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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

# RCS2-SRGS7BD

ROBO Cylinder Rod Type with Single Guide ø75mm Width 200V Servo Motor Short-Length Model

■ Configuration: **RCS2 — SRGS7BD — I** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I : Incremental	60 : 60W Servo Motor 100 : 100W Servo Motor 150 : 150W Servo Motor	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm 300 : 300mm (50mm pitch increments)	T1 : XSEL-J/K T2 : SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.



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- (1) When operated at the rated acceleration, the maximum load capacity is the load capacity at the rated acceleration.
- (2) When operated at the maximum acceleration, the maximum load capacity is the load capacity at the maximum 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-82) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Rated Acceleration (G)	Load Capacity at Rated Acceleration		Max. Acceleration (G)	Load Capacity at Max. Acceleration		Rated Thrust (N)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)		Horizontal (kg)	Vertical (kg)		
RCS2-SRGS7BD-I-60-16-①-②-③-④	60	16	0.25	5	1.5	0.35	2.5	0.5	63	50~300 (50mm increments)
RCS2-SRGS7BD-I-60-8-①-②-③-④		8	0.15	10	4.5	0.25	5	2	127	
RCS2-SRGS7BD-I-60-4-①-②-③-④		4	0.05	20	9.5	0.15	10	4.5	254	
RCS2-SRGS7BD-I-100-16-①-②-③-④	100	16	0.3	10	3	0.4	5	1	103	
RCS2-SRGS7BD-I-100-8-①-②-③-④		8	0.2	22	8.5	0.3	10	4	207	
RCS2-SRGS7BD-I-100-4-①-②-③-④		4	0.1	40	19	0.2	20	8.5	414	
RCS2-SRGS7BD-I-150-16-①-②-③-④	150	16	0.3	15	6	0.4	7.5	2.5	157	
RCS2-SRGS7BD-I-150-8-①-②-③-④		8	0.2	35	14	0.3	17.5	6.5	314	
RCS2-SRGS7BD-I-150-4-①-②-③-④		4	0.1	55	22	0.2	27.5	10.5	628	

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

### Stroke and Maximum Speed

Lead	Stroke (50 ~ 300 (50mm increments))	
	Stroke	50 ~ 300 (50mm increments)
16	800	
8	400	
4	200	

(Unit: mm/s)

### ① Stroke List

Stroke (mm)	Standard Price		
	Motor Output (W)		
	60W	100W	150W
50	-	-	-
100	-	-	-
150	-	-	-
200	-	-	-
250	-	-	-
300	-	-	-

### 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
Connector cable exit direction	A1 ~ A3	→ A-25	-
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Guide mounting direction	GS2 ~ GS4	→ P256	-

### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Single guide (guide rod diameter ø16, Ball bush type)
Rod Diameter	ø35mm
Non-rotating accuracy of rod	±0.1 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



\*The SRGS7BD is not available in reversed-home configuration, due to its construction.

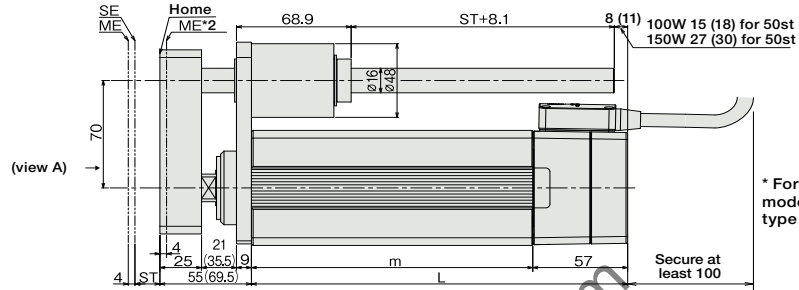
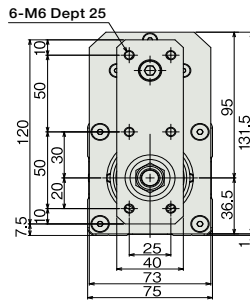
Note:

A slit is provided in the side of the actuator body to prevent pauses due to forward/backward operation. Please make a separate request for a dustproof/splash-proof model.

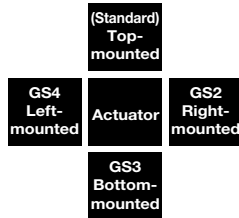
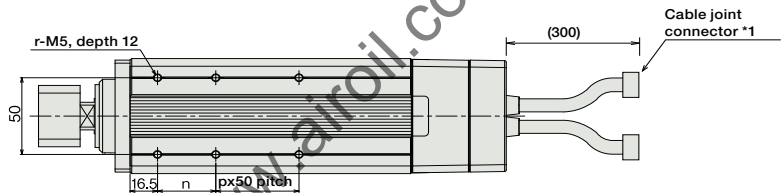
For Special Orders



- The motor-encoder cable is connected here. See page A-39 for details on cables.
  - When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.
- ST: Stroke  
SE: Stroke end  
ME: Mechanical end



\* The value inside ( ) is the dimension for the extended rod tip model.



Guide mounting direction (as viewed from view A)

Dimensions/Weight by Stroke

Stroke	Dimensions/Weight by Stroke						
	50	100	150	200	250	300	
L	60W	126	176	226	276	326	376
	100W	133	176	226	276	326	376
	150W	145	176	226	276	326	376
m	60W	69	119	169	219	269	319
	100W	76	119	169	219	269	319
	150W	88	119	169	219	269	319
n	25	35	35	35	35	35	
p	0	0	1	2	3	4	
r	4	4	6	8	10	12	
Weight (kg)	60W	3.5	4.1	4.8	5.4	6.1	6.7
	100W	3.7	4.3	4.9	5.6	6.2	6.9
	150W	4	4.5	5.1	5.8	6.4	7.1

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-①I-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V 3-Phase AC 200V (XSEL-P/Q only)	Maximum 360VA  * Single-axis model operated at 150W	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated for Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-①I-NP-2-②	Programmed operation is possible. Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-①I-N1-EEE-2-④	Programmed operation is possible. Operation is possible on up to 6 axes	20000 points			-	→ P587

Note: The SRGS7BD type actuator cannot be connected to the 5th and 6th axes of the XSEL-P/Q controller.

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the motor output (W) (60, 100, 150).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).



# RCS2-RGD4C

ROBO Cylinder Rod Type with Double Guide ø37mm Diameter 200V Servo Motor  
Coupled

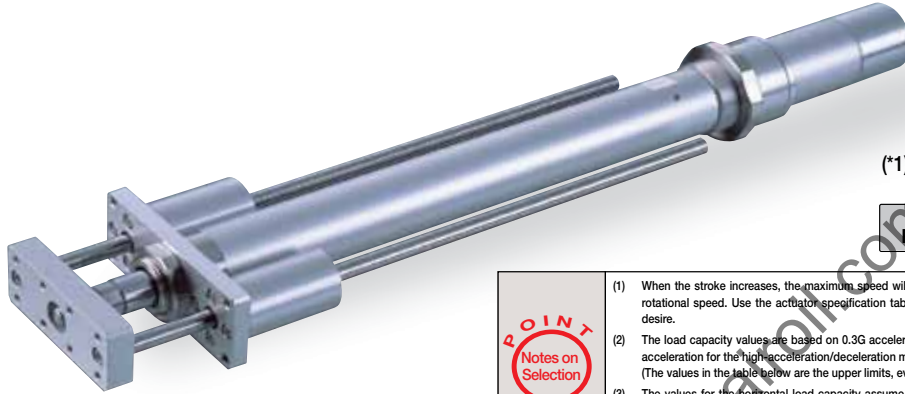
■ Configuration: **RCS2** — **RGD4C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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 SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

**For High Acceleration/Deceleration**

(\*1)



(\*1) Except all 20W models and 30W 3mm lead models

Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard model (0.2G for 3mm-lead), and 1G acceleration for the high-acceleration/deceleration model (3mm-lead excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - 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-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RGD4C-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50 ~ 300 (50mm increments)
RCS2-RGD4C-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCS2-RGD4C-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCS2-RGD4C-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCS2-RGD4C-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCS2-RGD4C-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

### Stroke and Maximum Speed

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

(Unit: mm/s)

### Encoder & Stroke List

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

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-
Home sensor (*2)	HS	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

(\*1) The high-acceleration/deceleration option is not available for all 20W models and 30W model with 3mm lead.

(\*2) The home sensor (HS) cannot be used on the reversed-home models.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø10, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

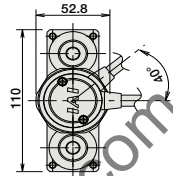
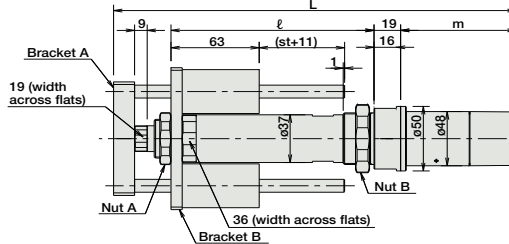
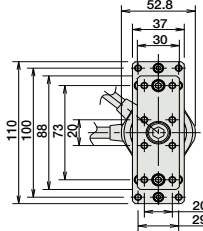
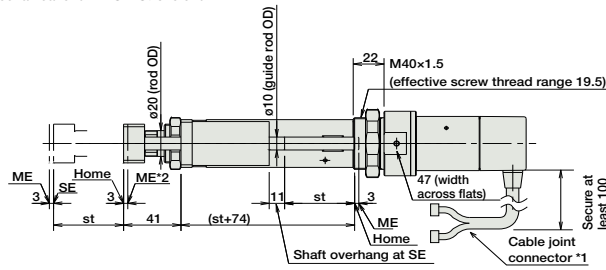
For Special Orders P. A-9



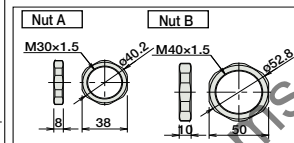
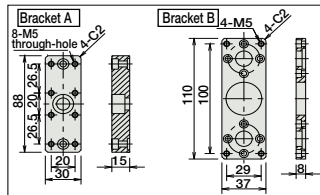
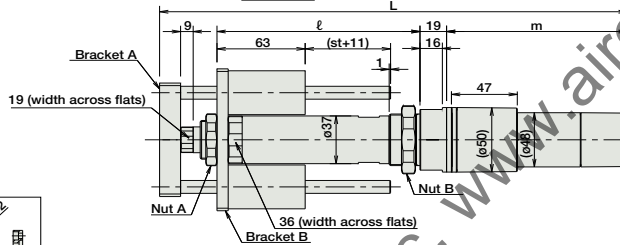
- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.

ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCS2-RGD4C (without brake)						
Stroke	50	100	150	200	250	300
L	20W	285.5	335.5	385.5	435.5	535.5
	30W	300.5	350.5	400.5	450.5	550.5
ℓ	145	195	245	295	345	395
m	20W	80.5				
	30W	95.5				
Weight (kg)	1.8	2.0	2.2	2.4	2.6	2.8

RCS2-RGD4C (with brake)						
Stroke	50	100	150	200	250	300
L	20W	328.5	378.5	428.5	478.5	578.5
	30W	343.5	393.5	443.5	493.5	593.5
ℓ	145	195	245	295	345	395
m	20W	123.5				
	30W	138.5				
Weight (kg)	2.0	2.2	2.4	2.6	2.8	3.0

③ 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-20①-NP-2-③ SCON-C-30D①②-NP-2-③	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max.  * When operating a 150W single-axis model	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20①-NP-2-③ SSEL-C-1-30D①②-NP-2-③	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-④-1-20①-N1-EEE-2-⑤ XSEL-④-1-30D①②-N1-EEE-2-⑤	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "HA" if the high-acceleration/deceleration option is specified.  
 \* ③ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ④ is a placeholder for the XSEL type name ("J", "K", "P", "Q").  
 \* ⑤ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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

# RCS2-RGD5C

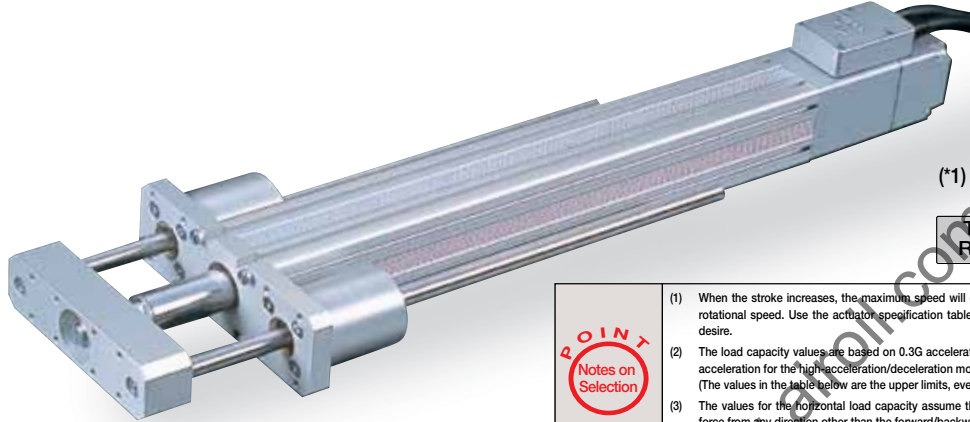
ROBO Cylinder Rod Type with Single Guide ø37mm Diameter 200V Servo Motor  
Built-In Model

■ Configuration: **RCS2** — **RGD5C** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I : Incremental A : Absolute	60 : 60W Servo Motor 100 : 100W Servo Motor	16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm 300 : 300mm (50mm pitch increments)	T1 : XSEL-J/K T2 : SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.

For High Acceleration/Deceleration



(\*1) Except all 60W models and 100W 4mm lead models

Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - The load capacity values are based on 0.3G acceleration for the standard model (0.2G for 4mm-lead), and 1G acceleration for the high acceleration/deceleration models (4mm-lead excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)
  - 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-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RGD5C-①-60-16-②-③-④-⑤	60	16	12.0	1.3	63.8	50 ~ 300 (50mm increments)
RCS2-RGD5C-①-60-8-②-③-④-⑤		8	25.0	4.3	127.5	
RCS2-RGD5C-①-60-4-②-③-④-⑤		4	50.0	10.8	255.1	
RCS2-RGD5C-①-100-16-②-③-④-⑤	100	16	15.0	2.8	105.8	
RCS2-RGD5C-①-100-8-②-③-④-⑤		8	30.0	8.3	212.7	
RCS2-RGD5C-①-100-4-②-③-④-⑤		4	60.0	17.3	424.3	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

### Stroke and Maximum Speed

Stroke Lead	50 ~ 250 (50mm increments)	300 (mm)
16	800	755
8	400	377
4	200	188

(Unit: mm/s)

### Encoder & Stroke List

② Stroke (mm)	Standard Price			
	① Encoder			
	Incremental		Absolute	
	Motor Output (W)		Motor Output (W)	
	60W	100W	60W	100W
50	-	-	-	-
100	-	-	-	-
150	-	-	-	-
200	-	-	-	-
250	-	-	-	-
300	-	-	-	-

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Connector cable exit direction	A2	→ A-25	-
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
High-acceleration/deceleration (*1)	HA	→ A-32	-

(\*1) The high-acceleration/deceleration option is not available for all 60W models and 100W model with 4mm lead.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø12, Ball bush type)
Rod Diameter	ø30mm
Non-rotating accuracy of rod	±0.08 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

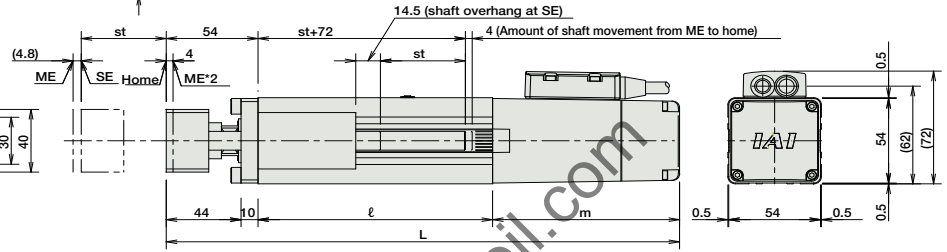
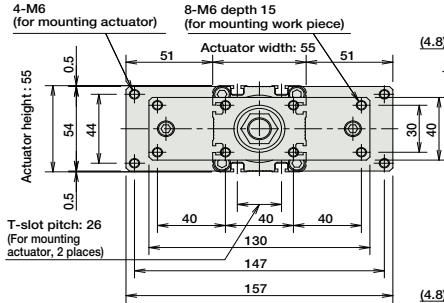
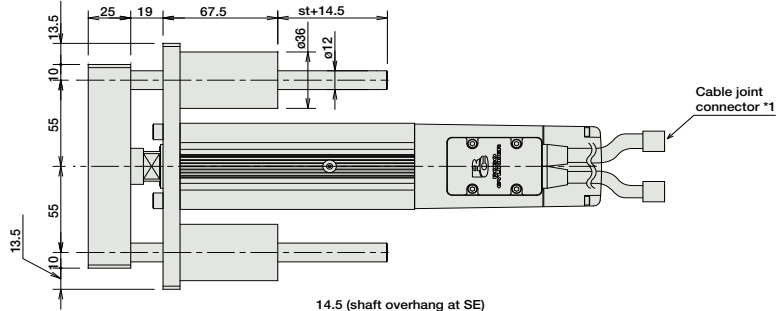
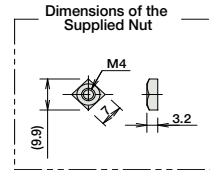
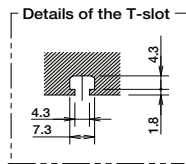
For Special Orders P. A-9



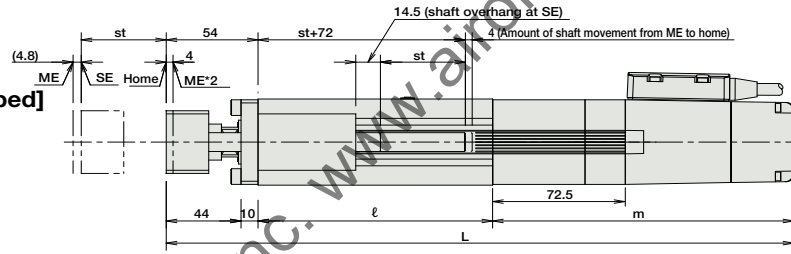
\*The RGD5C is not available in reversed-home configuration, due to its construction.

\*1 The motor-encoder cable is connected here. See page A-39 for details on cables.  
 \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCS2-RGD5C (without brake)

Stroke	60	100	150	200	250	300	
L	60W	284	334	384	434	484	524
	100W	302	352	402	452	502	552
l	60W	138	188	238	288	338	388
	100W	92					
m	60W	92					
	100W	110					
Weight (kg)	2.7	3.0	3.4	3.8	4.2	5.5	

RCS2-RGD5C (with brake)

Stroke	50	100	150	200	250	300	
L	60W	356.5	406.5	456.5	506.5	556.5	606.5
	100W	374.5	424.5	474.5	524.5	574.5	624.5
l	60W	138	188	238	288	338	388
	100W	164.5					
m	60W	164.5					
	100W	182.5					
Weight (kg)	3.0	3.3	3.7	4.1	4.5	5.8	

③ 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-60①-NP-2-③ SCON-C-100①②-NP-2-③	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max. * When operating a 150W single-axis model	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-60①-NP-2-③ SSEL-C-1-100①②-NP-2-③	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-④-1-60①-N1-EEE-2-⑤ XSEL-④-1-100①②-N1-EEE-2-⑤	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "HA" if the high-acceleration/deceleration option is specified.  
 \* ③ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ④ is a placeholder for the XSEL type name ("J", "K", "P", "Q").  
 \* ⑤ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

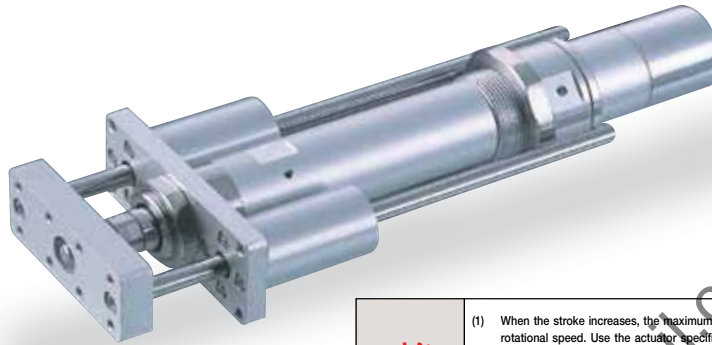
# RCS2-RGD4D

ROBO Cylinder Rod Type with Double Guide ø37mm Diameter 200V Servo Motor  
Built-In Model

■ Configuration: **RCS2** — **RGD4D** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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 SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.



Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - 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.
  - 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-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RGD4D-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50 ~ 300 (50mm increments)
RCS2-RGD4D-①-20-6-②-③-④-⑤		6	6.0	1.5	37.7	
RCS2-RGD4D-①-20-3-②-③-④-⑤		3	12.0	3.5	75.4	
RCS2-RGD4D-①-30-12-②-③-④-⑤	30	12	4.0	1.0	28.3	
RCS2-RGD4D-①-30-6-②-③-④-⑤		6	9.0	2.5	56.6	
RCS2-RGD4D-①-30-3-②-③-④-⑤		3	18.0	6.0	113.1	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

### Stroke and Maximum Speed

Stroke	50 ~ 300 (50mm increments)
12	600
6	300
3	150

(Unit: mm/s)

### Encoder & Stroke List

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

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Foot bracket	FT	→ A-29	-
Home sensor	HS	→ A-32	-
Reversed-home	NM	→ A-33	-
Trunnion bracket (back)	TRR	→ A-38	-

\* The home sensor (HS) cannot be used on the reversed-home models.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø10, Ball bush type)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

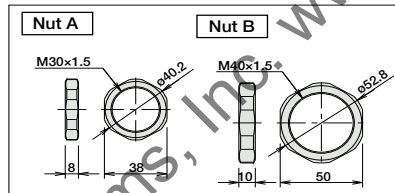
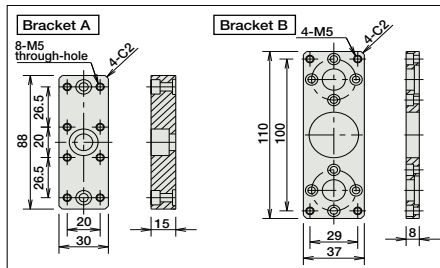
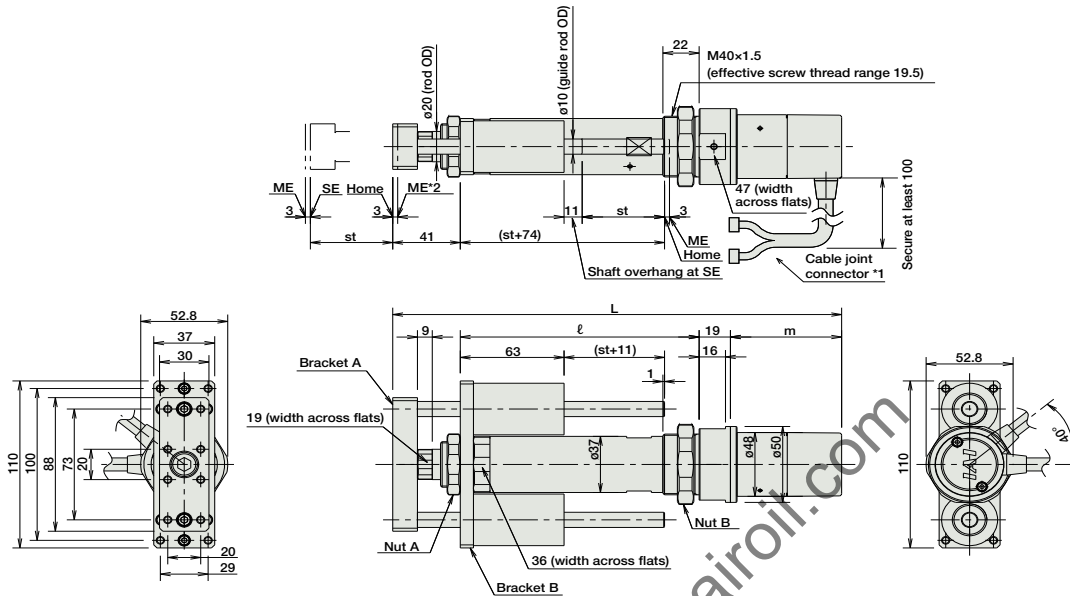
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

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- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[No Brake]



■ Dimensions/Weight by Stroke

RCS2-RGD4D (without brake)							
Stroke	50	100	150	200	250	300	
L	20W	263.5	313.5	363.5	413.5	463.5	
	30W	278.5	328.5	378.5	428.5	478.5	
ℓ	20W	145	195	245	295	345	
	30W	58.5				73.5	
m	20W	58.5				73.5	
	30W	58.5				73.5	
Weight (kg)	1.6	1.8	2.1	2.3	2.5	2.7	

RCS2-RGD4D is not available in a brake-equipped configuration.

③ 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-20①-NP-2-② SCON-C-30D①-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max.  * When operating a 150W single-axis model	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20①-NP-2-② SSEL-C-1-30D①-NP-2-②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-20①-N1-EEE-2-④ XSEL-③-1-30D①-N1-EEE-2-④	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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

# RCS2-SRGD7BD

ROBO Cylinder Rod Type with Double Guide 75mm Diameter 200V Servo Motor Short-Length Model

■ Configuration: **RCS2 -SRGD7BD - I**

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I : Incremental	60 : 60W Servo Motor 100 : 100W Servo Motor 150 : 150W Servo Motor	16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm 300 : 300mm (50mm pitch increments)	T1 : XSEL-J/K T2 : SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X □ □ : Custom R □ □ : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.



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- (1) When operated at the rated acceleration, the maximum load capacity is the load capacity at the rated acceleration.
- (2) When operated at the maximum acceleration, the maximum load capacity is the load capacity at the maximum 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-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Rated Acceleration (G)	Load Capacity at Rated Acceleration		Max. Acceleration (G)	Load Capacity at Max. Acceleration		Rated Thrust (N)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)		Horizontal (kg)	Vertical (kg)		
RCS2-SRGD7BD-I-60-16-①-②-③-④	60	16	0.25	5	1	0.35	2.5	(N/A)	63	50~300 (50mm increments)
RCS2-SRGD7BD-I-60-8-①-②-③-④		8	0.15	10	4	0.25	5	1.5	127	
RCS2-SRGD7BD-I-60-4-①-②-③-④		4	0.05	20	9	0.15	10	4	254	
RCS2-SRGD7BD-I-100-16-①-②-③-④	100	16	0.3	10	2.5	0.4	5	0.5	103	
RCS2-SRGD7BD-I-100-8-①-②-③-④		8	0.2	22	8	0.3	10	3.5	207	
RCS2-SRGD7BD-I-100-4-①-②-③-④		4	0.1	40	18.5	0.2	20	8	414	
RCS2-SRGD7BD-I-150-16-①-②-③-④	150	16	0.3	15	5.5	0.4	7.5	2	157	
RCS2-SRGD7BD-I-150-8-①-②-③-④		8	0.2	35	13.5	0.3	17.5	6	314	
RCS2-SRGD7BD-I-150-4-①-②-③-④		4	0.1	55	21.5	0.2	27.5	10	628	

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

### Stroke and Maximum Speed

Lead	Stroke (50 ~ 300 (50mm increments))	
	Stroke	50 ~ 300 (50mm increments)
16	800	
8	400	
4	200	

(Unit: mm/s)

### ① Stroke List

Stroke (mm)	Standard Price Motor Output (W)		
	60W	100W	150W
50	-	-	-
100	-	-	-
150	-	-	-
200	-	-	-
250	-	-	-
300	-	-	-

### 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)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	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
Connector cable exit direction	A1 ~ A3	→ A-25	-
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-

### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Guide	Double guide (guide rod diameter ø16, Ball bush type)
Rod Diameter	ø35mm
Non-rotating accuracy of rod	±0.08 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

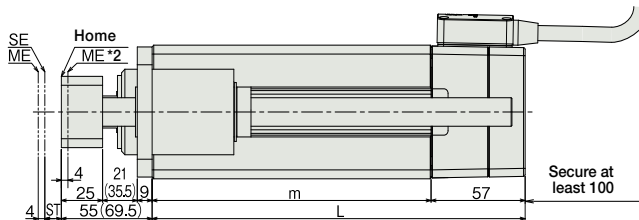
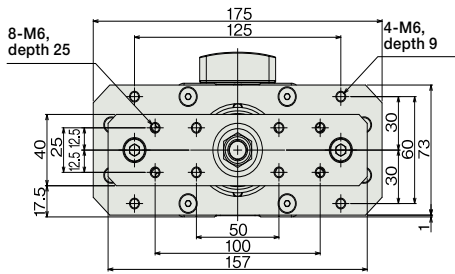
Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9



\*The SRGD7BD is not available in reversed-home configuration, due to its construction.

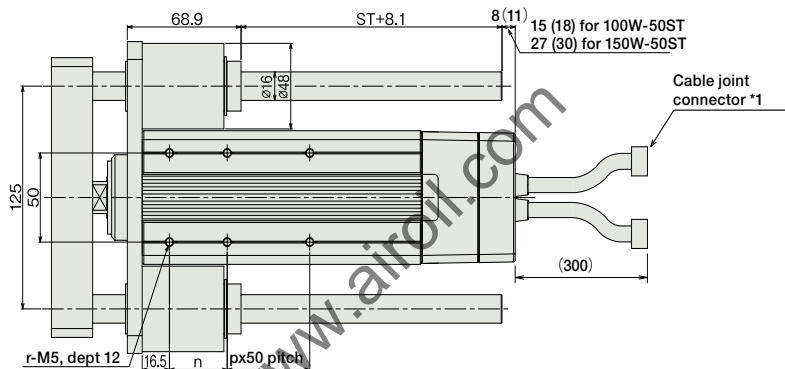


\* For brake-equipped model, see standard type (see P242)

\* The value inside ( ) is the dimension for the extended rod tip model.

**Note:**  
A slit is provided in the side of the actuator body to prevent pauses due to forward/backward operation.  
Please make a separate request for a dustproof/splash-proof model.

- \*1: The motor-encoder cable is connected here. See page A-39 for details on cables.
  - \*2: When homing, the rod moves to the mechanical end position; therefore, please watch for any interference with the surrounding objects.
- ST: Stroke  
SE: Stroke end  
ME: Mechanical end



■ Dimensions/Weight by Stroke

Stroke		50	100	150	200	250	300
L	60W	126	176	226	276	326	376
	100W	133	176	226	276	326	376
	150W	145	176	226	276	326	376
m	60W	69	119	169	219	269	319
	100W	76	119	169	219	269	319
	150W	88	119	169	219	269	319
n		25	35	35	35	35	35
p		0	0	1	2	3	4
r		4	4	6	8	10	12
Weight (kg)	60W	4.3	5	5.7	6.4	7.2	7.9
	100W	4.5	5.1	5.9	6.6	7.3	8
	150W	4.8	5.3	6.1	6.8	7.5	8.2

② 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-①I-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max.  * When operating a 150W single-axis model	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-①I-NP-2-②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-①I-N1-EEE-2-④	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

**Note:** The SRGD7BD type actuator cannot be connected to the 5th and 6th axis of the XSEL-P/Q controller.

- \* For SSEL and XSEL, only applicable to the single-axis model.
- \* ① is a placeholder for the motor output (W) (60, 100, 150).
- \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).
- \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").
- \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Controllers Integrated
- 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



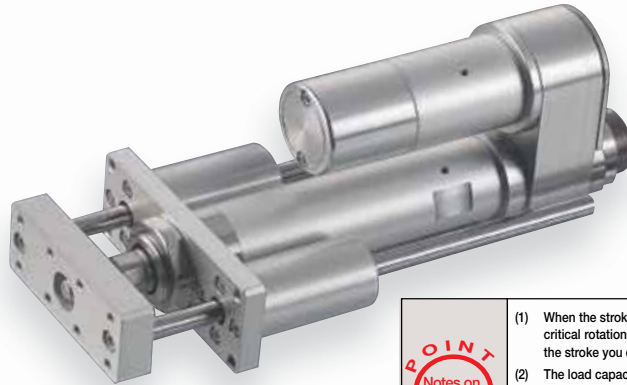
# RCS2-RGD4R

ROBO Cylinder Rod Type with Double Guide ø37mm Diameter 200V Servo Motor Side-Mounted Motor

■ Configuration: **RCS2** — **RGD4R** — **I** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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 SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below

\* See page Pre-35 for an explanation of the naming convention.



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- POINT**  
Notes on Selection
- 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.
  - 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.
  - 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-83) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-RGD4R-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50~300 (50mm increments)
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	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options

### Stroke and Maximum Speed

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

(Unit: mm/s)

### Encoder & Stroke List

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

### ④ 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.

### ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Foot bracket	FT	→ A-29	-
Flange bracket (back)	FLR	→ A-28	-
Home sensor	HS	→ A-32	-
Reversed-home	NM	→ A-33	-
Clevis Bracket	QR	→ A-34	-
Back-mounting plate	RP	→ A-35	-

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Rod Diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Dimensions

CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

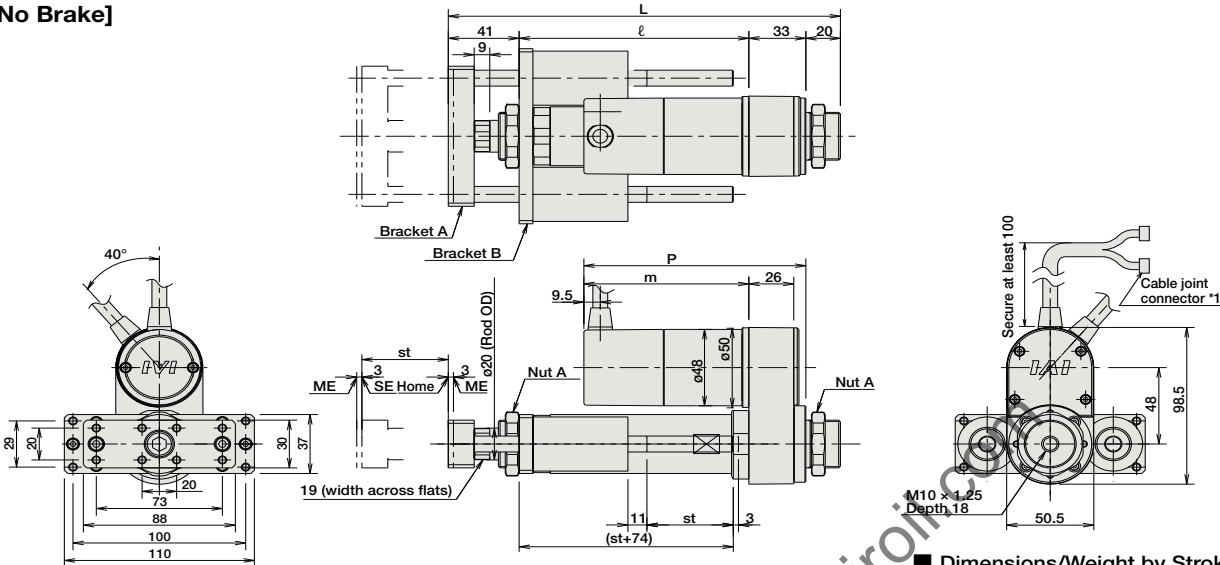


- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

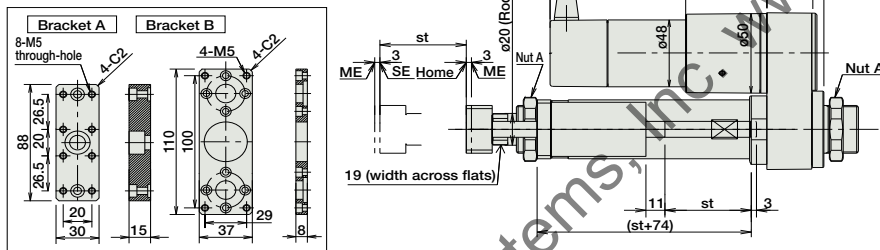
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- \*3. The orientation of the bolt will vary depending on the product.

[No Brake]



[Brake-Equipped]



■ Dimensions/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	188	233	288	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	188	233	288	333	383
m	20W	123.5						
	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 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-20①-NP-2-② SCON-C-30D①-NP-2-②	Positioning is possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V Three-phase AC 200V (XSEL-P/Q only)	360VA max. *When operating a 150W single-axis model	-	→ P547
Solenoid Valve Mode			Operable with the same controls as the solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Dedicated to Pulse Train Input	(-)				
Program Control 1-2 Axes Type		SSEL-C-1-20①-NP-2-② SSEL-C-1-30D①-NP-2-②	Programmed operation is possible Operation is possible on up to 2 axes	20000 points			-	→ P577
Program Control 1-6 Axes Type		XSEL-③-1-20①-N1-EEE-2-④ XSEL-③-1-30D①-N1-EEE-2-④	Programmed operation is possible Operation is possible on up to 6 axes	20000 points			-	→ P587

\* For SSEL and XSEL, only applicable to the single-axis model.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).  
 \* ③ is a placeholder for the XSEL type name ("J", "K", "P", or "Q").  
 \* ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

- 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