



# 24 VDC Servo Motor

# RCA & RCA2

with dedicated controllers  
ACON and ASEL

# Catalogue Extract

4th revised Edition B



RCA2 series	Coupled Type	Aluminum Base	20mm width	RCA2-SA2AC	58-1
			32mm width	RCA2-SA3C	59
			40mm width	RCA2-SA4C	61
			50mm width	RCA2-SA5C	63
			60mm width	RCA2-SA6C	65
Slider	Side-Mounted Motor Type	Aluminum Base	20mm width	RCA2-SA2AR	66-1
			30mm width	RCA2-SA3R	67
			40mm width	RCA2-SA4R	69
			50mm width	RCA2-SA5R	71
			60mm width	RCA2-SA6R	73

RCA series	Coupled Type	Aluminum Base	40mm width	RCA-SA4C	75
			52mm width	RCA-SA5C	77
			58mm width	RCA-SA6C	79
Built-in Type		Aluminum Base	40mm width	RCA-SA4D	81
			52mm width	RCA-SA5D	83
			58mm width	RCA-SA6D	85
Slider		Steel Base	40mm width	RCA-SS4D	87
			52mm width	RCA-SS5D	89
			58mm width	RCA-SS6D	91
Side-Mounted Motor Type		Aluminum Base	40mm width	RCA-SA4R	93
			52mm width	RCA-SA5R	95
			58mm width	RCA-SA6R	97

RCA2 series	Mini Rod Type	Coupling Type	18mm width	RCA2-RA2AC	176-1	
		Side-Mounted Motor Type	41mm width	RCA2-RA2AR	176-3	
			28mm width	RCA2-RN3NA	177	
			34mm width	RCA2-RN4NA	179	
Rod		Tapped Hole Type	28mm width	RCA2-RP3NA	181	
			34mm width	RCA2-RP4NA	183	
			Single-Guide Free Mount Type	28mm width	RCA2-GS3NA	185
				34mm width	RCA2-GS4NA	187
			Double-Guide Free Mount Type	28mm width	RCA2-GD3NA	189
				34mm width	RCA2-GD4NA	191
			Double-Guide Slide Unit Type	60mm width	RCA2-SD3NA	193
				72mm width	RCA2-SD4NA	195

RCA series	Standard Type	Coupling Type	ø32mm	RCA-RA3C	197		
		Built-In Type	ø37mm	RCA-RA4C	199		
			ø32mm	RCA-RA3D	201		
			ø37mm	RCA-RA4D	203		
			Side-Mounted Motor Type	ø32mm	RCA-RA3R	205	
				ø37mm	RCA-RA4R	207	
			Short-Length Side-Mounted Motor Type	45mm width	RCA-SRA4R	209	
Single-Guide Type		Coupling Type	ø32mm	RCA-RGS3C	211		
			ø37mm	RCA-RGS4C	213		
			Built-In Type	ø32mm	RCA-RGS3D	215	
				ø37mm	RCA-RGS4D	217	
Rod		Short-Length Side-Mounted Motor Type	45mm width	RCA-SRGS4R	219		
						Double-Guide Type	Coupling Type
				ø37mm	RCA-RGD4C	223	
				Built-In Type	ø32mm	RCA-RGD3D	225
				ø37mm	RCA-RGD4D	227	
				Side-Mounted Motor Type	ø32mm	RCA-RGD3R	229
				ø37mm	RCA-RGD4R	231	
				Short-Length Side-Mounted Motor Type	45mm width	RCA-SRGD4R	233

RCA2 series	Table Type	Short-Length Compact Model	32mm width	RCA2-TC3NA	289	
			36mm width	RCA2-TC4NA	291	
			Short-Length Wide Model	50mm width	RCA2-TW3NA	293
				58mm width	RCA2-TW4NA	295
			Short-Length Flat Model	61mm width	RCA2-TF3NA	297
				71mm width	RCA2-TF4NA	299
			Inline Motor	40mm width	RCA2-TA4C	301
				55mm width	RCA2-TA5C	303
				65mm width	RCA2-TA6C	305
				75mm width	RCA2-TA7C	307
			Side-Mounted Motor	40mm width	RCA2-TA4R	309
				55mm width	RCA2-TA5R	311
				65mm width	RCA2-TA6R	313
				75mm width	RCA2-TA7R	315

RCA series	Arm Type	40mm width	RCA-A4R	317
		52mm width	RCA-A5R	319
		58mm width	RCA-A6R	321

RCACR series	Slider Coupling Type	Aluminum Base	40mm width	RCACR-SA4C	415
			52mm width	RCACR-SA5C	417
			58mm width	RCACR-SA6C	419
Cleanroom	Slider Built-in Type	Aluminum Base	52mm width	RCACR-SA5D	421
			58mm width	RCACR-SA6D	423

RCAW series	Rod Type	Coupled	ø32mm	RCAW-RA3C		
		Built-in	ø32mm	RCAW-RA3D	455	
			Motor Side-mounted	ø32mm	RCAW-RA3R	
			Coupled	ø37mm	RCAW-RA4C	
			Built-in	ø37mm	RCAW-RA4D	457
			Motor Side-mounted	ø37mm	RCAW-RA4R	

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

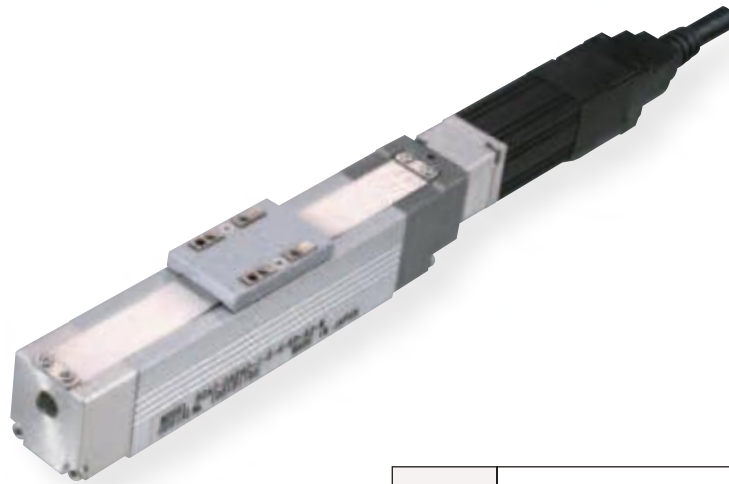
# RCA2-SA2AC

RoboCylinder Mini Slider Type Coupled Motor 20mm Width 24 V Servo Motor Ball Screw

■ Configuration: **RCA2** – **SA2AC** – **I** – **5** –  –  – **A3** –  –

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	5: Servo Motor 5W	4: 4mm 2: 2mm 1: 1mm	25: 25mm 1 100: 100mm (every 25mm)	A3: ASEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom Length	Following options Refer to below table

\*See page Pre-35 for details on the model descriptions.



**POINT**  
Notes on selection

(1) The payload is the value when operated at 0.3G acceleration. The acceleration upper limit is the value indicated above.

(2) Take note that, since there is no brake, the slider may come down when the power is turned off if the actuator is used vertically.

**Technical References** P. A-5

Actuator Specifications												
■ Lead and Load Capacity					■ Stroke and Maximum Speed							
Model	Motor Output (W)	Feed screw	Lead (mm)	Maximum payload		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)	Stroke			
				Horizontal (kg)	Vertical (kg)				Lead	25 (mm)	50 to 100 (mm)	
RCA2-SA2AC-I-5-4- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>	5	Ball screw	4	0.5	0.25	21.4	±0.02	25 to 100 (every 25mm)	Ball screw	4	180	200
RCA2-SA2AC-I-5-2- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			2	1	0.5	42.3				2	100	
RCA2-SA2AC-I-5-1- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			1	2	1	85.5				1	50	

Legend  Stroke  Cable length  Option (Unit = mm/s)

Cable List		
Type	Cable symbol	
Standard type (Robot cable)	P (1m)	
	S (3m)	
	M (5m)	
Special length	X06 (6m) to X10 (10m)	
	X11 (11m) to X15 (15m)	
	X16 (16m) to X20 (20m)	

\*The standard cable for the RCA2 is the robot cable.

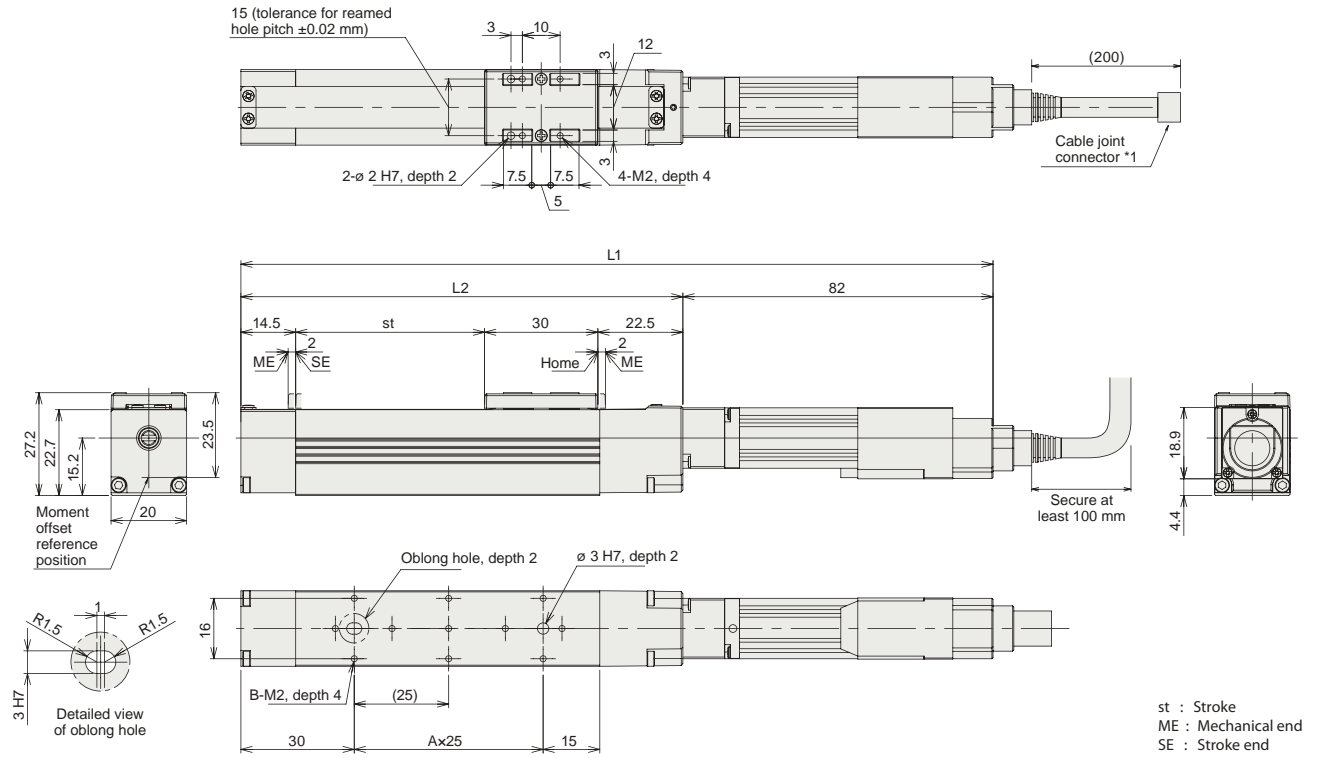
Actuator Specifications	
Item	Description
Drive System	Ball screw, ø4mm, rolled C10
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Guide	Linear guide
Allowable Dynamic Moment	Ma: 0.22N-m Mb: 0.31N-m Mc: 0.28N-m
Allowable Overhang	40mm or less in Ma, Mb and Mc directions
Ambient Operating Temp., Humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	5000 km

Option List			
Name	Option code	See page	
Reversed-home specification	<b>NM</b>	A-33	

Dimensions

CAD drawings can be downloaded from IAI website, [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9



■ Dimensions and Weight by Stroke

Stroke	25	50	75	100
L1	174	199	224	249
L2	92	117	142	167
A	1	2	3	4
B	4	6	8	10
Mass (kg)	0.2	0.22	0.23	0.25

- \*1 Connect the motor and encoder cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
- \*3 The direction of the surface across flats varies depending on the product.

Compatible Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	Reference Page
Solenoid valve type		ASEP-C-SSI-NP-2-0	Simple controller capable of operating with the same signal as the solenoid valve. Supports the use of both the single solenoid and the double solenoid types. Simple Absolute type makes the return to home unnecessary.	3 points	DC24V	(Standard) 1.5A rated 2.5A max.	→P487
Dust-proof solenoid valve type		ASEP-CW-SSI-NP-2-0					

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA3C

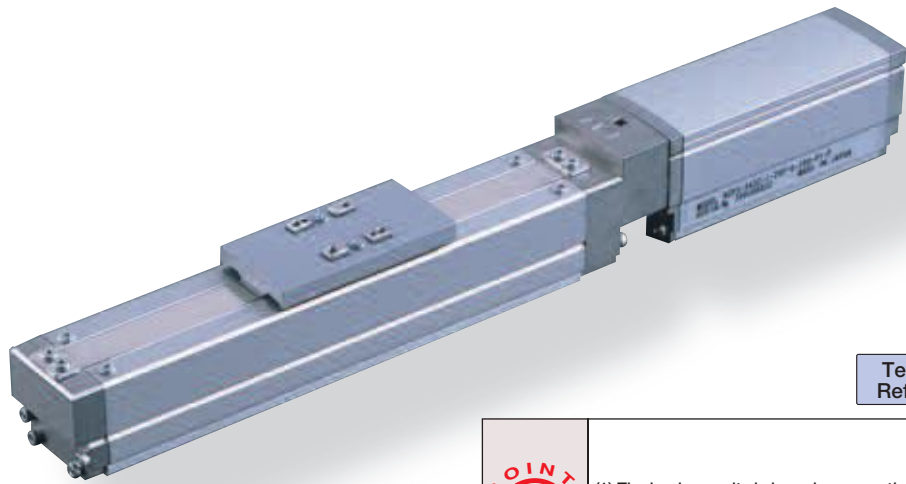
RoboCylinder Slider Type 32mm Width 24V Servo Motor Coupled

■ Configuration: **RCA2** - **SA3C** - **I** - **10** -   -   -   -   -  

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The Simple absolute encoder models are labeled as "I".	10: 10W Servo motor	6 :6mm 4 :4mm 2 :2mm	50: 50mm 300:300mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N : None P : 1m S : 3m M : 5m X <span style="border: 1px solid black; padding: 0 2px;"> </span> <span style="border: 1px solid black; padding: 0 2px;"> </span> : Custom Length	See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



**Technical References** P. A-5

POINT  
Notes on Selection

(1) The load capacity is based on operation at an acceleration of 0.3G (2G for the 2mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

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)		
RCA2-SA3C-I-10-6-①-②-③-④	10	6	1	0.5	28	50 ~ 300 (50mm increments)
RCA2-SA3C-I-10-4-①-②-③-④		4	2	1	43	
RCA2-SA3C-I-10-2-①-②-③-④		2	3	1.5	85	

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

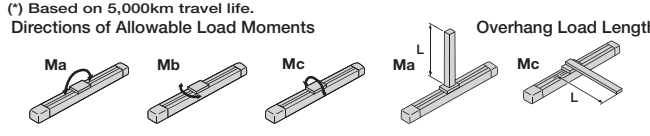
(Unit: mm/s)

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

\* The standard cable for the RCA2 is the robot cable.  
\* For cables for maintenance, see page A-39.

Option List			
Name	Option Code	See Page	
Brake-Equipped	B	→ A-25	
Cable Exit Direction (Top)	CJT	→ A-25	
Cable Exit Direction (Right)	CJR	→ A-25	
Cable Exit Direction (Left)	CJL	→ A-25	
Cable Exit Direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
No Cover	NCO	→ A-33	
Reversed-home	NM	→ A-33	

Actuator Specifications	
Item	Description
Drive System	Ball screw Ø6mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 5.0N·m Mb: 7.1N·m Mc: 7.9N·m
Allowable Dynamic Moment(*)	Ma: 1.96N·m Mb: 2.84N·m Mc: 3.14N·m
Overhang Load Length	100mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)



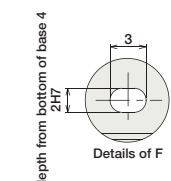
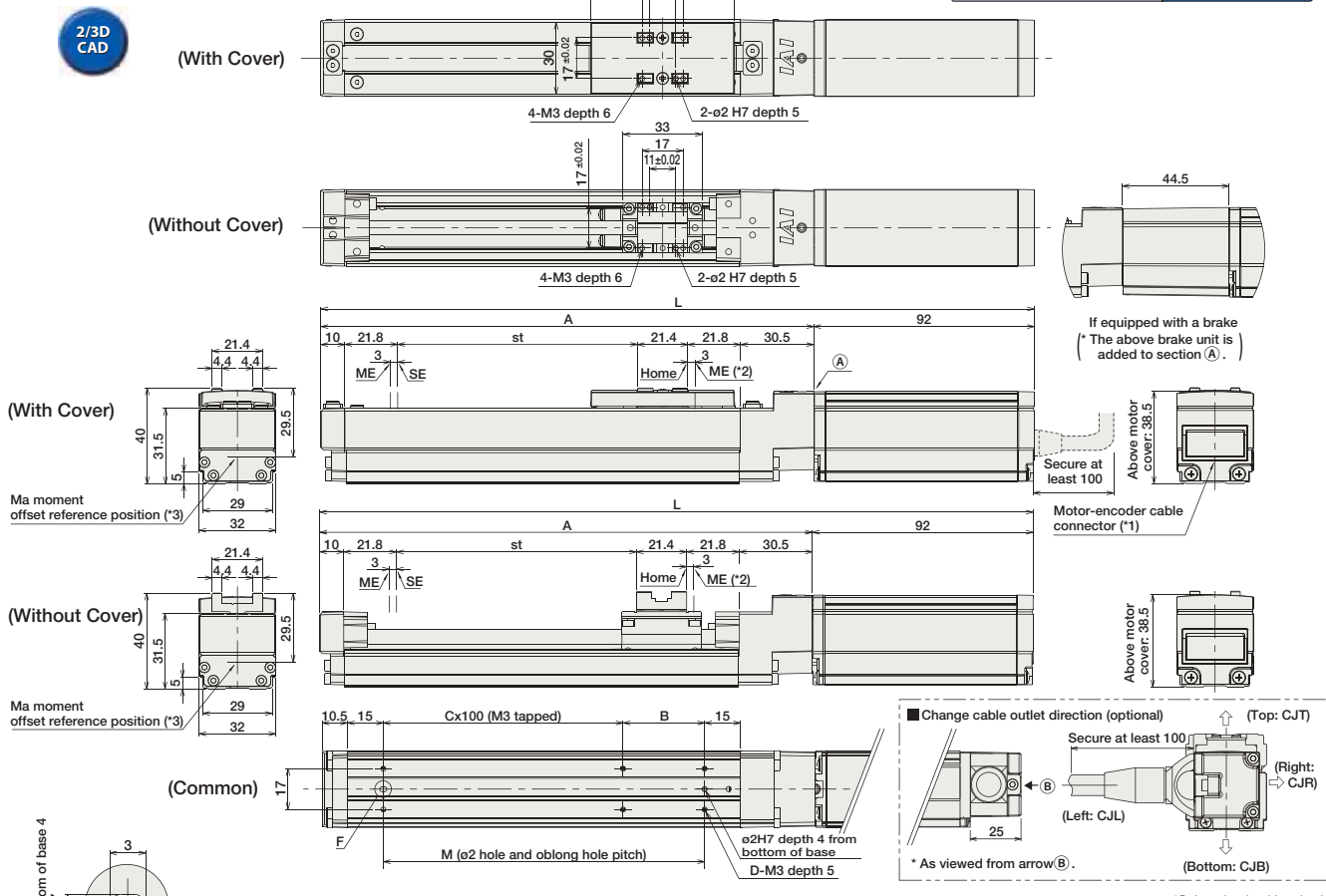


- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

Dimensions

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

For Special Orders P. A-9



(\*1) A motor-encoder cable (integrated) is connected here. (For details on cables for maintenance, see page A-39.)  
 (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME : Mechanical end  
 SE : Stroke end  
 (\*3) Reference position for calculating the moment Ma

**■ Dimensions/Weight by Stroke** \* Brake-equipped models are heavier by 0.2kg.

Stroke	Stroke						
	50	100	150	200	250	300	
L	No Brake	247.5	297.5	347.5	397.5	447.5	497.5
	Brake-Equipped	292	342	392	442	492	542
A		155.5	205.5	255.5	305.5	355.5	405.5
B		84	34	84	34	84	34
C		0	1	1	2	2	3
D		4	6	6	8	8	10
M		84	134	184	234	284	334
Weight (kg)	With Cover	0.6	0.6	0.7	0.8	0.8	0.9
	No Cover	0.5	0.6	0.6	0.7	0.7	0.8

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	See Page
Solenoid Valve Type		AMEC-C-10①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		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.				
Splash-Proof Solenoid Valve Type		ASEP-CW-10①-NP-2-0					
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 Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
 \* ① is replaced with the code "LA" when support for power-saving is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA4C RoboCylinder Slider Type 40mm Width 24V Servo Motor Coupled

■ Configuration: **RCA2** - **SA4C** - **I** - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

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

I: Incremental  
\* The Simple absolute encoder models are labeled as "I".

20: 20W Servo motor

10: 6mm  
5: 4mm  
2.5: 2mm

50: 50mm  
500: 500mm (50mm pitch increments)

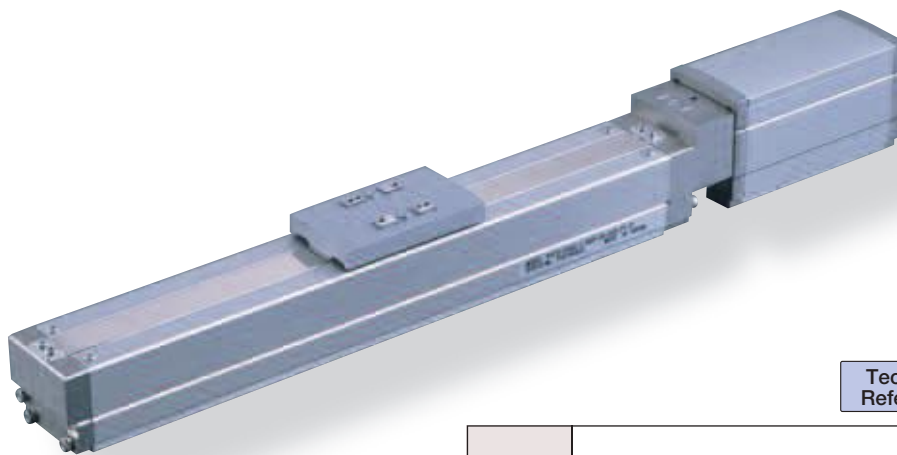
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



Technical References P. A-5

**POINT**  
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). These values are the upper limits for the acceleration.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA4C-I-20-10-①-②-③-④	20	10	2	1	34	50 ~ 500 (50mm increments)
RCA2-SA4C-I-20-5-①-②-③-④		5	4	1.5	68	
RCA2-SA4C-I-20-2.5-①-②-③-④		2.5	6	3	136	

### Stroke and Maximum Speed

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

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

(Unit: mm/s)

## Cable List

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

\* The standard cable for the RCA2 is the robot cable.

\* For cables for maintenance, see page A-39.

## Option List

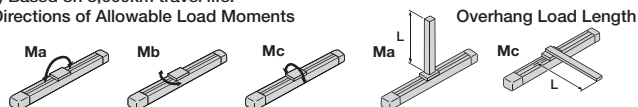
Name	Option Code	See Page
Brake-Equipped	B	→ A-25
Cable Exit Direction (Top)	CJT	→ A-25
Cable Exit Direction (Right)	CJR	→ A-25
Cable Exit Direction (Left)	CJL	→ A-25
Cable Exit Direction (Bottom)	CJB	→ A-25
Power-saving	LA	→ A-32
No Cover	NCO	→ A-33
Reversed-home	NM	→ A-33

## Actuator Specifications

Item	Description
Drive System	Ball screw Ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 6.8N·m Mb: 9.7N·m Mc: 13.3N·m
Allowable Dynamic Moment(*)	Ma: 3.04N·m Mb: 4.31N·m Mc: 5.00N·m
Overhang Load Length	120mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments



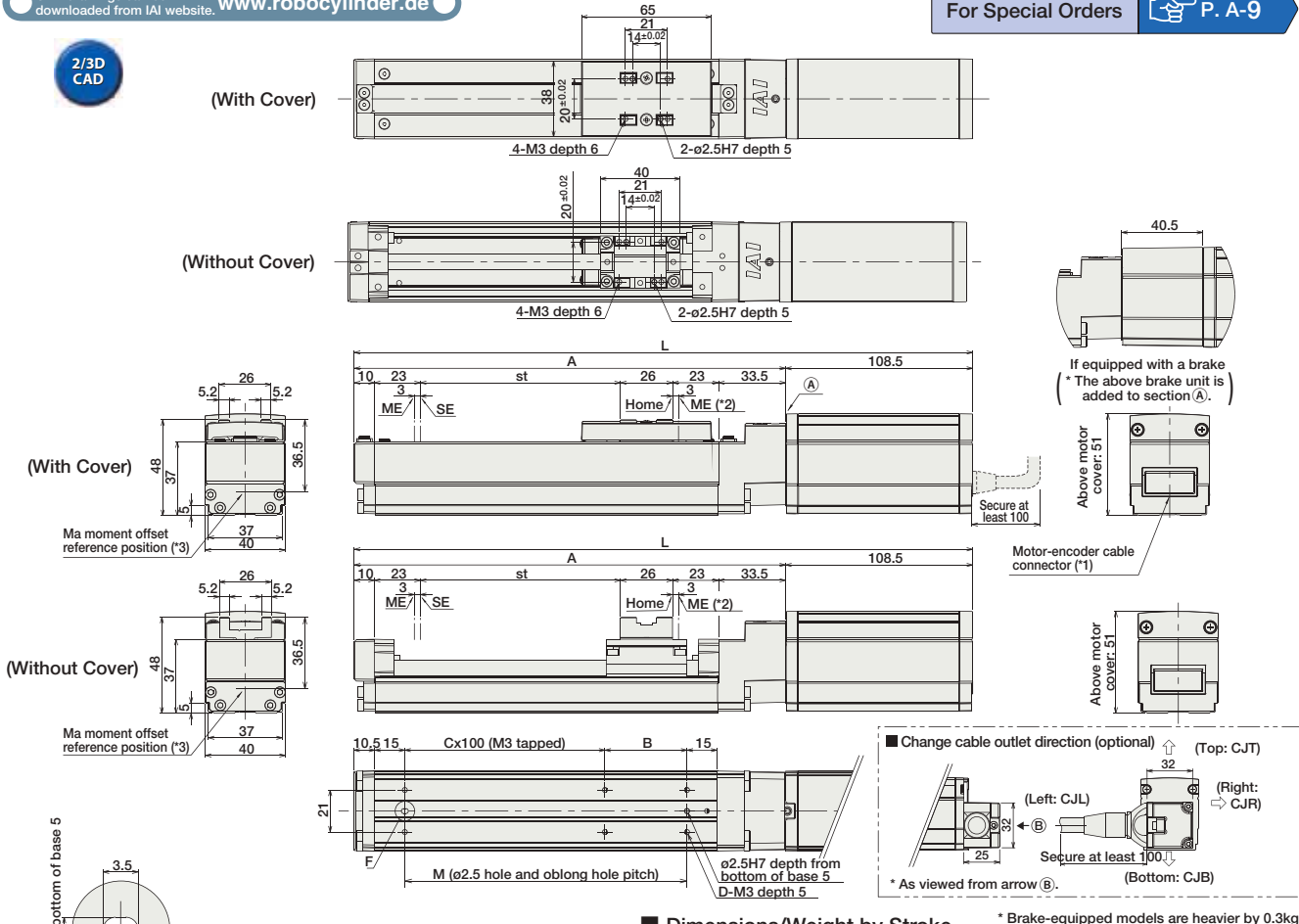
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

Dimensions

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

For Special Orders P. A-9

2/3D CAD



(\*)1 A motor-encoder cable (integrated) is connected here. (See page A-39 for details on cables)  
 (\*)2 After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME : Mechanical end  
 SE : Stroke end  
 (\*)3 Reference position for calculating the moment Ma

■ Dimensions/Weight by Stroke \* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400	450	500	
L	No Brake	274	324	374	424	474	524	574	624	674	724
	Brake-Equipped	314.5	364.5	414.5	464.5	514.5	564.5	614.5	664.5	714.5	764.5
A	165.5	215.5	265.5	315.5	365.5	415.5	465.5	515.5	565.5	615.5	
B	91	41	91	41	91	41	91	41	91	41	
C	0	1	1	2	2	3	3	4	4	5	
D	4	6	6	8	8	10	10	12	12	14	
M	91	141	191	241	291	341	391	441	491	541	
Weight (kg)	With Cover	0.9	1	1.1	1.1	1.2	1.3	1.4	1.5	1.5	1.6
	No Cover	0.8	0.9	1	1	1.1	1.2	1.3	1.3	1.4	1.5

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	See Page
Solenoid Valve Type		AMEC-C-20SI①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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					
Positioner Type		ACON-C-20SI①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.7A rated 5.1A max.	→ 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	(Power-saving) 1.7A rated 3.4A max.	→ 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 Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
 \* ① is replaced with the code "LA" when support for power-saving is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA5C

RoboCylinder Slider Type 50mm Width 24V Servo Motor Coupled

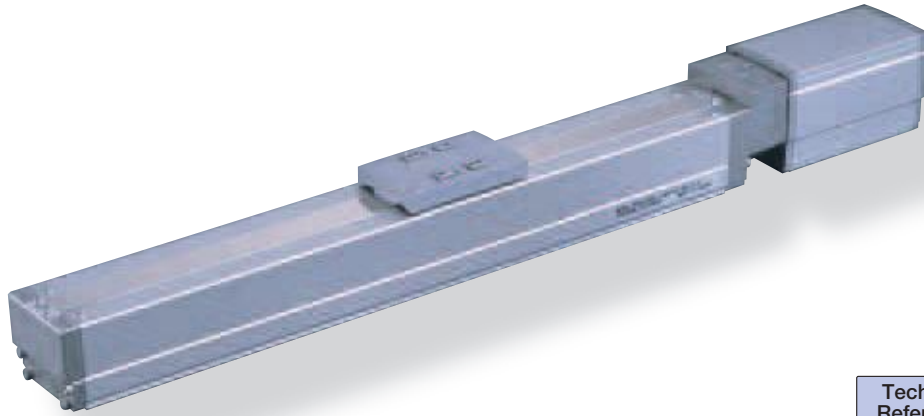
■ Configuration: **RCA2-SA5C-I-20**

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA2	SA5C	I	20	20: 20mm 12: 12mm 6: 6mm 3: 3mm	50: 50mm 800: 800mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X □ □: Custom Length	See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

I: Incremental  
\* The Simple absolute encoder models are labeled as "I".

**Power-saving**



Technical References P. A-5

**POINT**  
Notes on Selection

(1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horiz. (kg)	Vert. (kg)		
RCA2-SA5C-I-20-20-①-②-③-④	20	20	2	0.5	10	50-800 (50mm increments)
RCA2-SA5C-I-20-12-①-②-③-④		12	3	1	17	
RCA2-SA5C-I-20-6-①-②-③-④		6	6	1.5	34	
RCA2-SA5C-I-20-3-①-②-③-④		3	9	3	68	

#### Stroke and Maximum Speed

Stroke / Lead	Stroke (mm)					
	50 ~ 550 (50mm increments)	600	650	700	750	800
20	1000	1000	910	790	690	610
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

(Unit: mm/s)

#### Cable List

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

\* The standard cable for the RCA2 is the robot cable.  
\* For cables for maintenance, see page A-39.

#### Option List

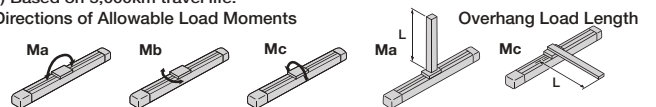
Name	Option Code	See Page
Brake-Equipped	B	→ A-25
Cable Exit Direction (Top)	CJT	→ A-25
Cable Exit Direction (Right)	CJR	→ A-25
Cable Exit Direction (Left)	CJL	→ A-25
Cable Exit Direction (Bottom)	CJB	→ A-25
Power-saving	LA	→ A-32
No Cover	NCO	→ A-33
Reversed-home	NM	→ A-33

#### Actuator Specifications

Item	Description
Drive System	Ball screw Ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 10.2N·m Mb: 14.6N·m Mc: 22.4N·m
Allowable Dynamic Moment(*)	Ma: 3.92N·m Mb: 5.58N·m Mc: 8.53N·m
Overhang Load Length	130mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments

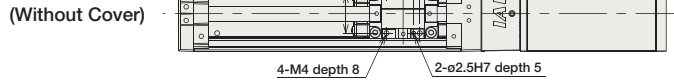
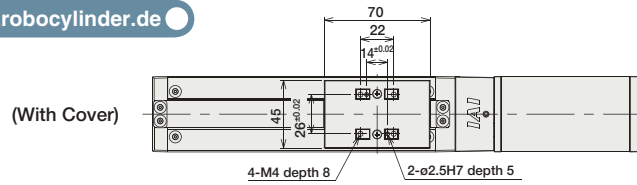


Dimensions

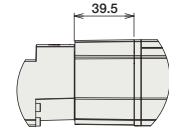
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



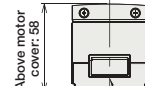
For Special Orders P. A-9



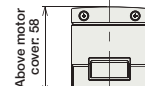
- (\*1) An motor-encoder cable (integrated) is connected here. (See page A-39 for details on cables.)
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the moment Ma



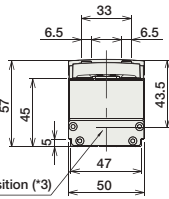
If equipped with a brake  
\* The above brake unit is added to section(A).



Motor-encoder cable connector (\*1)

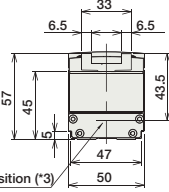


(With Cover)

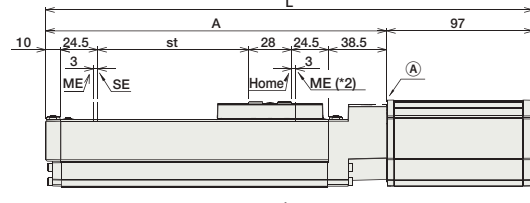


Ma moment offset reference position (\*3)

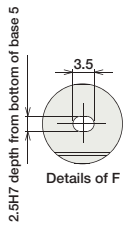
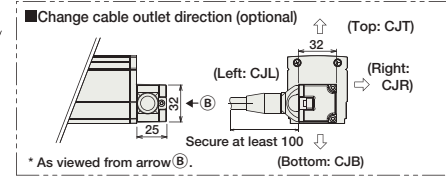
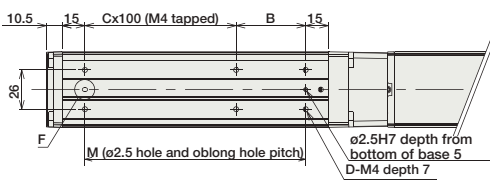
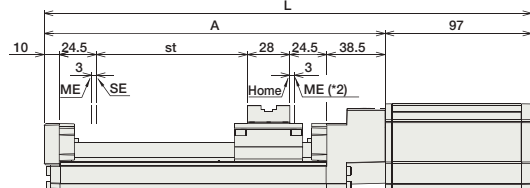
(Without Cover)



Ma moment offset reference position (\*3)



Secure at least 100



Dimensions/Weight by Stroke

\* Brake-equipped models are heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	No Brake	272.5	322.5	372.5	422.5	472.5	522.5	572.5	622.5	672.5	722.5	772.5	822.5	872.5	922.5	972.5	1022.5
	Brake-Equipped	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062
A	175.5	225.5	275.5	325.5	375.5	425.5	475.5	525.5	575.5	625.5	675.5	725.5	775.5	825.5	875.5	925.5	
B	96	46	96	46	96	46	96	46	96	46	96	46	96	46	96	46	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
M	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	
Weight (kg)	With Cover	1.2	1.4	1.5	1.6	1.8	1.9	2	2.2	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.2
	No Cover	1.1	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2	2.3	2.4	2.5	2.6	2.7

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	See Page
Solenoid Valve Type		AMEC-C-20①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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 Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
\* ① is replaced with the code "LA" when support for power-saving is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA6C

RoboCylinder Slider Type 60mm Width 24V Servo Motor Coupled

■ Configuration: **RCA2** — **SA6C** — **I** — **30** —  —  —  —  —

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

I: Incremental  
\* The Simple absolute encoder models are labeled as "I".

30: 30W Servo motor

20 : 20mm  
12 : 12mm  
6 : 6mm  
3 : 3mm

50: 50mm  
800:800mm (50mm pitch increments)

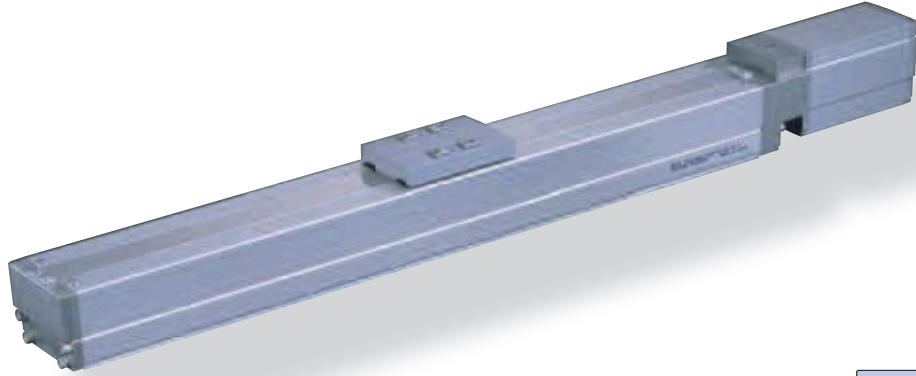
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



**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, or when used vertically). These values are the upper limits for the acceleration.

Actuator Specifications							Stroke and Maximum Speed						
■ Lead and Load Capacity							■ Stroke and Maximum Speed						
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Stroke Lead	50 ~ 550 (50mm increments)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
RCA2-SA6C-I-30-20- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	30	20	3	0.5	16	50-800 (50mm increments)	20	1000	1000	910	790	690	610
RCA2-SA6C-I-30-12- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		12	4	1.5	26		12	600	570	490	425	370	330
RCA2-SA6C-I-30-6- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		6	7	2	53		6	300	285	245	210	185	165
RCA2-SA6C-I-30-3- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		3	10	4	105		3	150	140	120	105	90	80

Legend  Stroke  Compatible controller  Cable length  Options (Unit: mm/s)

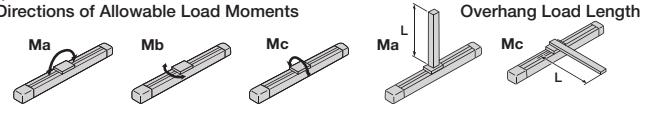
Cable List		
Type	Cable Symbol	
Standard (Robot Cables)	P (1m)	
	S (3m)	
	M (5m)	
Special Lengths	X06 (6m) ~ X10 (10m)	
	X11 (11m) ~ X15 (15m)	
	X16 (16m) ~ X20 (20m)	

\* The standard cable for the RCA2 is the robot cable.  
\* For cables for maintenance, see page A-39.

Option List			
Name	Option Code	See Page	
Brake-Equipped	B	→ A-25	
Cable Exit Direction (Top)	CJT	→ A-25	
Cable Exit Direction (Right)	CJR	→ A-25	
Cable Exit Direction (Left)	CJL	→ A-25	
Cable Exit Direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
No Cover	NCO	→ A-33	
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
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 17.6N·m Mb: 25.2N·m Mc: 44.5N·m
Allowable Dynamic Moment(*)	Ma: 4.31N·m Mb: 6.17N·m Mc: 10.98N·m
Overhang Load Length	150mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.  
Directions of Allowable Load Moments





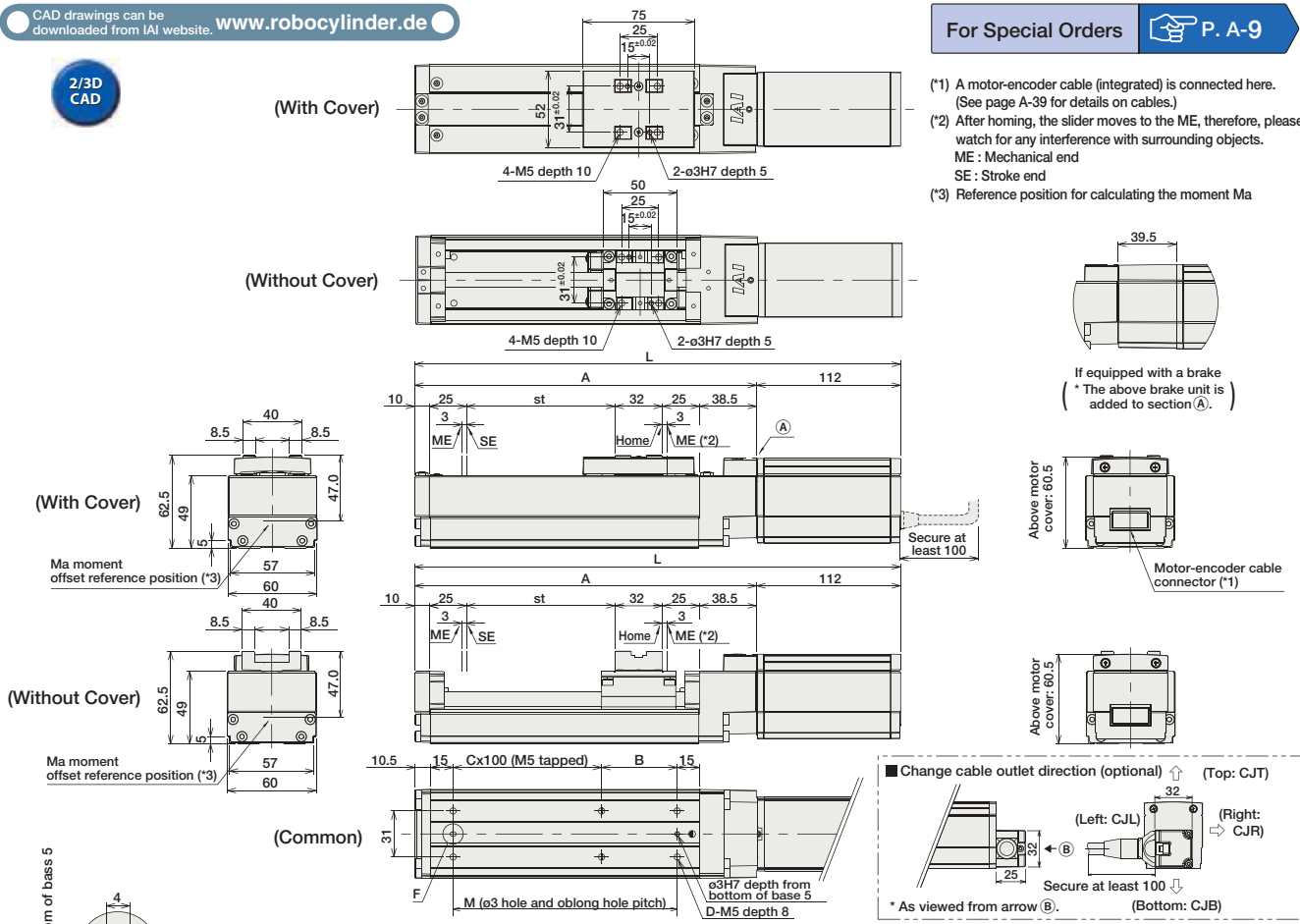
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

Dimensions

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



For Special Orders P. A-9

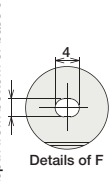


- (\*1) A motor-encoder cable (integrated) is connected here. (See page A-39 for details on cables.)
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME : Mechanical end SE : Stroke end
- (\*3) Reference position for calculating the moment Ma

Dimensions/Weight by Stroke

\* Brake-equipped models are heavier by 0.4kg.

Stroke	Dimensions/Weight by Stroke																
	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	No Brake	292.5	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5
	Brake-equipped	332	382	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082
A	180.5	230.5	280.5	330.5	380.5	430.5	480.5	530.5	580.5	630.5	680.5	730.5	780.5	830.5	880.5	930.5	
B	101	51	101	51	101	51	101	51	101	51	101	51	101	51	101	51	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
M	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	
Weight (kg)	With Cover	1.6	1.7	1.9	2.1	2.3	2.4	2.6	2.8	2.9	3.1	3.3	3.5	3.6	3.8	4.0	4.1
	No Cover	1.5	1.6	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7



3H7 depth from bottom of base 5

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	See Page
Solenoid Valve Type		AMEC-C-30①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30①-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-30①-NP-2-0					
Positioner Type		ACON-C-30①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.0A max.  (Power-saving) 1.3A rated 2.2A max.	
Safety-Compliant Positioner Type		ACON-CG-30①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3A rated 4.0A max.  (Power-saving) 1.3A rated 2.2A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-30①-NP-2-0	Programmed operation is possible Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
\* ① is replaced with the code "LA" when support for power-saving is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA2AR

RoboCylinder Mini Slider Type Side-Mounted Motor Unit 41mm Width 24 V Servo Motor Ball Screw

■ Configuration: **RCA2** — **SA2AR** — **I** — **5** —  —  — **A3** —  —

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	5: Servo Motor 5W	4: 4mm 2: 2mm 1: 1mm	25: 25mm 1 100: 100mm (every 25mm)	A3: ASEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> <input type="checkbox"/> : Custom Length	Following options Refer to below table * Be sure to specify which side the motor is to be mounted (ML/MR)

\*See page Pre-35 for details on the model descriptions.



**POINT**  
Notes on selection

(1) The payload is the value when operated at 0.3G acceleration. The acceleration upper limit is the value indicated above.

(2) Take note that, since there is no brake, the slider may come down when the power is turned off if the actuator is used vertically.

Technical References P. A-5

Actuator Specifications								
Lead and Load Capacity				Stroke and Maximum Speed				
Model	Motor Output (W)	Feed screw	Lead (mm)	Maximum payload		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-SA2AR-I-5-4- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>	5	Ball screw	4	0.5	0.25	21.4	±0.02	25 to 100 (every 25mm)
RCA2-SA2AR-I-5-2- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			2	1	0.5	42.3		
RCA2-SA2AR-I-5-1- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			1	2	1	85.5		

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

Legend  Stroke  Cable length  Option (Unit = mm/s)

Cable List	
Type	Cable symbol
Standard type (Robot cable)	P (1m)
	S (3m)
	M (5m)
Special length	X06 (6m) to X10 (10m)
	X11 (11m) to X15 (15m)
	X16 (16m) to X20 (20m)

\*The standard cable for the RCA2 is the robot cable.

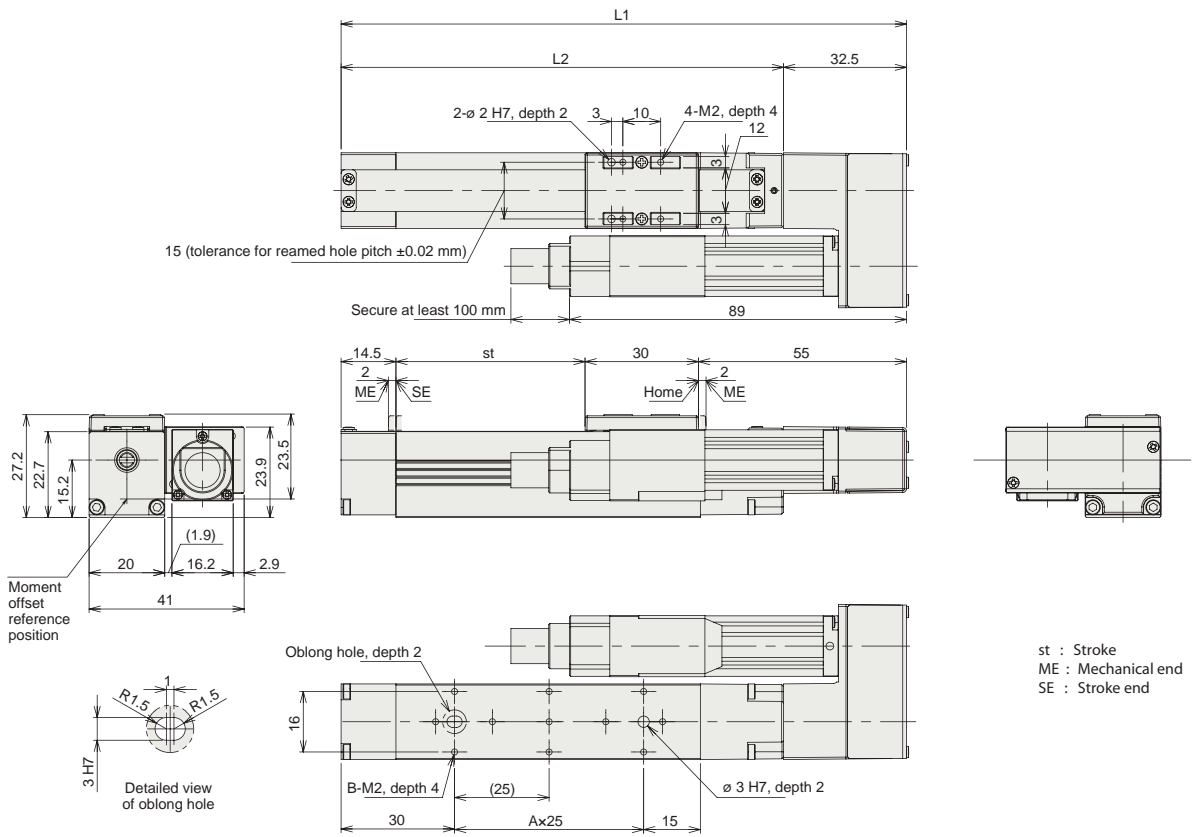
Actuator Specifications	
Item	Description
Drive System	Ball screw, ø4mm, rolled C10
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Guide	Linear guide
Allowable Dynamic Moment	Ma: 0.22N-m Mb: 0.31N-m Mc: 0.28N-m
Allowable Overhang	40mm or less in Ma, Mb and Mc directions
Ambient Operating Temp., Humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	5000 km

Option List			
Name	Option code	See page	
Reversed-home specification	<b>NM</b>	A-33	
Motor side mounted to the right	<b>MR</b>	A-33	
Motor side mounted to the left	<b>ML</b>	A-33	

Dimensions

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

For Special Orders P. A-9



st : Stroke  
ME : Mechanical end  
SE : Stroke end

■ Dimensions and Weight by Stroke

Stroke	25	50	75	100
L1	124.5	149.5	174.5	199.5
L2	92	117	142	167
A	1	2	3	4
B	4	6	8	10
Mass (kg)	0.23	0.25	0.26	0.28

- \*1 Connect the motor and encoder cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
- \*3 The direction of the surface across flats varies depending on the product.

Compatible Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	Reference Page
Solenoid valve type		ASEP-C-SSI-NP-2-0	Simple controller capable of operating with the same signal as the solenoid valve.	3 points	DC24V	(Standard) 1.5A rated 2.5A max.	→P487
Dust-proof solenoid valve type		ASEP-CW-SSI-NP-2-0	Supports the use of both the single solenoid and the double solenoid types. Simple Absolute type makes the return to home unnecessary.				

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA3R

RoboCylinder Slider Type 32mm Width 24V Servo Motor Coupled

■ Configuration: **RCA2** - **SA3R** - **I** - **10** - [ ] - [ ] - [ ] - [ ] - [ ]

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

I: Incremental 10: 10W Servo motor  
 \* Simple absolute encoder models are labeled as "I".

6: 6mm  
 4: 4mm  
 2: 2mm

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

A1: ACON  
 RACON  
 ASEL  
 A3: AMEC  
 ASEP

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 explanation of each code that makes up the configuration name.

**Power-saving**



Technical References P. A-5

**POINT**  
 Notes on Selection

(1) The load capacity is based on operation at an acceleration of 0.3G (2G for the 2mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

Actuator Specifications							Stroke and Maximum Speed	
■ Lead and Load Capacity							Stroke (mm)	50 ~ 300 (50mm increments)
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)			
			Horizontal (kg)	Vertical (kg)		Lead		
RCA2-SA3R-I-10-6-①-②-③-④	10	6	1	0.5	28	6	300	
RCA2-SA3R-I-10-4-①-②-③-④		4	2	1	43	4	200	
RCA2-SA3R-I-10-2-①-②-③-④		2	3	1.5	85	2	100	

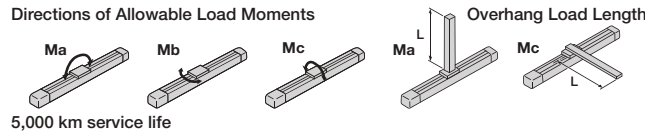
Legend ① Stroke ② Compatible controller ③ Cable length ④ Options (Unit: mm/s)

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

\* The standard cable is the motor-encoder integrated robot cable.  
 \* See page A-39 for cables for maintenance.

Option List			
Name	Option Code	See Page	
Brake-Equipped	B	→ A-25	
Cable Exit Direction (Top)	CJT	→ A-25	
Cable Exit Direction (Outside)	CJO	→ A-25	
Cable Exit Direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-Mounted Motor	MR	→ A-33	
No Cover	NCO	→ A-33	
Reversed-home	NM	→ A-33	

Actuator Specifications	
Item	Description
Drive System	Ball screw Ø6mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Load Moment	Ma: 5.0N·m Mb: 7.1N·m Mc: 7.9N·m
Allowable Dynamic Load Moment	Ma: 1.96N·m Mb: 2.84N·m Mc: 3.14N·m
Overhang Load Length	100mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

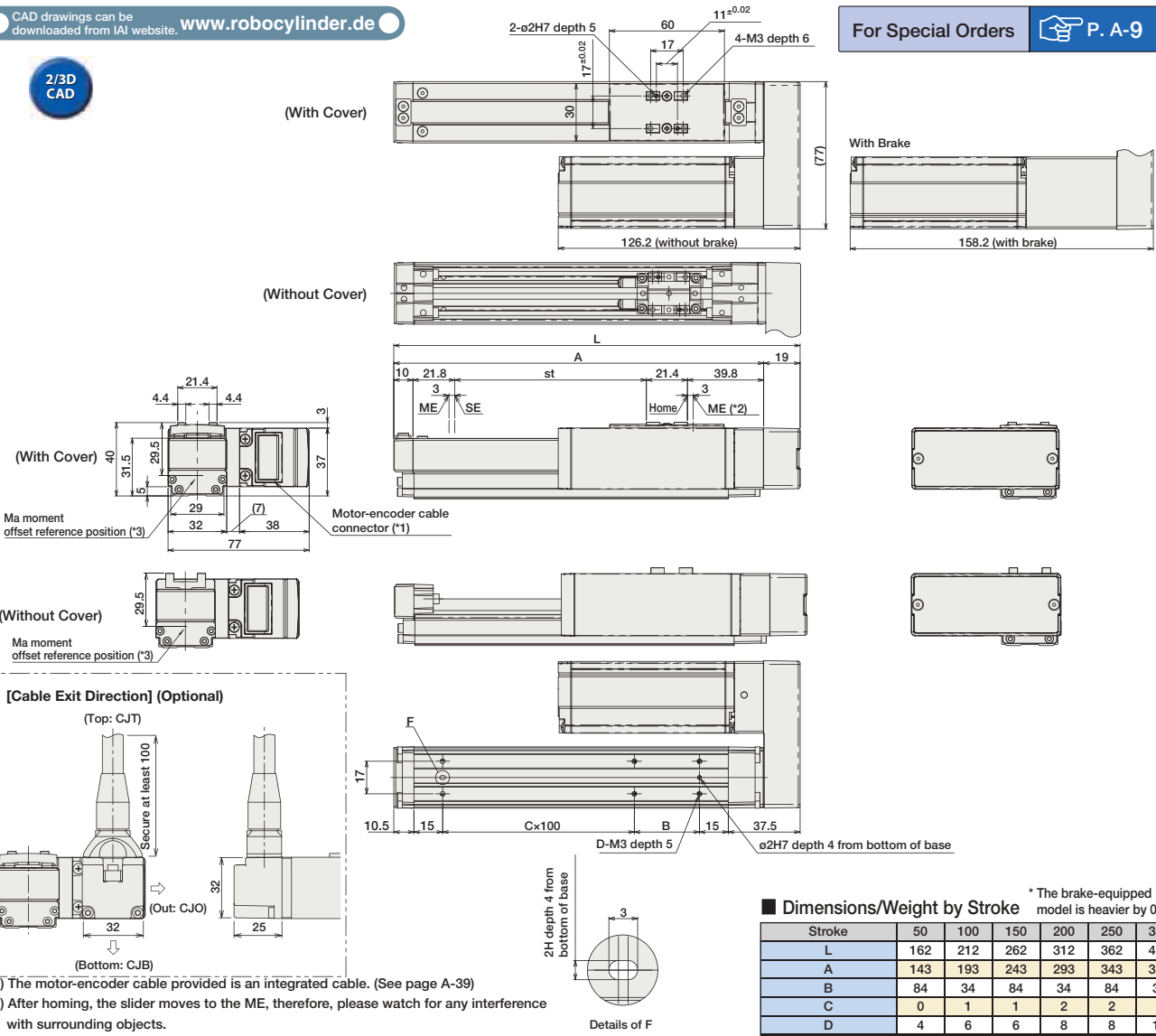


Dimensions

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



For Special Orders P. A-9



**■ Dimensions/Weight by Stroke** \* The brake-equipped model is heavier by 0.2kg.

Stroke	50	100	150	200	250	300
L	162	212	262	312	362	412
A	143	193	243	293	343	393
B	84	34	84	34	84	34
C	0	1	1	2	2	3
D	4	6	6	8	8	10
Weight (kg)	With Cover	0.7	0.7	0.8	0.9	1.0
	No Cover	0.6	0.7	0.7	0.8	0.9

(\*) The motor-encoder cable provided is an integrated cable. (See page A-39)  
 (\*\*) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME : Mechanical end  
 SE : Stroke end  
 (\*\*\*) Reference position for calculating the moment Ma

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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 Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
 \* ① is replaced with the code "LA" when support for power-saving is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA4R

RoboCylinder Slider Type 40mm Width 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA2** - **SA4R** - **I** - **20** -   -   -   -   -  

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

I: Incremental      20: 20W Servo motor  
 \* Simple absolute encoder models are labeled as "I".  
 10: 10mm      5: 5mm      2.5: 2.5mm  
 50: 50mm      500: 500mm (50mm pitch increments)  
 A1: ACON      RACON      ASEL      A3: AMEC      ASEP  
 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 explanation of each code that makes up the configuration name.

**Power-saving**



**Technical References** P. A-5

**POINT**  
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). These values are the upper limits for the acceleration.

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)		
RCA2-SA4R-I-20-10- <span style="border: 1px solid black; padding: 1px;">1</span> - <span style="border: 1px solid black; padding: 1px;">2</span> - <span style="border: 1px solid black; padding: 1px;">3</span> - <span style="border: 1px solid black; padding: 1px;">4</span>	20	10	2	1	34	50~500 (50mm increments)
RCA2-SA4R-I-20-5- <span style="border: 1px solid black; padding: 1px;">1</span> - <span style="border: 1px solid black; padding: 1px;">2</span> - <span style="border: 1px solid black; padding: 1px;">3</span> - <span style="border: 1px solid black; padding: 1px;">4</span>		5	4	1.5	68	
RCA2-SA4R-I-20-2.5- <span style="border: 1px solid black; padding: 1px;">1</span> - <span style="border: 1px solid black; padding: 1px;">2</span> - <span style="border: 1px solid black; padding: 1px;">3</span> - <span style="border: 1px solid black; padding: 1px;">4</span>		2.5	6	3	136	

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

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

\* The standard cable is the motor-encoder integrated robot cable.  
 \* See page A-39 for cables for maintenance.

Option List			
Name	Option Code	See Page	
Brake-Equipped	B	→ A-25	
Cable Exit Direction (Top)	CJT	→ A-25	
Cable Exit Direction (Outside)	CJO	→ A-25	
Cable Exit Direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-Mounted Motor	MR	→ A-33	
No Cover	NCO	→ A-33	
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
Base	Material: Aluminum (special alumite treated)
Allowable Static Load Moment	Ma: 6.8N·m Mb: 9.7N·m Mc: 13.3N·m
Allowable Dynamic Load Moment	Ma: 3.04N·m Mb: 4.31N·m Mc: 5.00N·m
Overhang Load Length	120mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Directions of Allowable Load Moments

Ma

Mb

Mc

L

5,000 km service life



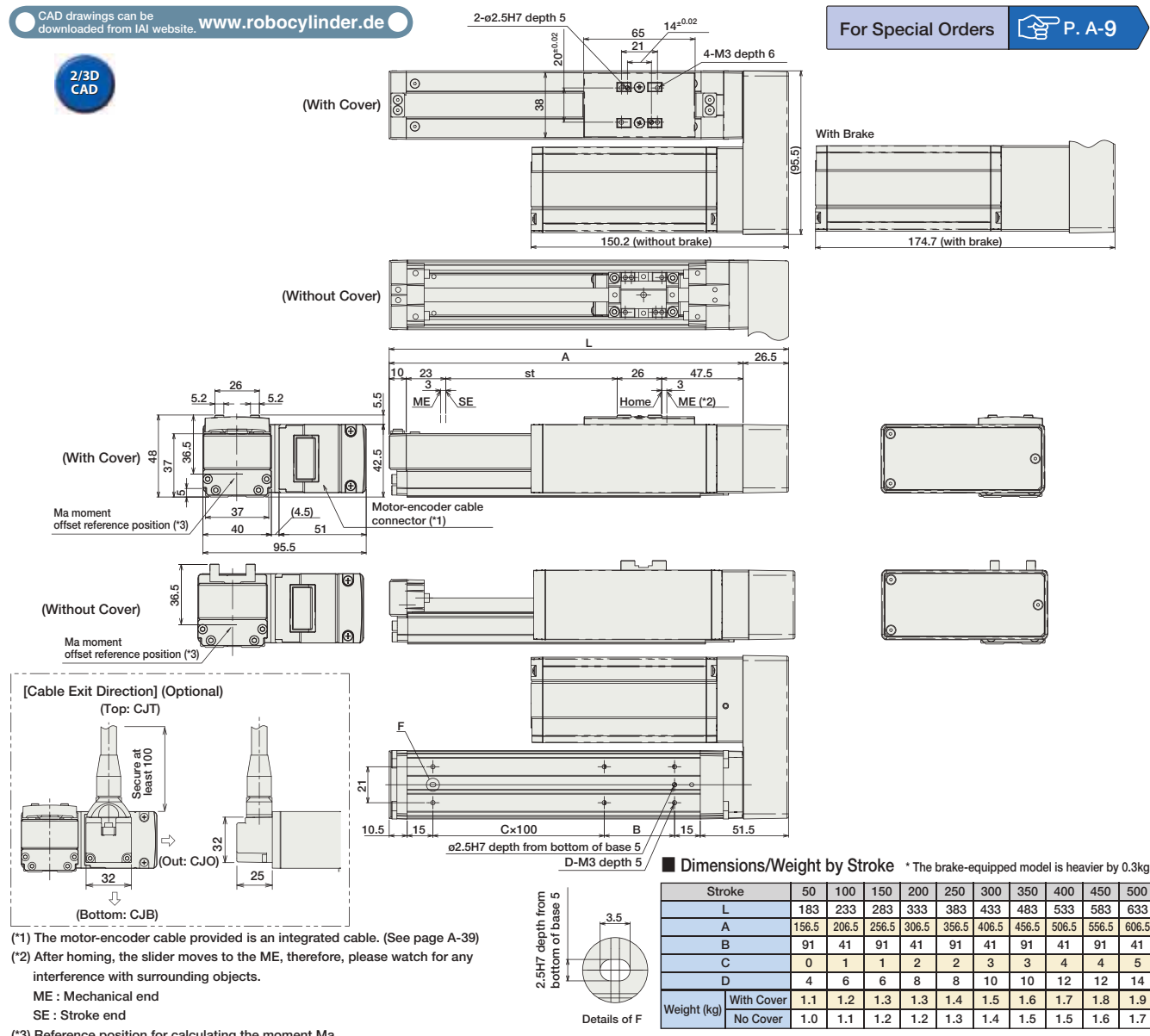
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

Dimensions

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



For Special Orders P. A-9



(\*1) The motor-encoder cable provided is an integrated cable. (See page A-39)  
 (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME : Mechanical end  
 SE : Stroke end  
 (\*3) Reference position for calculating the moment Ma

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	See Page
Solenoid Valve Type		AMEC-C-20Si①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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					
Positioner Type		ACON-C-20Si①-NP-2-0	Positioning is possible for up to 512 points	512 points		(Standard) 1.7A rated 5.1A max.	
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	(Power-saving) 1.7A rated 3.4A max.	→ 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 Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
 \* ① is replaced with the code "LA" when support for power-saving is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA5R

RoboCylinder Slider Type 50mm Width 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA2** — **SA5R** — **I** — **20** —  —  —  —  —

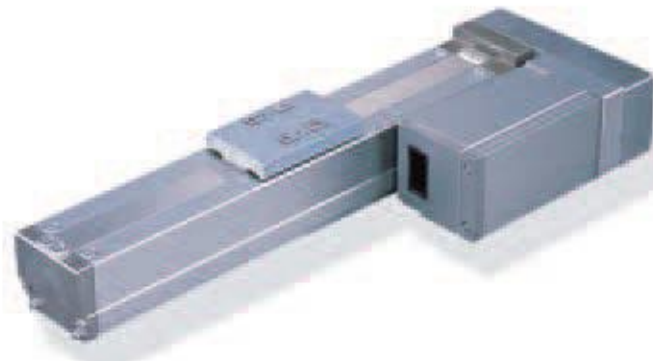
Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

I: Incremental      20: 20W Servo motor  
 \* Simple absolute encoder models are labeled as "I".  
 12: 12mm      50: 50mm  
 6: 6mm      800: 800mm (50mm pitch increments)  
 3: 3mm  
 A1: ACON      N: None  
      RACON      P: 1m  
      ASEL      S: 3m  
 A3: AMEC      M: 5m  
      ASEP      X  : Custom Length

\* See page Pre-35 for explanation of each code that makes up the configuration name.

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

**Power-saving**



**Technical References** P. A-5

**POINT**  
Notes on Selection
 (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

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)		
RCA2-SA5R-I-20-12-①-②-③-④	20	12	3	1	17	50~800 (50mm increments)
RCA2-SA5R-I-20-6-①-②-③-④		6	6	1.5	34	
RCA2-SA5R-I-20-3-①-②-③-④		3	9	3	68	

Stroke / Lead	Stroke and Maximum Speed					
	50 ~ 550 (50mm increments)	600	650	700	750	800
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

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

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-39 for cables for maintenance.

Option List			
Name	Option Code	See Page	
Brake-Equipped	B	→ A-25	
Cable Exit Direction (Top)	CJT	→ A-25	
Cable Exit Direction (Outside)	CJO	→ A-25	
Cable Exit Direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-Mounted Motor	MR	→ A-33	
No Cover	NCO	→ A-33	
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
Base	Material: Aluminum (special alumite treated)
Allowable Static Load Moment	Ma: 10.2N·m Mb: 14.6N·m Mc: 8.53N·m
Allowable Dynamic Load Moment	Ma: 3.92N·m Mb: 5.58N·m Mc: 8.53N·m
Overhang Load Length	130mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Directions of Allowable Load Moments

5,000 km service life

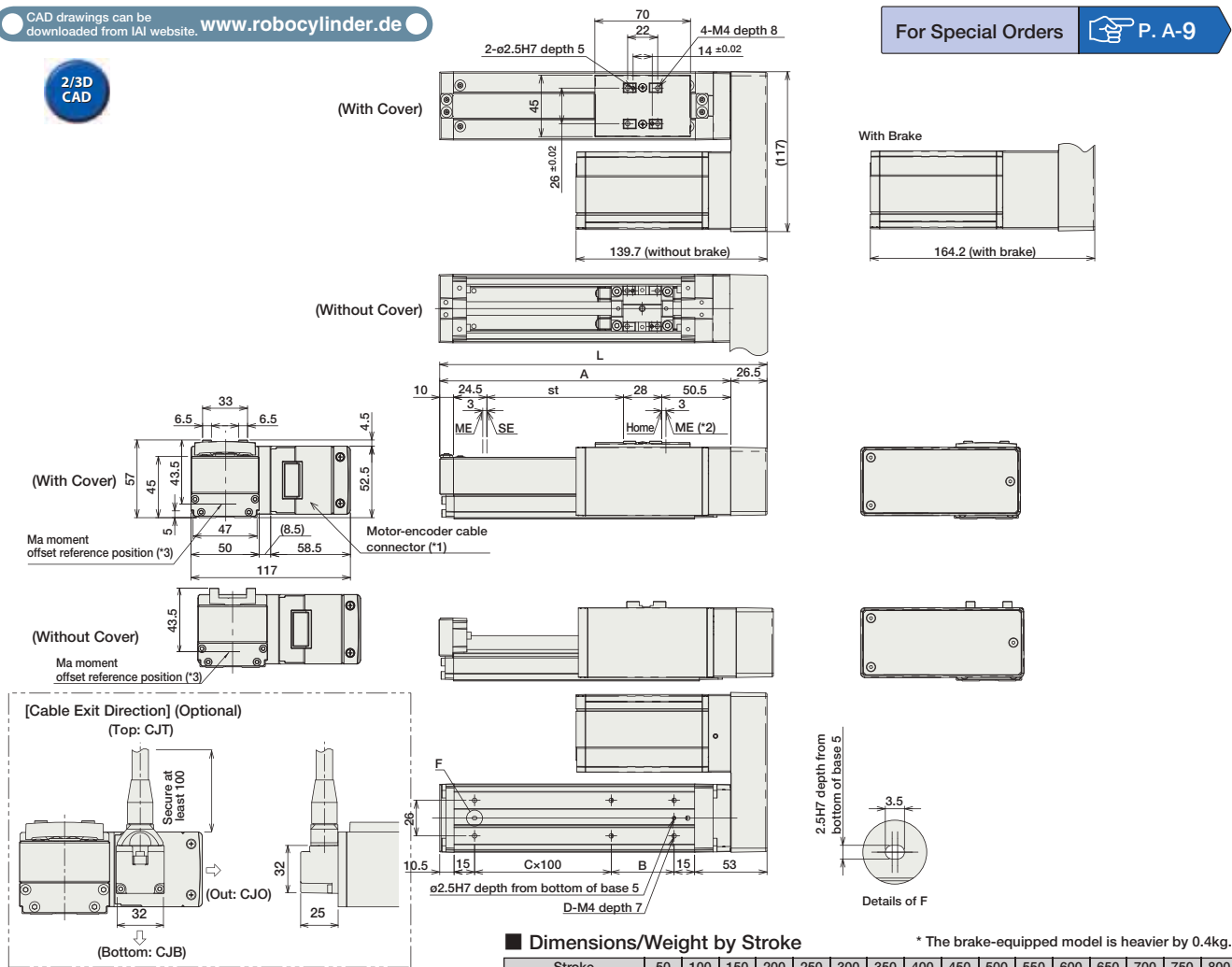
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

Dimensions

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



For Special Orders P. A-9



■ Dimensions/Weight by Stroke

\* The brake-equipped model is heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	189.5	239.5	289.5	339.5	389.5	439.5	489.5	539.5	589.5	639.5	689.5	739.5	789.5	839.5	889.5	939.5	
A	163	213	263	313	363	413	463	513	563	613	663	713	763	813	863	913	
B	96	46	96	46	96	46	96	46	96	46	96	46	96	46	96	46	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
Weight (kg)	With Cover	1.5	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.5
	No Cover	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

- (\*1) The motor-encoder cable provided is an integrated cable. (See page A-39.)
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the moment Ma

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	See Page
Solenoid Valve Type		AMEC-C-20①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-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.				
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	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	→ P503
Field Network Type		RACON-20①	Dedicated to field network	768 points			
Program Control Type		ASEL-C-1-20①-NP-2-0	Programmed operation is possible Can operate 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 replaced with the code "LA" when support for power-saving is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-SA6R

RoboCylinder Slider Type 60mm Width 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA2** - **SA6R** - **I** - **30** -   -   -   -   -  

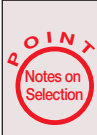
Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * Simple absolute encoder models are labeled as "I".	30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm 800: 800mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> <input type="checkbox"/> : Custom Length	See Options below * Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



**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) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

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)		
RCA2-SA6R-I-30-12-①-②-③-④	30	12	4	1.5	26	50~800 (50mm increments)
RCA2-SA6R-I-30-6-①-②-③-④		6	7	2	53	
RCA2-SA6R-I-30-3-①-②-③-④		3	10	4	105	

Stroke / Lead	Stroke and Maximum Speed					
	50 ~ 550 (50mm increments)	600	650	700	750	800
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

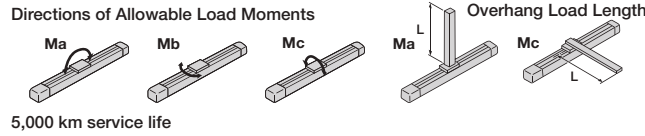
Legend ① Stroke ② Compatible controller ③ Cable length ④ Options (Unit: mm/s)

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-39 for cables for maintenance.

Option List			
Name	Option Code	See Page	
Brake-Equipped	B	→ A-25	
Cable Exit Direction (Top)	CJT	→ A-25	
Cable Exit Direction (Outside)	CJO	→ A-25	
Cable Exit Direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-Mounted Motor	MR	→ A-33	
No Cover	NCO	→ A-33	
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
Base	Aluminum (special alumite treated)
Allowable Static Load Moment	Ma: 17.6N·m Mb: 25.2N·m Mc: 44.5N·m
Allowable Dynamic Load Moment	Ma: 4.31N·m Mb: 6.17N·m Mc: 10.98N·m
Overhang Load Length	150mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)



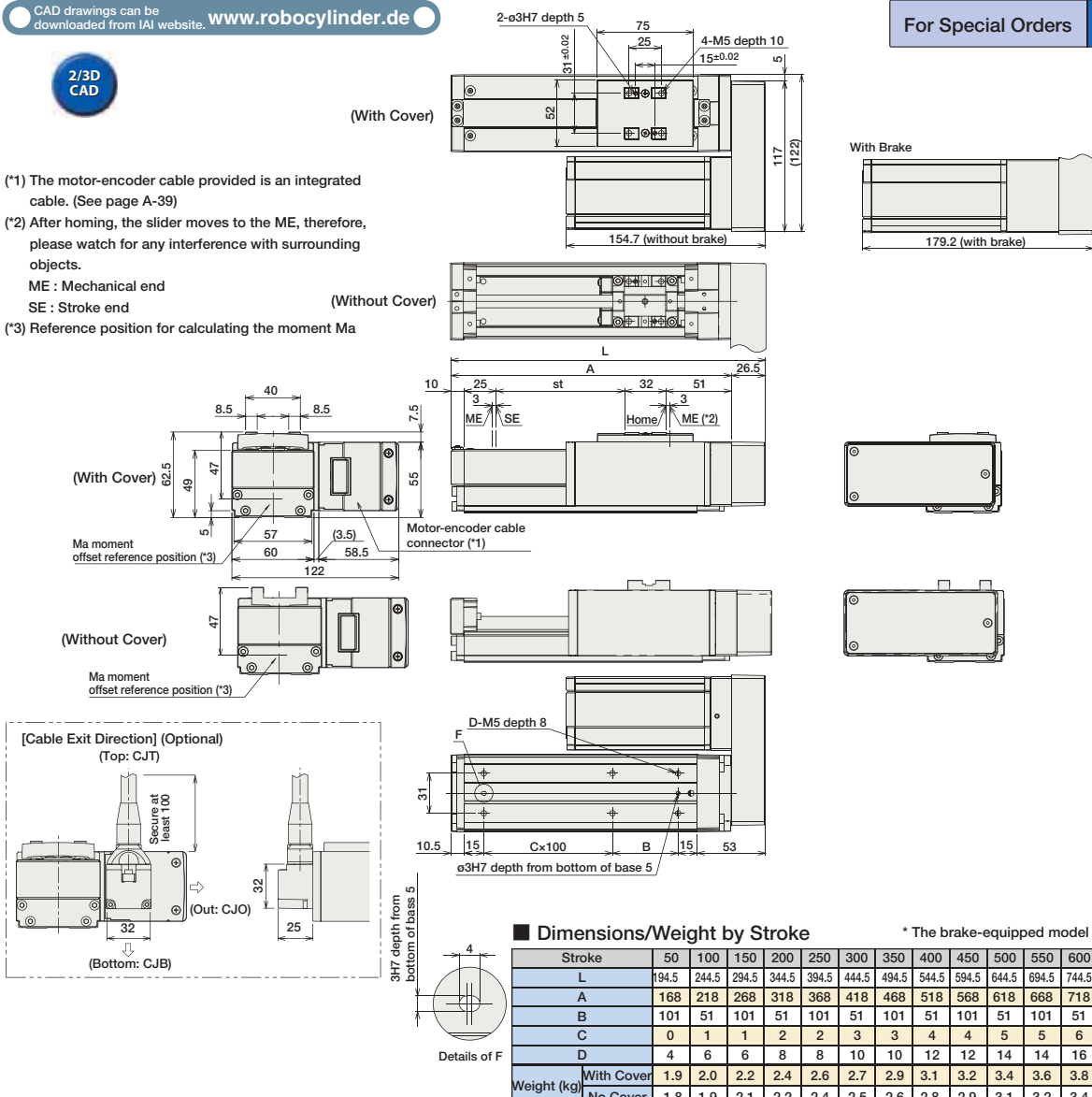
Dimensions

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



For Special Orders P. A-9

- (\*) The motor-encoder cable provided is an integrated cable. (See page A-39)
- (\*) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- ME : Mechanical end
- SE : Stroke end
- (\*) Reference position for calculating the moment Ma



■ Dimensions/Weight by Stroke

\* The brake-equipped model is heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	194.5	244.5	294.5	344.5	394.5	444.5	494.5	544.5	594.5	644.5	694.5	744.5	794.5	844.5	894.5	944.5	
A	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	
B	101	51	101	51	101	51	101	51	101	51	101	51	101	51	101	51	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
Weight (kg)	With Cover	1.9	2.0	2.2	2.4	2.6	2.7	2.9	3.1	3.2	3.4	3.6	3.8	3.9	4.1	4.3	4.5
	No Cover	1.8	1.9	2.1	2.2	2.4	2.5	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.8	3.9

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	See Page
Solenoid Valve Type		AMEC-C-30I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30I①-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-30I①-NP-2-0					
Positioner Type		ACON-C-30I①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.0A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-30I①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.2A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30I①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30I①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30I①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-30I①-NP-2-0	Programmed operation is possible Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
\* ① is replaced with the code "LA" when support for power-saving is specified.

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

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA4C RoboCylinder Slider Type 40mm Width 24V Servo Motor Coupled

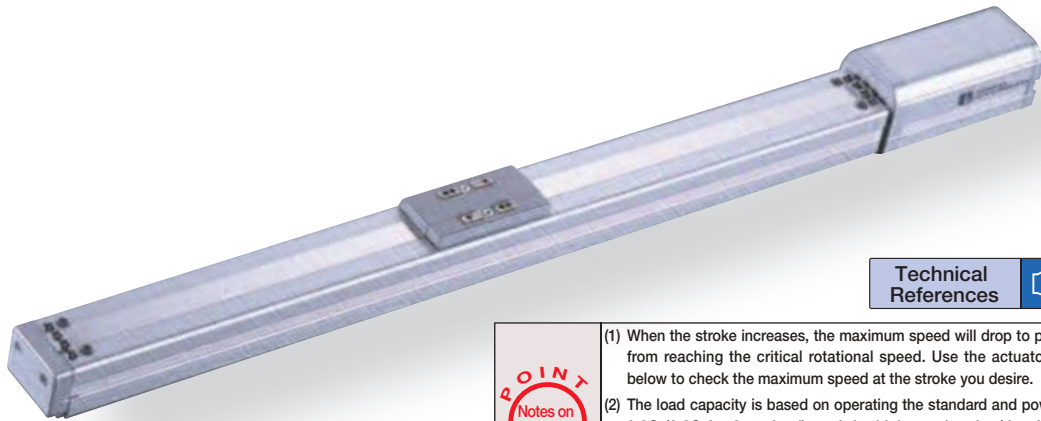
■ Configuration: **RCA** — **SA4C** —  — **20** —  —  —  —  —

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

I: Incremental  
A: Absolute  
20: 20W Servo motor  
10: 10mm  
5: 5mm  
2.5: 2.5mm  
50: 50mm  
400: 400mm (50mm pitch increments)  
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP  
N: None  
P: 1m  
S: 3m  
M: 5m  
X : Custom Length  
R : Robot Cable  
See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**For High Acceleration/Deceleration** **Power-saving**  
(excluding the 2.5-mm 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 is based on operating the standard and power-saving models at 0.3G (0.2G for 3mm-lead), and the high acceleration/deceleration model at 1G (excluding the 2.5mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)

## 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-SA4C-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50 ~ 400 (50mm increments)
RCA-SA4C-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCA-SA4C-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option

### Stroke and Maximum Speed

Lead	Stroke	50 ~ 400 (50mm increments)
		10
5	330	
2.5	165	

(Unit: mm/s)

## Cable List

Type	Cable Symbol
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.

## Option List

Name	Option Code	See Page
Brake	B	→ A-25
Foot bracket	FT	→ A-29
For High Acceleration/Deceleration	HA	→ A-32
Home sensor	HS	→ A-32
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Slider Roller	SR	→ A-36
Slider spacer	SS	→ A-36

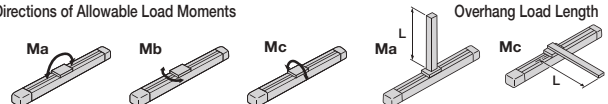
\* The high-acceleration/deceleration option and the Slider Roller option cannot be used together.  
\* The 2.5mm-lead model cannot be used with the high-acceleration/deceleration option.  
\* The high-acceleration/deceleration option and the power saving option cannot be used together.

## 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)
Allowable Static Moment	Ma: 6.9N·m Mb: 9.9N·m Mc: 17.0N·m
Allowable Dynamic Moment (*)	Ma: 2.7N·m Mb: 3.9N·m Mc: 6.8N·m
Overhang Load Length	Ma direction: 120mm or less Mb-Mc direction: 120mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments





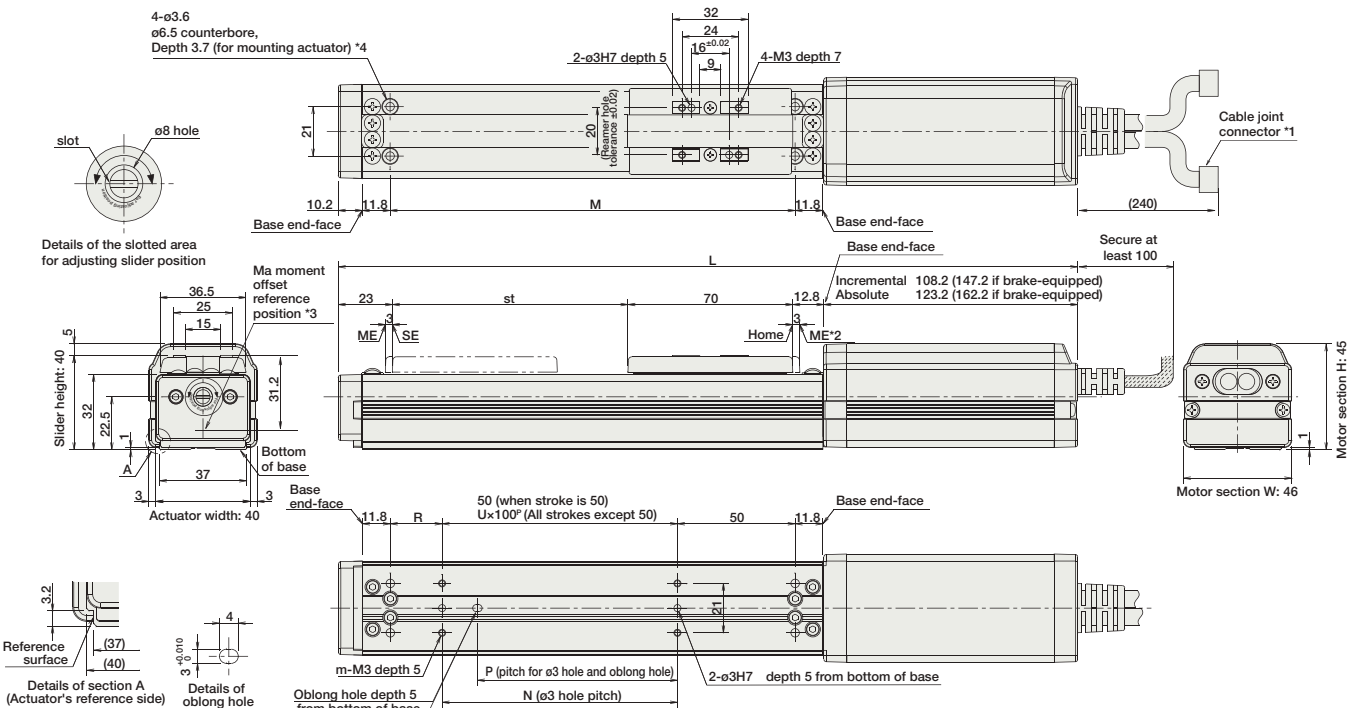
Dimensions

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

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 slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- \*3 Reference position for calculating the moment Ma.
- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.



■ Dimensions/Weight by Stroke \* Brake-equipped models are heavier by 0.3kg.

Stroke		50	100	150	200	250	300	350	400	
L	Incremental	No Brake	264	314	364	414	464	514	564	614
		With Brake	303	353	403	453	503	553	603	653
	Absolute	No Brake	279	329	379	429	479	529	579	629
		With Brake	318	368	418	468	518	568	618	668
M		122	172	222	272	322	372	422	472	
N		50	100	100	200	200	300	300	400	
P		35	85	85	185	185	285	285	385	
R		22	22	72	22	72	22	72	22	
U		-	1	1	2	2	3	3	4	
m		4	4	4	6	6	8	8	10	
Weight (kg)		0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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 Can operate 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", when the high-acceleration/deceleration option or the energy-saving option is selected.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA5C RoboCylinder Slider Type 52mm Width 24V Servo Motor Coupled

■ Configuration: **RCA** — **SA5C** —  — **20** —  —  —  —  —

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

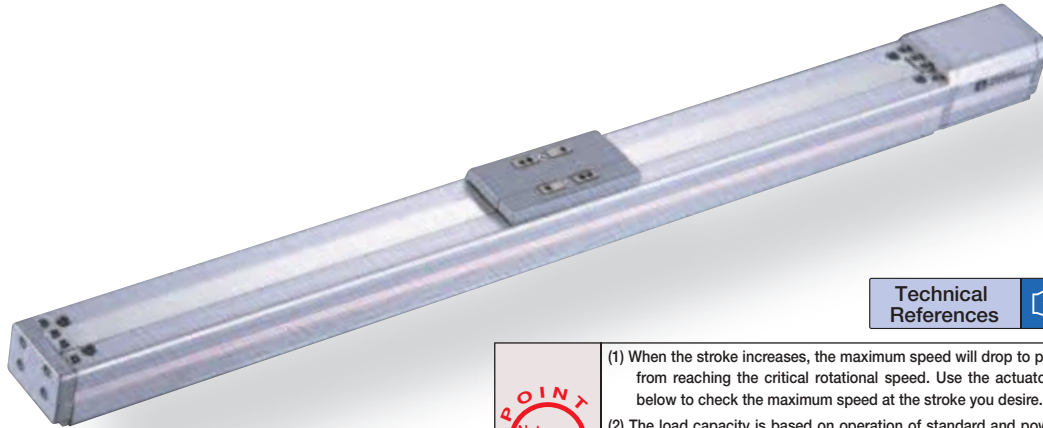
I: Incremental A: Absolute      20: 20W Servo motor      20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm      50: 50mm 500:500mm (50mm pitch increments)      A1: ACON RACON ASEL A3: AMEC ASEP      N : None P : 1m S : 3m M : 5m X  : Custom Length R  : Robot Cable      See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

For High Acceleration/Deceleration

Power-saving

(excluding the 3-mm 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 is based on operation of standard and power-saving models at 0.3G (0.2G for 3mm-lead), and operation of the high acceleration/deceleration model at 0.8G (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.)

### 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-SA5C-①-20-20-②-③-④-⑤	20	20	2	0.5	9.9	50 ~ 500 (50mm increments)
RCA-SA5C-①-20-12-②-③-④-⑤		12	4	1	16.7	
RCA-SA5C-①-20-6-②-③-④-⑤		6	6	2	33.3	
RCA-SA5C-①-20-3-②-③-④-⑤		3	12	4	65.7	

#### Stroke and Maximum Speed

Stroke Lead	50 ~ 450 (50mm increments)		500 (mm)
	20	1300	1300
12	800	760	
6	400	380	
3	200	190	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option (Unit: mm/s)

#### Cable List

Type	Cable Symbol	
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.

#### Option List

Name	Option Code	See Page
Brake	B	→ A-25
Foot bracket	FT	→ A-29
For High Acceleration/Deceleration	HA	→ A-32
Home sensor	HS	→ A-32
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Slider Roller	SR	→ A-36

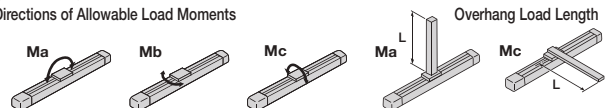
- \* The high-acceleration/deceleration option and the slider roller option cannot be used together.
- \* The high acceleration/deceleration option cannot be used on the 3mm-lead model.
- \* The high-acceleration/deceleration option and the power saving option cannot be used together.

#### 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)
Allowable Static Moment	Ma:18.6N·m Mb:26.6N·m Mc:47.5N·m
Allowable Dynamic Moment (*)	Ma: 4.9 N·m Mb: 6.8 N·m Mc: 11.7 N·m
Overhang Load Length	Ma direction: 150mm or less Mb-Mc direction: 150mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments



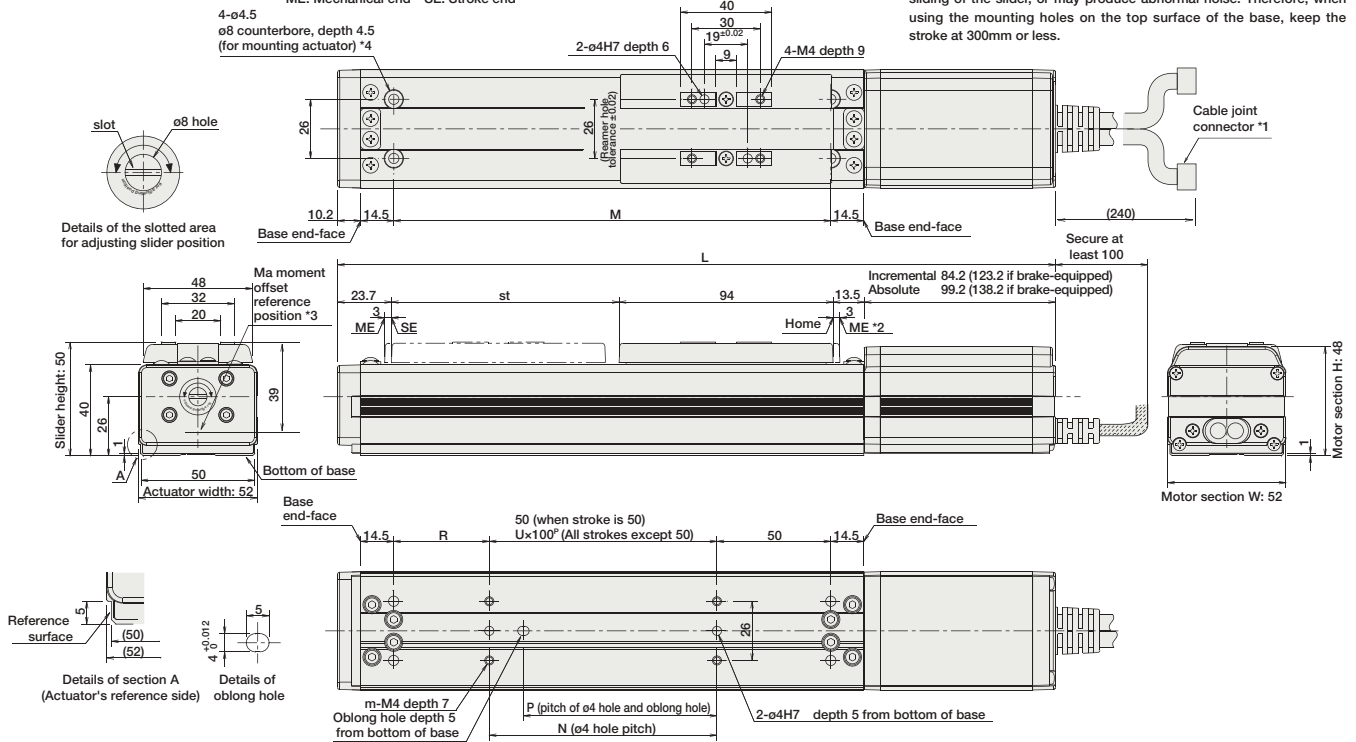
Dimensions

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

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 slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \* 3 Reference position for calculating the moment  $M_a$ .
- \* 4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



■ Dimensions/Weight by Stroke \* Brake-equipped models are heavier by 0.3kg.

Stroke		50	100	150	200	250	300	350	400	450	500	
L	Incremental	No Brake	265.4	315.4	365.4	415.4	465.4	515.4	565.4	615.4	665.4	715.4
		With Brake	304.4	354.4	404.4	454.4	504.4	554.4	604.4	654.4	704.4	754.4
	Absolute	No Brake	280.4	330.4	380.4	430.4	480.4	530.4	580.4	630.4	680.4	730.4
		With Brake	319.4	369.4	419.4	469.4	519.4	569.4	619.4	669.4	719.4	769.4
M		142	192	242	292	342	392	442	492	542	592	
N		50	100	100	200	200	300	300	400	400	500	
P		35	85	85	185	185	285	285	385	385	485	
R		42	42	92	42	92	42	92	42	92	42	
U		-	1	1	2	2	3	3	4	4	5	
m		4	4	4	6	6	8	8	10	10	12	
Weight (kg)		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	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	See Page
Solenoid Valve Type		AMEC-C-20②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V *planned	2.4A rated	→ P477
		ASEP-C-20②-NP-2-0					
Splash-Proof Solenoid Valve Type		ASEP-CW-20②-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-20②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20②-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-1-20 ① ②-NP-2-0	Programmed operation is possible Can operate 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", when the high-acceleration/deceleration option or the energy-saving option is selected.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA6C

RoboCylinder    Slider Type    58mm Width    24V Servo Motor    Coupled

■ Configuration: **RCA** — **SA6C** —   — **30** —   —   —   —   —   —   —  

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I: Incremental A: Absolute	30: 30W Servo motor	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50: 50mm 600:600mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N : None P : 1m S : 3m M : 5m X <input type="checkbox"/> : Custom Length R <input type="checkbox"/> : Robot Cable	See Options below		

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**For High Acceleration/Deceleration**

**Power-saving**

(excluding the 3-mm lead model)



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 of the standard and power-saving models at 0.3G (0.2G for 3mm-lead), and operation of 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.)

Actuator Specifications					
■ Lead and Load Capacity					
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCA-SA6C-①-30-20-②-③-④-⑤	30	20	3	0.5	50 ~ 600 (50mm increments)
RCA-SA6C-①-30-12-②-③-④-⑤		12	4	1.5	
RCA-SA6C-①-30-6-②-③-④-⑤		6	6	3	
RCA-SA6C-①-30-3-②-③-④-⑤		3	12	6	

■ Stroke and Maximum Speed					
Stroke Lead	Maximum Speed (mm/s)				
	50 ~ 450 (50mm increments)	500 (mm)	550 (mm)	600 (mm)	
20	1300	1300	1160	990	
12	800	760	640	540	
6	400	380	320	270	
3	200	190	160	135	

(Unit: mm/s)

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option

Cable List		
Type	Cable Symbol	
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.

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)
Allowable Static Moment	Ma: 38.3 N·m Mb: 54.7 N·m Mc: 81.0 N·m
Allowable Dynamic Moment (*)	Ma: 8.9 N·m Mb: 12.7 N·m Mc: 18.6 N·m
Overhang Load Length	Ma direction: 220mm or less Mb-Mc direction: 220mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.  
Directions of Allowable Load Moments

Option List		
Name	Option Code	See Page
Brake	B	→ A-25
Foot bracket	FT	→ A-29
For High Acceleration/Deceleration	HA	→ A-32
Home sensor	HS	→ A-32
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Slider Roller	SR	→ A-36

\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high acceleration/deceleration option cannot be used on the 3mm-lead model.  
\* The high-acceleration/deceleration option and the power saving option cannot be used together.

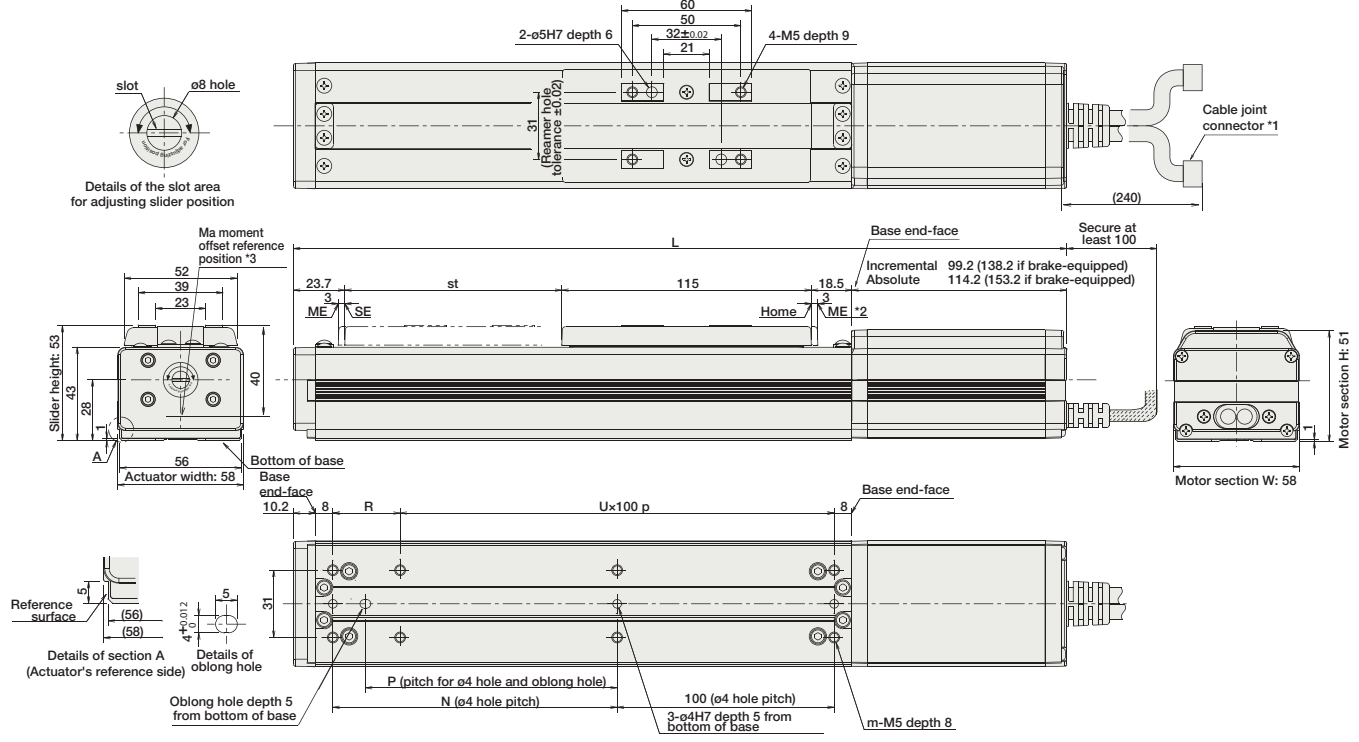
Dimensions

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

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 slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment  $M_a$ .



Dimensions/Weight by Stroke

\* Brake-equipped models are heavier by 0.3kg.

Stroke		50	100	150	200	250	300	350	400	450	500	550	600	
L	Incremental	No Brake	306.4	356.4	406.4	456.4	506.4	556.4	606.4	656.4	706.4	756.4	806.4	856.4
		With Brake	345.4	395.4	445.4	495.4	545.4	595.4	645.4	695.4	745.4	795.4	845.4	895.4
	Absolute	No Brake	321.4	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4	871.4
		With Brake	360.4	410.4	460.4	510.4	560.4	610.4	660.4	710.4	760.4	810.4	860.4	910.4
N		81	131	181	231	281	331	381	431	481	531	581	631	
P		66	116	166	216	266	316	366	416	466	516	566	616	
R		81	31	81	31	81	31	81	31	81	31	81	31	
U		1	2	2	3	3	4	4	5	5	6	6	7	
m		6	8	8	10	10	12	12	14	14	16	16	18	
Weight (kg)		1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6	

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	See Page
Solenoid Valve Type		AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30I②-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-30I②-NP-2-0					
Positioner Type		ACON-C-30I②-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 2.2A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I②-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 2.2A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30I②-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30I②	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-30I①②-NP-2-0	Programmed operation is possible Can operate 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", when the high-acceleration/deceleration option or the energy-saving option is selected.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA4D RoboCylinder Slider Type 40mm Width 24V Servo Motor Coupled

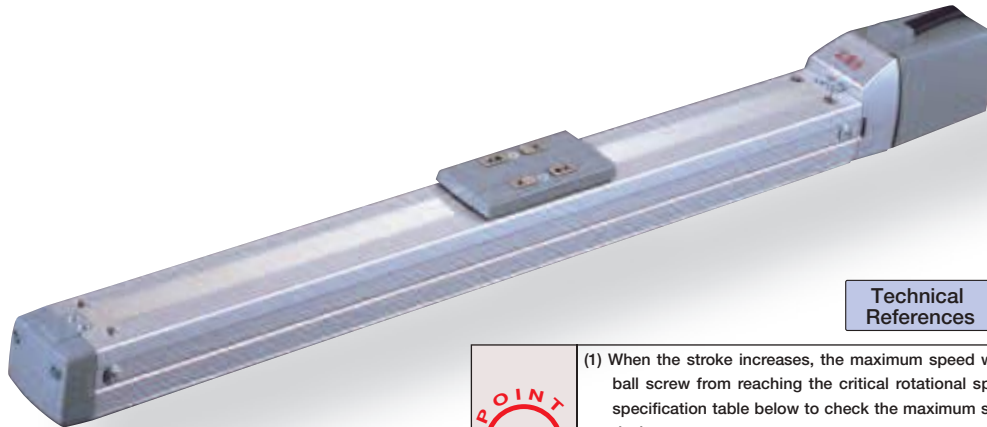
■ Configuration: **RCA** — **SA4D** —  — **20** —  —  —  —  —

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

I: Incremental A: Absolute      20: 20W Servo motor      10: 10mm      50: 50mm      A1: ACON      N: None      See Options below  
 A: Absolute      motor      5: 5mm      300: 300mm      RACON      P: 1m  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.      2.5: 2.5mm      (50mm pitch increments)      ASEL      S: 3m  
 A3: AMEC      M: 5m  
 ASEP      X : Custom Length  
 R : Robot Cable

\* See page Pre-35 for explanation of each code that makes up the configuration name.

Power-saving



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 2.5mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

Actuator Specifications							Stroke and Maximum Speed		
■ Lead and Load Capacity							Stroke (mm)	50 ~ 300 (50mm increments)	
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Lead			
RCA-SA4D-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50 ~ 300 (50mm increments)	10	665	
RCA-SA4D-①-20-5-②-③-④-⑤		5	6	2.5	39.2		5	330	
RCA-SA4D-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4		2.5	165	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option (Unit: mm/s)

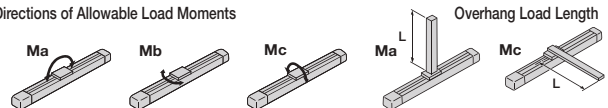
Type	Cable Symbol
Standard	P (1m)
	S (3m)
	M (5m)
Special Lengths	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
Robot Cable	R01 (1m) ~ R03 (3m)
	R04 (4m) ~ R05 (5m)
	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)

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

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)
Allowable Static Moment	Ma: 6.9 N·m Mb: 9.9 N·m Mc: 17.0 N·m
Allowable Dynamic Moment (*)	Ma: 2.7 N·m Mb: 3.9 N·m Mc: 6.8 N·m
Overhang Load Length	Ma direction: 120mm or less Mb·Mc direction: 120mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments



Name	Option Code	See Page
Brake (Cable exiting end)	BE	→ A-25
Brake (Cable exiting left)	BL	→ A-25
Brake (Cable exiting right)	BR	→ A-25
Foot bracket	FT	→ A-29
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33



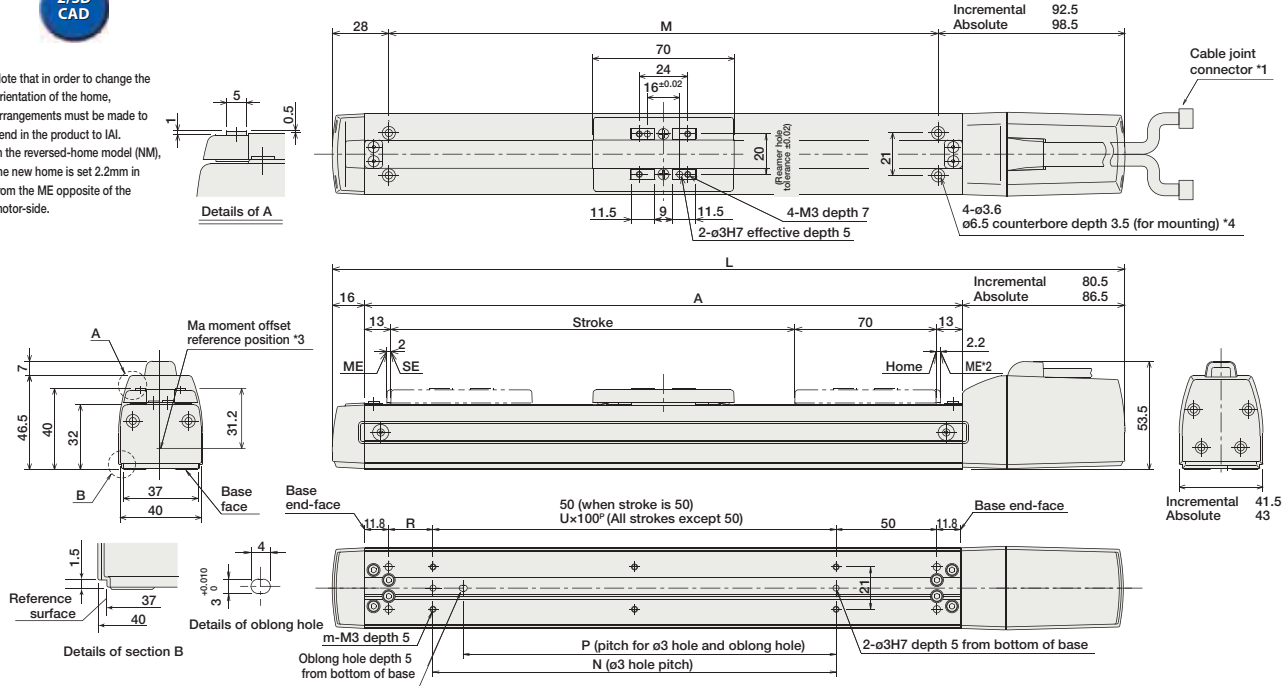
Dimensions

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

For Special Orders P. A-9

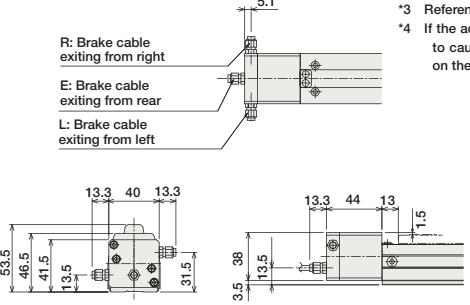
2/3D CAD

\* Note that in order to change the orientation of the home, arrangements must be made to send in the product to IAI.  
\* In the reversed-home model (NM), the new home is set 2.2mm in from the ME opposite of the motor-side.



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.
- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.

Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 28mm (41.3mm with the cable coming out its end), and its weight by 0.2kg.

Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300	
L	Incremental	242.5	292.5	342.5	392.5	442.5	492.5
	Absolute	248.5	298.5	348.5	398.5	448.5	498.5
A	146	196	246	296	346	396	
M	122	172	222	272	322	372	
N	50	100	100	200	200	300	
P	35	85	85	185	185	285	
R	22	22	72	22	72	22	
U	-	1	1	2	2	3	
m	4	4	4	6	6	8	
Weight (kg)	0.6	0.7	0.8	0.9	1.0	1.1	

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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-1-20 ①②-NP-2-0	Programmed operation is possible Can operate 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" when 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 Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA5D

RoboCylinder Slider Type 52mm Width 24V Servo Motor  
Motor Built-In (Direct-Coupled)

■ Configuration: **RCA** - **SA5D** - [ ] - **20** - [ ] - [ ] - [ ] - [ ]

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

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL.  
When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

20: 20W Servo motor

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

50: 50mm  
500: 500mm (50mm pitch increments)

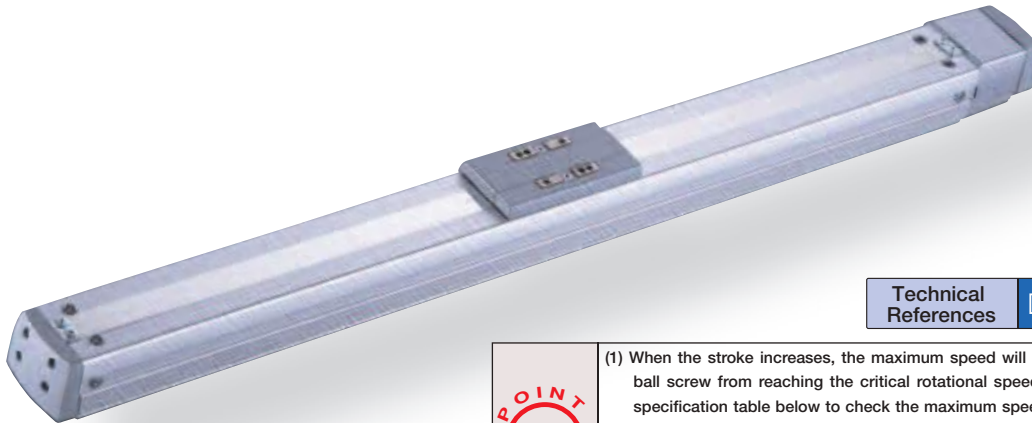
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



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). These values are the upper limits for the acceleration.

### 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-SA5D-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50 ~ 500 (50mm increments)
RCA-SA5D-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCA-SA5D-①-20-3-②-③-④-⑤		3	12	4	65.7	

#### Stroke and Maximum Speed

Lead	Stroke	50 ~ 450 (50mm increments)	500 (mm)
		12	800
6	400	380	
3	200	190	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option (Unit: mm/s)

### Cable List

Type	Cable Symbol
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.

### Option List

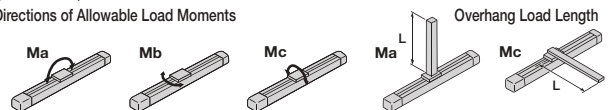
Name	Option Code	See Page
Brake (Cable exiting end)	BE	→ A-25
Brake (Cable exiting left)	BL	→ A-25
Brake (Cable exiting right)	BR	→ A-25
Foot bracket	FT	→ A-29
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Slider Roller	SR	→ A-36

### 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)
Allowable Static Moment	Ma: 18.6 N·m Mb: 26.6 N·m Mc: 47.5 N·m
Allowable Dynamic Moment (*)	Ma: 4.9 N·m Mb: 6.8 N·m Mc: 11.7 N·m
Overhang Load Length	Ma direction: 150mm or less Mb-Mc direction: 150mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments

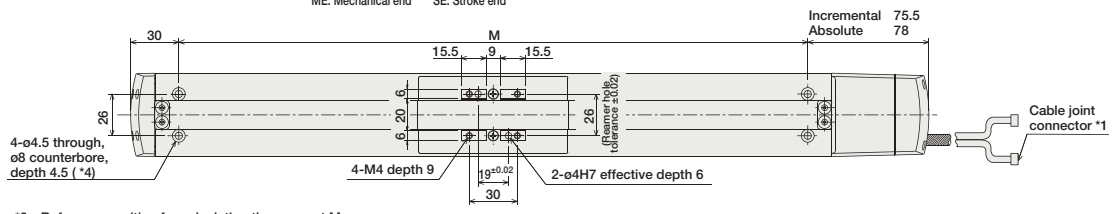


Dimensions

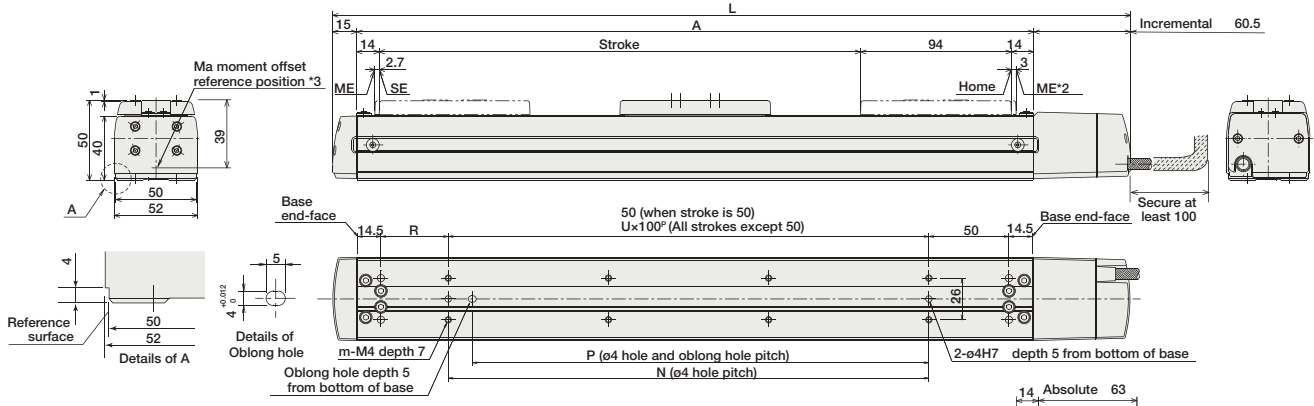
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

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

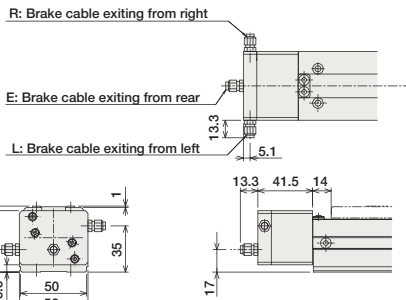
For Special Orders P. A-9



- \*3 Reference position for calculating the moment Ma.
- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out its end), and its weight by 0.3kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	Incremental	247.5	297.5	347.5	397.5	447.5	497.5	547.5	597.5	647.5
	Absolute	250	300	350	400	450	500	550	600	650
A	172	222	272	322	372	422	472	522	572	622
M	142	192	242	292	342	392	442	492	542	592
N	50	100	100	200	200	300	300	400	400	500
P	35	85	85	185	185	285	285	385	385	485
R	42	42	92	42	92	42	92	42	92	42
U	-	1	1	2	2	3	3	4	4	5
m	4	4	4	6	6	8	8	10	10	12
Weight (kg)	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1

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	See Page
Solenoid Valve Type		AMEC-C-20①②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		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.				
Splash-Proof Solenoid Valve Type		ASEP-CW-20①②-NP-2-0					
Positioner Type		ACON-C-20①②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	
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	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
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 Can operate 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" when 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 Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA6D RoboCylinder Slider Type 52mm Width 24V Servo Motor Motor Built-In (Direct-Coupled)

■ Configuration: **RCA** - **SA6D** -  - **30** -  -  -  -  -

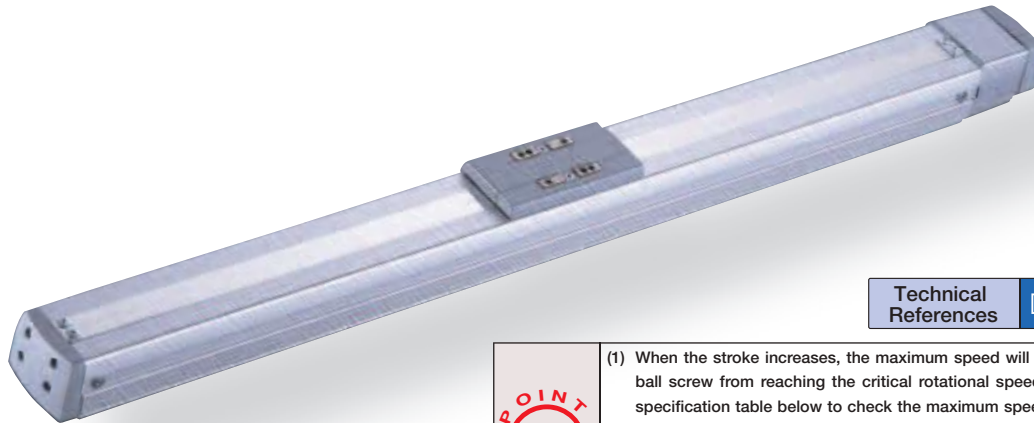
Series - Type - Encoder - Motor - Lead - Stroke - Compatible Controllers - Cable Length - Option

I: Incremental A: Absolute 30: 30W Servo motor 12: 12mm 50: 50mm A1: ACON RACON ASEL A3: AMEC ASEP N: None P: 1m S: 3m M: 5m X : Custom Length R : Robot Cable See Options below

\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**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). These values are the upper limits for the acceleration.

Actuator Specifications							Stroke and Maximum Speed				
■ Lead and Load Capacity											
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Stroke / Lead	50 ~ 450 (50mm increments)	500 (mm)	550 (mm)	600 (mm)
RCA-SA6D-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50 ~ 600 (50mm increments)	12	800	760	640	540
RCA-SA6D-①-30-6-②-③-④-⑤		6	12	3	48.4		6	400	380	320	270
RCA-SA6D-①-30-3-②-③-④-⑤		3	18	6	96.8		3	200	190	160	135

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option (Unit: mm/s)

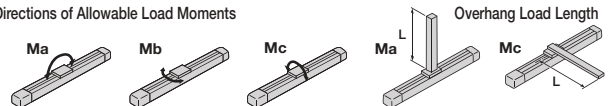
Type	Cable Symbol
Standard	P (1m)
	S (3m)
	M (5m)
Special Lengths	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
Robot Cable	R01 (1m) ~ R03 (3m)
	R04 (4m) ~ R05 (5m)
	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)

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

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)
Allowable Static Moment	Ma: 38.3N·m Mb: 54.7N·m Mc: 81.0N·m
Allowable Dynamic Moment (*)	Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m
Overhang Load Length	Ma direction: 220mm or less Mb/Mc direction: 220mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments



Name	Option Code	See Page
Brake (Cable exiting end)	BE	→ A-25
Brake (Cable exiting left)	BL	→ A-25
Brake (Cable exiting right)	BR	→ A-25
Foot bracket	FT	→ A-29
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Slider Roller	SR	→ A-36

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

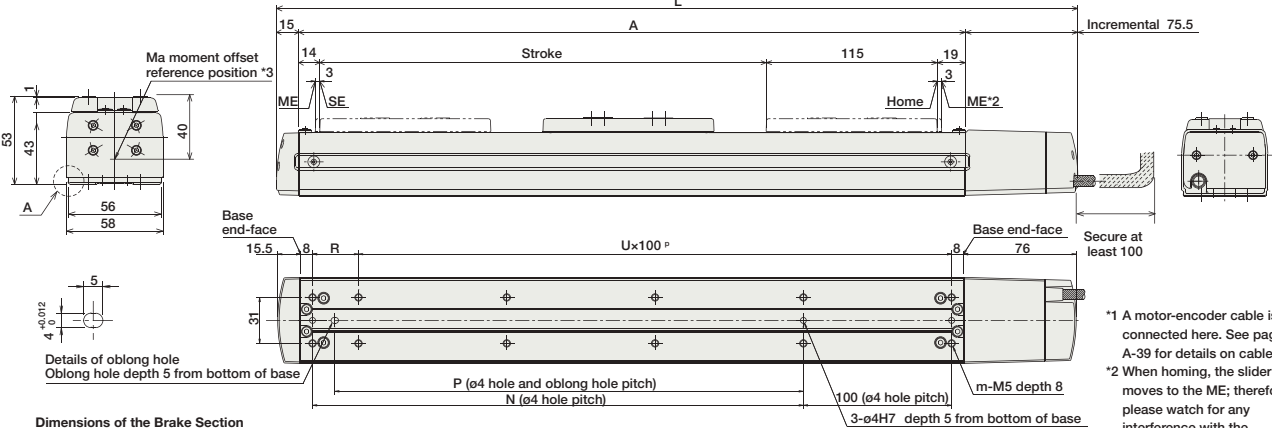
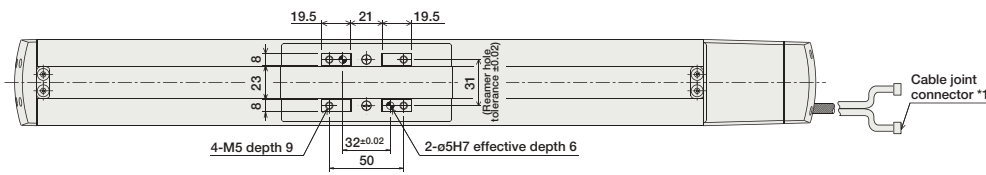
Dimensions

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

For Special Orders P. A-9

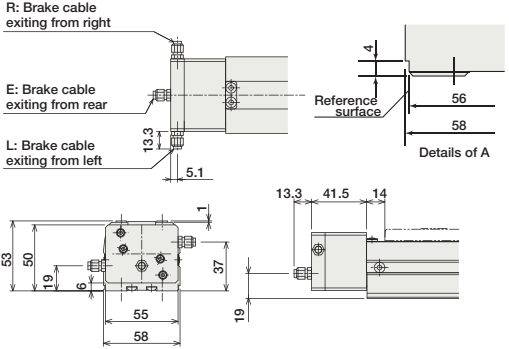


\* Note that in order to change the orientation of the home, arrangements must be made to send in the product to IAI.  
 \* In the reversed-home model (NM), the new home is set 3mm in from the ME opposite of the motor-side.



\*1 A motor-encoder cable is connected here. See page A-39 for details on cables.  
 \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end  
 \*3 Reference position for calculating the moment Ma.

Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out its end), and its weight by 0.3kg.

Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	
L	Incremental	288.5	338.5	388.5	438.5	488.5	538.5	588.5	638.5	688.5	738.5	788.5	838.5
	Absolute	292.5	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5
A	198	248	298	348	398	448	498	548	598	648	698	748	
N	81	131	181	231	281	331	381	431	481	531	581	631	
P	66	116	166	216	266	316	366	416	466	516	566	616	
R	81	31	81	31	81	31	81	31	81	31	81	31	
U	1	2	2	3	3	4	4	5	5	6	6	7	
m	6	8	8	10	10	12	12	14	14	16	16	18	
Weight (kg)	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	

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	See Page
Solenoid Valve Type		AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30I②-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-30I②-NP-2-0					
Positioner Type		ACON-C-30I②-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 2.2A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I②-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 2.2A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30I②-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30②	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-30①②-NP-2-0	Programmed operation is possible Can operate 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" when 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 Motor 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 (230V)
- Linear Motor

# RCA-SS4D

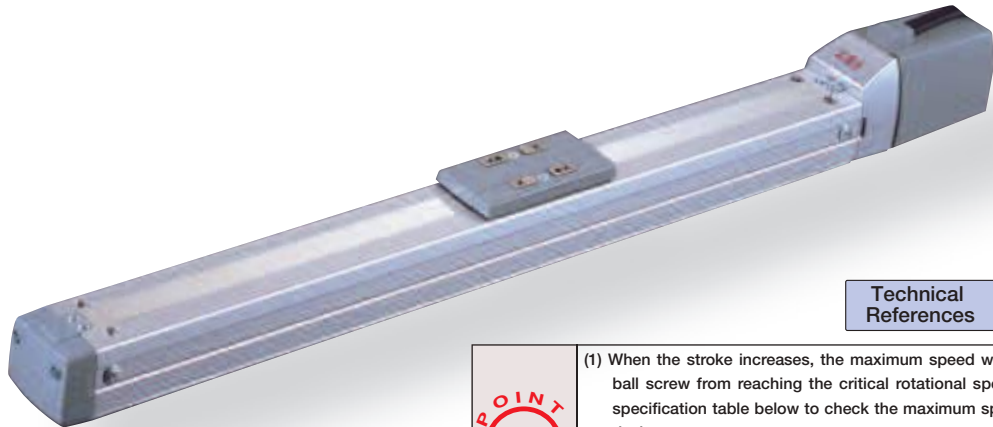
RoboCylinder Slider Type 40mm Width 24V Servo Motor  
Motor Built-In (Direct-Coupled) Steel Base

■ Configuration: **RCA** - **SS4D** - **I** - **20** -  -  -  -  -

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * Simple absolute encoder models are labeled as "I".	20: 20W Servo motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 300: 300mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom Length R <input type="checkbox"/> : Robot Cable	See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



**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 2.5mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

Actuator Specifications							Stroke and Maximum Speed	
■ Lead and Load Capacity							Stroke	
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Lead	50 ~ 300 (50mm increments)
			Horizontal (kg)	Vertical (kg)				
RCA-SS4D-I-20-10-①-②-③-④	20	10	4	1	19.6	50 ~ 300 (50mm increments)	10	665
RCA-SS4D-I-20-5-①-②-③-④		5	6	2.5	39.2		5	330
RCA-SS4D-I-20-2.5-①-②-③-④		2.5	8	4.5	78.4		2.5	165

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

Cable List	
Type	Cable Symbol
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.

Actuator Specifications	
Item	Description
Drive System	Ball screw Ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable Static Moment	Ma: 6.9 N·m Mb: 9.9 N·m Mc: 17.0 N·m
Allowable Dynamic Moment (*)	Ma: 2.7 N·m Mb: 3.9 N·m Mc: 6.8 N·m
Overhang Load Length	Ma direction: 120mm or less Mb·Mc direction: 120mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments

Option List			
Name	Option Code	See Page	
Brake (Cable exiting end)	BE	→ A-25	
Brake (Cable exiting left)	BL	→ A-25	
Brake (Cable exiting right)	BR	→ A-25	
Power-saving	LA	→ A-32	
Reversed-home	NM	→ A-33	



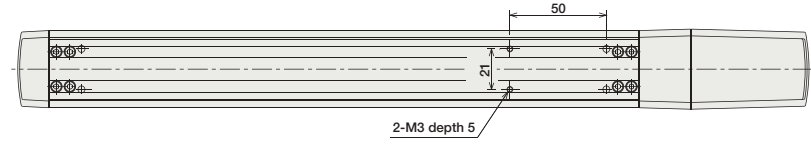
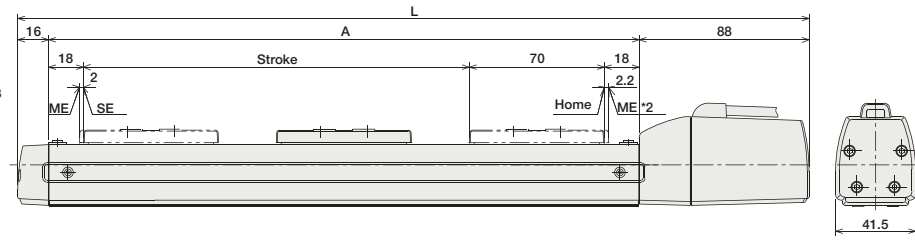
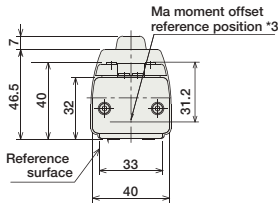
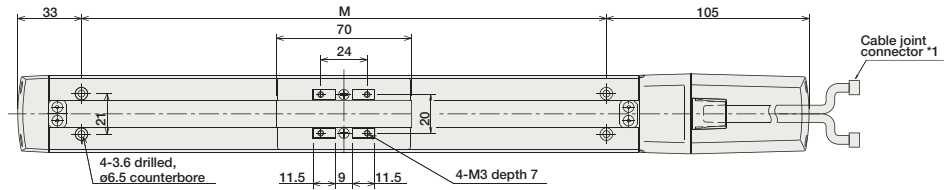
Dimensions

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

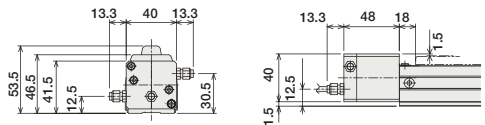
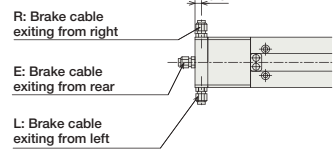
For Special Orders P. A-9



- \* Note that in order to change the orientation of the home, arrangements must be made to send in the product to IAI.
- \* In the reversed-home model (NM), the new home is set 2.2mm in from the ME opposite of the motor-side.



Dimensions of the Brake Section



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

\* Adding a brake increases the actuator's overall length (L) by 32mm (45.3mm with the cable coming out its end), and its weight by 0.2kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
L	260	310	360	410	460	510
A	156	206	256	306	356	406
M	122	172	222	272	322	372
Weight (kg)	1.1	1.2	1.3	1.4	1.5	1.6

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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-1-20I②-NP-2-0	Programmed operation is possible Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
\* ② is a placeholder for the code "LA" when 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 Motor 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 (230V)
- Linear Motor

# RCA-SS5D

RoboCylinder Slider Type 52mm Width 24V Servo Motor  
Motor Built-In (Direct-Coupled) Steel Base

■ Configuration: **RCA** - **SS5D** - **I** - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

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

I: Incremental  
\* Simple absolute encoder models are labeled as "I".

20: 20W Servo motor

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

50: 50mm  
500: 500mm (50mm pitch increments)

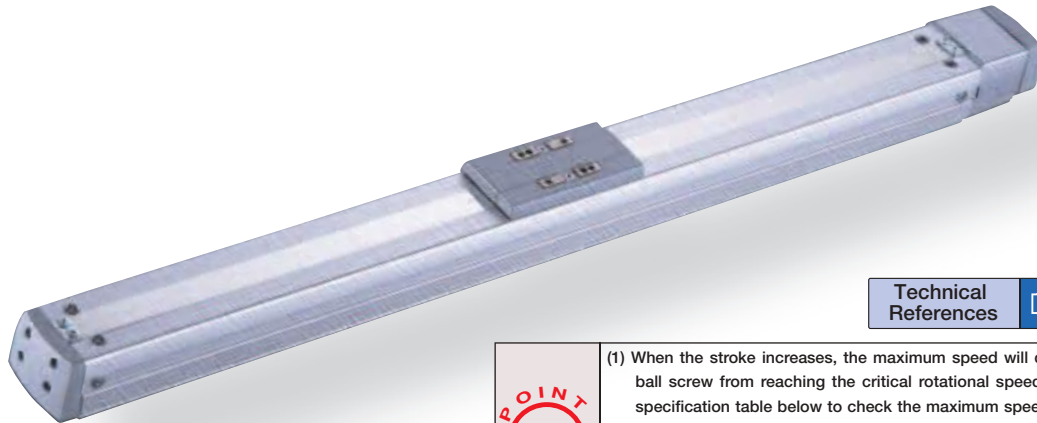
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

See Options below

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



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). These values are the upper limits for the acceleration.

**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-SS5D-I-20-12-[1]-[2]-[3]-[4]	20	12	4	1	16.7	50 ~ 500 (50mm increments)
RCA-SS5D-I-20-6-[1]-[2]-[3]-[4]		6	8	2	33.3	
RCA-SS5D-I-20-3-[1]-[2]-[3]-[4]		3	12	4	65.7	

■ Stroke and Maximum Speed

Lead	Stroke	50 ~ 450 (50mm increments)	500 (mm)
	12	800	760
6	400	380	
3	200	190	

(Unit: mm/s)

Legend [1] Stroke [2] Compatible controller [3] Cable length [4] Options

**Cable List**

Type	Cable Symbol
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.

**Option List**

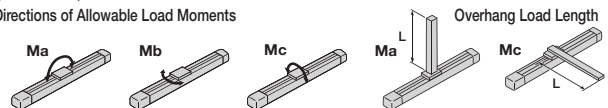
Name	Option Code	See Page
Brake (Cable exiting end)	BE	→ A-25
Brake (Cable exiting left)	BL	→ A-25
Brake (Cable exiting right)	BR	→ A-25
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Slider Roller	SR	→ A-36

**Actuator Specifications**

Item	Description
Drive System	Ball screw Ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable Static Moment	Ma: 18.6 N·m Mb: 26.6 N·m Mc: 47.5 N·m
Allowable Dynamic Moment (*)	Ma: 4.9 N·m Mb: 6.8 N·m Mc: 11.7 N·m
Overhang Load Length	Ma direction: 150mm or less Mb·Mc direction: 150mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments

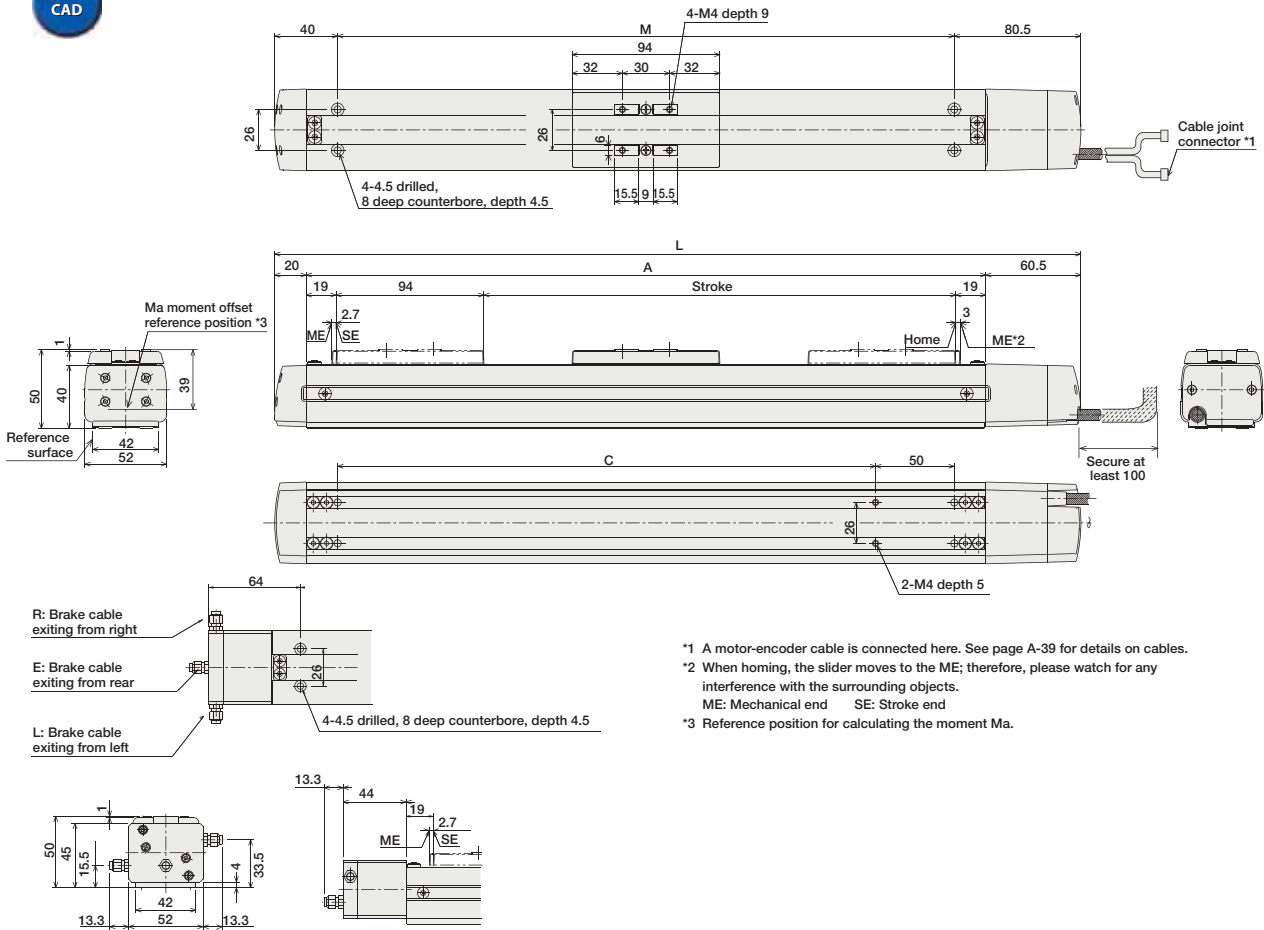


Dimensions

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

For Special Orders P. A-9

2/3D CAD



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

\* Adding a brake will increase the actuator's overall length (L) by 24mm (37.3mm with the cable coming out from the end), and its weight by 0.3kg.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	262.5	312.5	362.5	412.5	462.5	512.5	562.5	612.5	662.5	712.5
A	182	232	282	332	382	432	482	532	582	632
M	142	192	242	292	342	392	442	492	542	592
C	92	142	192	242	292	342	392	442	492	542
Weight (kg)	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-20I②-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		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points			
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)			→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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-1-20I②-NP-2-0	Programmed operation is possible Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
\* ② is a placeholder for the code "LA" when 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 Motor 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 (230V)
- Linear Motor

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

# RCA-SS6D

RoboCylinder Slider Type 58mm Width 24V Servo Motor  
Motor Built-In (Direct-Coupled) Steel Base

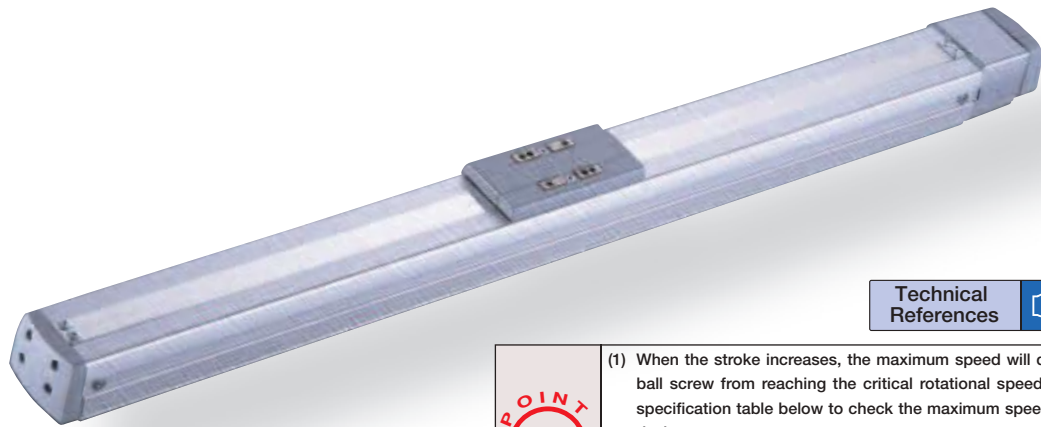
■ Configuration: **RCA** - **SS6D** - **I** - **30** - [ ] - [ ] - [ ] - [ ] - [ ]

Series    Type    Encoder    Motor    Lead    Stroke    Compatible Controllers    Cable Length    Option

I: Incremental    30: 30W Servo    12: 12mm    50: 50mm    A1: ACON    N: None    See Options below  
 \* Simple absolute encoder models are labeled as "I".    motor    6: 6mm    }    RACON    P: 1m  
 3: 3mm    600:600mm    ASEL    S: 3m  
 (50mm pitch    A3: AMEC    M: 5m  
 increments)    ASEP    X [ ]: Custom Length  
 R [ ]: Robot Cable

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



**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). These values are the upper limits for the acceleration.

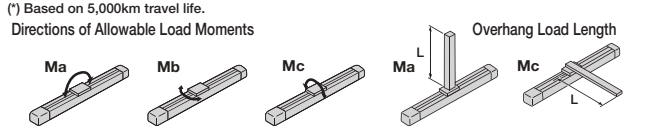
Actuator Specifications						
Lead and Load Capacity				Stroke and Maximum Speed		
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-SS6D-I-30-12-①-②-③-④	30	12	6	1.5	24.2	50 ~ 600 (50mm increments)
RCA-SS6D-I-30-6-①-②-③-④		6	12	3	48.4	
RCA-SS6D-I-30-3-①-②-③-④		3	18	6	96.8	
Legend ① Stroke ② Compatible controller ③ Cable length ④ Options						

Cable List	
Type	Cable Symbol
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.

Option List		
Name	Option Code	See Page
Brake (Cable exiting end)	BE	→ A-25
Brake (Cable exiting left)	BL	→ A-25
Brake (Cable exiting right)	BR	→ A-25
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Slider Roller	SR	→ A-36

Actuator Specifications	
Item	Description
Drive System	Ball screw Ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable Static Moment	Ma: 38.3 N·m Mb: 54.7 N·m Mc: 81.0 N·m
Allowable Dynamic Moment (*)	Ma: 8.9 N·m Mb: 12.7 N·m Mc: 18.6 N·m
Overhang Load Length	Ma direction: 220mm or less Mb-Mc direction: 220mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

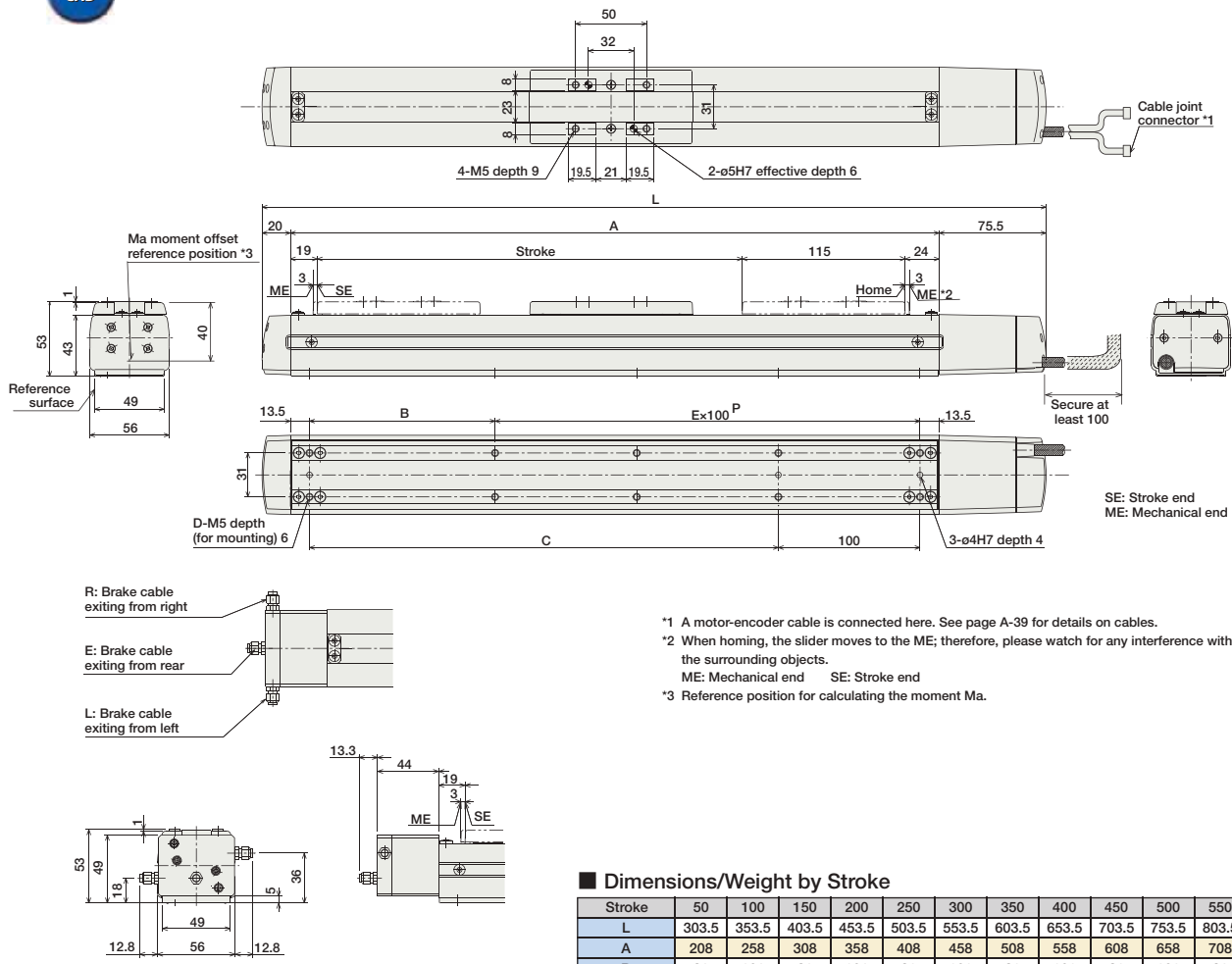


Dimensions

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

For Special Orders P. A-9

2/3D CAD



- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	303.5	353.5	403.5	453.5	503.5	553.5	603.5	653.5	703.5	753.5	803.5	853.5
A	208	258	308	358	408	458	508	558	608	658	708	758
B	81	131	181	231	281	331	381	431	481	531	581	631
C	81	131	181	231	281	331	381	431	481	531	581	631
D	6	6	8	8	10	10	12	12	14	14	16	16
E	1	1	2	2	3	3	4	4	5	5	6	6
Weight (kg)	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.7

\* Adding a brake will increase the actuator's overall length (L) by 24mm (37.3mm with the cable coming out from the end), and its weight by 0.3kg.

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	See Page
Solenoid Valve Type		AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30I②-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-30I②-NP-2-0					
Positioner Type		ACON-C-30I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.2A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30I②-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30②	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-30I②-NP-2-0	Programmed operation is possible Can operate up to 2 axes	1500 points			→ P567

\* This is for the single-axis ASEL.  
\* ② is a placeholder for the code "LA" when 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 Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA4R

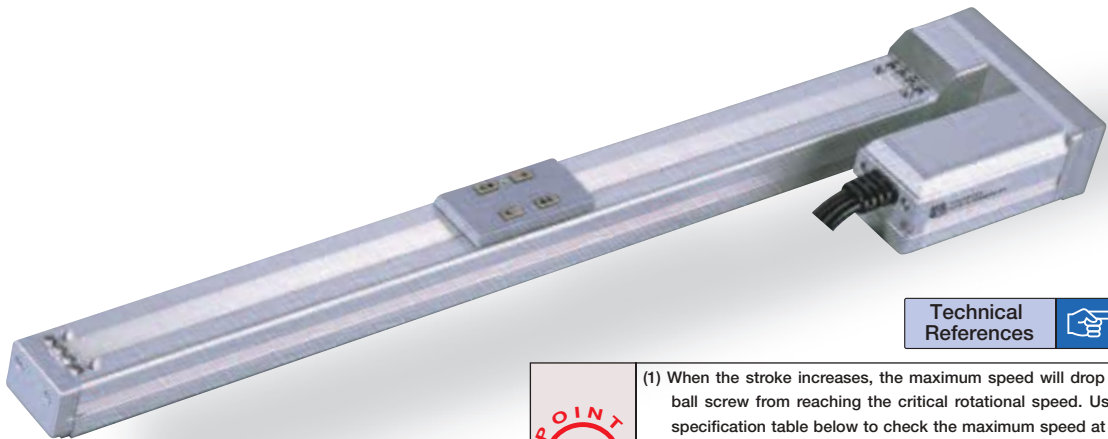
RoboCylinder Slider Type 40mm Width 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA** - **SA4R** - [ ] - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental A: Absolute	20: 20W Servo motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 400: 400mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X [ ]: Custom Length 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 explanation of each code that makes up the configuration name.

**Power-saving**



**Technical References** P. A-5

Pictured: Left-mounted motor model (ML).

- 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 2.5mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

Actuator Specifications							
■ Lead and Load Capacity						■ Stroke and Maximum Speed	
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Stroke / Lead
			Horizontal (kg)	Vertical (kg)			50 ~ 400 (50mm increments)
RCA-SA4R-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50 ~ 400 (50mm increments)	665
RCA-SA4R-①-20-5-②-③-④-⑤		5	6	2.5	39.2		330
RCA-SA4R-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4		165

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Cable List	
Type	Cable Symbol
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.

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)
Allowable Static Moment	Ma: 6.9N·m Mb: 9.9N·m Mc: 17.0N·m
Allowable Dynamic Moment (*)	Ma: 2.7N·m Mb: 3.9N·m Mc: 6.8N·m
Overhang Load Length	Ma direction: 120mm or less Mb-Mc direction: 120mm or less
Ambient Operating Temp./Humidity	0~40°C, 85%RH or less (Non-condensing)

(\*) Based on 5,000km travel life.

Directions of Allowable Load Moments

Option List			
Name	Option Code	See Page	
Brake	B	→ A-25	
Home sensor	HS	→ A-32	
Power-saving	LA	→ A-32	
Reversed-home	NM	→ A-33	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-Mounted Motor	MR	→ A-33	
Slider Roller	SR	→ A-36	
Slider spacer	SS	→ A-36	

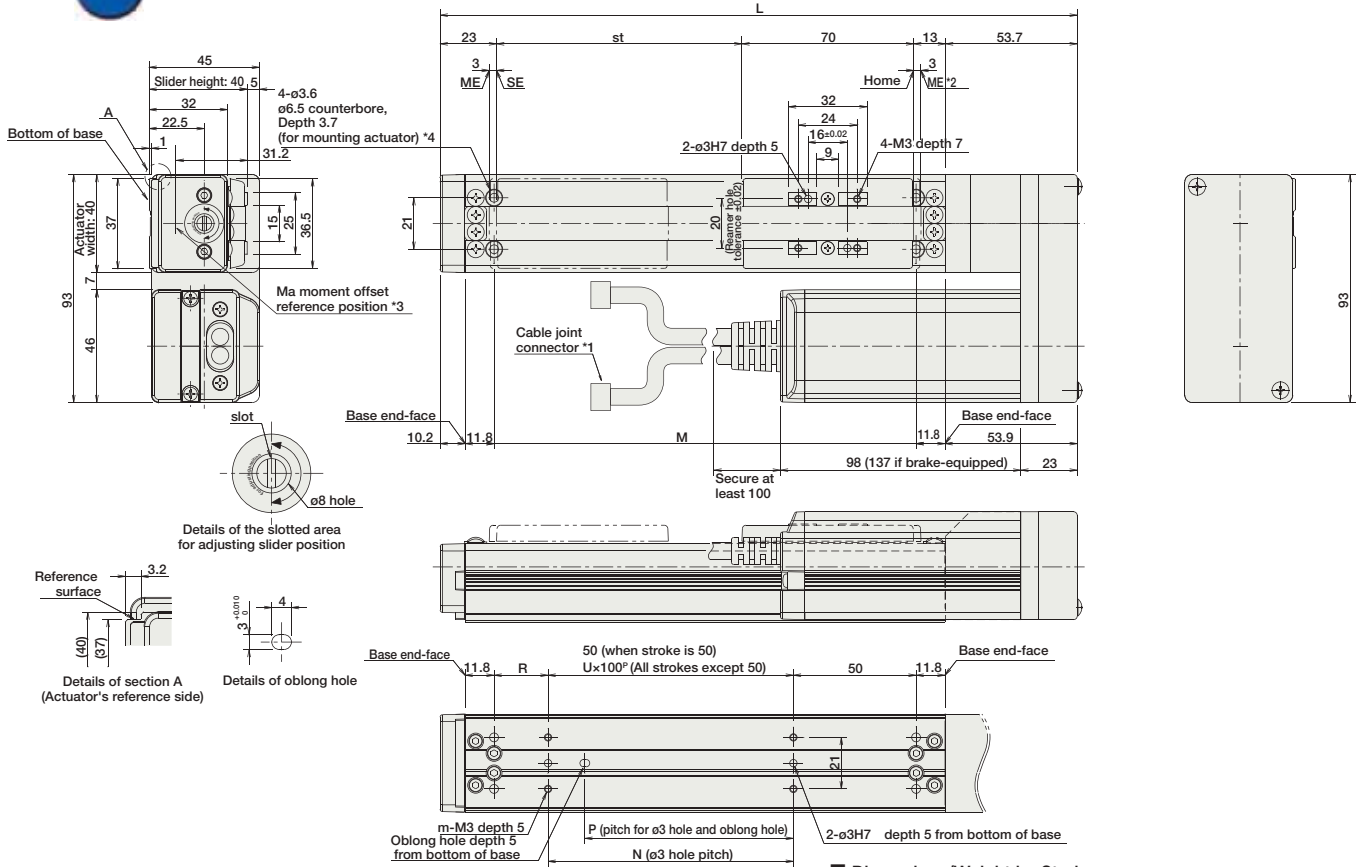


Dimensions

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

For Special Orders P. A-9

2/3D CAD



**■ Dimensions/Weight by Stroke** \* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400
L	209.7	259.7	309.7	359.7	409.7	459.7	509.7	559.7
M	122	172	222	272	322	372	422	472
N	50	100	100	200	200	300	300	400
P	35	85	85	185	185	285	285	385
R	22	22	72	22	72	22	72	22
U	-	1	1	2	2	3	3	4
m	4	4	4	6	6	8	8	10
Weight (kg)	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5

- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects. ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.
- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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 Can operate 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", when the high-acceleration/deceleration option or the energy-saving option is selected.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA5R

RoboCylinder Slider Type 52mm Width 24V Servo Motor Side-Mounted Motor

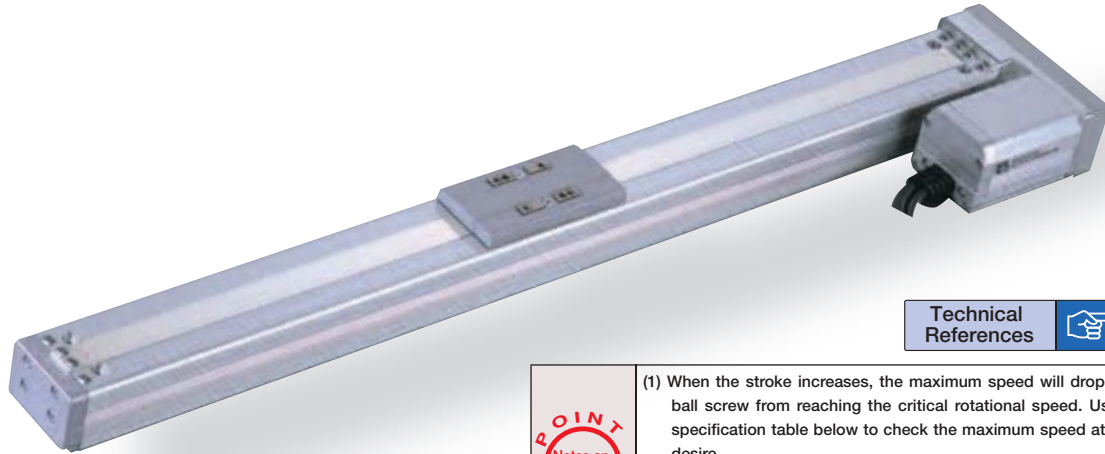
■ Configuration: **RCA** — **SA5R** —  — **20** —  —  —  —  —

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

I: Incremental A: Absolute      20: 20W Servo motor      12: 12mm      50: 50mm      A1: ACON      N: None  
 \* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.      6: 6mm      3: 3mm      500: 500mm (50mm pitch increments)      RACON ASEL A3: AMEC ASEP      P: 1m      S: 3m      M: 5m      X : Custom Length      R : Robot Cable

\* See page Pre-35 for explanation of each code that makes up the configuration name.      See Options below \* Be sure to specify which side the motor is to be mounted (ML/MR).

**Power-saving**



Technical References P. A-5

Pictured: Left-mounted motor model (ML).

- 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). These values are the upper limits for the acceleration.

Actuator Specifications						Stroke and Maximum Speed				
■ Lead and Load Capacity										
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Stroke	50 ~ 450 (50mm increments)	500 (mm)	
RCA-SA5R-①-20-12-②-③-④-⑤	20	12	Horizontal (kg)	Vertical (kg)	16.7	50 ~ 500 (50mm increments)	Lead			
RCA-SA5R-①-20-6-②-③-④-⑤		6	8	2			33.3	12	800	760
RCA-SA5R-①-20-3-②-③-④-⑤		3	12	4			65.7	6	400	380
							3	200	190	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Type	Cable Symbol	
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.

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)
Allowable Static Moment	Ma: 18.6N·m Mb: 26.6N·m Mc: 47.5N·m
Allowable Dynamic Moment (*)	Ma: 4.9N·m Mb: 6.8N·m Mc: 11.7N·m
Overhang Load Length	Ma direction: 150mm or less Mb-Mc direction: 150mm or less
Ambient Operating Temp./Humidity	0~40°C, 85%RH or less (Non-condensing)

(\*) Based on 5,000km travel life.

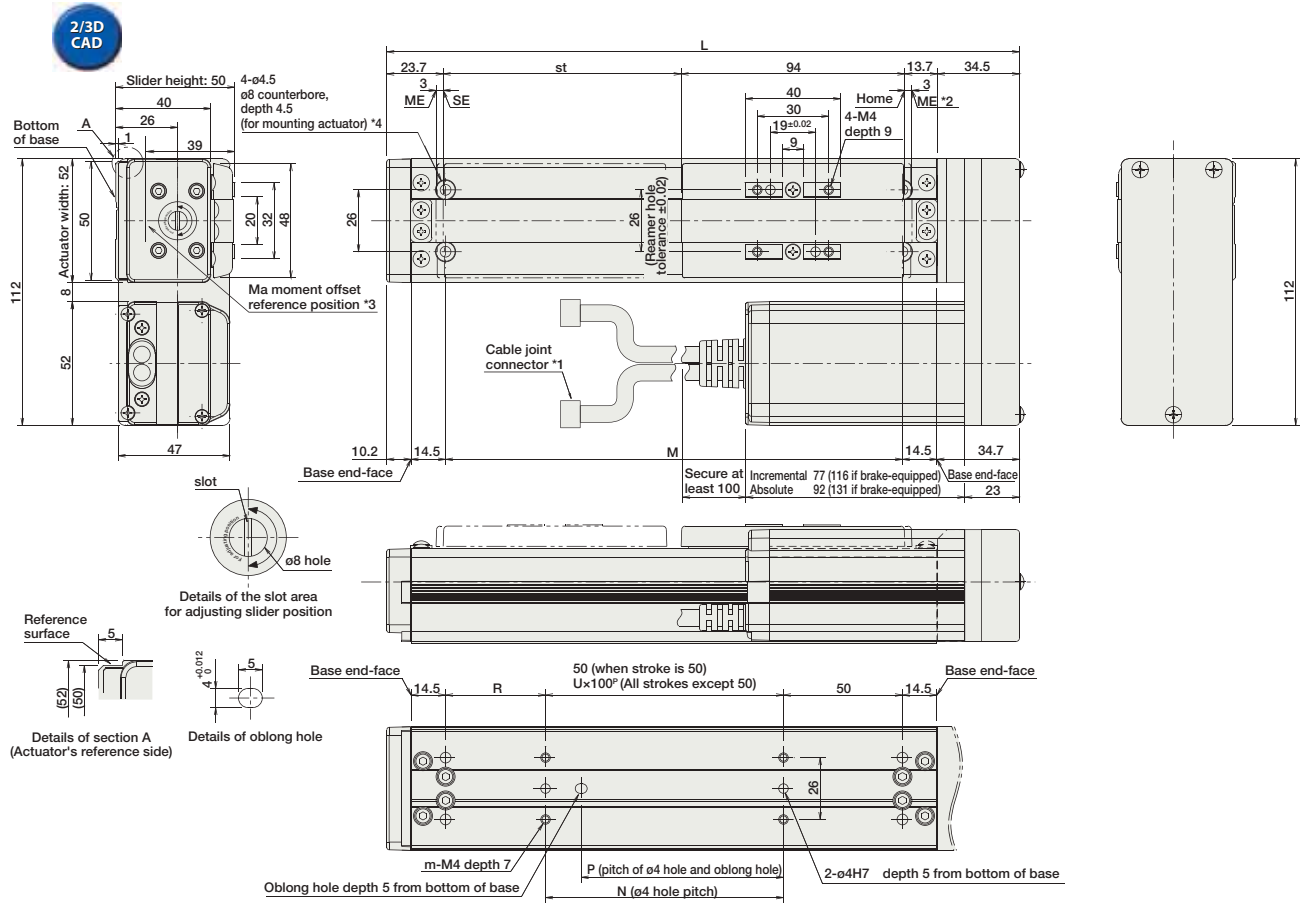
Directions of Allowable Load Moments

Option List			
Name	Option Code	See Page	
Brake	B	→ A-25	
Home sensor	HS	→ A-32	
Power-saving	LA	→ A-32	
Reversed-home	NM	→ A-33	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-Mounted Motor	MR	→ A-33	
Slider Roller	SR	→ A-36	

Dimensions

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

For Special Orders P. A-9



■ Dimensions/Weight by Stroke\* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400	450	500
L	215.9	265.9	315.9	365.9	415.9	465.9	515.9	565.9	615.9	665.9
M	142	192	242	292	342	392	442	492	542	592
N	50	100	100	200	200	300	300	400	400	500
P	35	85	85	185	185	285	285	385	385	485
R	42	42	92	42	92	42	92	42	92	42
U	-	1	1	2	2	3	3	4	4	5
m	4	4	4	6	6	8	8	10	10	12
Weight (kg)	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4

- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.
- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-20I②	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-20①②-NP-2-0	Programmed operation is possible Can operate 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", when the high-acceleration/deceleration option or the energy-saving option is selected.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SA6R Robo Cylinder Slider Type 58mm Width 24V Servo Motor Side-Mounted Motor

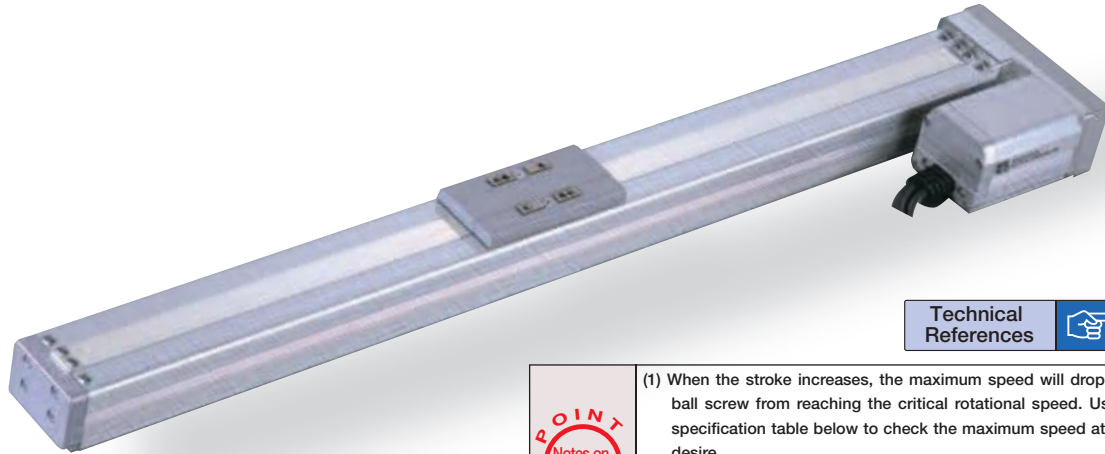
■ Configuration: **RCA** — **SA6R** —  — **30** —  —  —  —  —

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

I: Incremental A: Absolute	30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm 600: 600mm (50mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N : None P : 1m S : 3m M : 5m X <input type="checkbox"/> : Custom Length R <input type="checkbox"/> : Robot Cable	See Options below * Be sure to specify which side the motor is to be mounted (ML/MR).
-------------------------------	---------------------	------------------------------	--	---	--	--

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



Pictured: Left-mounted motor model (ML).

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). These values are the upper limits for the acceleration.

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-SA6R-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50 ~ 600 (50mm increments)
RCA-SA6R-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCA-SA6R-①-30-3-②-③-④-⑤		3	18	6	96.8	

Stroke Lead	50 ~ 450 (50mm increments)				500 (mm)	550 (mm)	600 (mm)
	12	800	760	640	540		
6	400	380	320	270			
3	200	190	160	135			

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Type	Cable Symbol
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)

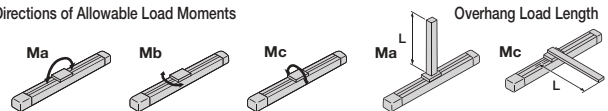
\* See page A-39 for cables for maintenance.

Name	Option Code	See Page
Brake	B	→ A-25
Home sensor	HS	→ A-32
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Left-Mounted Motor (Standard)	ML	→ A-33
Right-Mounted Motor	MR	→ A-33
Slider Roller	SR	→ A-36

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1 mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Static Moment	Ma: 38.3N·m Mb: 54.7N·m Mc: 81.0N·m
Allowable Dynamic Moment (*)	Ma: 8.9 N·m Mb: 12.7 N·m Mc: 18.6 N·m
Overhang Load Length	Ma direction: 220mm or less Mb-Mc direction: 220mm or less
Ambient Operating Temp./Humidity	0~40°C, 85%RH or less (Non-condensing)

(\*) Based on 5,000km travel life.

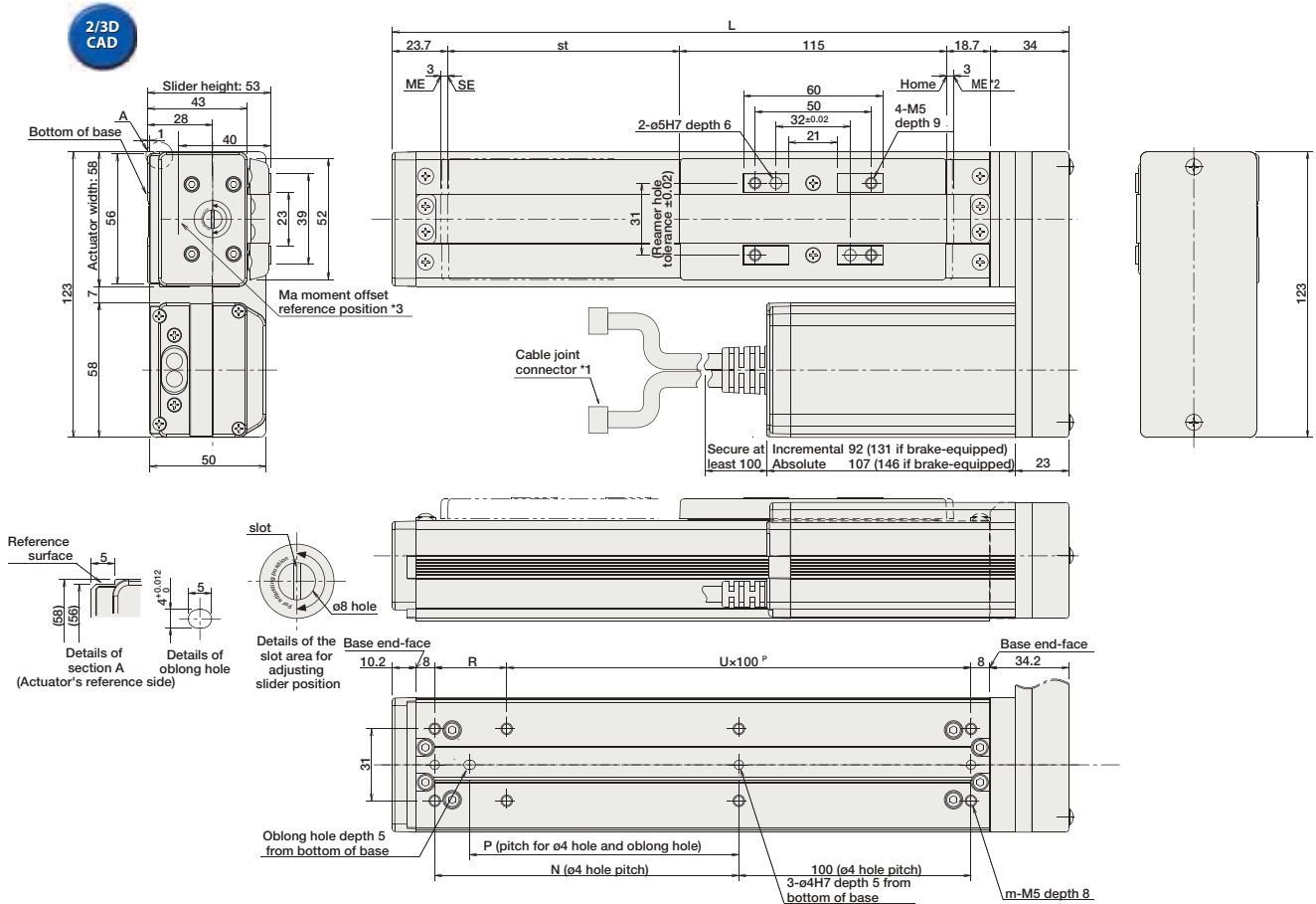
Directions of Allowable Load Moments



Dimensions

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

For Special Orders P. A-9



■ Dimensions/Weight by Stroke \* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	241.4	291.4	341.4	391.4	441.4	491.4	541.4	591.4	641.4	691.4	741.4	791.4
N	81	131	181	231	281	331	381	431	481	531	581	631
P	66	116	166	216	266	316	366	416	466	516	566	616
R	81	31	81	31	81	31	81	31	81	31	81	31
U	1	2	2	3	3	4	4	5	5	6	6	7
m	6	8	8	10	10	12	12	14	14	16	16	18
Weight (kg)	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9

- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

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	See Page
Solenoid Valve Type		AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30I②-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-30I②-NP-2-0					
Positioner Type		ACON-C-30I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	
Safety-Compliant Positioner Type		ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.2A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30I②-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30②	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-30①②-NP-2-0	Programmed operation is possible Can operate 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", when the high-acceleration/deceleration option or the energy-saving option is selected.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-RA2AC

RoboCylinder Mini Rod Type Motor Unit Coupling Type 18mm Width 24 V Servo Motor Ball Screw

■ Configuration

**RCA2** – **RA2AC** – **I** – **5** –  –  – **A3** –  –

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

I: Incremental specification  
\* Model number is "I" when used with simple absolute unit.

5: Servo Motor 5W

4: 4mm  
2: 2mm  
1: 1mm

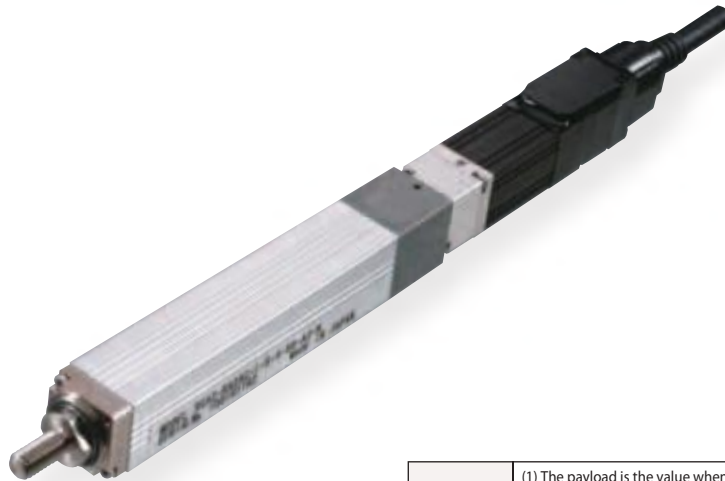
25: 25mm  
1  
100: 100mm (every 25mm)

A3: ASEP

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

Following options Refer to below table

\*See page Pre-35 for details on the model descriptions.



POINT

**Notes on selection**

(1) The payload is the value when operated at 0.3G acceleration. The acceleration upper limit is the value indicated above.

(2) The horizontal payload is the value when used in combination with an external guide. Please note that if an external force is applied to the rod in a direction other than the proper direction the rod travels, the detent may get damaged.

(3) Take note that, since there is no brake, the slider may come down when the power is turned off if the actuator is used vertically.

Technical References P. A-5

Actuator Specifications

■ Lead and Load Capacity

Model	Motor Output (W)	Feed screw	Lead (mm)	Maximum payload		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RA2AC-I-5-4-①-A3-②-③	5	Ball screw	4	0.5	0.25	21.4	±0.02	25 to 100 (every 25mm)
RCA2-RA2AC-I-5-2-①-A3-②-③			2	1	0.5	42.3		
RCA2-RA2AC-I-5-1-①-A3-②-③			1	2	1	85.5		

■ Stroke and Maximum Speed

Lead	Stroke	
	25 (mm)	50 to 100 (mm)
Ball screw	4	200
	2	100
	1	50

(Unit = mm/s)

Legend ① Stroke ② Cable length ③ Option

Cable List

Type	Cable symbol
Standard type (Robot cable)	P (1m)
	S (3m)
	M (5m)
Special length	X06 (6m) to X10 (10m)
	X11 (11m) to X15 (15m)
	X16 (16m) to X20 (20m)

\*The standard cable for the RCA2 is the robot cable.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø4mm, rolled C10
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Non-rotating accuracy of rod	±3.0 deg
Ambient Operating Temp., Humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	5000 km

Option List

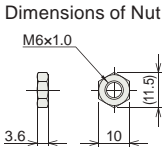
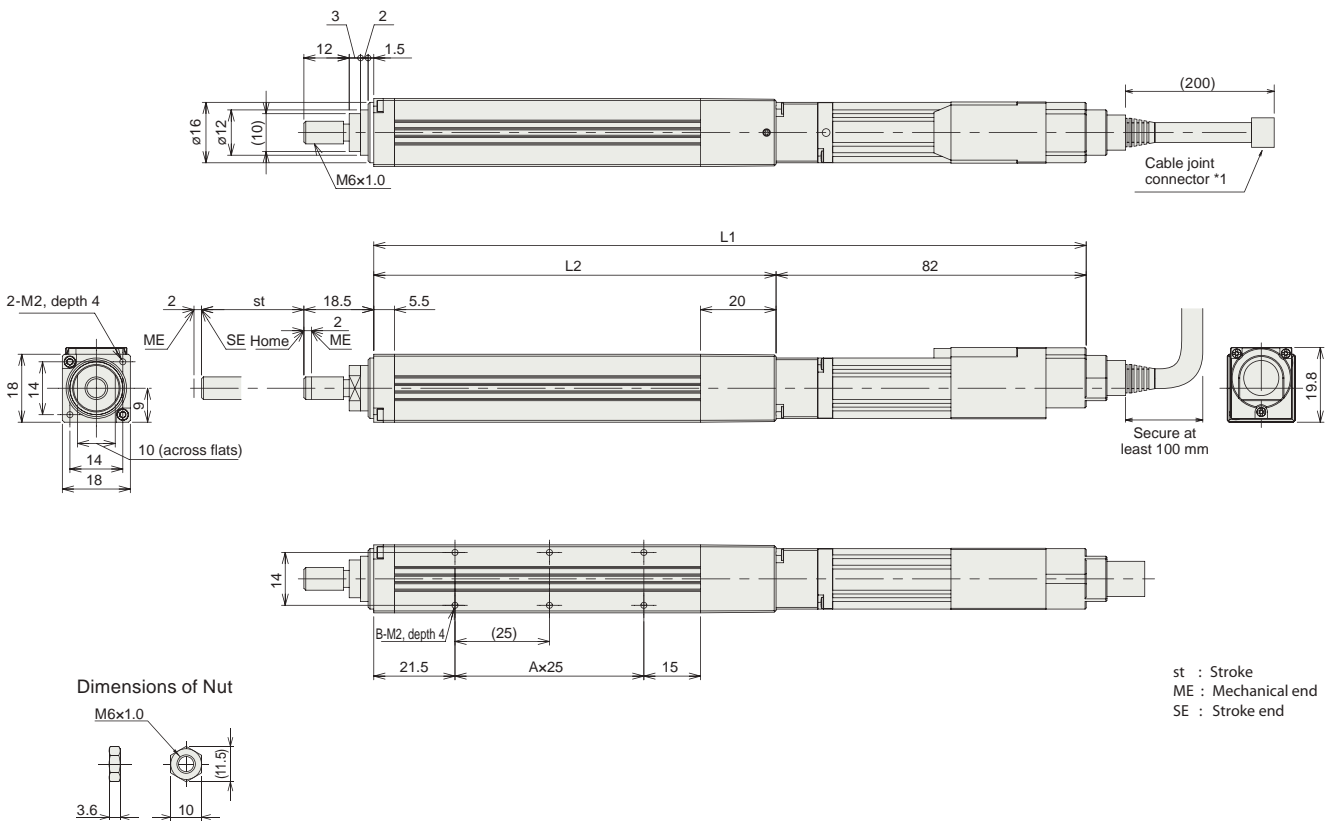
Name	Option code	See page
Reversed-home specification	NM	A-33



Dimensions

CAD drawings can be downloaded from IAI website, [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9



- \*1 Connect the motor and encoder cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
- \*3 The direction of the surface across flats varies depending on the product.

■ Dimensions and Weight by Stroke

Stroke	25	50	75	100
L1	163.5	188.5	213.5	238.5
L2	81.5	106.5	131.5	156.5
A	1	2	3	4
B	4	6	8	10
Mass (kg)	0.17	0.19	0.2	0.22

Compatible Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	Reference Page
Solenoid valve type		ASEP-C-SSI-NP-2-0	Simple controller capable of operating with the same signal as the solenoid valve. Supports the use of both the single solenoid and the double solenoid types. Simple Absolute type makes the return to home unnecessary.	3 points	DC24V	(Standard) 1.5A rated 2.5A max.	→P487
Dust-proof solenoid valve type		ASEP-CW-SSI-NP-2-0					

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm /Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Motor 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 (230V)

Linear Motor

# RCA2-RA2AR

RoboCylinder Mini Rod Type Side-Mounted Motor 41mm Width 24 V Servo Motor Ball Screw

### ■ Configuration

**RCA2** — **RA2AR** — **I** — **5** —  —  — **A3** —  —

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

I: Incremental specification  
\* Model number is "I" when used with simple absolute unit.

5: Servo Motor 5W

4: 4mm  
2: 2mm  
1: 1mm

25: 25mm  
100: 100mm (every 25mm)

A3: ASEP

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

Following options Refer to below table  
\* Be sure to specify which side the motor is to be mounted (ML/MR/MT)

\*See page Pre-35 for details on the model descriptions.



**POINT**  
Notes on selection

(1) The payload is the value when operated at 0.3G acceleration. The acceleration upper limit is the value indicated above.

(2) The horizontal payload is the value when used in combination with an external guide. Please note that if an external force is applied to the rod in a direction other than the proper direction the rod travels, the detent may get damaged.

(3) Take note that, since there is no brake, the slider may come down when the power is turned off if the actuator is used vertically.

Technical References

P. A-5

### Actuator Specifications

#### ■ Lead and Load Capacity

Model	Motor Output (W)	Feed screw	Lead (mm)	Maximum payload		Rated Thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RA2AR-I-5-4- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>	5	Ball screw	4	0.5	0.25	21.4	±0.02	25 to 100 (every 25mm)
RCA2-RA2AR-I-5-2- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			2	1	0.5	42.3		
RCA2-RA2AR-I-5-1- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			1	2	1	85.5		

Legend  Stroke  Cable length  Option

#### ■ Stroke and Maximum Speed

Lead	Stroke	
	25 (mm)	50 to 100 (mm)
Ball screw	4	180
	2	100
	1	50

(Unit = mm/s)

### Cable List

Type	Cable symbol
Standard type (Robot cable)	P (1m)
	S (3m)
	M (5m)
Special length	X06 (6m) to X10 (10m)
	X11 (11m) to X15 (15m)
	X16 (16m) to X20 (20m)

\*The standard cable for the RCA2 is the robot cable.

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø4mm, rolled C10
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Non-rotating accuracy of rod	±3.0 deg
Ambient Operating Temp., Humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	5000 km

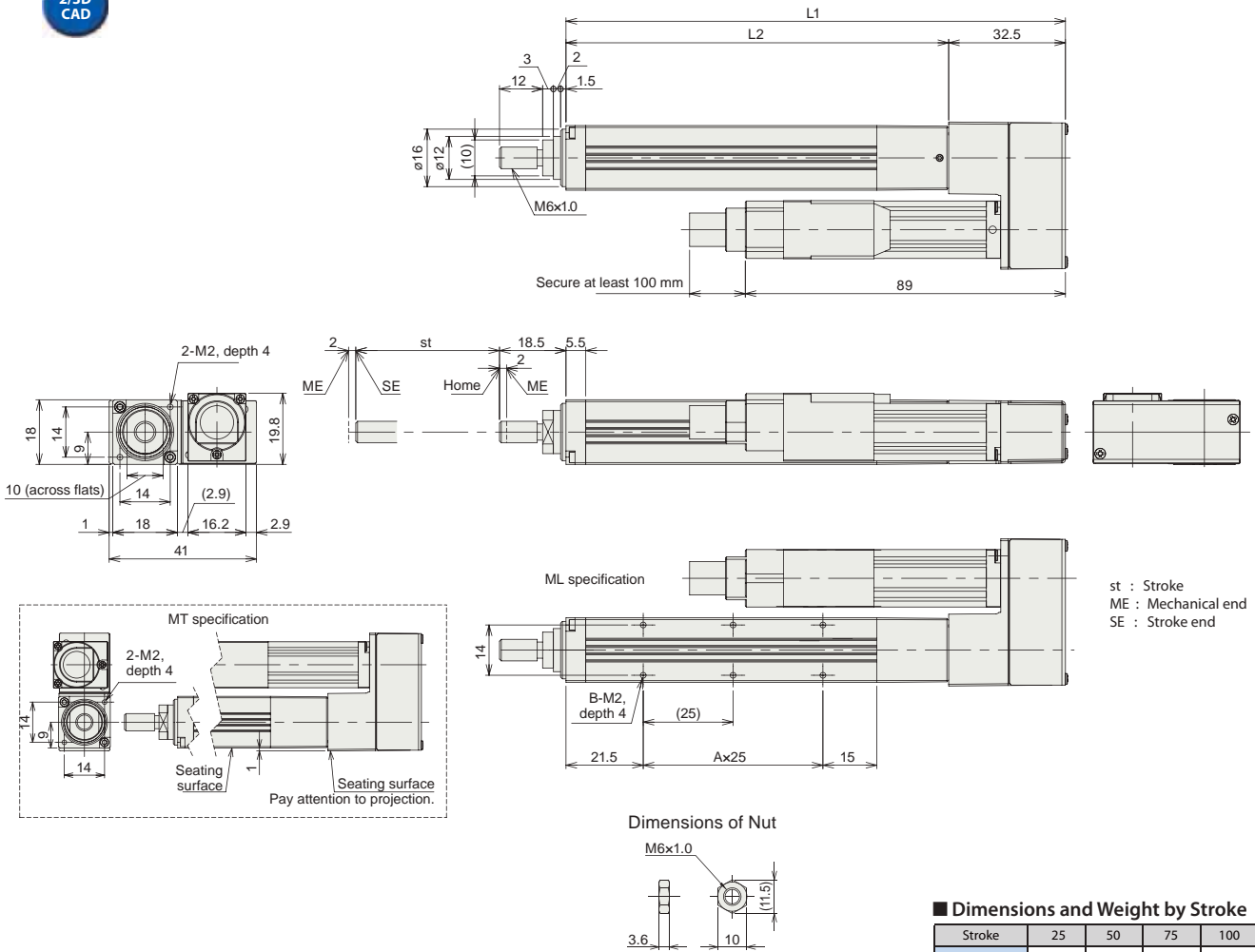
### Option List

Name	Option code	See page
Reversed-home specification	<b>NM</b>	A-33
Motor side mounted to the right	<b>MR</b>	A-33
Motor side mounted to the left	<b>ML</b>	A-33
Motor side mounted to the top	<b>MT</b>	A-33

Dimensions

CAD drawings can be downloaded from IAI website, [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9



- \*1 Connect the motor and encoder cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
- \*3 The direction of the surface across flats varies depending on the product.

**■ Dimensions and Weight by Stroke**

Stroke	25	50	75	100
L1	114	139	164	189
L2	81.5	106.5	131.5	156.5
A	1	2	3	4
B	4	6	8	10
Mass (kg)	0.21	0.22	0.24	0.25

Compatible Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	Reference Page
Solenoid valve type		ASEP-C-SSI-NP-2-0	Simple controller capable of operating with the same signal as the solenoid valve. Supports the use of both the single solenoid and the double solenoid types. Simple Absolute type makes the return to home unnecessary.	3 points	DC24V	(Standard) 1.5A rated 2.5A max.	→P487
Dust-proof solenoid valve type		ASEP-CW-SSI-NP-2-0					

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm /Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Motor 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 (230V)

Linear Motor

# RCA2-RN3NA

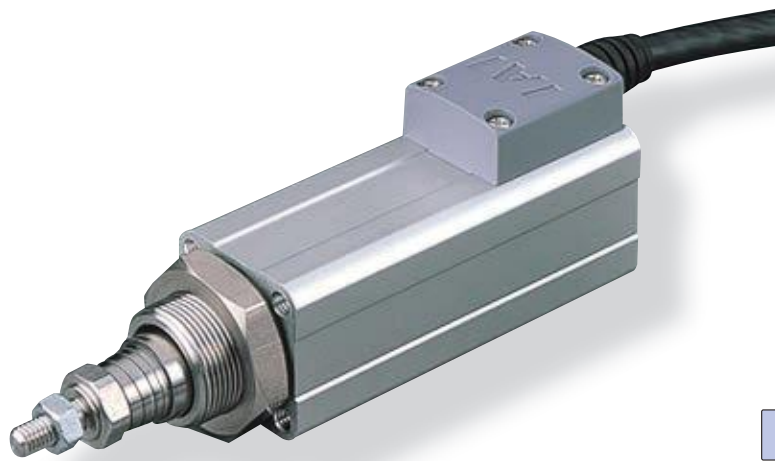
RoboCylinder Mini Rod Type Short-Length Nut-Mounting Type  
28mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** - **RN3NA** - **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	4: Ball screw 4mm 2: Ball screw 2mm 1: Ball screw 1mm 4S: lead screw 4mm 2S: lead screw 2mm 1S: lead screw 1mm	30:30mm 50:50mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom Length	K1-3 : 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 feed screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the feed screw prior to use. (If there is no antirotation device attached, the lead screw cannot extend or retract.)
  - (2) The horizontal payload is the value when used in combination with an external guide.
  - (3) The payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 1, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
  - (4) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.
  - (5) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RN3NA-I-10-4 - ①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2-RN3NA-I-10-2 - ①-②-③-④			2	1.5	0.5	85.5		
RCA2-RN3NA-I-10-1 - ①-②-③-④			1	3	1	170.9		
RCA2-RN3NA-I-10-4S - ①-②-③-④	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 50
RCA2-RN3NA-I-10-2S - ①-②-③-④			2	0.5	0.25	50.3		
RCA2-RN3NA-I-10-1S - ①-②-③-④			1	1	0.5	100.5		

#### Stroke and Maximum Speed

Lead	Stroke	Maximum Speed	
		30 (mm)	50 (mm)
Ball screw	4	200	
	2	100	
	1	50	
Lead screw	4	200	
	2	100	
	1	50	

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Unit = mm/s)

### Cable List

Type	Cable Symbol
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.

### Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø4 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles
	Ball screw specification

### Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

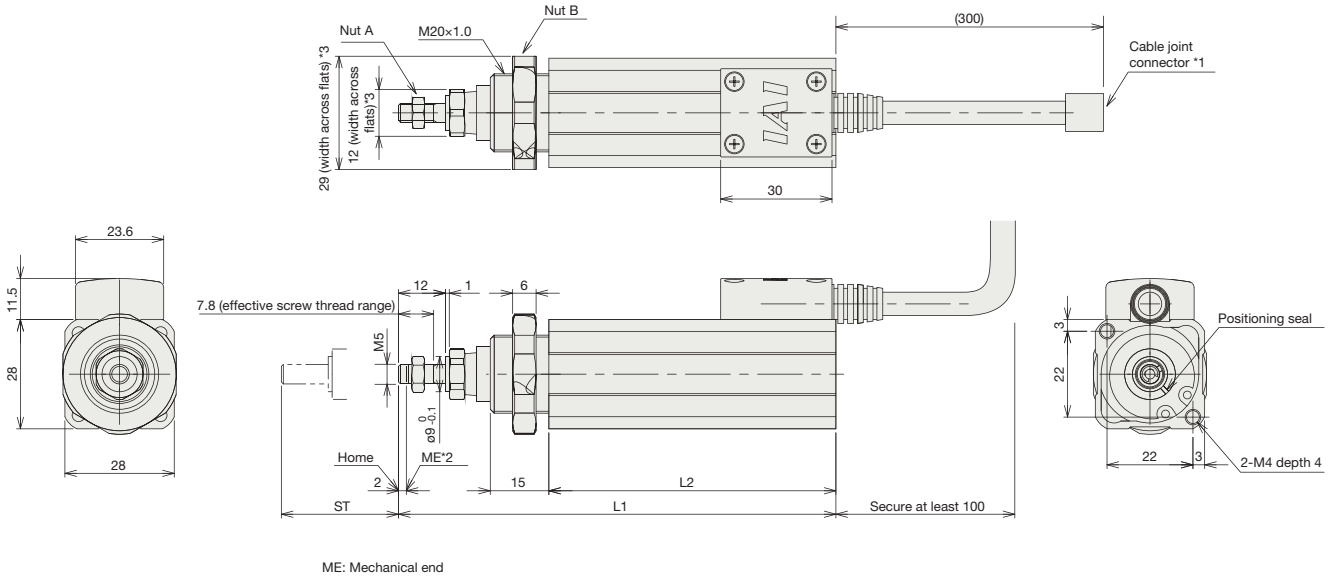
Dimensions

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

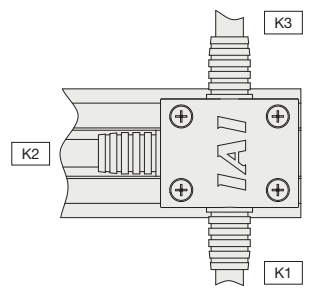
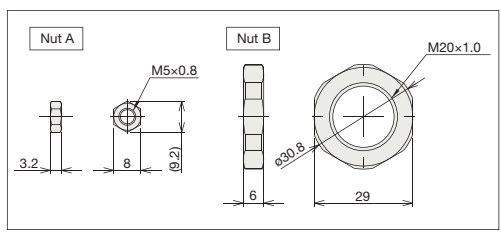
For Special Orders P. A-9



- \*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

Dimensions and Weight by Stroke

Stroke	30	50
L1	112	132
L2	73.5	93.5
Weight (kg)	0.25	0.27

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* planned	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.				
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.	
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 Motor 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 (230V)
- Linear Motor

# RCA2-RN4NA

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

■ Configuration: **RCA2** — **RN4NA** — **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

30 : 30mm  
50 : 50mm

A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

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

K1-3 : 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 feed screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the feed screw prior to use. (If there is no antirotation device attached, the lead screw cannot extend or retract.)
  - (2) The horizontal payload is the value when used in combination with an external guide.
  - (3) The payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 2, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
  - (4) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.
  - (5) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## 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-RN4NA-I-20-6- [1] - [2] - [3]	20	Ball Screw	6	2	0.5	33.8	±0.02	30 50
RCA2-RN4NA-I-20-4- [1] - [2] - [3]			4	3	0.75	50.7		
RCA2-RN4NA-I-20-2- [1] - [2] - [3]			2	6	1.5	101.5		
RCA2-RN4NA-I-20-6S- [1] - [2] - [3]	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30 50
RCA2-RN4NA-I-20-4S- [1] - [2] - [3]			4	0.5	0.25	29.8		
RCA2-RN4NA-I-20-2S- [1] - [2] - [3]			2	1	0.5	59.7		

Legend [1] Compatible controller [2] Cable length [3] Options

### Stroke and Maximum Speed

Lead	Stroke	Stroke (mm)	
		30 (mm)	50 (mm)
Ball Screw	6	270 <220>	300
	4	200	
	2	100	
Lead Screw	6	220	300
	4	200	
	2	100	

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

## Cable List

Type	Cable Symbol
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
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø6 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification



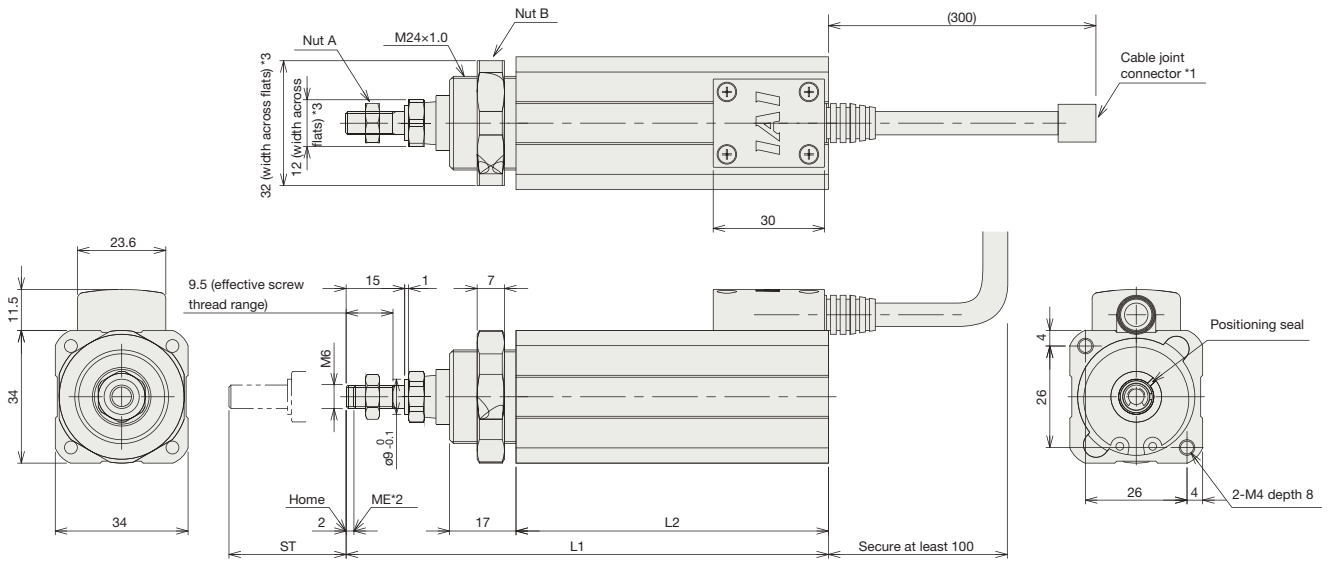
Dimensions

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

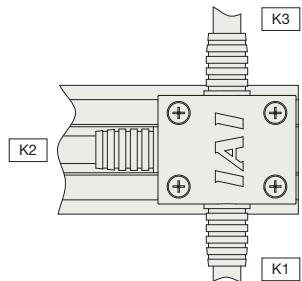
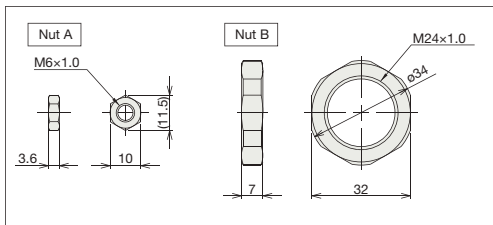
For Special Orders P. A-9



- \*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

■ Dimensions and Weight by Stroke

Stroke	30	50
L1	123.5	143.5
L2	80	100
Weight (kg)	0.40	0.44

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	See Page
Solenoid Valve Type		AMEC-C-20I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I①-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-20I①-NP-2-0					
Positioner Type		ACON-C-20I①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-20I①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-20I①-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 Motor 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 (230V)
- Linear Motor

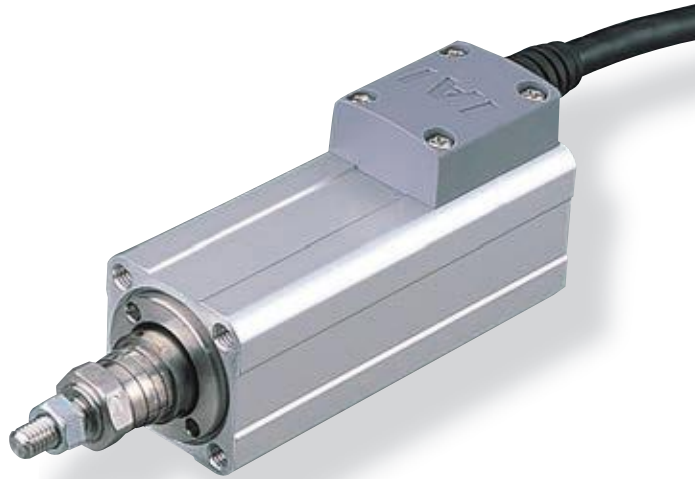
# RCA2-RP3NA

RoboCylinder Mini Rod Type Short-Length Tapped-Hole Mounting Type 28mm Width  
24V Servo Motor Ball screw/Lead Screw

■ Configuration: **RCA2** — **RP3NA** — **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	4 : Ball screw 4mm 2 : Ball screw 2mm 1 : Ball screw 1mm 4S : Lead screw 4mm 2S : Lead screw 2mm 1S : Lead screw 1mm	30 : 30mm 50 : 50mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom Length	K1-3 : 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 feed screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the feed screw prior to use. (If there is no antirotation device attached, the lead screw cannot extend or retract.)
  - (2) The horizontal payload is the value when used in combination with an external guide.
  - (3) The payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 1, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
  - (4) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.
  - (5) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-RP3NA-I-10-4- [1]-[2]-[3]-[4]	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2-RP3NA-I-10-2- [1]-[2]-[3]-[4]			2	1.5	0.5	85.5		
RCA2-RP3NA-I-10-1- [1]-[2]-[3]-[4]			1	3	1	170.9		
RCA2-RP3NA-I-10-4S- [1]-[2]-[3]-[4]	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 50
RCA2-RP3NA-I-10-2S- [1]-[2]-[3]-[4]			2	0.5	0.25	50.3		
RCA2-RP3NA-I-10-1S- [1]-[2]-[3]-[4]			1	1	0.5	100.5		

### Stroke and Maximum Speed

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

Legend [1] Stroke [2] Compatible Controllers [3] Cable length [4] Option

(Unit = mm/s)

## Cable List

Type	Cable Symbol
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.

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø4 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification

## Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

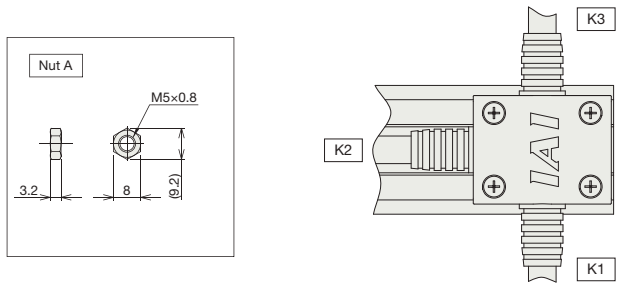
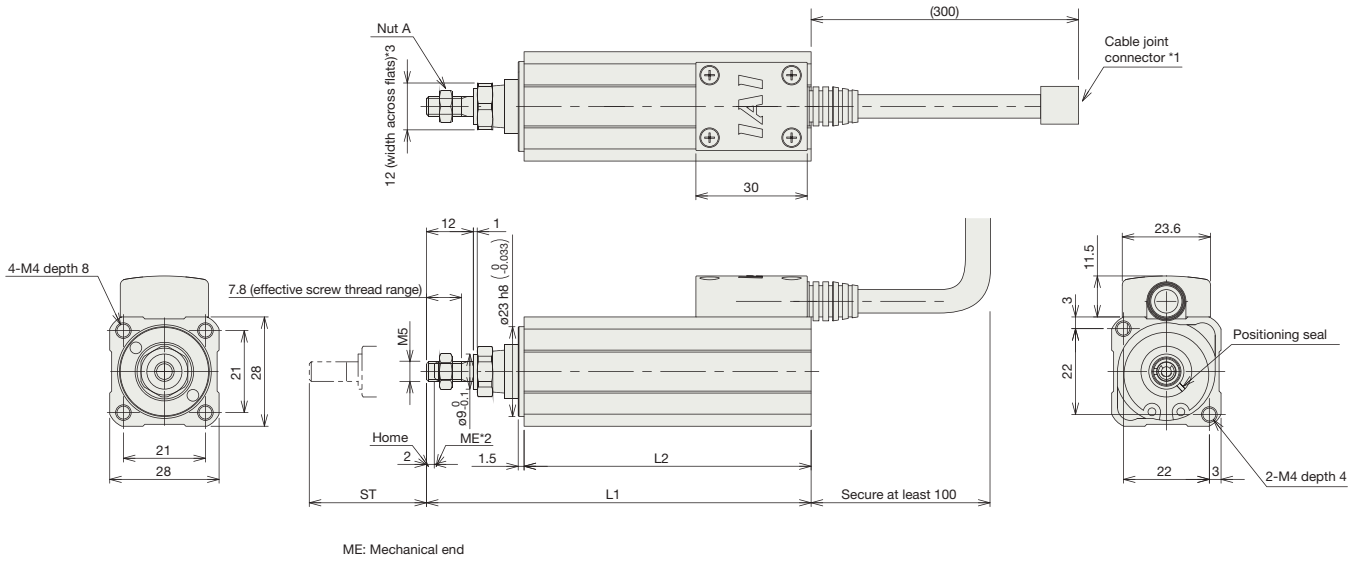
Dimensions

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

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	50
L1	98.5	118.5
L2	73.5	93.5
Weight (kg)	0.20	0.22

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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.	
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-10I①	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 Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

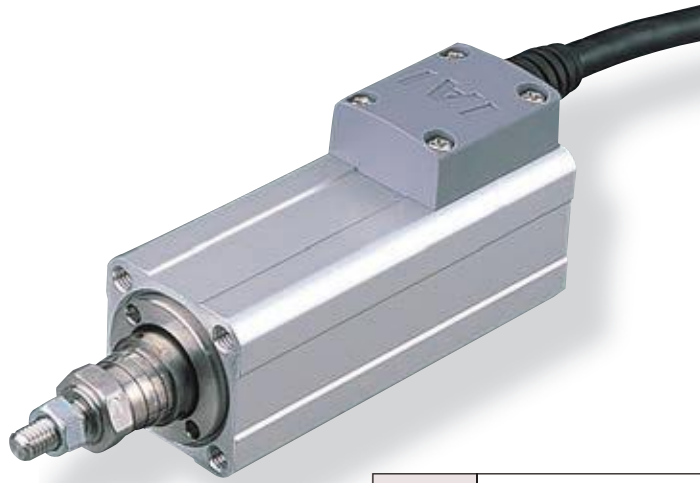
# RCA2-RP4NA

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

■ Configuration: **RCA2** - **RP4NA** - **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	30 : 30mm 50 : 50mm	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] [ ] : Custom Length	K1-3 : 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 feed screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the feed screw prior to use. (If there is no antirotation device attached, the lead screw cannot extend or retract.)
  - (2) The horizontal payload is the value when used in combination with an external guide.
  - (3) The payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 2, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
  - (4) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.
  - (5) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

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)	
RCA2-RP4NA-I-20-6- [1] - [2] - [3]	20	Ball Screw	6	2	0.5	33.8	±0.02	30	50
RCA2-RP4NA-I-20-4- [1] - [2] - [3]			4	3	0.75	50.7			
RCA2-RP4NA-I-20-2- [1] - [2] - [3]			2	6	1.5	101.5			
RCA2-RP4NA-I-20-6S- [1] - [2] - [3]	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30	50
RCA2-RP4NA-I-20-4S- [1] - [2] - [3]			4	0.5	0.25	29.8			
RCA2-RP4NA-I-20-2S- [1] - [2] - [3]			2	1	0.5	59.7			

Legend [1] Compatible controller [2] Cable length [3] Options

■ Stroke and Maximum Speed			
Lead	Stroke	Stroke (mm)	
		30 (mm)	50 (mm)
Ball Screw	6	270 <220>	300
	4	200	
	2	100	
Lead Screw	6	220	300
	4	200	
	2	100	

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

Cable List	
Type	Cable Symbol
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.

Actuator Specifications	
Item	Description
Drive System	Ball screw/Lead screw, Ø6 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification

Option List		
Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

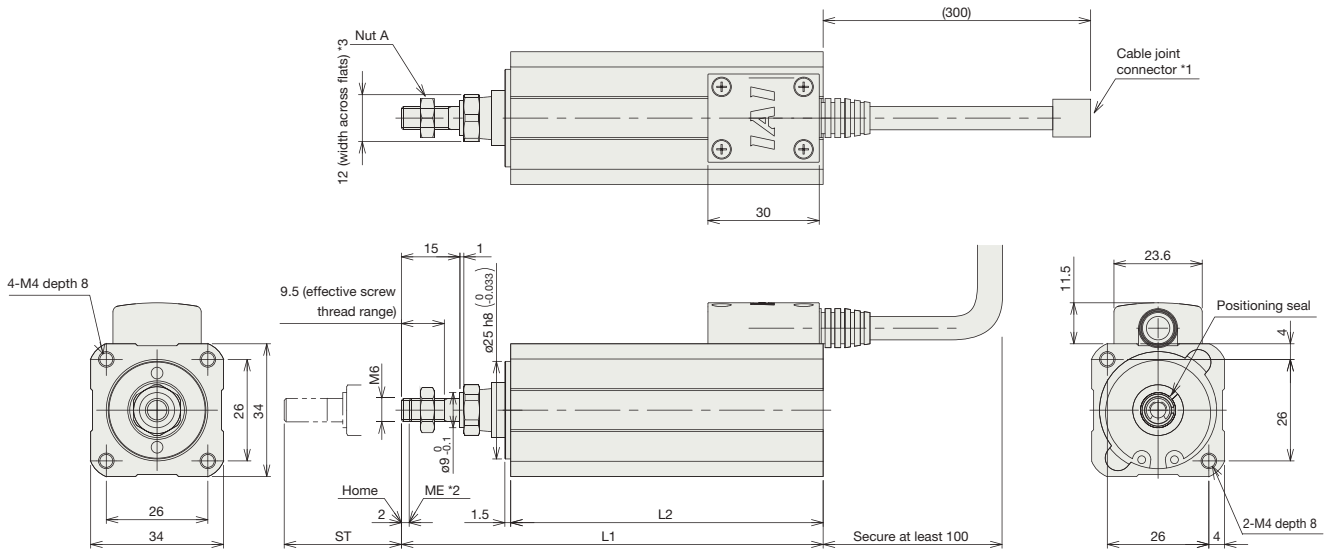
Dimensions

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

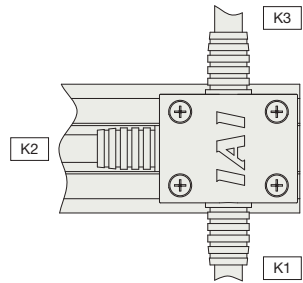
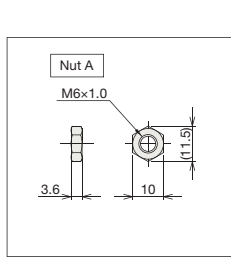
For Special Orders P. A-9



- \*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

Dimensions/Weight by Stroke

Stroke	30	50
L1	108	128
L2	80	100
Weight (kg)	0.32	0.36

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	See Page
Solenoid Valve Type		AMEC-C-20I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I①-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-20I①-NP-2-0					
Positioner Type		ACON-C-20I①-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-20I①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-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-20I①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-20I①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-20I①-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 Motor 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 (230V)
- Linear Motor

# RCA2-GS3NA

RoboCylinder Mini Rod Type Short-Length Free Mounting Type with Single Guide  
28mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** - **GS3NA** - **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

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

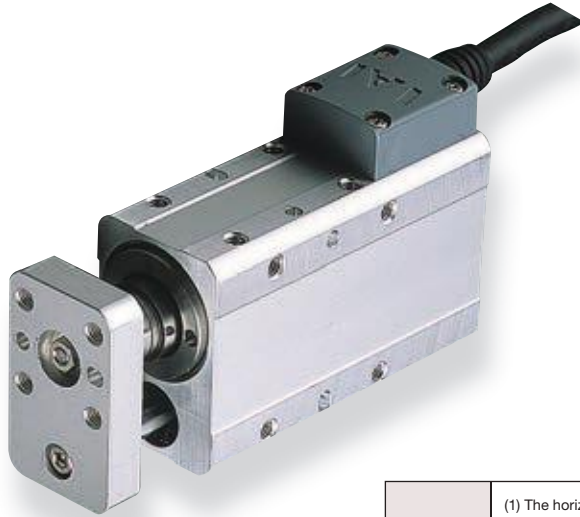
30: 30mm  
50: 50mm

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

K1-3: 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 1mm-lead model, lead screw model, or when used vertically). This is the upper limit of the acceleration.
- (3) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-GS3NA-I-10-4- [1]-[2]-[3]-[4]	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2-GS3NA-I-10-2- [1]-[2]-[3]-[4]			2	1.5	0.5	85.5		
RCA2-GS3NA-I-10-1- [1]-[2]-[3]-[4]			1	3	1	170.9		
RCA2-GS3NA-I-10-4S- [1]-[2]-[3]-[4]	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 50
RCA2-GS3NA-I-10-2S- [1]-[2]-[3]-[4]			2	0.5	0.25	50.3		
RCA2-GS3NA-I-10-1S- [1]-[2]-[3]-[4]			1	1	0.5	100.5		

#### Stroke and Maximum Speed

Lead	Stroke	Maximum Speed	
		30 (mm)	50 (mm)
Ball screw	4	200	
	2	100	
	1	50	
Lead screw	4	200	
	2	100	
	1	50	

Legend [1] Stroke [2] Compatible Controllers [3] Cable length [4] Option

(Unit = mm/s)

#### Cable List

Type	Cable Symbol
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.

#### Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø4 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification
	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles
	5000 km

#### Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32



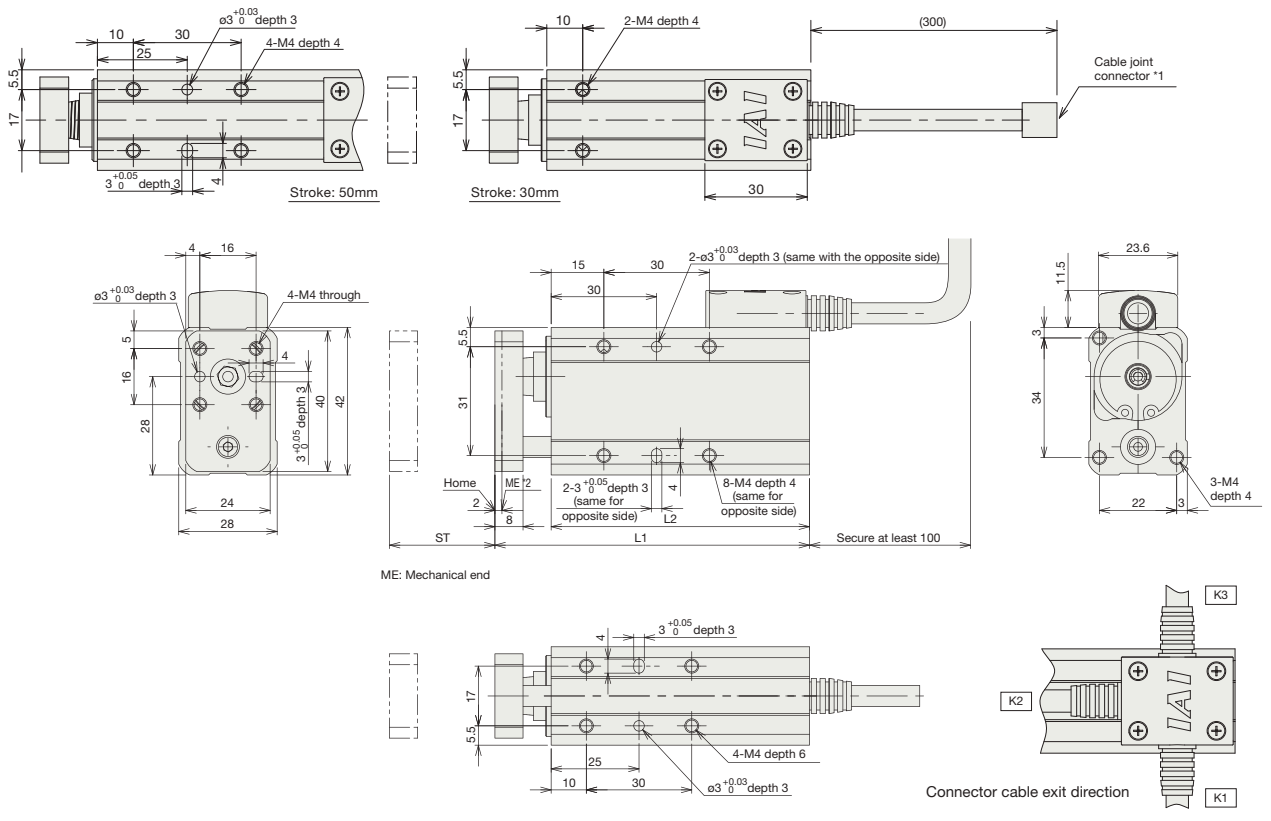
Dimensions

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

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	50
L1	89.5	109.5
L2	73.5	93.5
Weight (kg)	0.32	0.36

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	DC24V	(Standard) 1.3A rated 4.4A max.  (Power-saving) 1.3A rated 2.5A max.	→ 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.				
Splash-Proof Solenoid Valve Type		ASEP-CW-10I①-NP-2-0		Positioning is possible for up to 512 points			512 points
Positioner Type		ACON-C-10I①-NP-2-0					
Safety-Compliant Positioner Type		ACON-CG-10I①-NP-2-0	Pulse train input type with differential line driver support	(-)			→ P535
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10I①-NP-2-0					
Pulse Train Input Type (Open Collector)		ACON-PO-10I①-NP-2-0	Dedicated to field network	768 points			→ P503
Serial Communication Type		ACON-SE-10I①-N-0-0					
Field Network Type		RACON-10①	Programmed operation is possible Operation is possible on up to 2 axes	1500 points			→ P567
Program Control Type		ASEL-C-1-10I①-NP-2-0					

\* 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 Motor 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 (230V)
- Linear Motor

# RCA2-GS4NA

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

■ Configuration: **RCA2** — **GS4NA** — **I** — [ ] — [ ] — [ ] — [ ] — [ ]

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  
50 : 50mm

A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

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

K1-3 : 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) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## 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-GS4NA-I-20-6- [1] - [2] - [3]	20	Ball Screw	6	2	0.5	33.8	±0.02	30 50
RCA2-GS4NA-I-20-4- [1] - [2] - [3]			4	3	0.75	50.7		
RCA2-GS4NA-I-20-2- [1] - [2] - [3]			2	6	1.5	101.5		
RCA2-GS4NA-I-20-6S- [1] - [2] - [3]	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30 50
RCA2-GS4NA-I-20-4S- [1] - [2] - [3]			4	0.5	0.25	29.8		
RCA2-GS4NA-I-20-2S- [1] - [2] - [3]			2	1	0.5	59.7		

Legend [1] Compatible controller [2] Cable length [3] Options

### Stroke and Maximum Speed

Lead	Stroke	30 (mm)		50 (mm)	
		Lead	Stroke	Lead	Stroke
Ball Screw	6	270	<220>	300	
	4	200			
	2	100			
Lead Screw	6	220		300	
	4	200			
	2	100			

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

## Cable List

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

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

## Option List

Name	Option Code	See Page	
Cable exit from left	<b>K1</b>	→ A-32	
Cable exit from front	<b>K2</b>	→ A-32	
Cable exit from right	<b>K3</b>	→ A-32	
Power-saving	<b>LA</b>	→ A-32	

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø6 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification
	5000 km

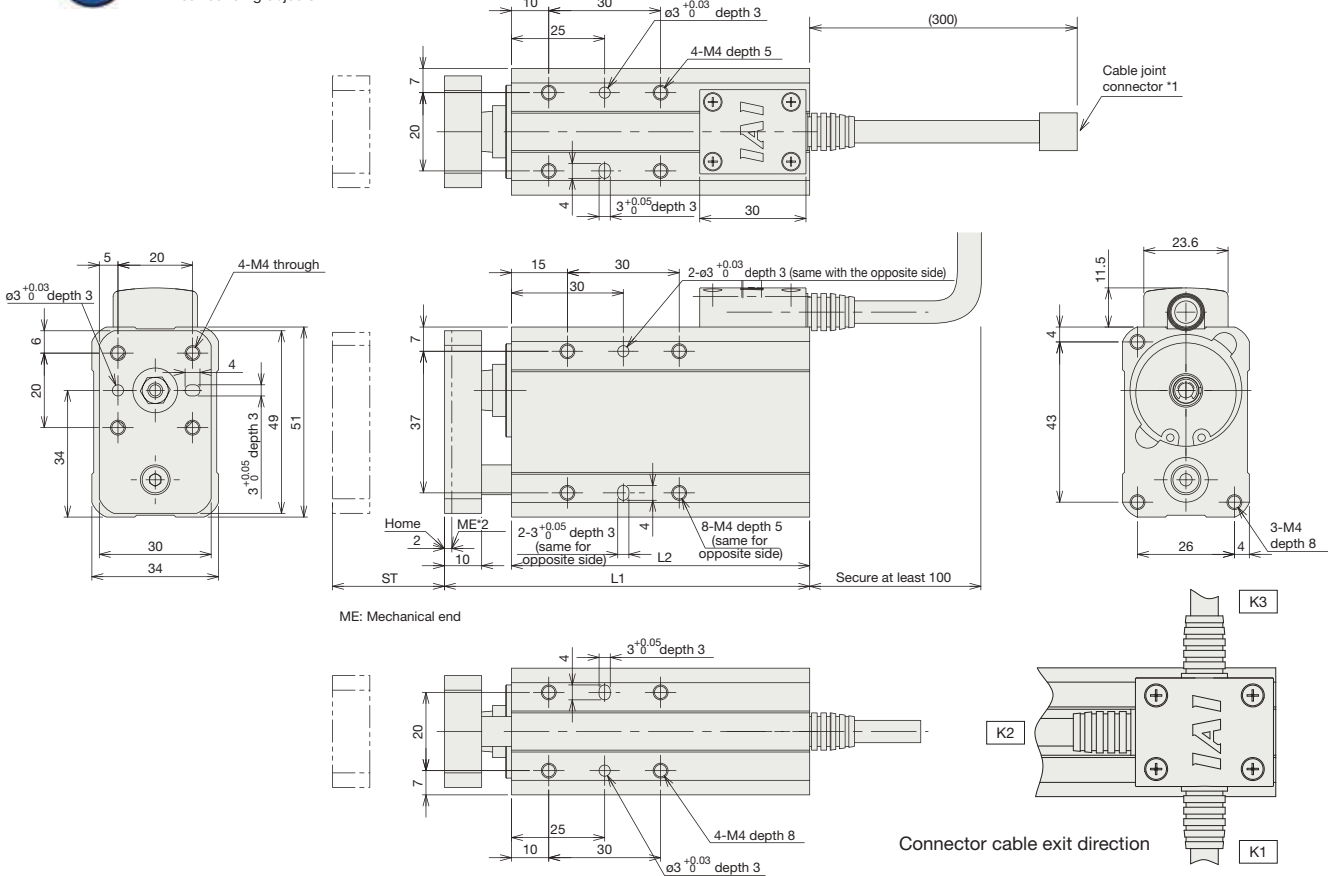
Dimensions

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



- \*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.

For Special Orders P. A-9



Dimensions/Weight by Stroke

Stroke	30	50
L1	98	118
L2	80	100
Weight (kg)	0.55	0.63

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	See Page
Solenoid Valve Type		AMEC-C-20I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I①-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-20I①-NP-2-0					
Positioner Type		ACON-C-20I①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-NP-2-0	Pulse train input type with differential line driver support	(-)		(Power-saving) 1.3A rated 2.5A max.	
Pulse Train Input Type (Open Collector)		ACON-PO-20I①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-20I①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-20I①-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 Motor 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 (230V)
- Linear Motor

# RCA2-GD3NA

RoboCylinder Mini Rod Type Short-Length Free Mounting Type with Double Guide  
28mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** - **GD3NA** - **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

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

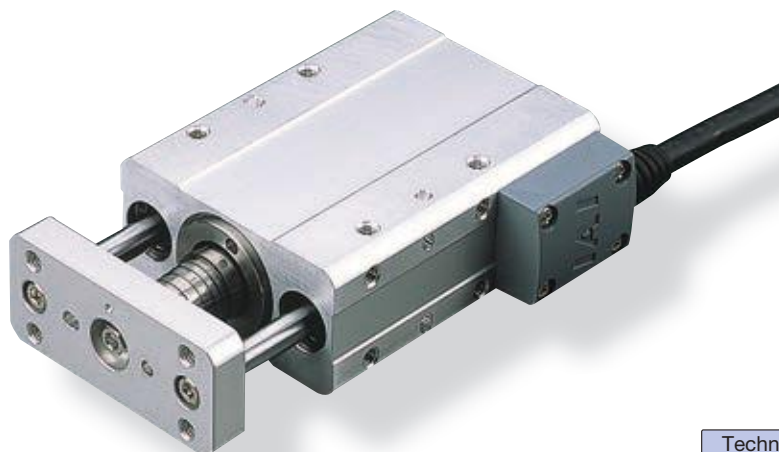
30: 30mm  
50: 50mm

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

K1-3: 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 1mm-lead model, lead screw model, or when used vertically). This is the upper limit of the acceleration.
- (3) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-GD3NA-I-10-4 - [1]-[2]-[3]-[4]	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2-GD3NA-I-10-2 - [1]-[2]-[3]-[4]			2	1.5	0.5	85.5		
RCA2-GD3NA-I-10-1 - [1]-[2]-[3]-[4]			1	3	1	170.9		
RCA2-GD3NA-I-10-4S - [1]-[2]-[3]-[4]	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 50
RCA2-GD3NA-I-10-2S - [1]-[2]-[3]-[4]			2	0.5	0.25	50.3		
RCA2-GD3NA-I-10-1S - [1]-[2]-[3]-[4]			1	1	0.5	100.5		

### Stroke and Maximum Speed

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

Legend [1] Stroke [2] Compatible Controllers [3] Cable length [4] Option

(Unit = mm/s)

## Cable List

Type	Cable Symbol	
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.

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø4 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification
	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles
	5000 km

## Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32



# RCA2-GD4NA

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

■ Configuration: **RCA2** — **GD4NA** — **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: Ball screw 6mm  
4: Ball screw 4mm  
2: Ball screw 2mm  
6S: lead screw 6mm  
4S: lead screw 4mm  
2S: lead screw 2mm

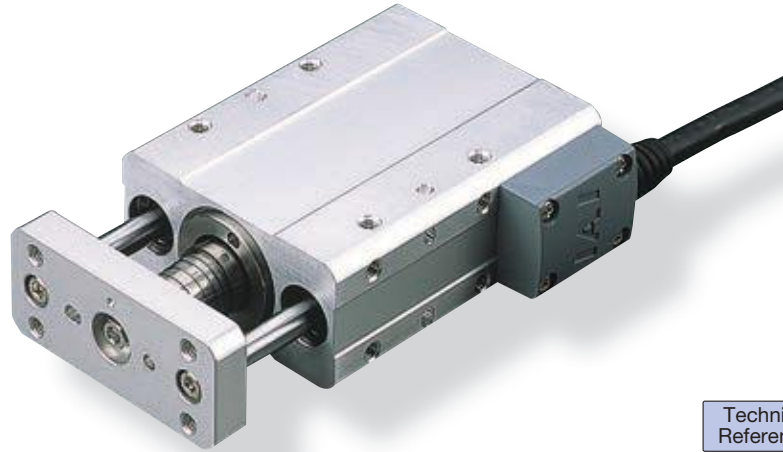
30 : 30mm  
50 : 50mm

A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

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

K1-3 : Connector cable exit direction  
LA : Power-saving

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



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) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## 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-GD4NA-I-20-6- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	Ball Screw	6	2	0.5	33.8	±0.02	30 50
RCA2-GD4NA-I-20-4- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>			4	3	0.75	50.7		
RCA2-GD4NA-I-20-2- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>			2	6	1.5	101.5		
RCA2-GD4NA-I-20-6S- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	Lead Screw	6	0.25	0.125	19.9	±0.05	30 50
RCA2-GD4NA-I-20-4S- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>			4	0.5	0.25	29.8		
RCA2-GD4NA-I-20-2S- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>			2	1	0.5	59.7		

Legend  Compatible controller  Cable length  Options

### Stroke and Maximum Speed

Lead	Stroke	30 (mm)		50 (mm)	
		30 (mm)	50 (mm)	30 (mm)	50 (mm)
Ball Screw	6	270	<220>	300	
	4	200			
	2	100			
Lead Screw	6	220		300	
	4	200			
	2	100			

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

## Cable List

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

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

## Option List

Name	Option Code	See Page	
Cable exit from left	<b>K1</b>	→ A-32	
Cable exit from front	<b>K2</b>	→ A-32	
Cable exit from right	<b>K3</b>	→ A-32	
Power-saving	<b>LA</b>	→ A-32	

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø6 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification
	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles
	5000 km





# RCA2-SD3NA

RoboCylinder Mini Rod Type Short-Length Slide Unit Type with Double Guide  
60mm Width 24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2** - **SD3NA** - **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

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

25 :25mm  
50 :50mm

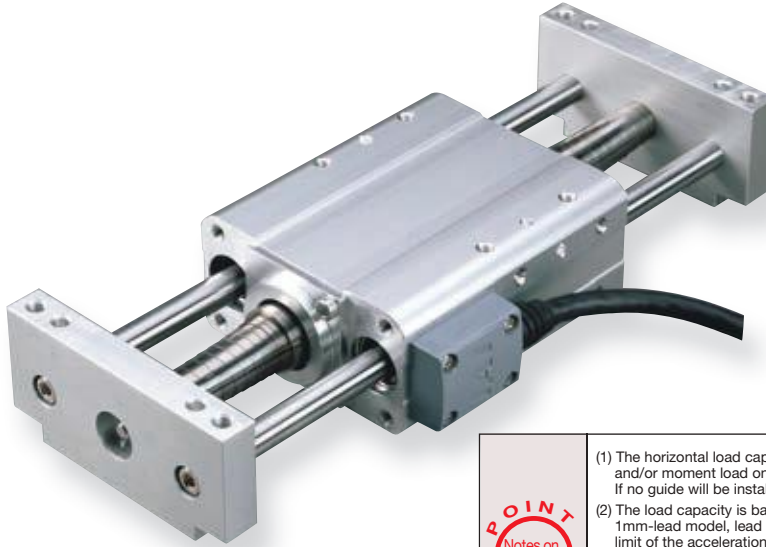
A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

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

K1-3 : 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 1mm-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) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## Actuator Specification Table

### Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-SD3NA-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25 (*)	42.7	±0.02	25 50
RCA2-SD3NA-I-10-2-①-②-③-④			2	1.5	0.5 (*)	85.5		
RCA2-SD3NA-I-10-1-①-②-③-④			1	3	1 (*)	170.9		
RCA2-SD3NA-I-10-4S-①-②-③-④	10	Lead screw	4	0.25	0.125 (*)	25.1	±0.05	25 50
RCA2-SD3NA-I-10-2S-①-②-③-④			2	0.5	0.25 (*)	50.3		
RCA2-SD3NA-I-10-1S-①-②-③-④			1	1	0.5 (*)	100.5		

### Stroke and Maximum Speed

Lead	Stroke	25 (mm)	50 (mm)
		Ball screw	4
2	100		
1	50		
Lead screw	4	200	
	2	100	
	1	50	

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(\*) When the main unit side is fixed

(Unit = mm/s)

### Cable List

Type	Cable Symbol
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.

### Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø4 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification
	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles
	5000 km

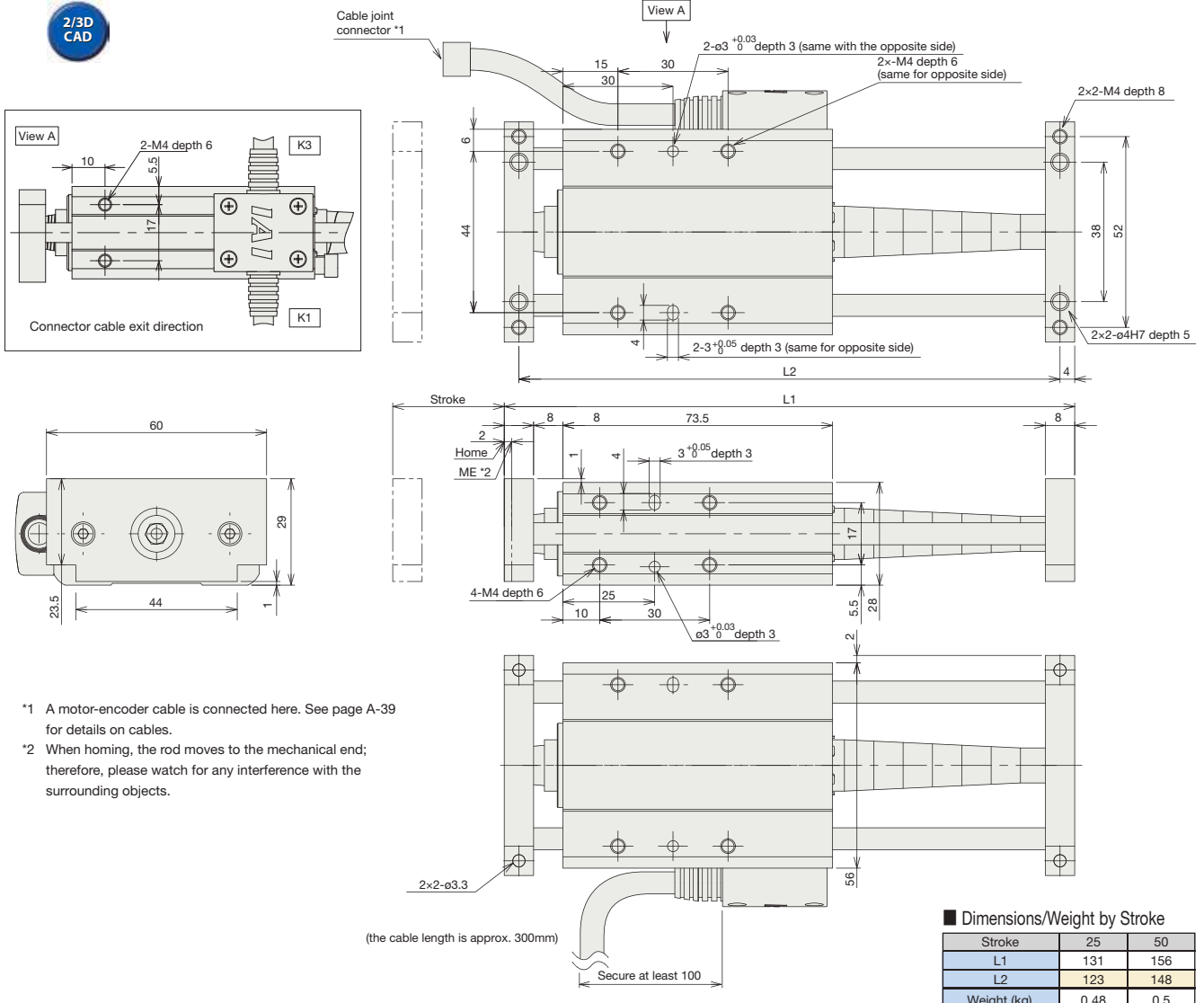
### Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

Dimensions

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

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

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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.	→ 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	(-)		(Power-saving) 1.3A rated 2.5A max.	
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 Motor 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 (230V)
- Linear Motor

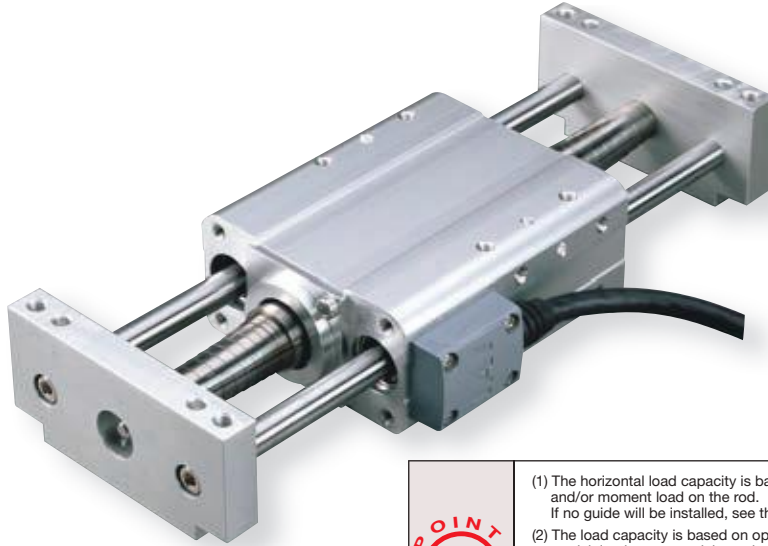
# RCA2-SD4NA

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

■ Configuration: **RCA2** - **SD4NA** - **I** - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA2	SD4NA	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 Length	K1-3 : 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 0.3G (0.2G for the 2mm-lead model, lead screw model, or when used vertically). 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.
- If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## 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-SD4NA-I-20-6- [1] - [2] - [3] - [4]	20	Ball Screw	6	2	0.5 (*1)	33.8	±0.02	25
RCA2-SD4NA-I-20-4- [1] - [2] - [3] - [4]			4	3	0.75 (*1)	50.7		50
RCA2-SD4NA-I-20-2- [1] - [2] - [3] - [4]			2	6	1.5 (*1)	101.5		75
RCA2-SD4NA-I-20-6S- [1] - [2] - [3] - [4]	20	Lead Screw	6	0.25	0.125 (*1)	19.9	±0.05	25
RCA2-SD4NA-I-20-4S- [1] - [2] - [3] - [4]			4	0.5	0.25 (*1)	29.8		50
RCA2-SD4NA-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	25 (mm)	50 ~ 75 (mm)
		Lead	Stroke
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)

## Cable List

Type	Cable Symbol
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
Cable exit from left	K1	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw, Ø6 mm, rolled C10
Lost motion	Ball screw: 0.1 mm or less/Lead screw: 0.3 mm or less (default value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (Non-condensing)
Service life	Lead screw specification
	Ball screw specification

Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

5000 km



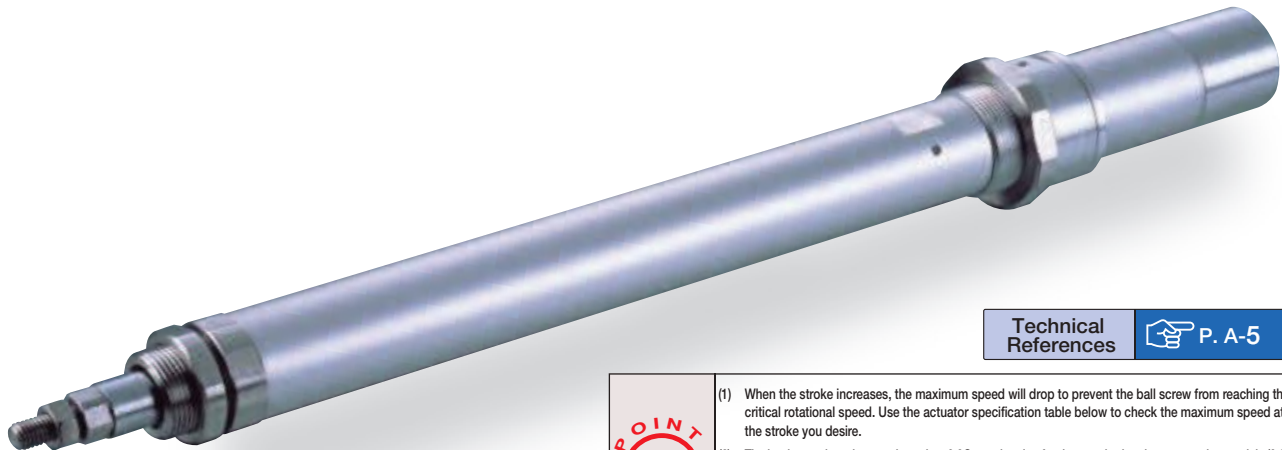
# RCA-RA3C RoboCylinder Rod Type ø32mm Diameter 24V Servo Motor Coupled

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

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	RA3C	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** **Power-saving**  
(Except the 2.5mm-lead model)



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 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.)
  - (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						Stroke and Maximum Speed	
■ Lead and Load Capacity						Stroke	50 ~ 200 (50mm increments)
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Lead	Stroke
			Horizontal (kg)	Vertical (kg)			
RCA-RA3C-I-20-10-①-②-③-④	20	10	4.0	1.5	36.2	10	500
RCA-RA3C-I-20-5-①-②-③-④		5	9.0	3.0	72.4	5	250
RCA-RA3C-I-20-2.5-①-②-③-④		2.5	18.0	6.5	144.8	2.5	125

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

Type	Cable Symbol
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.

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)

Name	Option Code	See Page
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 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

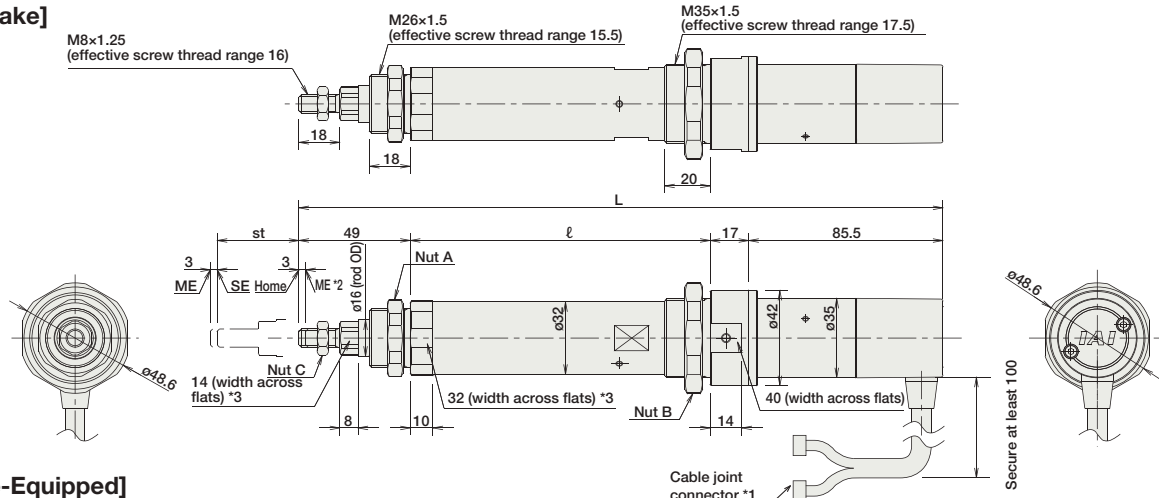
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

For Special Order P. A-9

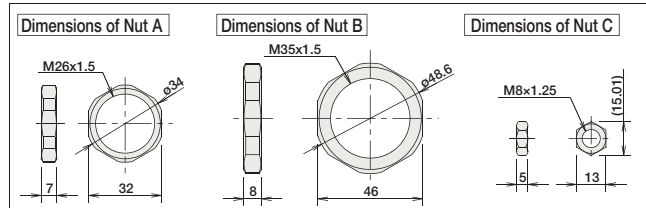
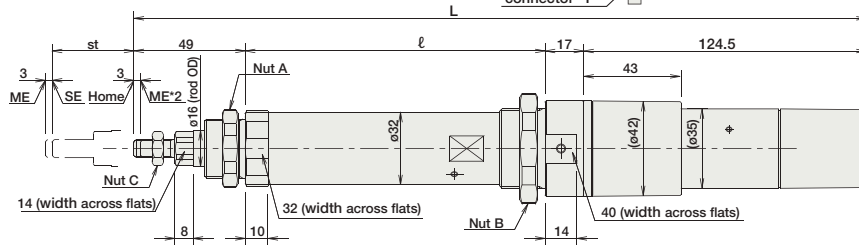


- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3. The orientation of the bolt will vary depending on the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

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	See Page
Solenoid Valve Type		AMEC-C-20SI ① -NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	
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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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 "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 Motor 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 (230V)
- Linear Motor

# RCA-RA4C

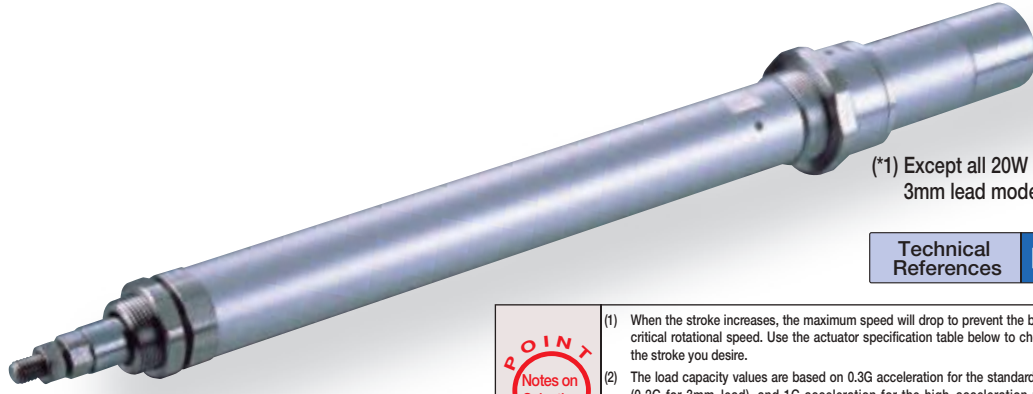
RoboCylinder Rod Type ø37mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** — **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)	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** **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	Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCA-RA4C-①-20-12-②-③-④-⑤	20	12	3.0	1.0	50~300 (50mm increments)
RCA-RA4C-①-20-6-②-③-④-⑤		6	6.0	2.0	
RCA-RA4C-①-20-3-②-③-④-⑤		3	12.0	4.0	
RCA-RA4C-①-30-12-②-③-④-⑤	30	12	4.0	1.5	
RCA-RA4C-①-30-6-②-③-④-⑤		6	9.0	3.0	
RCA-RA4C-①-30-3-②-③-④-⑤		3	18.0	6.5	

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)

### Cable List

Type	Cable Symbol
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.

### 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)

### Option List

Name	Option Code	See Page
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.

Dimensions

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

For Special Order P. A-9

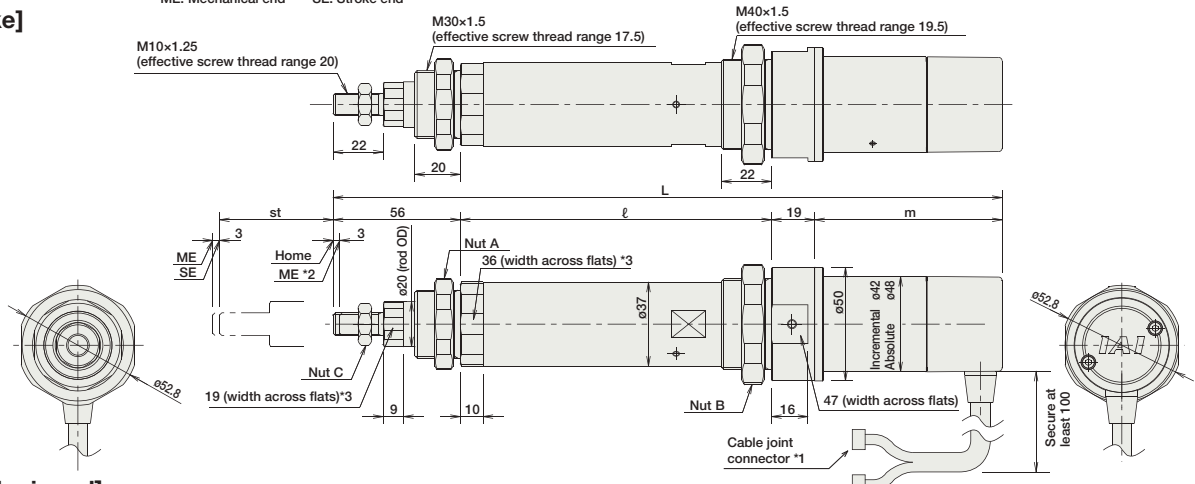


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.

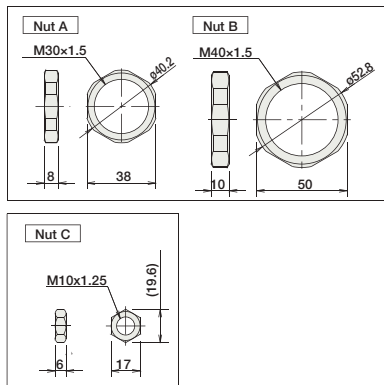
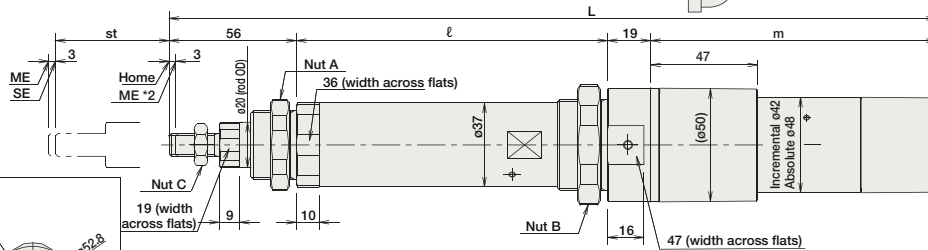
\*3. The orientation of the bolt will vary depending on the product.

ME: Mechanical end SE: Stroke end

[No Brake]



[Brake-Equipped]



Dimensions/Weight by Stroke

RCA-RA4C (without brake)		Stroke	50	100	150	200	250	300	
L	20W	Incram.	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	
	30W	Incram.	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	Incram.	67.5					
Absol.			80.5						
30W		Incram.	82.5						
		Absol.	95.5						
		Weight (kg)	1.1	1.2	1.4	1.5	1.7	1.8	

RCA-RA4C (with brake)		Stroke	50	100	150	200	250	300	
L	20W	Incram.	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	
	30W	Incram.	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	Incram.	110.5					
Absol.			123.5						
30W		Incram.	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	See Page
Solenoid Valve Type		AMEC-C-20I ② -NP-2-2 AMEC-C-30I ② -NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I ② -NP-2-0 ASEP-C-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.				
Splash-Proof Solenoid Valve Type		ASEP-CW-20I ② -NP-2-0 ASEP-CW-30I ② -NP-2-0					
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	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	
Safety-Compliant Positioner Type		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 (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-20② RACON-30②	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 "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 Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-RA3D

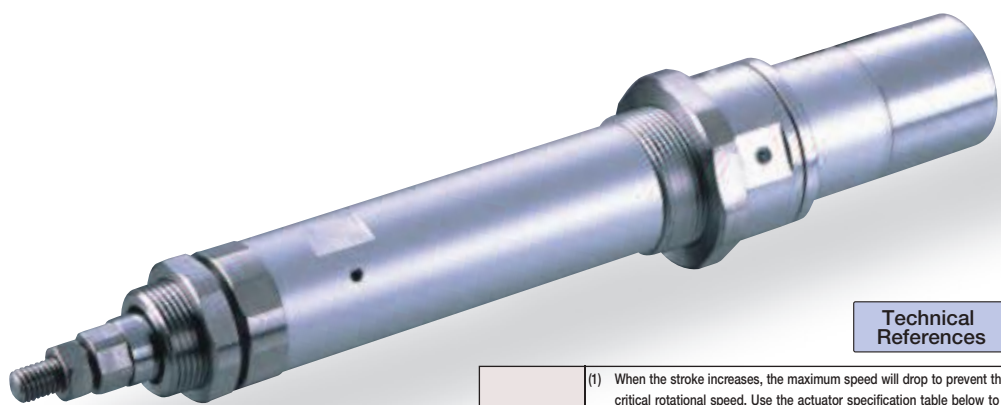
RoboCylinder Rod Type ø32mm Diameter 24V Servo Motor Built-In (Direct-Coupled) Motor

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

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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

  - (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						Stroke and Maximum Speed	
■ Lead and Load Capacity							
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	
			Horizontal (kg)	Vertical (kg)			Stroke Lead
RCA-RA3D-I-20-10-①-②-③-④	20	10	4.0	1.5	36.2	50~200 (50mm increments)	50 ~ 200 (50mm increments)
RCA-RA3D-I-20-5-①-②-③-④		5	9.0	3.0	72.4		500
RCA-RA3D-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)

Cable List		
Type	Cable Symbol	
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.

Option List		
Name	Option Code	See Page
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.robocylinder.de](http://www.robocylinder.de)

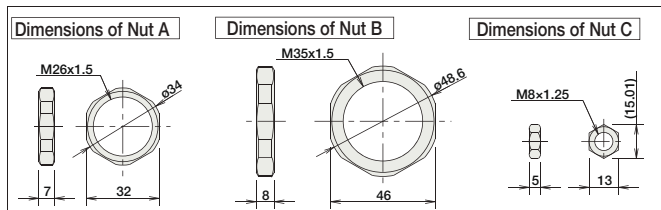
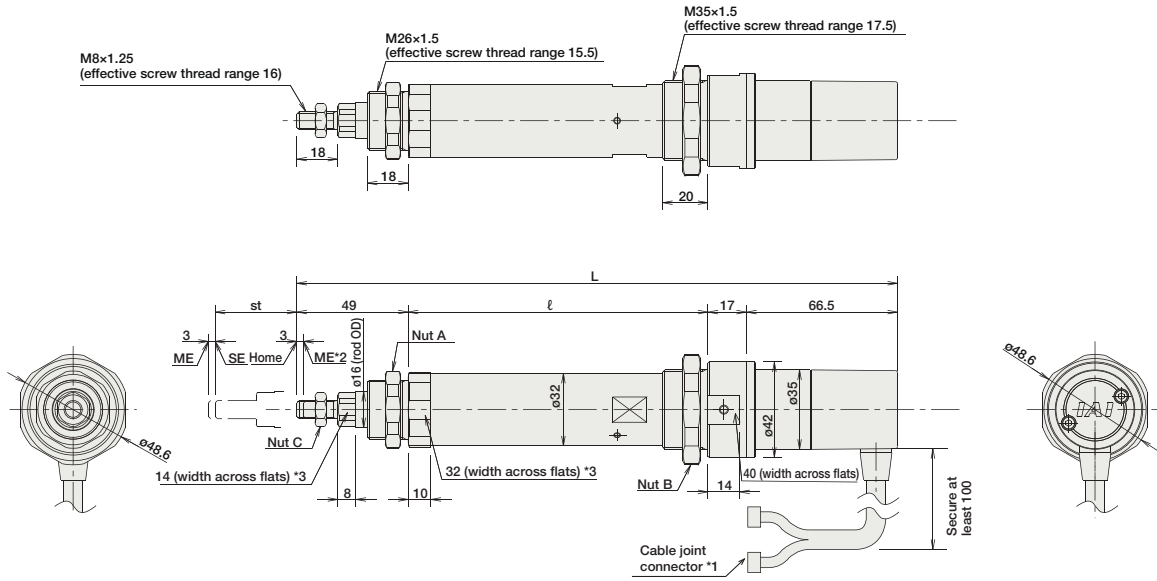
For Special Order P. A-9



- \*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.

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	See Page
Solenoid Valve Type		AMEC-C-20SI-① NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	
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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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 Motor 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 (230V)
- Linear Motor

# RCA-RA4D

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

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

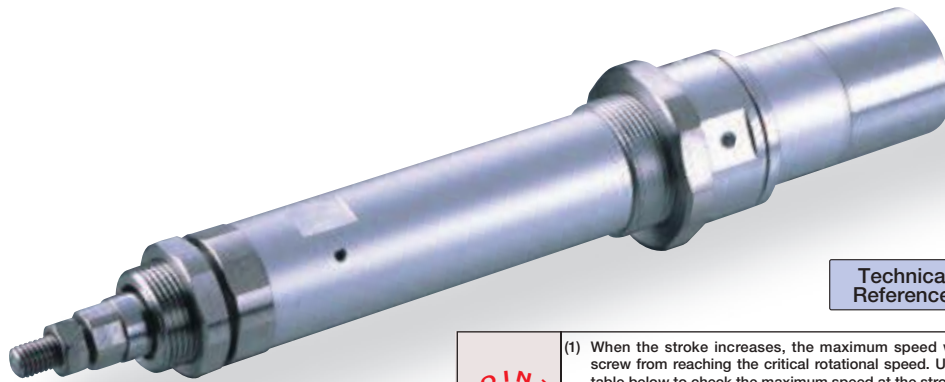
Series -- Type -- Encoder -- Motor -- Lead -- Stroke -- Compatible Controllers -- Cable Length -- Option

I : Incremental Motor 20 : 20W Servo Motor 12 : 12mm 50 : 50mm A1 : ACON N : None See Options below  
 A : Absolute Motor 30 : 30W Servo Motor 6 : 6mm 300 : 300mm (50mm pitch increments) A3 : AMEC ASEP P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable  
 3 : 3mm

\* 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
- (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)		
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	

#### 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

#### Cable List

Type	Cable Symbol	
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.

#### 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)

#### Option List

Name	Option Code	See Page
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



Dimensions

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

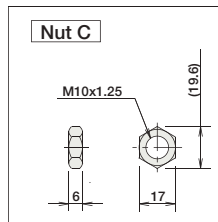
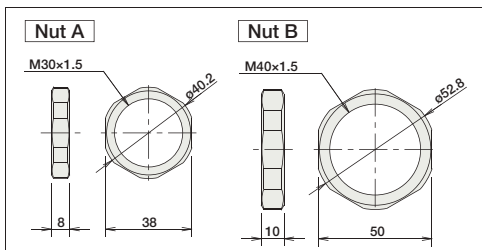
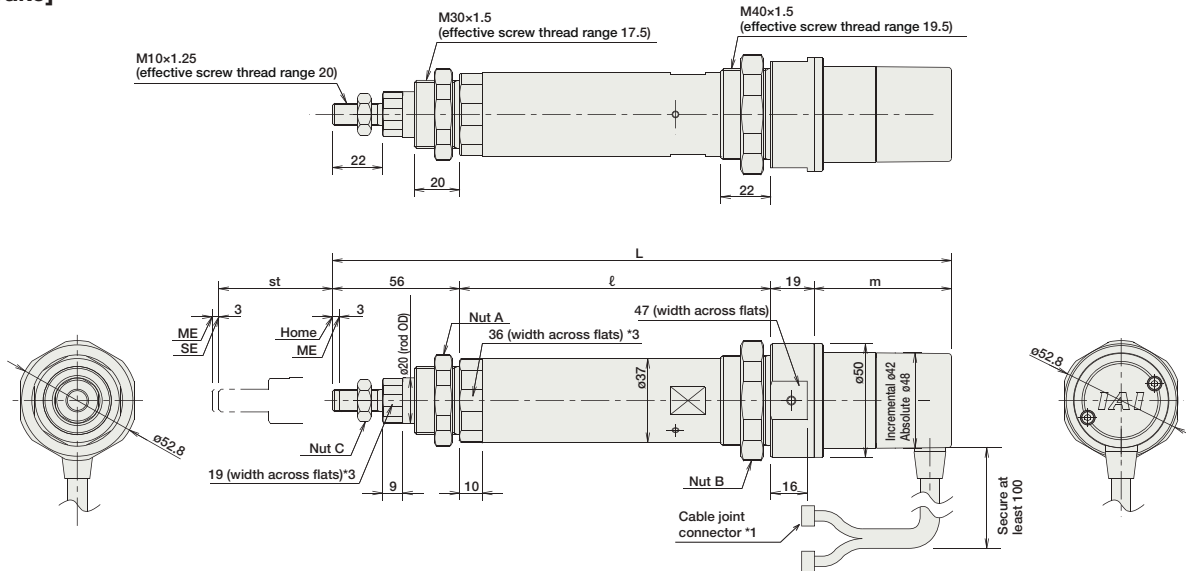


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

For Special Order P. A-9

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

[No Brake]



Dimensions/Weight by Stroke

RCA-RA4D (without brake)

Stroke		50	100	150	200	250	300	
L	20W	Incram.	257.5	307.5	357.5	407.5	457.5	507.5
		Absol.	270.5	320.5	370.5	420.5	470.5	520.5
	30W	Incram.	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
ℓ		137	187	237	287	337	387	
m	20W	Incram.	45.5					
		Absol.	58.5					
	30W	Incram.	60.5					
		Absol.	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	See Page				
Solenoid Valve Type		AMEC-C-20I-② NP-2-2 AMEC-C-30I-② NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477				
		ASEP-C-20I-② NP-2-0 ASEP-C-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			
Splash-Proof Solenoid Valve Type		ASEP-CW-20I-② NP-2-0 ASEP-CW-30I-② NP-2-0									
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	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.			
Safety-Compliant Positioner Type		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-20② RACON-30②	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.

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm /Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Motor 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 (230V)

Linear Motor

# RCA-RA3R

RoboCylinder 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
		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



- (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.

## 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-RA3R-I-20-10- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	10	4.0	1.5	36.2	50~200 (50mm increments)
RCA-RA3R-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		5	9.0	3.0	72.4	
RCA-RA3R-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		2.5	18.0	6.5	144.8	

### Stroke and Maximum Speed

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

Legend  Stroke  Compatible controllers  Cable length  Options

(Unit: mm/s)

## Cable List

Type	Cable Symbol
Standard	P (1m)
	S (3m)
	M (5m)
Special Lengths	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
	X06 (6m) ~ X10 (10m)
Robot Cable	R01 (1m) ~ R03 (3m)
	R04 (4m) ~ R05 (5m)
	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)
	R16 (16m) ~ R20 (20m)

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

## 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)

## Option List

Name	Option Code	See Page
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.

Dimensions

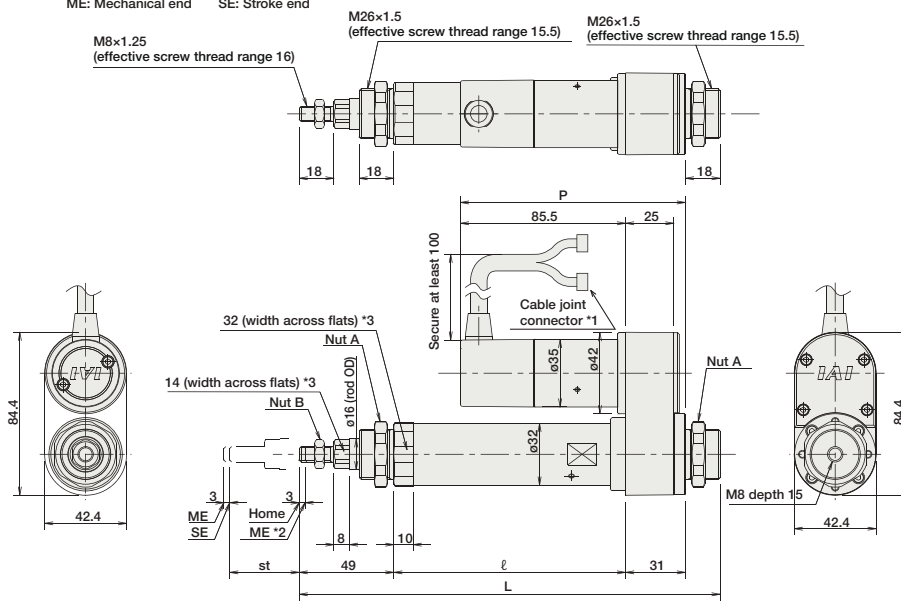
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

For Special Order P. A-9

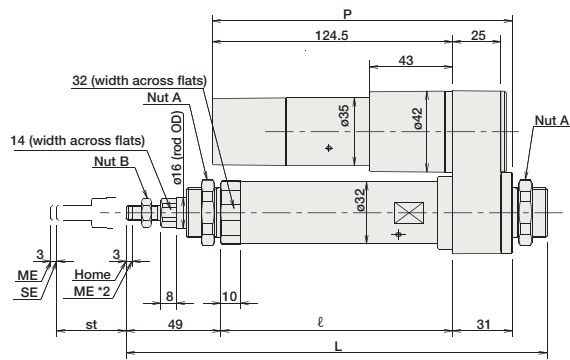
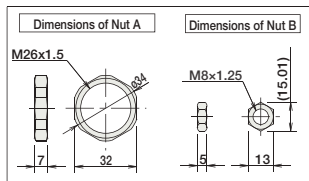


- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
  - \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
  - \*3. The orientation of the bolt will vary depending on the product.
- ME: Mechanical end SE: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

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCA-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

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	See Page
Solenoid Valve Type		AMEC-C-20SI-① NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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	(Standard) 1.7 A rated 5.1 A max.	
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	(Power-saving) 1.7 A rated 3.4 A max.	→ 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 Motor 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 (230V)
- Linear Motor

# RCA-RA4R

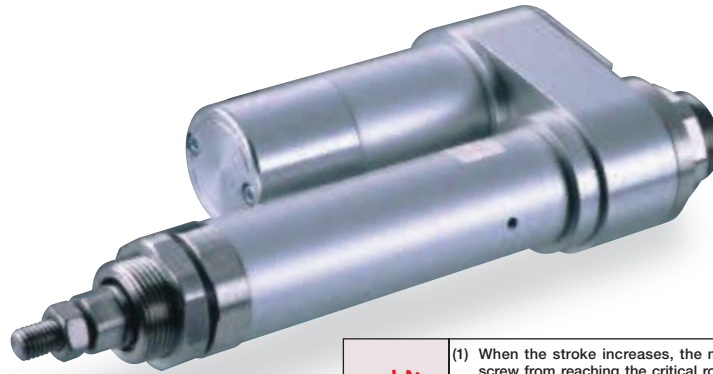
RoboCylinder Rod Type ø37mm Diameter 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA** — **RA4R** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I : Incremental 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
- (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)		
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	

### 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

## Cable List

Type	Cable Symbol
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.

## 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)

## Option List

Name	Option Code	See Page
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.

Dimensions

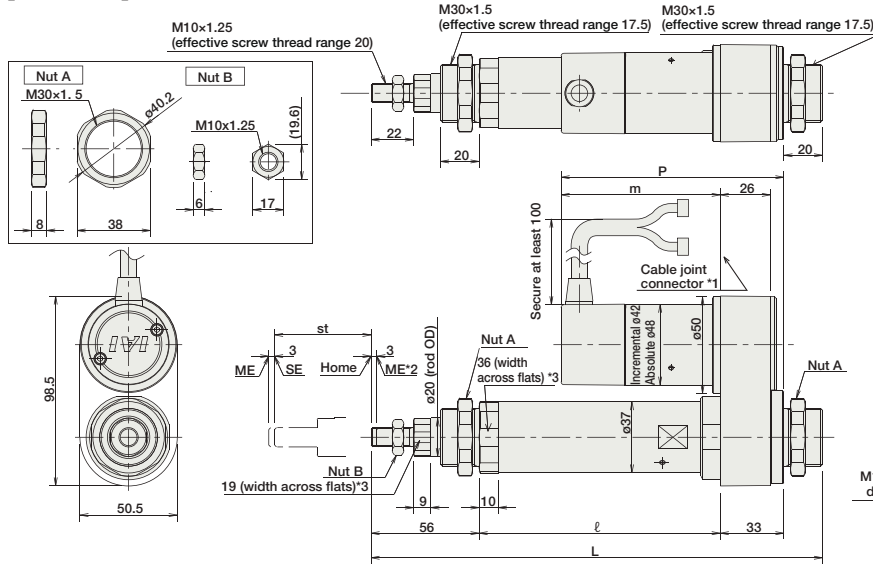
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



- \*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]

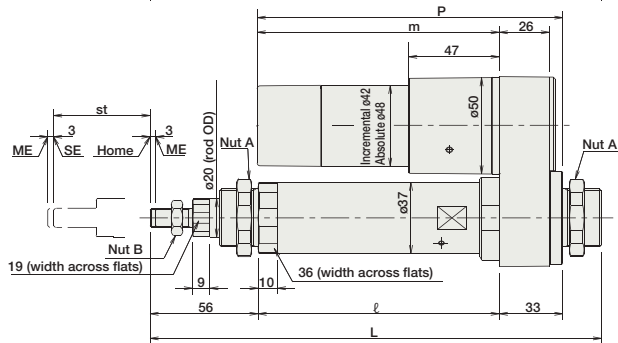


Dimensions/Weight by Stroke

RCA-RA4R (without brake)

Stroke		50	100	150	200	250	300		
L	20W	Incr.	234	284	334	384	434	484	
		Absol.	234	284	334	384	434	484	
L	30W	Incr.	234	284	334	384	434	484	
		Absol.	234	284	334	384	434	484	
ℓ			125	175	225	275	325	375	
m	20W	Incr.						67.5	
		Absol.						80.5	
m	30W	Incr.						82.5	
		Absol.						95.5	
P	20W	Incr.						100.5	
		Absol.						113.5	
P	30W	Incr.						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		50	100	150	200	250	300		
L	20W	Incr.	234	284	334	384	434	484	
		Absol.	234	284	334	384	434	484	
L	30W	Incr.	234	284	334	384	434	484	
		Absol.	234	284	334	384	434	484	
ℓ			125	175	225	275	325	375	
m	20W	Incr.						110.5	
		Absol.						123.5	
m	30W	Incr.						125.5	
		Absol.						138.5	
P	20W	Incr.						143.5	
		Absol.						156.5	
P	30W	Incr.						158.5	
		Absol.						171.5	
Weight (kg)			1.4	1.6	1.7	1.9	2.0	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-20I-2 NP-2-2 AMEC-C-30I-2 NP-2-2	Easy-to-use controller, even for beginners	3 points	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.		→ P477		
	Splash-Proof Solenoid Valve Type		ASEP-C-20I-2 NP-2-0 ASEP-C-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		
	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	(-)				→ P535		
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-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 "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 Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SRA4R

RoboCylinder Rod Type 45mm Diameter 24V Servo Motor Short-Length Type Side-Mounted Motor

■ Configuration: **RCA** - **SRA4R** - **I** - **20** -  -  -  -  -

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	SRA4R	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

**POINT**  
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					
<b>■ Lead and Load Capacity</b>					
Model	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCA-SRA4R-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	5	9	3	41	20~200 (10mm increments) (Note 1)
RCA-SRA4R-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	2.5	18	6.5	81	
Legend <input type="checkbox"/> Stroke <input type="checkbox"/> Compatible controllers <input type="checkbox"/> Cable length <input type="checkbox"/> Options (Note 1) 50mm increments over 100mm. (Unit: mm/s)					

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

Cable List		
Type	Cable Symbol	
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.

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)

Option List		
Name	Option Code	See Page
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

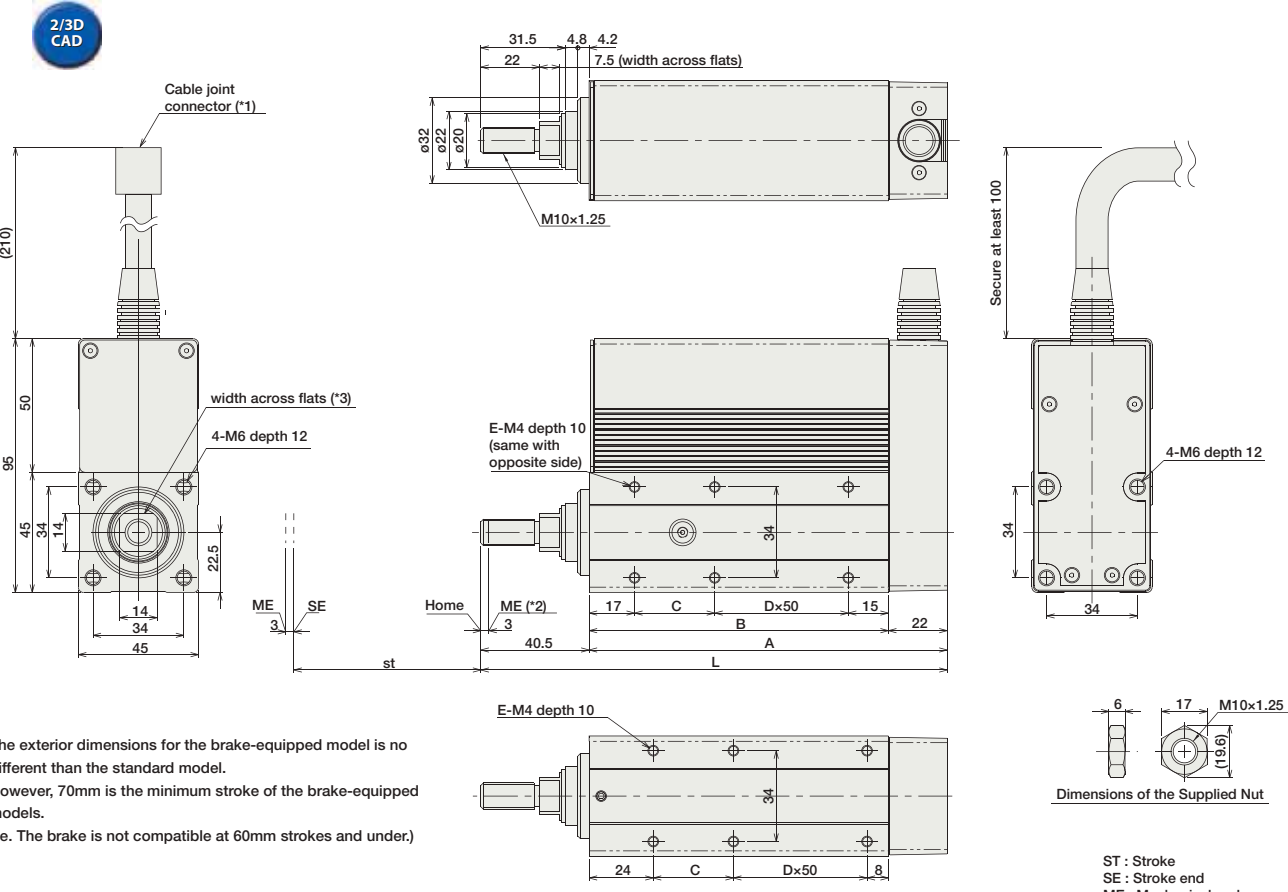
\* The brake is available for strokes of 70mm or more.



Dimensions

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

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.)

- (\*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.

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

ST : Stroke  
SE : Stroke end  
ME : Mechanical end

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	See Page
Solenoid Valve Type		AMEC-C-20I ① -NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I 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-20I ① -NP-2-0					
Positioner Type		ACON-C-20I ① -NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I ① -NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I ① -NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I ① -NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I ① -N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-20 ①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-20I 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 Motor 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 (230V)
- Linear Motor

# RCA-RGS3C

RoboCylinder Rod Type with Single Guide ø32mm Diameter 24V Servo Motor Coupled

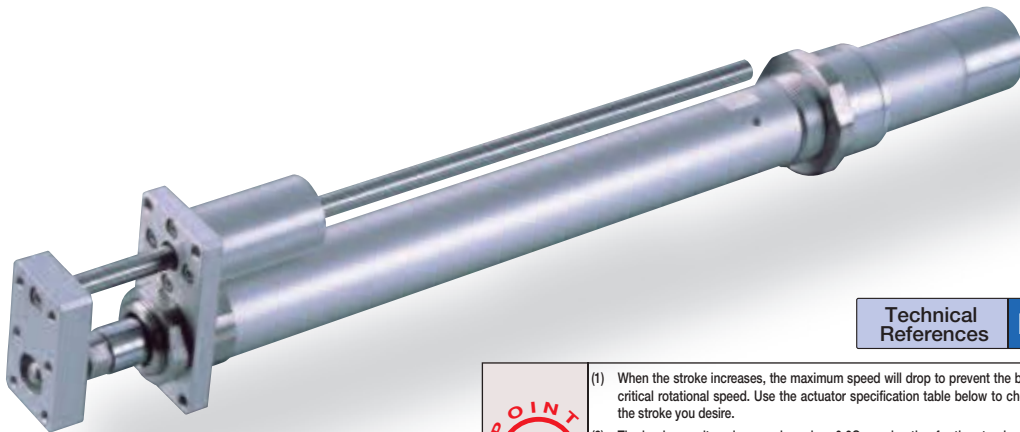
■ Configuration: **RCA** - **RGS3C** - **I** - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

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

- 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 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.)
  - (3) 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

Lead	Stroke	50 ~ 200 (50mm increments)	
		Max. Speed (mm/s)	Max. Acc. (G)
10	500	1000	0.2
5	250	2000	0.2
2.5	125	4000	0.2

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

### Cable List

Type	Cable Symbol	
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.

### Option List

Name	Option Code	See Page
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 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.

### 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

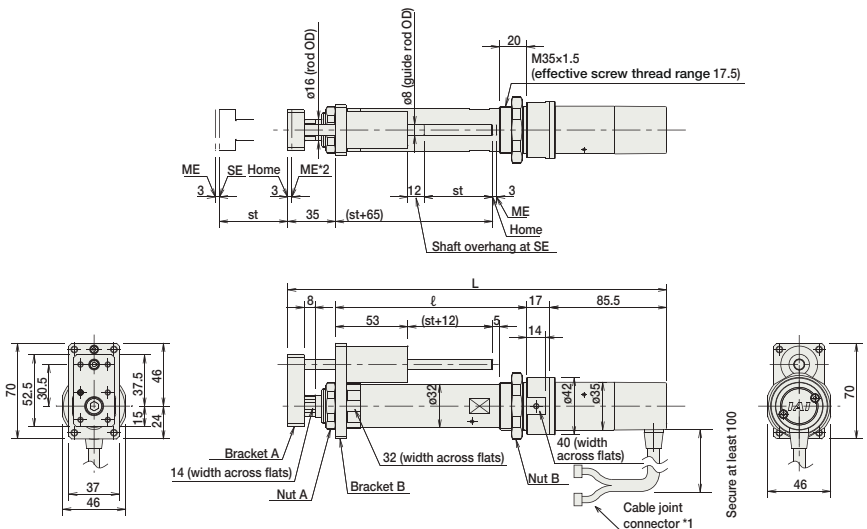
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



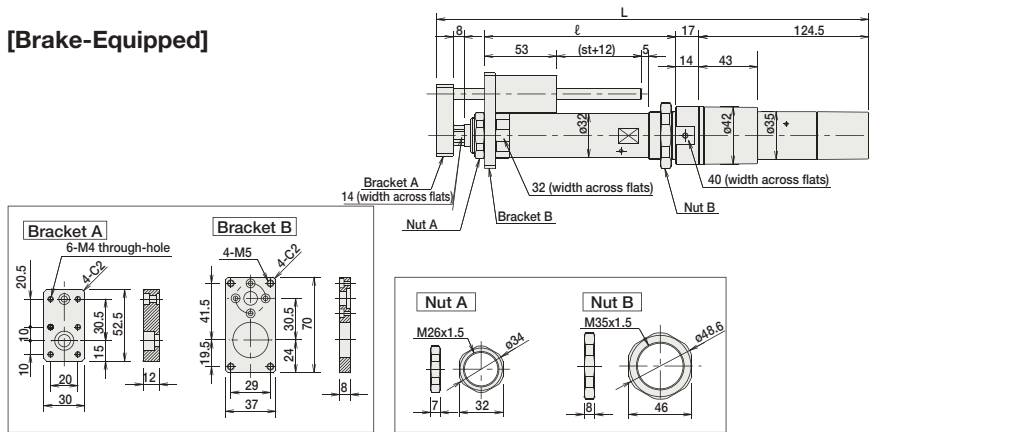
- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

For Special Order P. A-9

[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

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	See Page
Solenoid Valve Type		MEC-C-20SI ① -NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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-20S①	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 Motor 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 (230V)
- Linear Motor

# RCA-RGS4C

RoboCylinder Rod Type with Single Guide ø37mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** -- **RGS4C** -- [ ] -- [ ] -- [ ] -- [ ] -- [ ] -- [ ] -- [ ]

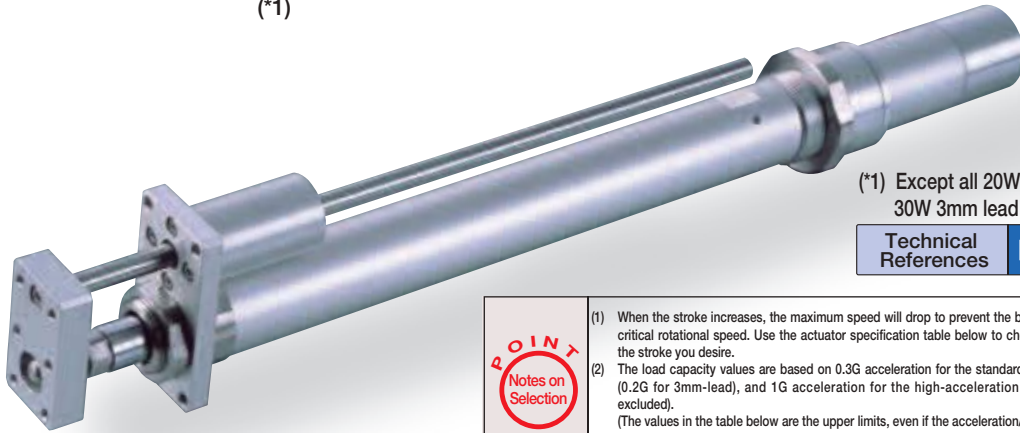
Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I : Incremental A : Absolute	20 : 20W Servo Motor 30 : 30W Servo Motor	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm 300 : 300mm (50mm pitch increments)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom 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**

**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)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-RGS4C-①-20-12-②-③-④-⑤	20	12	3.0	0.5	18.9	50~300 (50mm increments)
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 / Lead	50 ~ 300 (50mm increments)	
	Stroke (mm)	Maximum Speed (mm/s)
12	600	
6	300	
3	150	

(Unit: mm/s)

## Cable List

Type	Cable Symbol	
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.

## 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)

## Option List

Name	Option Code	See Page
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.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

Dimensions

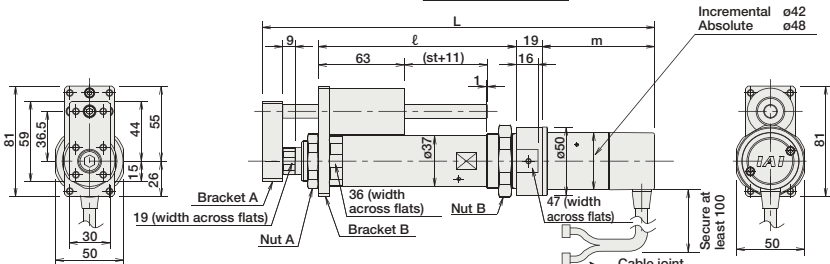
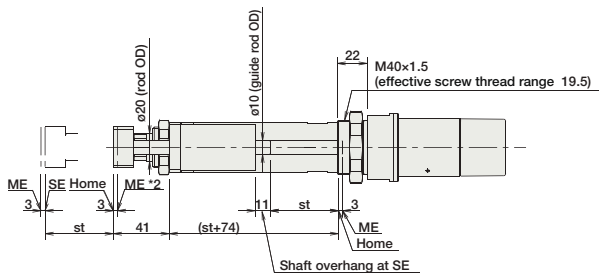
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



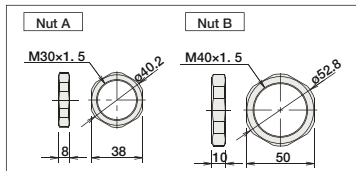
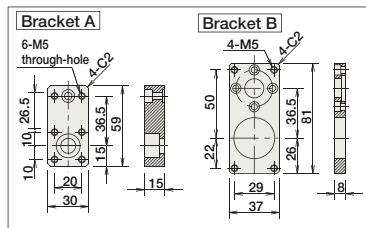
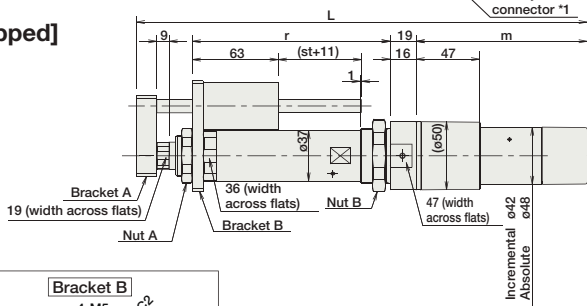
- \*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

For Special Order P. A-9

[No Brake]



[Brake-Equipped]



Dimensions/Weight by Stroke

RCA-RGS4C (without brake)

Stroke		50	100	150	200	250	300	
L	20W	Incr.	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	Incr.	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	Incr.	67.5					
		Absol.	80.5					
30W	Incr.	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	Incr.	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	Incr.	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	Incr.	110.5					
		Absol.	123.5					
30W	Incr.	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	See Page
Solenoid Valve Type		AMEC-C-201 ② -NP-2-2 AMEC-C-301 ② -NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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					
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	(Standard) 1.3 A rated 4.4 A max.	
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	(Power-saving) 1.3 A rated 2.5 A max.	→ 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-1-20 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 "HA" or "LA" if the high acceleration/deceleration option or the power-saving option is specified.

# RCA-RGS3D

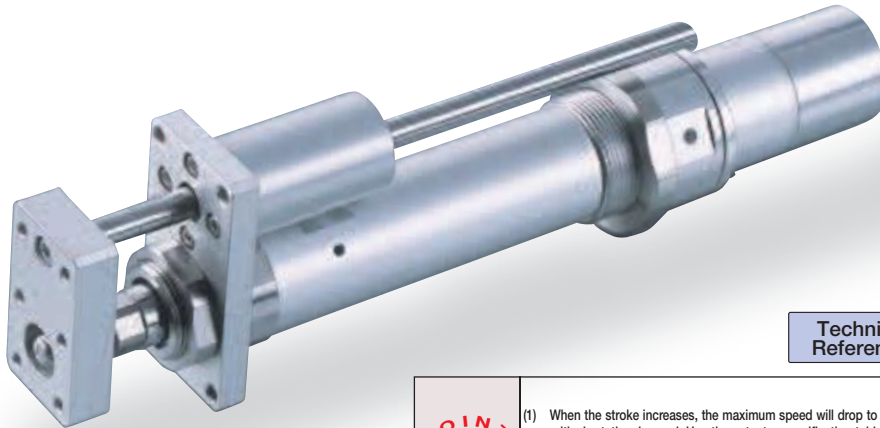
RoboCylinder Rod Type with Single Guide ø32mm Diameter 24V Servo Motor Built-In Model

■ 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 <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



- (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 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-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 and Maximum Speed

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

Legend  Stroke  Compatible controllers  Cable length  Options (Unit: mm/s)

## Cable List

Type	Cable Symbol
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.

## Option List

Name	Option Code	See Page
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	0.1 mm 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

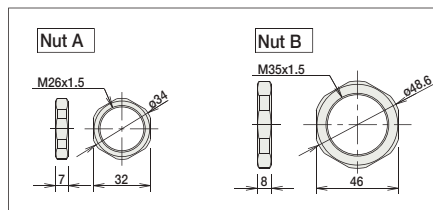
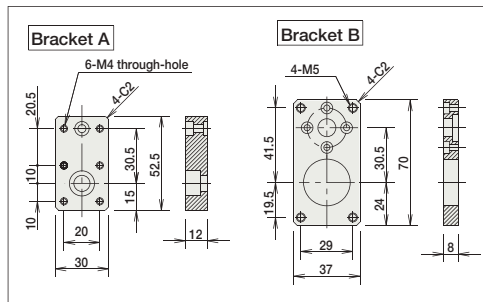
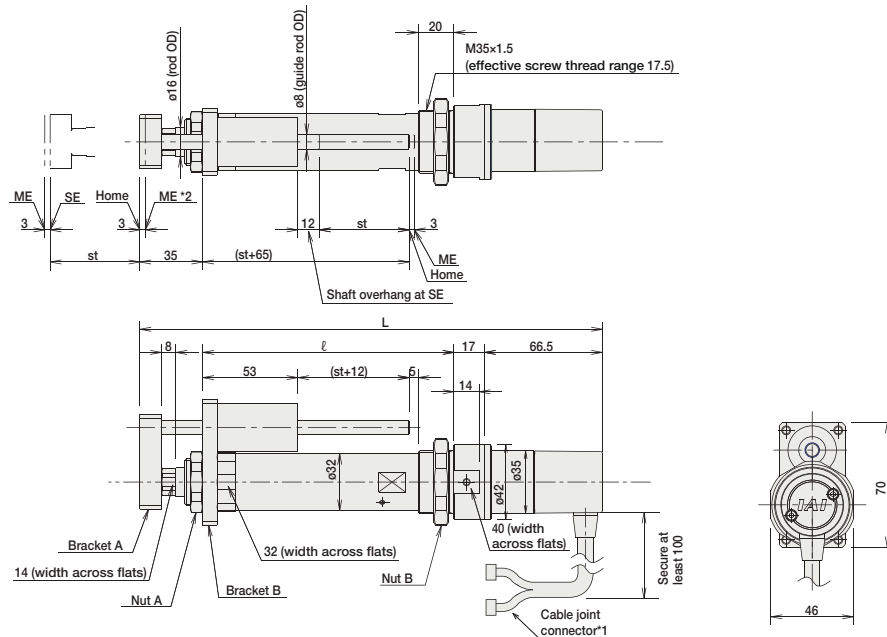
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

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.

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	See Page
Solenoid Valve Type		AMEC-C-20SI ① -NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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 Motor 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 (230V)
- Linear Motor

# RCA-RGS4D

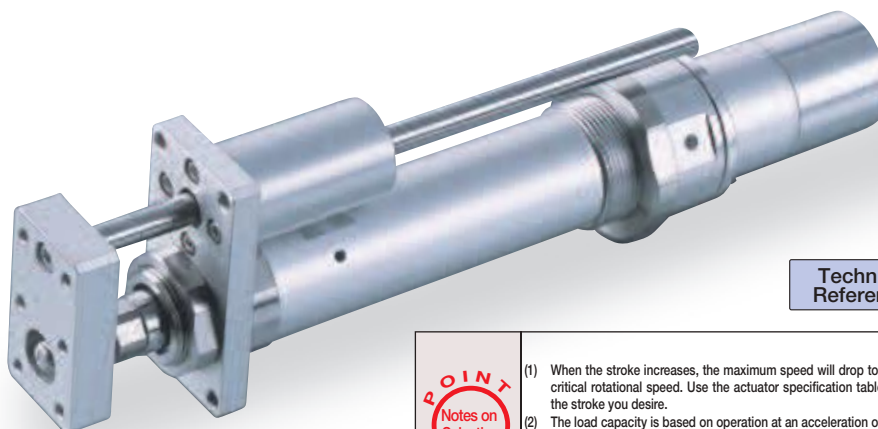
RoboCylinder Rod Type with Single Guide ø37mm Diameter 24V Servo Motor Built-In Model

■ Configuration: **RCA** -- **RGS4D** -- [ ] -- [ ] -- [ ] -- [ ] -- [ ] -- [ ] -- [ ]

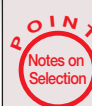
Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I : Incremental A : Absolute	20 : 20W Servo Motor 30 : 30W Servo Motor	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm 300 : 300mm (50mm pitch increments)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom R [ ] : Robot cable	See Options below		

\* 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



- (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 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

### Cable List

Type	Cable Symbol
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.

### Option List

Name	Option Code	See Page
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

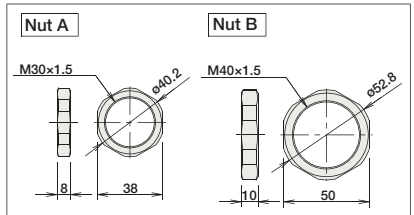
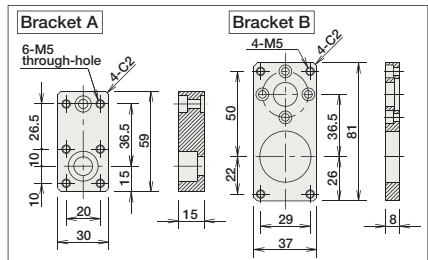
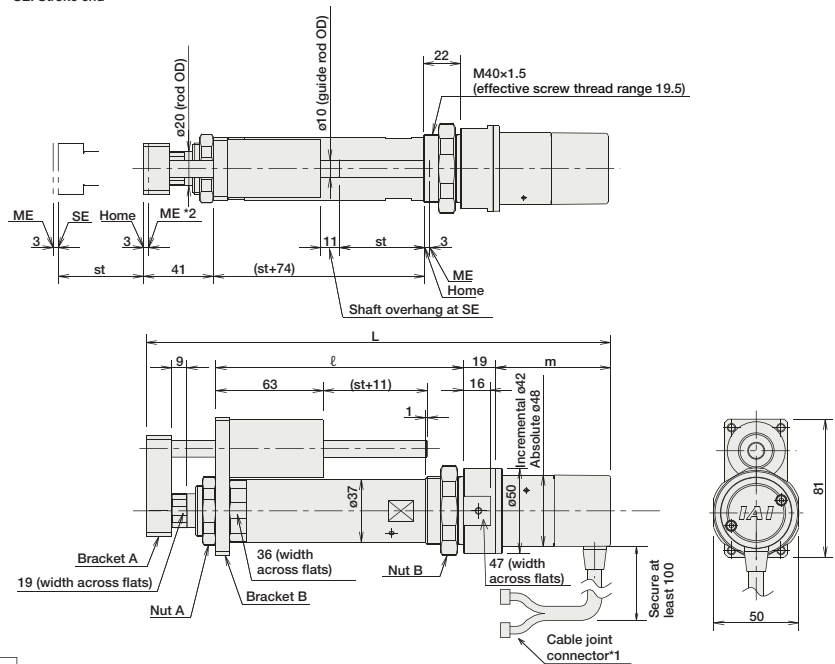
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



- \*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

For Special Order P. A-9

[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
	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					
	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.

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	See Page
Solenoid Valve Type		AMEC-C-201 ②-NP-2-2 AMEC-C-301 ②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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			
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	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ 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-1-20 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.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SRGS4R

RoboCylinder Rod Type with Single Guide 45mm Width 24V Servo Motor  
Short-Length Model Side-Mounted Motor

■ Configuration: **RCA** — **SRGS4R** — **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 (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

**POINT**  
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					
<b>■ Lead and Load Capacity</b>					
Model	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCA-SRGS4R-I-20-5-①-②-③-④	5	9	2	41	20 ~ 200 (10mm increments) (Note 1)
RCA-SRGS4R-I-20-2.5-①-②-③-④	2.5	18	5.5	81	20 ~ 200 (10mm increments) (Note 1)
Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options (Note 1) 50mm increments over 100mm. (Unit: mm/s)					

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

Cable List		
Type	Cable Symbol	
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.

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)

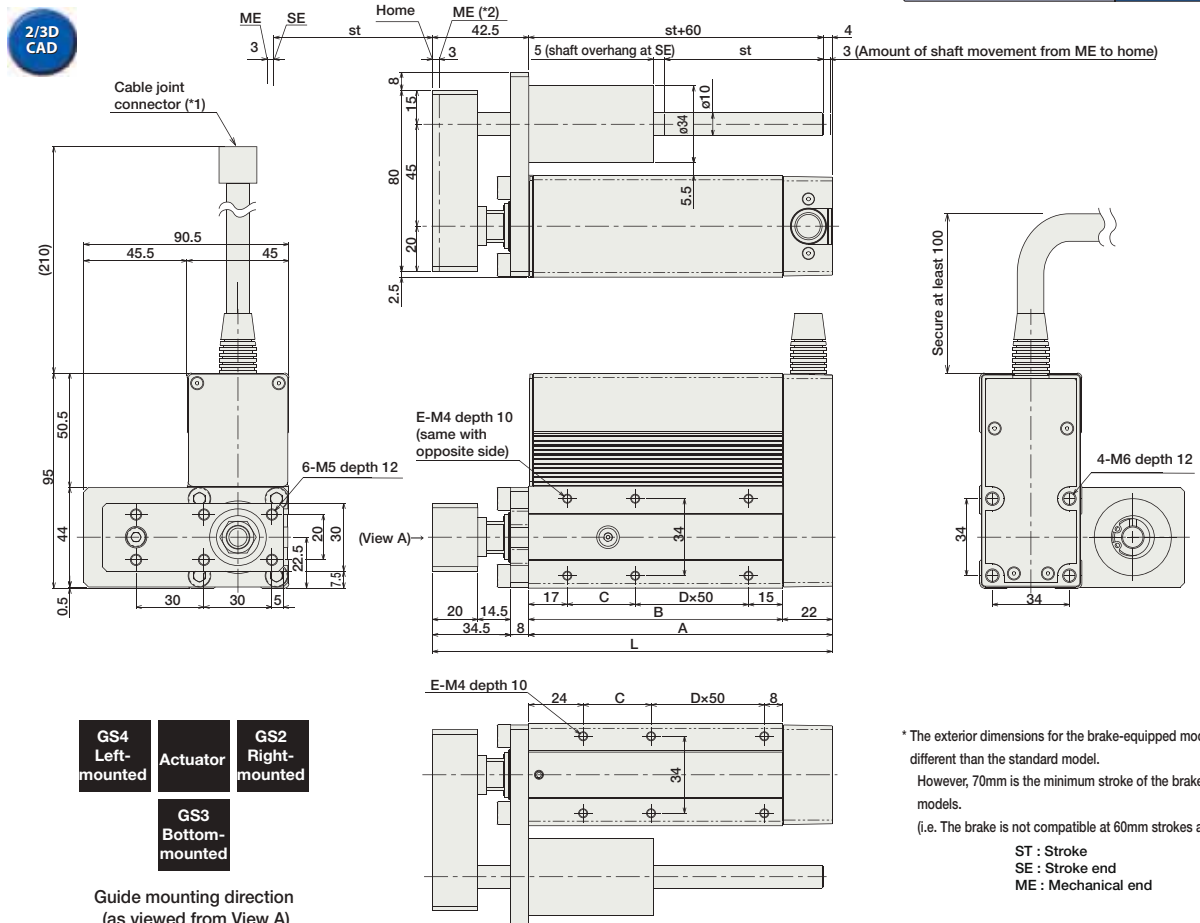
Option List		
Name	Option Code	See Page
Brake	B	→ A-25
Flange bracket (back)	FLR	→ A-28
Foot bracket 1 (base mounting)	FT	→ A-29
Foot bracket 2 (right/left side mounting)	FT2/FT4	→ A-31
Guide mounting direction	GS2 ~ GS4	→ A-32
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33

\* 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.robocylinder.de](http://www.robocylinder.de)

For Special Order 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 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)	1.15	1.21	1.28	1.35	1.42	1.49	1.56	1.62	1.69	2.03	2.38

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	See Page
Solenoid Valve Type		AMEC-C-20I ①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I 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-20I ①-NP-2-0					
Positioner Type		ACON-C-20I ①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	
Safety-Compliant Positioner Type		ACON-CG-20I ①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I ①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I ①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I ①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-20I ①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-20I 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 Motor 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 (230V)
- Linear Motor

# RCA-RGD3C

RoboCylinder Rod Type with Double Guide ø32mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** - **RGD3C** - **I** - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

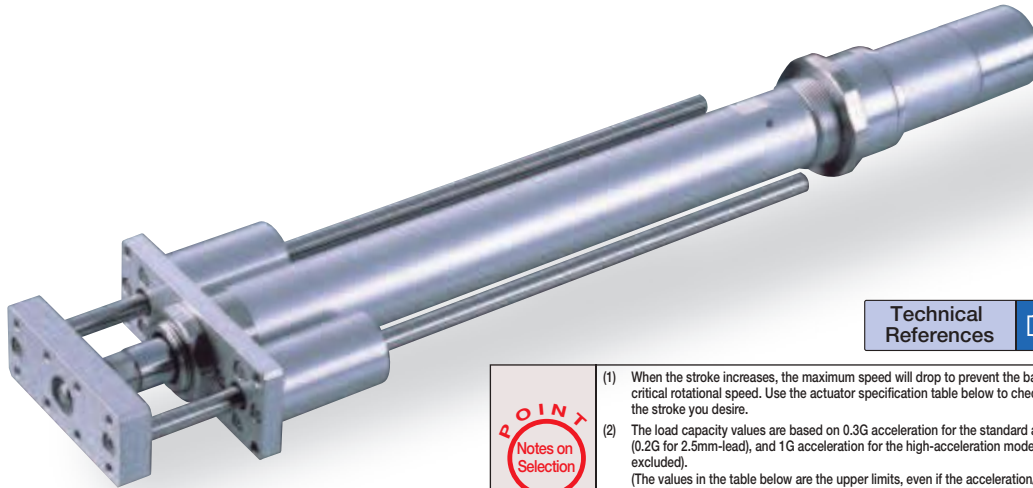
Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I: Incremental * The Simple absolute encoder is also considered type "I".	20 : 20W Servo Motor	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50 : 50mm 200 : 200mm (50mm pitch increments)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 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
- (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 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.)
  - (3) 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-RGD3C-I-20-10-①-②-③-④	20	10	4	1.2	36.2	50~200 (50mm increments)
RCA-RGD3C-I-20-5-①-②-③-④		5	9	2.7	72.4	
RCA-RGD3C-I-20-2.5-①-②-③-④		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 ① Stroke ② Compatible controllers ③ Cable length ④ Options

(Unit: mm/s)

### Cable List

Type	Cable Symbol
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.

### 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)

### Option List

Name	Option Code	See Page
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 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

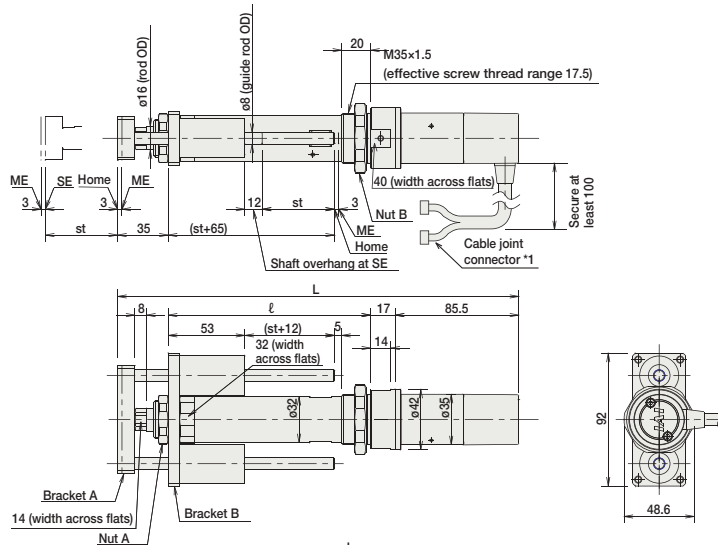
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9

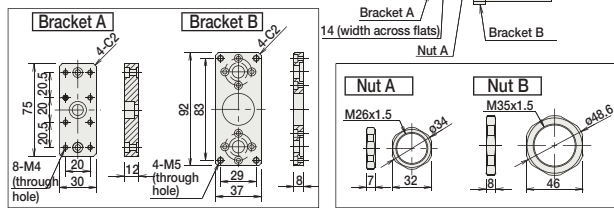


- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

[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

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	See Page
Solenoid Valve Type		AMEC-C-20SI①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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					
Positioner Type		ACON-C-20SI①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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 "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 Motor 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 (230V)
- Linear Motor

# RCA-RGD4C

RoboCylinder Rod Type with Double Guide ø37mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** - **RGD4C** - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

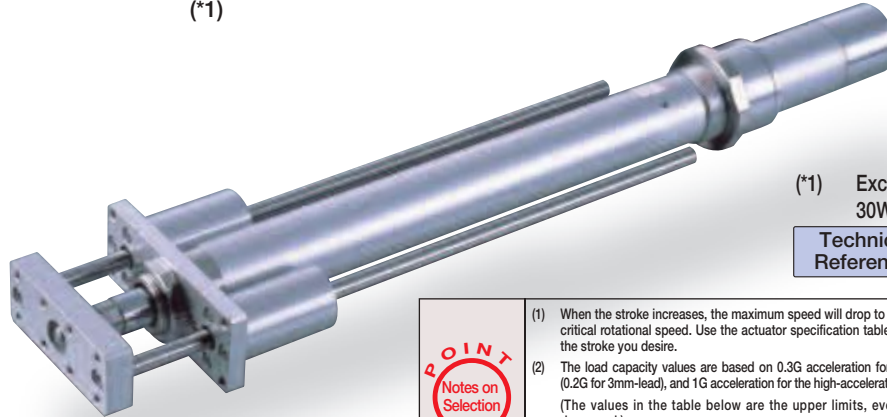
Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
I : Incremental A : Absolute	20 : 20W Servo Motor 30 : 30W Servo Motor	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm 300 : 300mm (50mm pitch increments)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom 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

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-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 Horizontal (kg)	Max. Load Capacity Vertical (kg)	Rated Thrust (N)	Stroke (mm)
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	

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)

## Cable List

Type	Cable Symbol
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.

## Option List

Name	Option Code	See Page
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

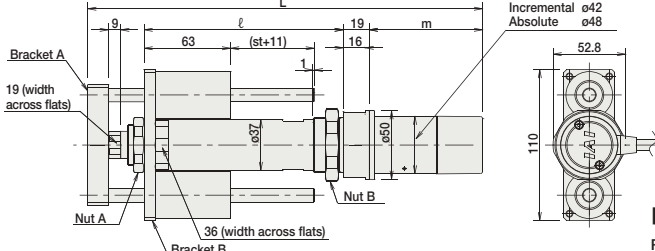
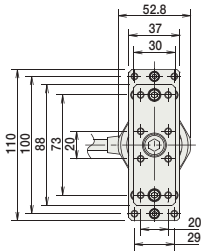
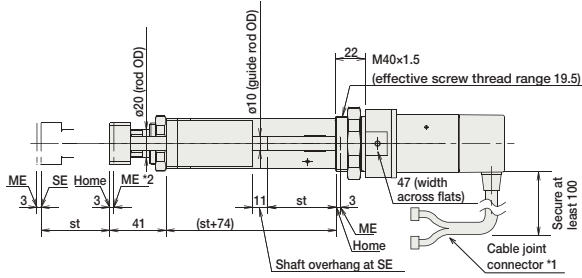
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



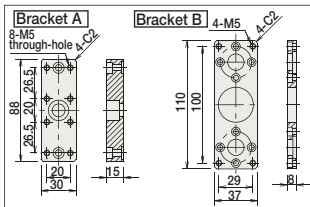
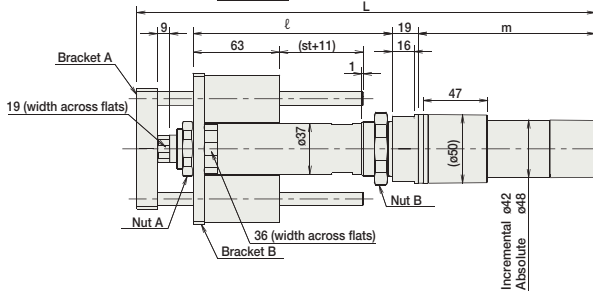
- \*1. A motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

For Special Orders P. A-9

[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	

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2 AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-NP-2-0 ASEP-C-30I②-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-20I②-NP-2-0 ASEP-CW-30I②-NP-2-0					→ P487
Positioner Type		ACON-C-20I②-NP-2-0 ACON-C-30I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0 ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0 ACON-PL-30I②-NP-2-0	Pulse train input type with differential line driver support	(-)			
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0 ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-N-0-0 ACON-SE-30I②-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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-RGD3D

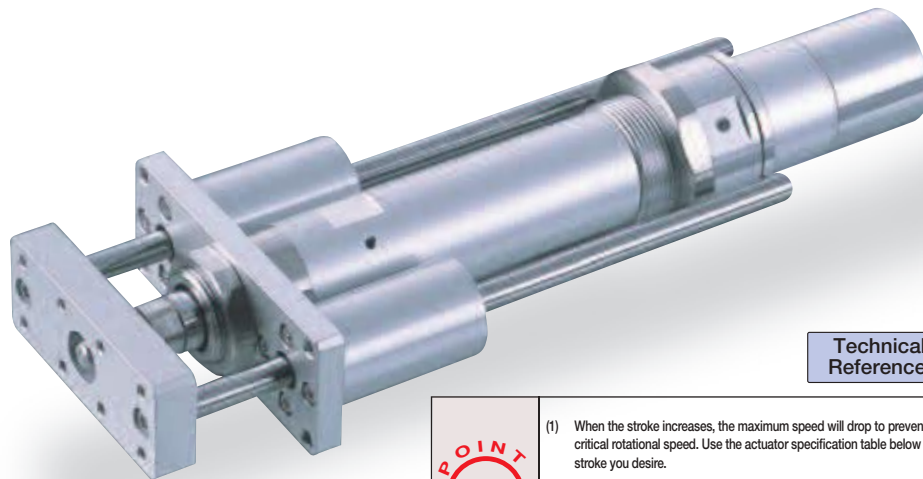
RoboCylinder Rod Type with Double Guide ø32mm Diameter 24V Servo Motor Built-In Model

■ Configuration: **RCA** - **RGD3D** - **I** - **20** -  -  -  -  -

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		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
- (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 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-20-10-①-②-③-④	20	10	4	1.2	36.2	50~200 (50mm increments)
RCA-RGD3D-I-20-5-①-②-③-④		5	9	2.7	72.4	
RCA-RGD3D-I-20-2.5-①-②-③-④		2.5	18	6.2	144.8	

### Stroke and Maximum Speed

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

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

## Cable List

Type	Cable Symbol
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.

## 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)

## Option List

Name	Option Code	See Page
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.

Dimensions

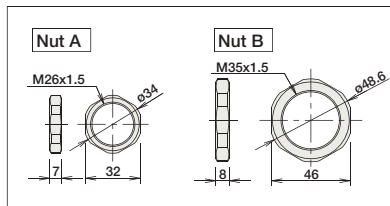
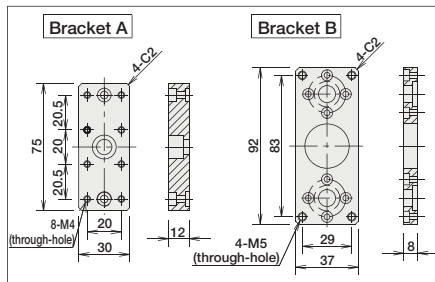
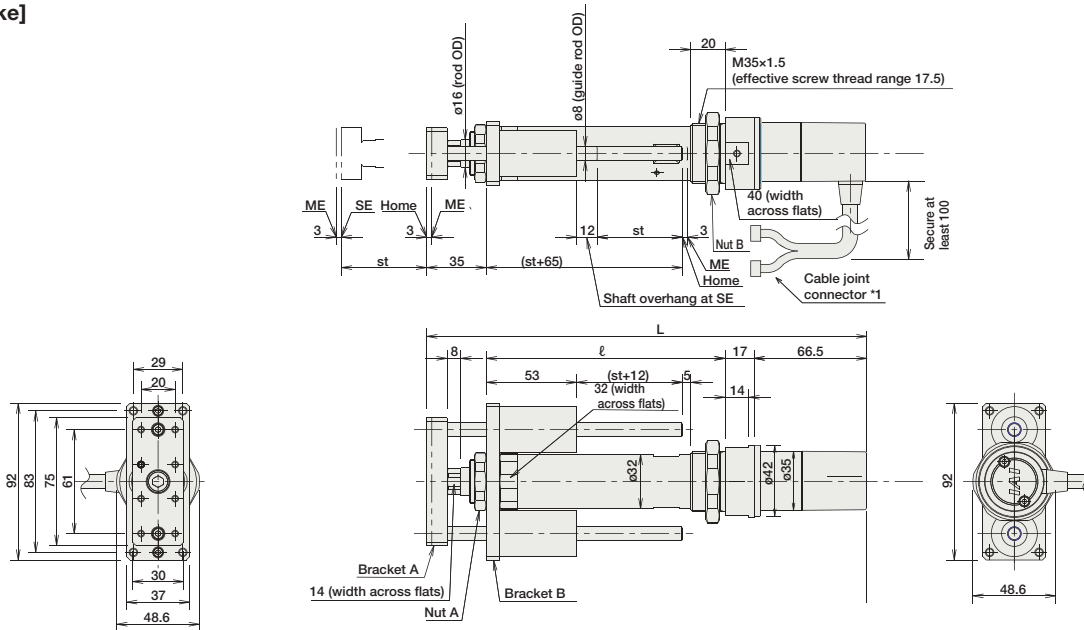
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



- \*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

For Special Orders P. A-9

[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.

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	See Page						
Solenoid Valve Type		AMEC-C-20Si①-NP-2-2	Easy-to-use controller, even for beginners	3 points	DC24V	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ P477						
Splash-Proof Solenoid Valve Type		ASEP-C-20Si①-NP-2-0 ASEP-CW-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						
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	(-)						→ 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-20Si①	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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-RGD4D

RoboCylinder 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 <input type="checkbox"/> : Custom R <input type="checkbox"/> : 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

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

(Unit: mm/s)

Cable List	
Type	Cable Symbol
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.

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)

Option List			
Name	Option Code	See Page	
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.



Dimensions

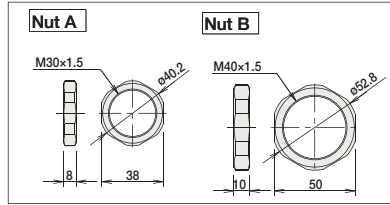
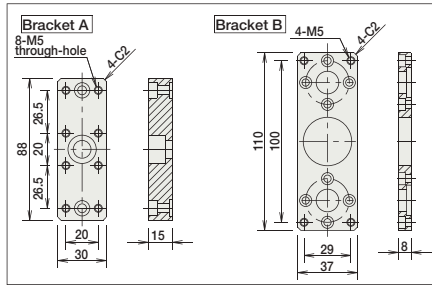
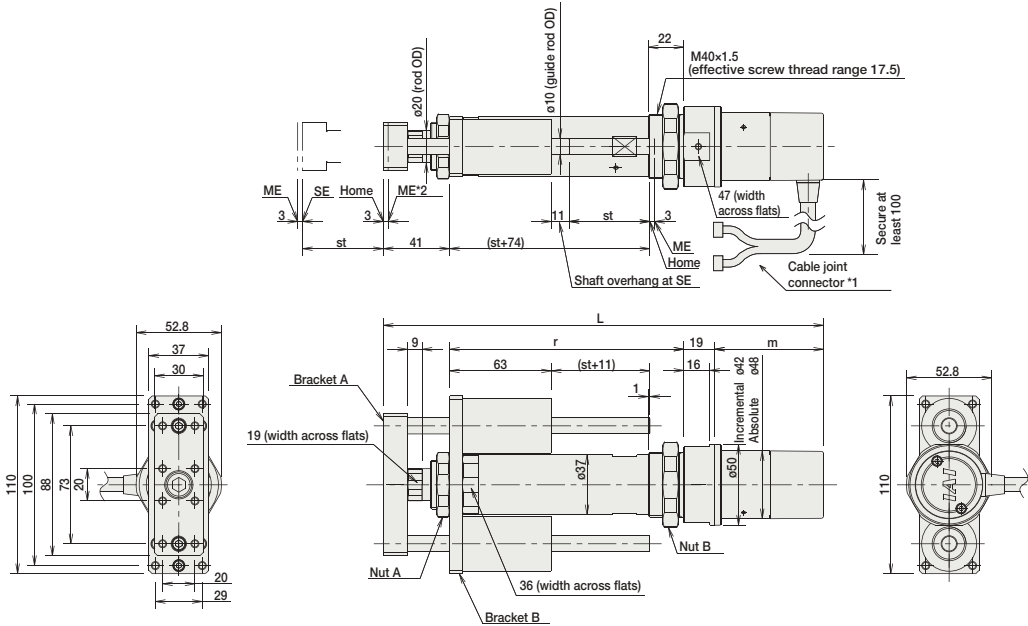
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

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						
		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
	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	
	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.

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2 AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-NP-2-0 ASEP-C-30I②-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-20I②-NP-2-0 ASEP-CW-30I②-NP-2-0					→ P487
Positioner Type		ACON-C-20I②-NP-2-0 ACON-C-30I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0 ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0 ACON-PL-30I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0 ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-N-0-0 ACON-SE-30I②-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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-RGD3R

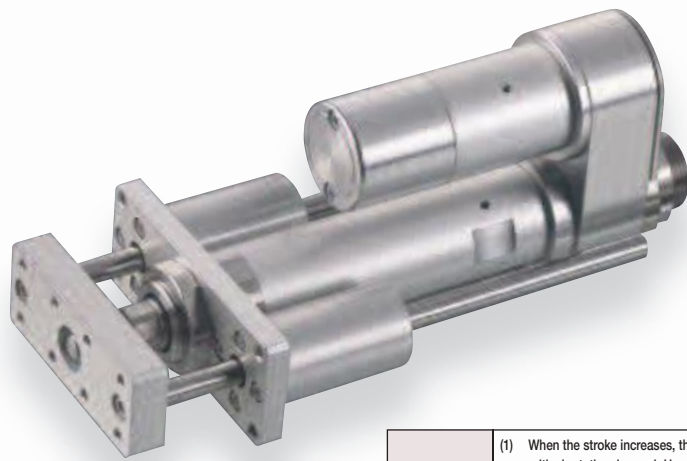
RoboCylinder Rod Type with Double Guide ø32mm Diameter 24V Servo Motor Side-Mounted Motor

■ Configuration: **RCA** -- **RGD3R** -- **I** -- **20** --  --  --  --  --

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA	RGD3R	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

  - (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. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

Actuator Specifications						Stroke and Maximum Speed		
■ Lead and Load Capacity								
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)		
			Horizontal (kg)	Vertical (kg)			Stroke Lead	50 ~ 200 (50mm increments)
RCA-RGD3R-I-20-10-①-②-③-④	20	10	4.0	1.2	36.2	50 ~ 200 (50mm increments)	10	500
RCA-RGD3R-I-20-5-①-②-③-④		5	9.0	2.7	72.4		5	250
RCA-RGD3R-I-20-2.5-①-②-③-④		2.5	18.0	6.2	144.8		2.5	125

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

Cable List	
Type	Cable Symbol
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.

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)

Option List		
Name	Option Code	See Page
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.

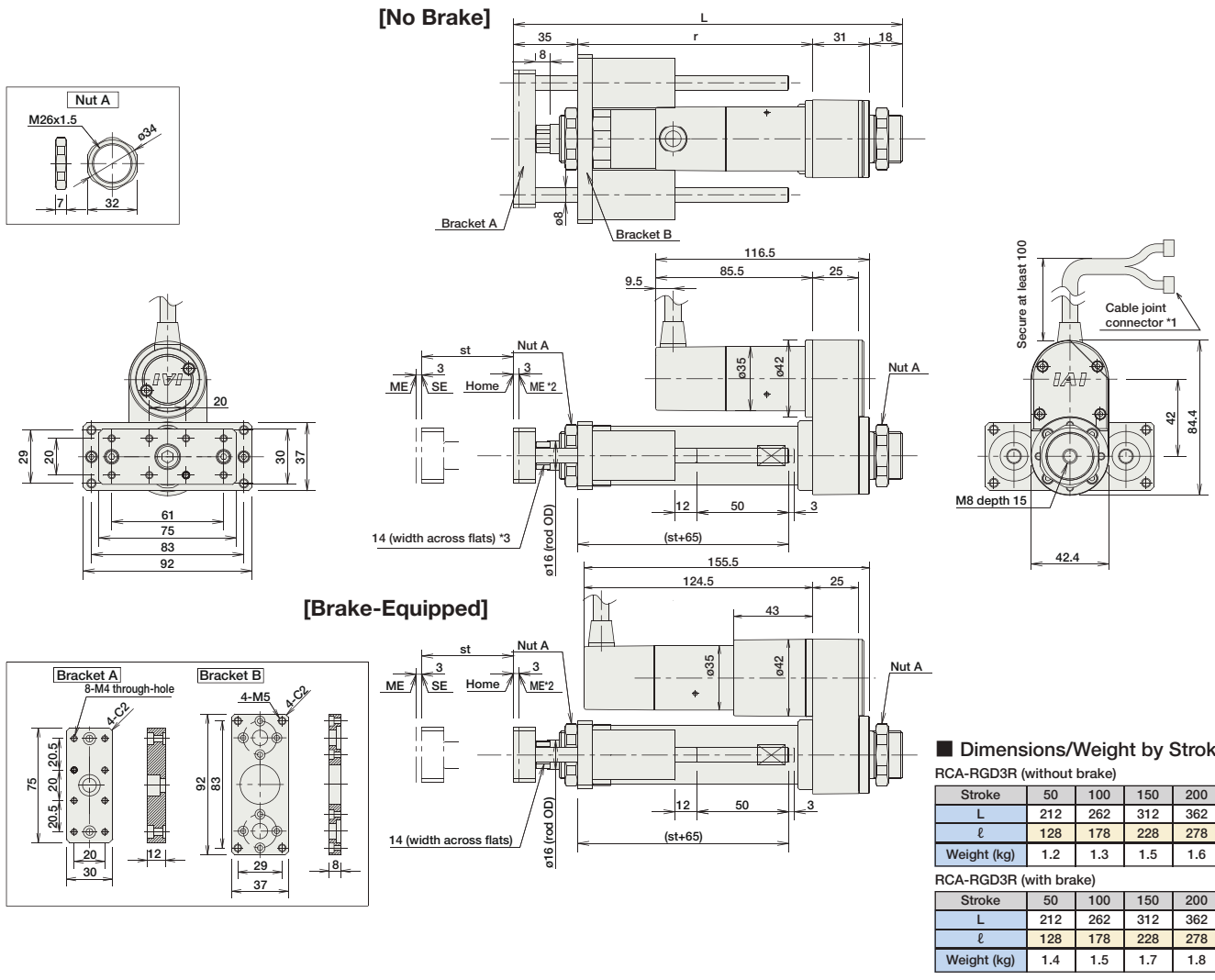
Dimensions

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

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
- \*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	See Page
Solenoid Valve Type		AMEC-C-20Si②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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					
Positioner Type		ACON-C-20Si②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ P535
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	(Standard) 1.7 A rated 5.1 A max.  (Power-saving) 1.7 A rated 3.4 A max.	→ 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.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-RGD4R

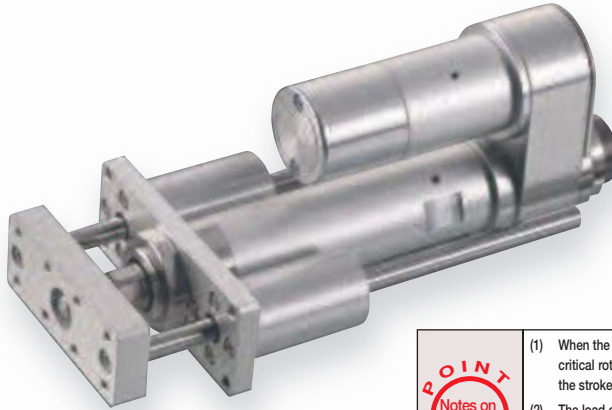
RoboCylinder Rod Type with Double Guide ø37mm Diameter 24V Servo Motor Side-Mounted Motor

■ 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 Horizontal (kg) / Vertical (kg)	Rated Thrust (N)	Stroke (mm)
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)
12	600
6	300
3	150

(Unit: mm/s)

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

## Cable List

Type	Cable Symbol
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.

## Option List

Name	Option Code	See Page
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

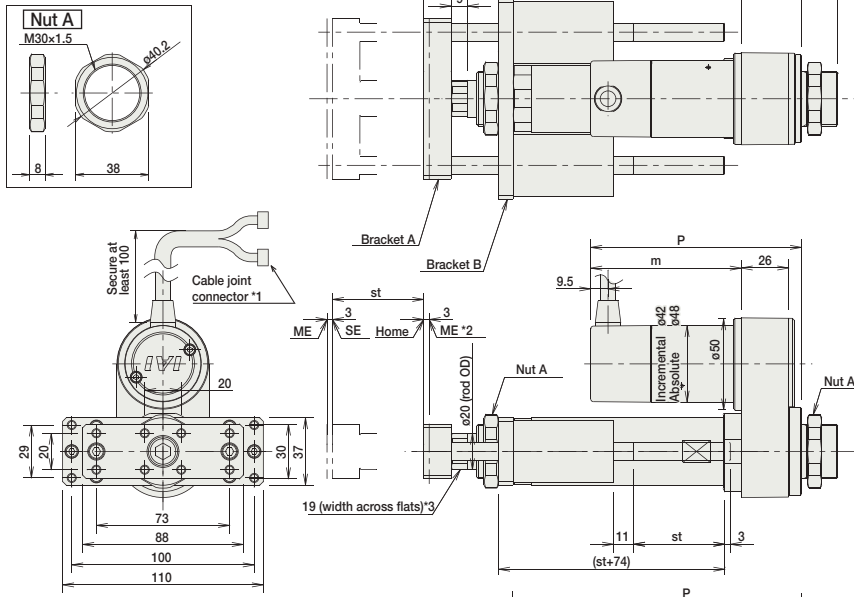
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



- \*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 Orders P. A-9

[No Brake]

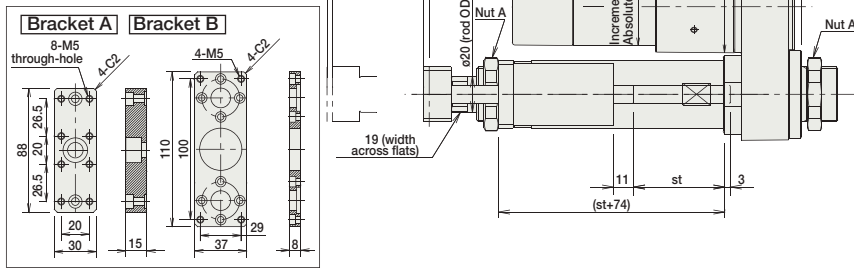


Dimensions/Weight by Stroke

RCA-RGD4R (without brake)

Stroke		50	100	150	200	250	300
L	20W	Incrim. 227	277	327	377	427	477
		Absol. 227	277	327	377	427	477
L	30W	Incrim. 227	277	327	377	427	477
		Absol. 227	277	327	377	427	477
ℓ		133	188	233	288	333	383
m	20W	Incrim. 67.5					
		Absol. 80.5					
m	30W	Incrim. 82.5					
		Absol. 95.5					
P	20W	Incrim. 100.5					
		Absol. 113.5					
P	30W	Incrim. 115.5					
		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	Incrim. 227	277	327	377	427	477
		Absol. 227	277	327	377	427	477
L	30W	Incrim. 227	277	327	377	427	477
		Absol. 227	277	327	377	427	477
ℓ		133	188	233	288	333	383
m	20W	Incrim. 110.5					
		Absol. 123.5					
m	30W	Incrim. 125.5					
		Absol. 138.5					
P	20W	Incrim. 143.5					
		Absol. 156.5					
P	30W	Incrim. 158.5					
		Absol. 171.5					
Weight (kg)		2.1	2.4	2.5	2.8	2.9	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	See Page
Solenoid Valve Type		AMEC-C-20①②-NP-2-2 AMEC-C-30①②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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					
Positioner Type		ACON-C-20①②-NP-2-0 ACON-C-30①②-NP-2-0	Positioning is possible for up to 512 points	512 points			
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	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-SRGD4R

RoboCylinder Rod Type with Double Guide 45mm Width 24V 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

**POINT**  
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

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) (Note 1)
RCA-SRGD4R-I-20-2.5-①-②-③-④	2.5	18	5.5	81	(Note 1)

Legend ① Stroke ② Compatible controllers ③ Cable length ④ Options

(Note 1) 50mm increments over 100mm.

(Unit: mm/s)

### Stroke and Maximum Speed

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

## Cable List

Type	Cable Symbol	
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.

## Option List

Name	Option Code	See Page
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

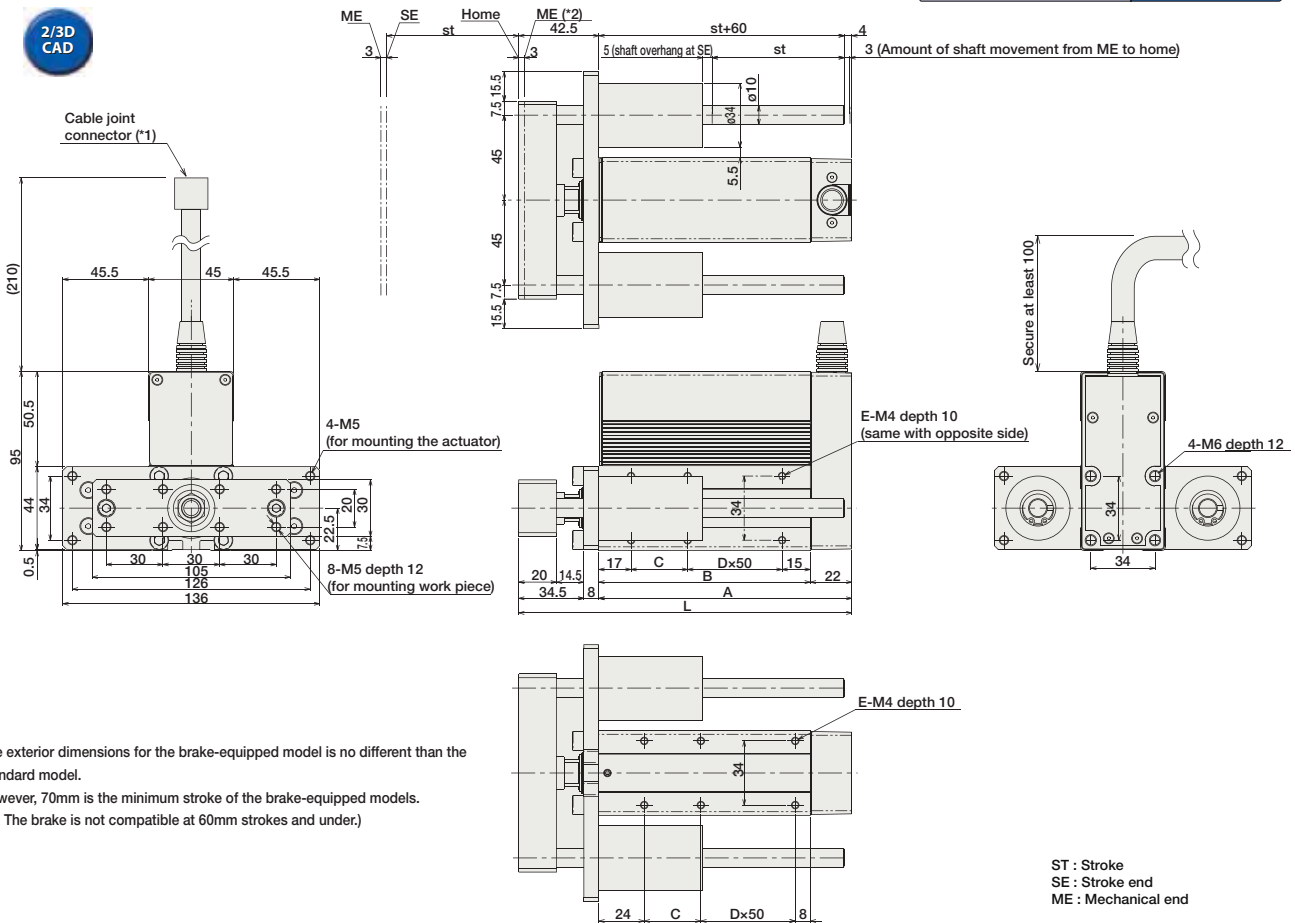
Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø22 mm
Non-rotating accuracy of rod	±0.05 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)



Dimensions

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

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

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	See Page
Solenoid Valve Type		AMEC-C-20I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	DC24V	2.4A rated	→ P477
		ASEP-C-20I①-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-20I①-NP-2-0	Positioning is possible for up to 512 points		(Standard) 1.3 A rated 4.4 A max.		→ P535	
Positioner Type	ACON-C-20I①-NP-2-0		(-)				→ P503
Safety-Compliant Positioner Type	ACON-CG-20I①-NP-2-0	768 points		→ P567			
Pulse Train Input Type (Differential Line Driver)	ACON-PL-20I①-NP-2-0		Dedicated to serial communication			1500 points	
Pulse Train Input Type (Open Collector)	ACON-PO-20I①-NP-2-0	Dedicated to field network					
Serial Communication Type	ACON-SE-20I①-N-0-0		Programmed operation is possible Operation is possible on up to 2 axes				
Field Network Type	RACON-20I①						
Program Control Type	ASEL-C-1-20I①-NP-2-0						

\* 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 Motor 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 (230V)
- Linear Motor

# RCA2-TCA3NA

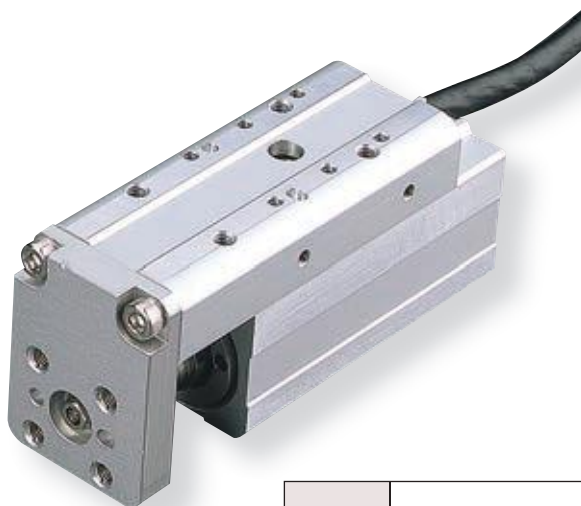
RoboCylinder Mini Table Type Short-Length Compact Type 32mm Width  
24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2-TCA3NA-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	4: Ball screw 4mm 2: Ball screw 2mm 1: Ball screw 1mm 4S: lead screw 4mm 2S: lead screw 2mm 1S: lead screw 1mm	30: 30mm 50: 50mm	A1: ACON RACON ASEL ASEP	N: None P: 1m S: 3m M: 5m X [ ] [ ]: Custom Length	K1-3: 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



- (1) The payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 1, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
- (2) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-TCA3NA-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2-TCA3NA-I-10-2-①-②-③-④			2	1.5	0.5	85.5		
RCA2-TCA3NA-I-10-1-①-②-③-④			1	3	1	170.9		
RCA2-TCA3NA-I-10-4S-①-②-③-④	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 50
RCA2-TCA3NA-I-10-2S-①-②-③-④			2	0.5	0.25	50.3		
RCA2-TCA3NA-I-10-1S-①-②-③-④			1	1	0.5	100.5		

### Stroke and Maximum Speed

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

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Unit = mm/s)

## Cable List

Type	Cable Symbol
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.

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Allowable Dynamic Moment (Note)	Ma: 9.9 N•m Mb: 9.9 N•m Mc: 3.3 N•m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead screw specification
	Ball screw specification

(Note) Based on a 5000 or 3000 km service life set for the guide.

## Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

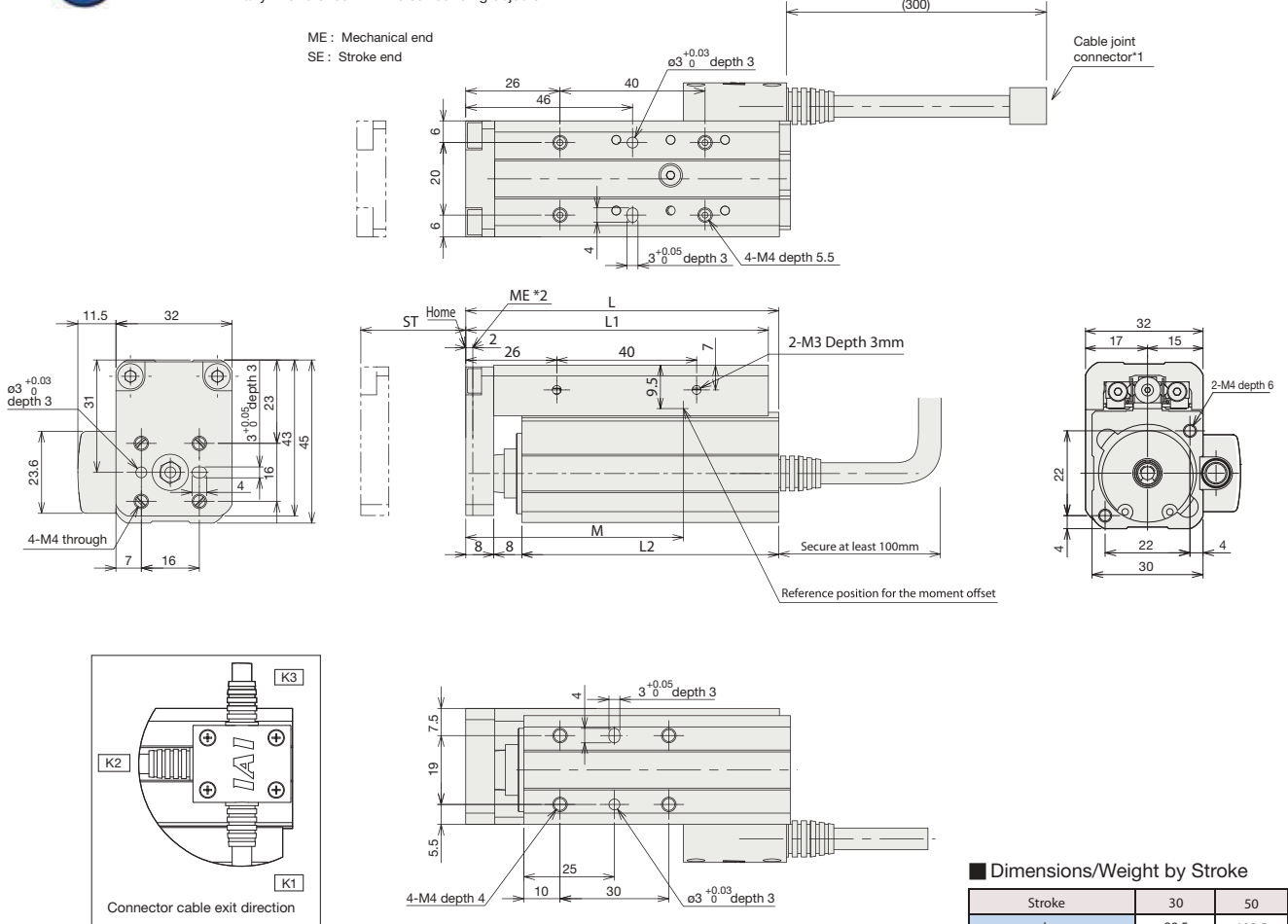
Dimensions

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

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 table moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.



**Dimensions/Weight by Stroke**

Stroke	30	50
L	89.5	109.5
L1	86.5	106.5
L2	73.5	93.5
M	64	84
Weight (kg)	0.37	0.44

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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.	→ 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	(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 Motor 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 (230V)
- Linear Motor

# RCA2-TCA4NA

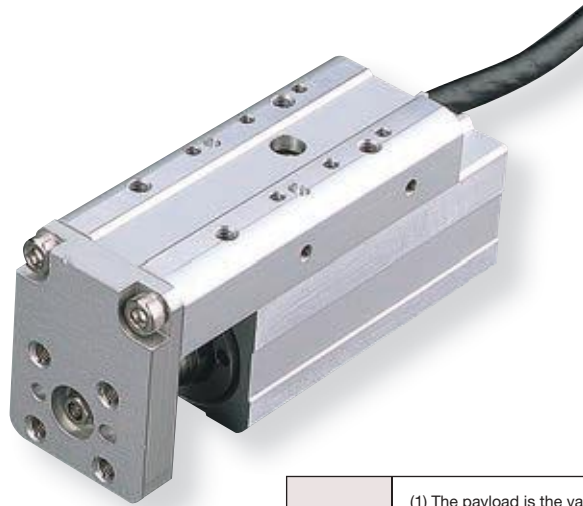
RoboCylinder Mini Table Type Short-Length Compact Type 36mm Width  
24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2-TCA4NA-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	30: 30mm 50: 50mm	A1: ACON RACON ASEL ASEP A3: AMEC	N: None P: 1m S: 3m M: 5m X [ ] [ ]: Custom Length	K1-3: 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 payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 2, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
- (2) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

### 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-TCA4NA-I-20-6-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 50	
RCA2-TCA4NA-I-20-4-①-②-③			4	3	0.75				50.7
RCA2-TCA4NA-I-20-2-①-②-③			2	6	1.5				101.5
RCA2-TCA4NA-I-20-6S-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 50	
RCA2-TCA4NA-I-20-4S-①-②-③			4	0.5	0.25				29.8
RCA2-TCA4NA-I-20-2S-①-②-③			2	1	0.5				59.7

Legend ① Compatible controller ② Cable length ③ Options

#### Stroke and Maximum Speed

Lead	Stroke	Stroke and Maximum Speed	
		30 (mm)	50 (mm)
Ball screw	6	270 <220>	300
	4	200	
	2	100	
Lead screw	6	220	300
	4	200	
	2	100	

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

### Cable List

Type	Cable Symbol	
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
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ 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)
Allowable Dynamic Moment (Note)	Ma: 9.9 N•m Mb: 9.9 N•m Mc: 3.3 N•m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead screw specification
	Ball screw specification

(Note) Based on a 5000 km service life set for the guide.

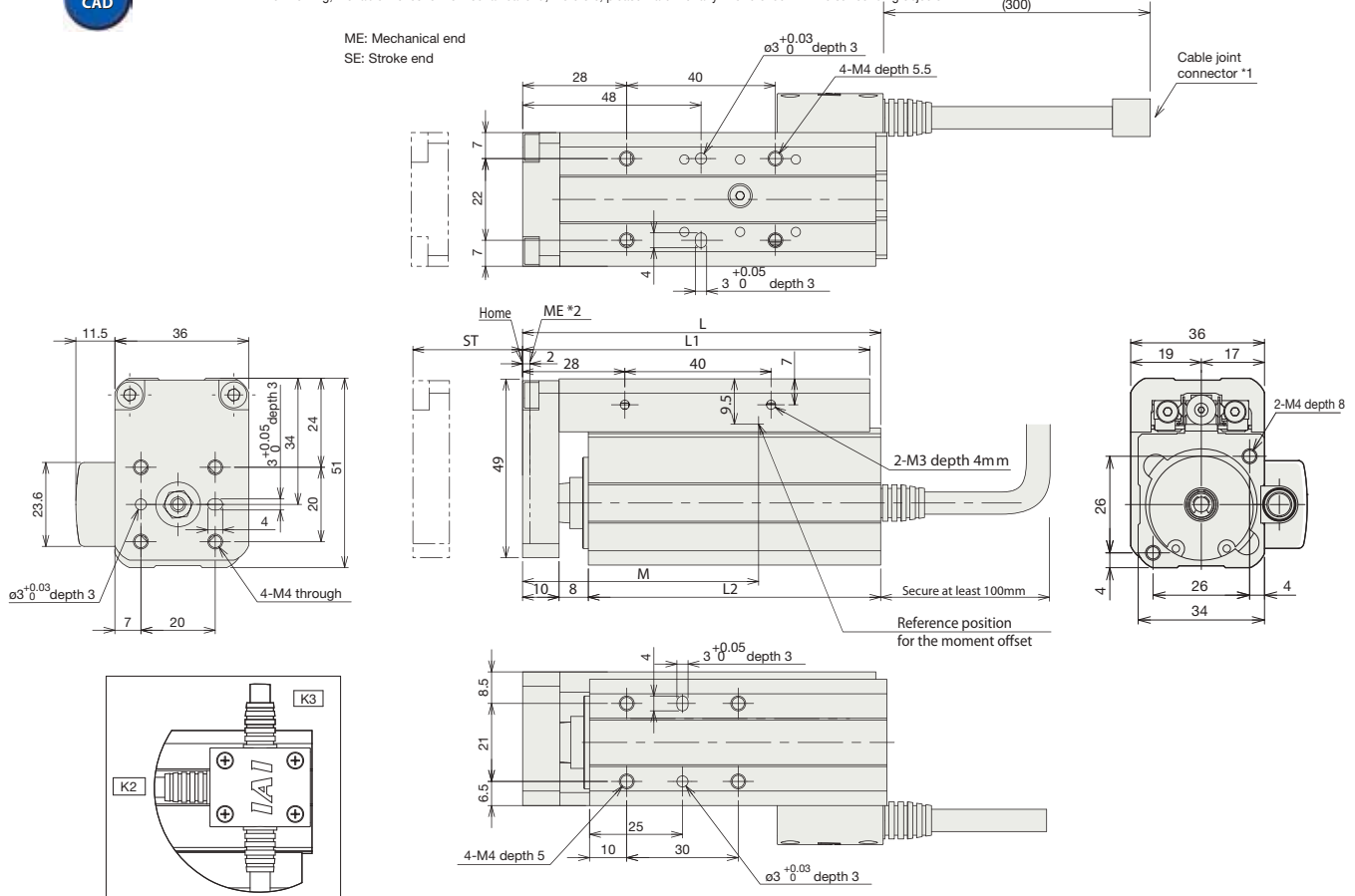
Dimensions

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

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 table moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.



Dimensions/Weight by Stroke

Stroke	30	50
L	98	118
L1	95	115
L2	80	100
M	66	86
Weight (kg)	0.48	0.60

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	See Page
Solenoid Valve Type		AMEC-C-20I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I①-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-20I①-NP-2-0					
Positioner Type		ACON-C-20I①-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-20I①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-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-20I①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-20I①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-20I①-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 Motor 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 (230V)
- Linear Motor

# RCA2-TWA3NA

RoboCylinder Mini Table Type Short-Length Wide Type 50mm Width  
24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2-TWA3NA** - **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

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

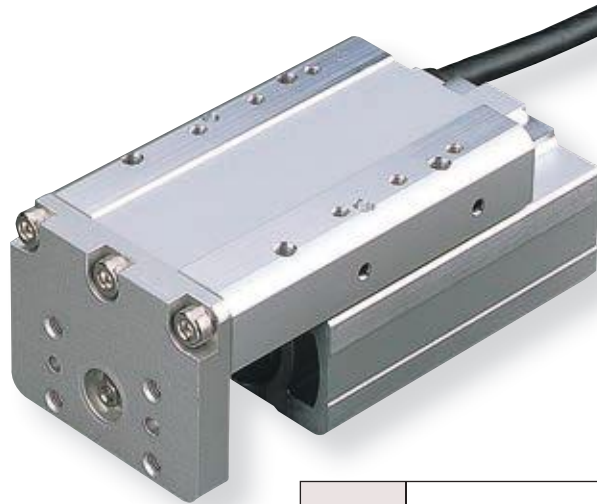
30 : 30mm  
50 : 50mm

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

K1-3 : 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 payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 1, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.

(2) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-TWA3NA-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2-TWA3NA-I-10-2-①-②-③-④			2	1.5	0.5	85.5		
RCA2-TWA3NA-I-10-1-①-②-③-④			1	3	1	170.9		
RCA2-TWA3NA-I-10-4S-①-②-③-④	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 50
RCA2-TWA3NA-I-10-2S-①-②-③-④			2	0.5	0.25	50.3		
RCA2-TWA3NA-I-10-1S-①-②-③-④			1	1	0.5	100.5		

### Stroke and Maximum Speed

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

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Unit = mm/s)

## Cable List

Type	Cable Symbol	
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.

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Allowable Dynamic Moment (Note)	Ma: 9.9 N•m Mb: 9.9 N•m Mc: 9.4 N•m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead screw specification
	Ball screw specification

(Note) Based on a 5000 or 3000 km service life set for the guide.

## Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32



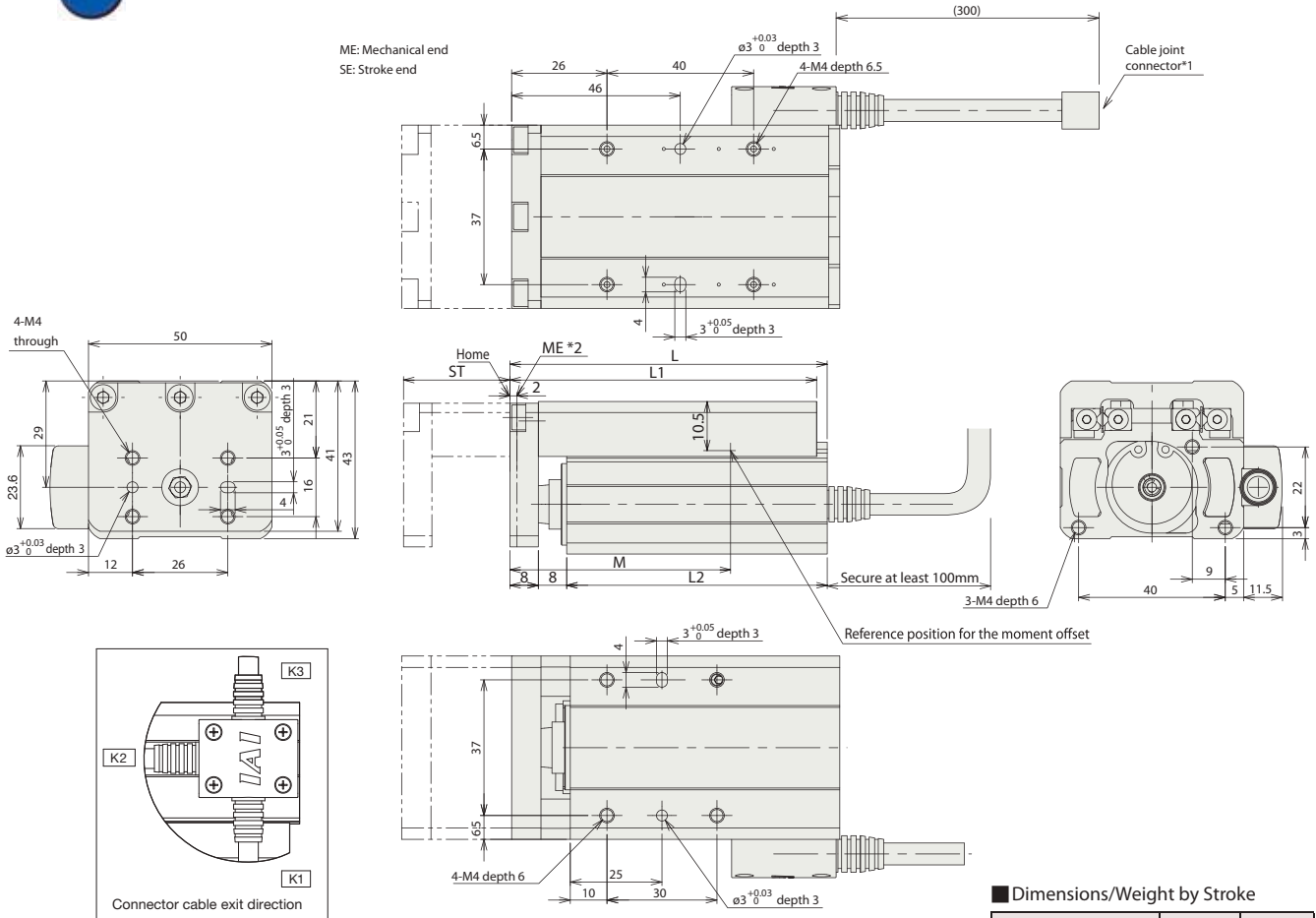
Dimensions

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

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 table moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.



**Dimensions/Weight by Stroke**

Stroke	30	50
L	89.5	109.5
L1	86.5	106.5
L2	73.5	93.5
M	64	84
Weight (kg)	0.52	0.58

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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-10I①	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 Motor 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 (230V)
- Linear Motor

# RCA2-TWA4NA

RoboCylinder Mini Table Type Short-Length Wide Type 58mm Width  
24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2-TWA4N-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	30: 30mm 50: 50mm	A1: ACON RACON ASEL ASEP	N: None P: 1m S: 3m M: 5m X [ ] [ ]: Custom Length	K1-3: 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



- (1) The payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 2, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
- (2) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## 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-TWA4NA-I-20-6-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 50
RCA2-TWA4NA-I-20-4-①-②-③			4	3	0.75	50.7		
RCA2-TWA4NA-I-20-2-①-②-③			2	6	1.5	101.5		
RCA2-TWA4NA-I-20-6S-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 50
RCA2-TWA4NA-I-20-4S-①-②-③			4	0.5	0.25	29.8		
RCA2-TWA4NA-I-20-2S-①-②-③			2	1	0.5	59.7		

Legend ① Compatible controller ② Cable length ③ Options

### Stroke and Maximum Speed

Lead	Stroke	Stroke (mm)	
		30 (mm)	50 (mm)
Ball screw	6	270 <220>	300
	4	200	
	2	100	
Lead screw	6	220	300
	4	200	
	2	100	

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

## Cable List

Type	Cable Symbol	
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	
Cable exit from left	K1	→ A-32	
Cable exit from front	K2	→ A-32	
Cable exit from right	K3	→ 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)
Allowable Dynamic Moment (Note)	Ma: 9.9 N•m Mb: 9.9 N•m Mc: 3.3 N•m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead screw specification
	Ball screw specification

(Note) Based on a 5000 km service life set for the guide.

Dimensions

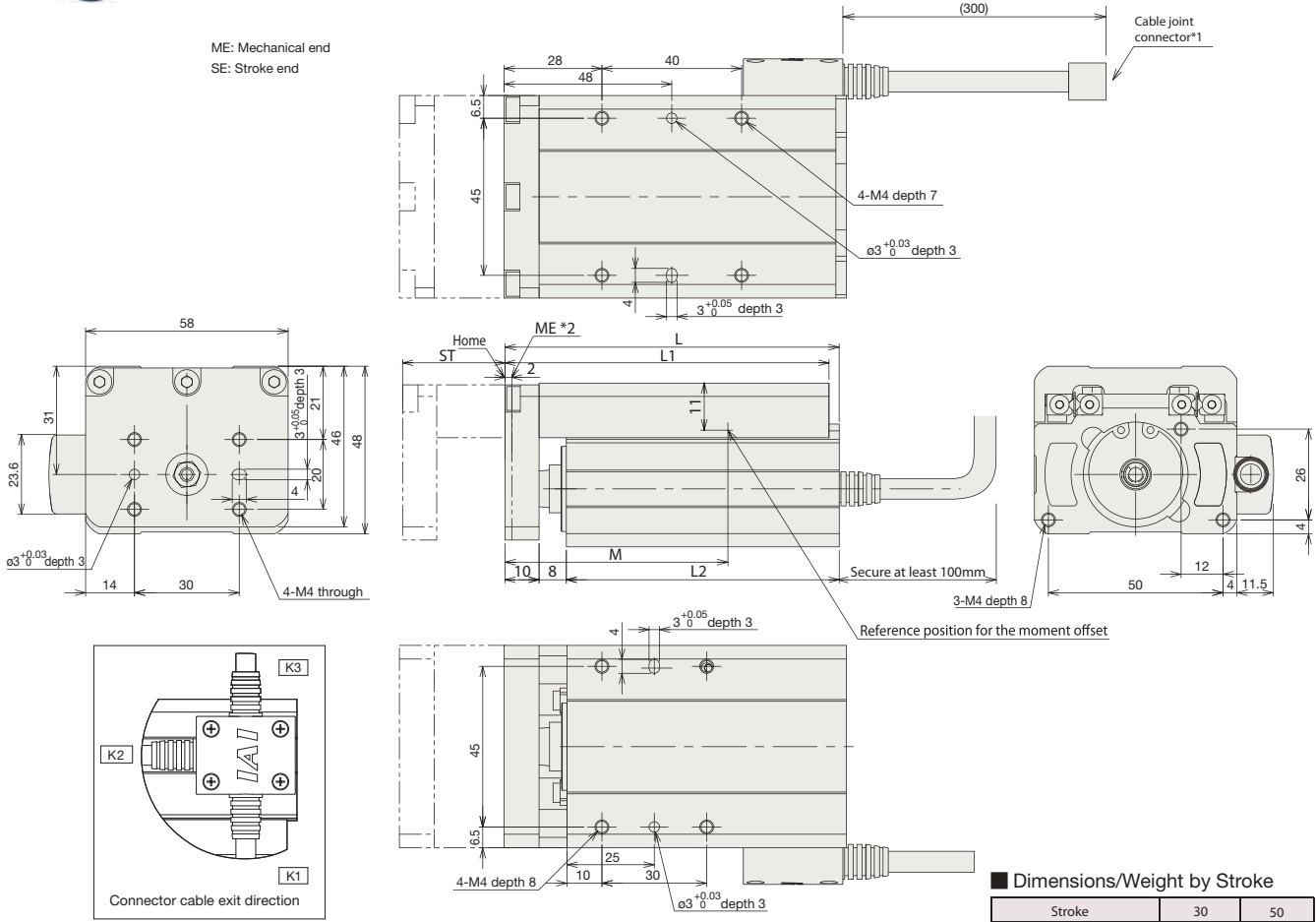
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



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

For Special Orders P. A-9

ME: Mechanical end  
SE: Stroke end



**■ Dimensions/Weight by Stroke**

Stroke	30	50
L	98	118
L1	95	115
L2	80	100
M	66	86
Weight (kg)	0.65	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	See Page
Solenoid Valve Type		AMEC-C-20I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I①-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-20I①-NP-2-0					
Positioner Type		ACON-C-20I①-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-20I①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-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-20I①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I①-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-1-20I①-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 Motor 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 (230V)
- Linear Motor

# RCA2-TFA3NA

RoboCylinder Mini Table Type Short-Length Flat Type 61mm Width  
24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2-TFA3NA-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

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

30: 30mm  
50: 50mm

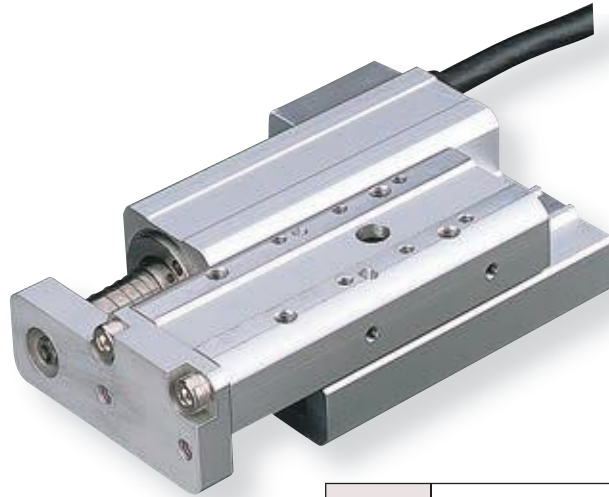
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

K1-3: 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 payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 1, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.

(2) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-TFA3NA-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2-TFA3NA-I-10-2-①-②-③-④			2	1.5	0.5	85.5		
RCA2-TFA3NA-I-10-1-①-②-③-④			1	3	1	170.9		
RCA2-TFA3NA-I-10-4S-①-②-③-④	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 50
RCA2-TFA3NA-I-10-2S-①-②-③-④			2	0.5	0.25	50.3		
RCA2-TFA3NA-I-10-1S-①-②-③-④			1	1	0.5	100.5		

### Stroke and Maximum Speed

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

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Unit = mm/s)

## Cable List

Type	Cable Symbol
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.

## Actuator Specifications

Item	Description
Drive System	Ball screw/Lead screw ø4mm C10 grade
Lost Motion	0.3mm or less (initial value)
Frame	Material: Aluminum (white alumite treated)
Allowable Dynamic Moment (Note)	Ma: 9.9 N•m Mb: 9.9 N•m Mc: 3.3 N•m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead screw specification
	Ball screw specification

(Note) Based on a 5000 or 3000 km service life set for the guide.

## Option List

Name	Option Code	See Page
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ A-32
Power-saving	LA	→ A-32

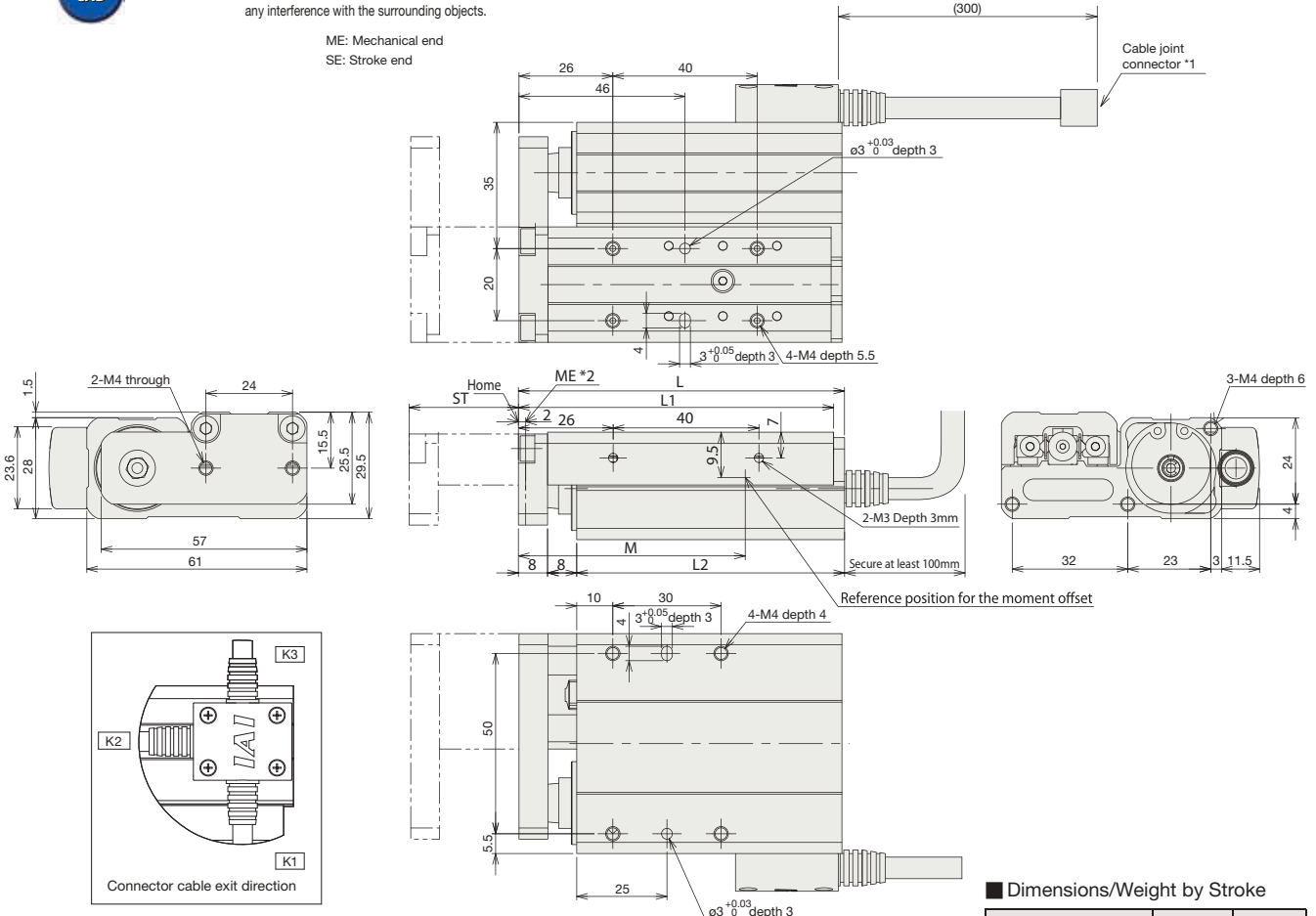
Dimensions

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



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

For Special Orders P. A-9



■ Dimensions/Weight by Stroke

Stroke	30	50
L	89.5	109.5
L1	86.5	106.5
L2	73.5	93.5
M	64	84
Weight (kg)	0.40	0.48

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	See Page
Solenoid Valve Type		AMEC-C-10I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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	(-)			
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-10I①	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 Motor 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 (230V)
- Linear Motor

# RCA2-TFA4NA

RoboCylinder Mini Table Type Short-Length Flat Type 71mm Width  
24V Servo Motor Ball Screw/Lead Screw

■ Configuration: **RCA2-TFA4NA-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	30: 30mm 50: 50mm	A1: ACON RACON ASEL ASEP	N: None P: 1m S: 3m M: 5m X [ ] [ ] : Custom Length	K1-3 : 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 payload is the value when the actuator is operated at an acceleration of 0.3 G (0.2G for lead 2, if used vertically and for lead screw specification). The acceleration limit is the value indicated above.
- (2) If the actuator is used vertically, pay attention to rod contact because the rod will come down when the power is turned off.

## 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-TFA4NA-I-20-6-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 50
RCA2-TFA4NA-I-20-4-①-②-③			4	3	0.75	50.7		
RCA2-TFA4NA-I-20-2-①-②-③			2	6	1.5	101.5		
RCA2-TFA4NA-I-20-6S-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 50
RCA2-TFA4NA-I-20-4S-①-②-③			4	0.5	0.25	29.8		
RCA2-TFA4NA-I-20-2S-①-②-③			2	1	0.5	59.7		

Legend ① Compatible controller ② Cable length ③ Options

### Stroke and Maximum Speed

Lead	Stroke	30 (mm)		50 (mm)	
		Ball screw	Lead screw	Ball screw	Lead screw
Ball screw	6	270	<220>	300	
	4	200			
	2	100			
Lead screw	6	220		300	
	4	200			
	2	100			

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

## Cable List

Type	Cable Symbol
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
Cable exit from left	K1	→ A-32
Cable exit from front	K2	→ A-32
Cable exit from right	K3	→ 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)
Allowable Dynamic Moment (Note)	Ma: 9.9 N•m Mb: 9.9 N•m Mc: 3.3 N•m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)
Service Life	Lead screw specification
	Ball screw specification

(Note) Based on a 5000 km service life set for the guide.



- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

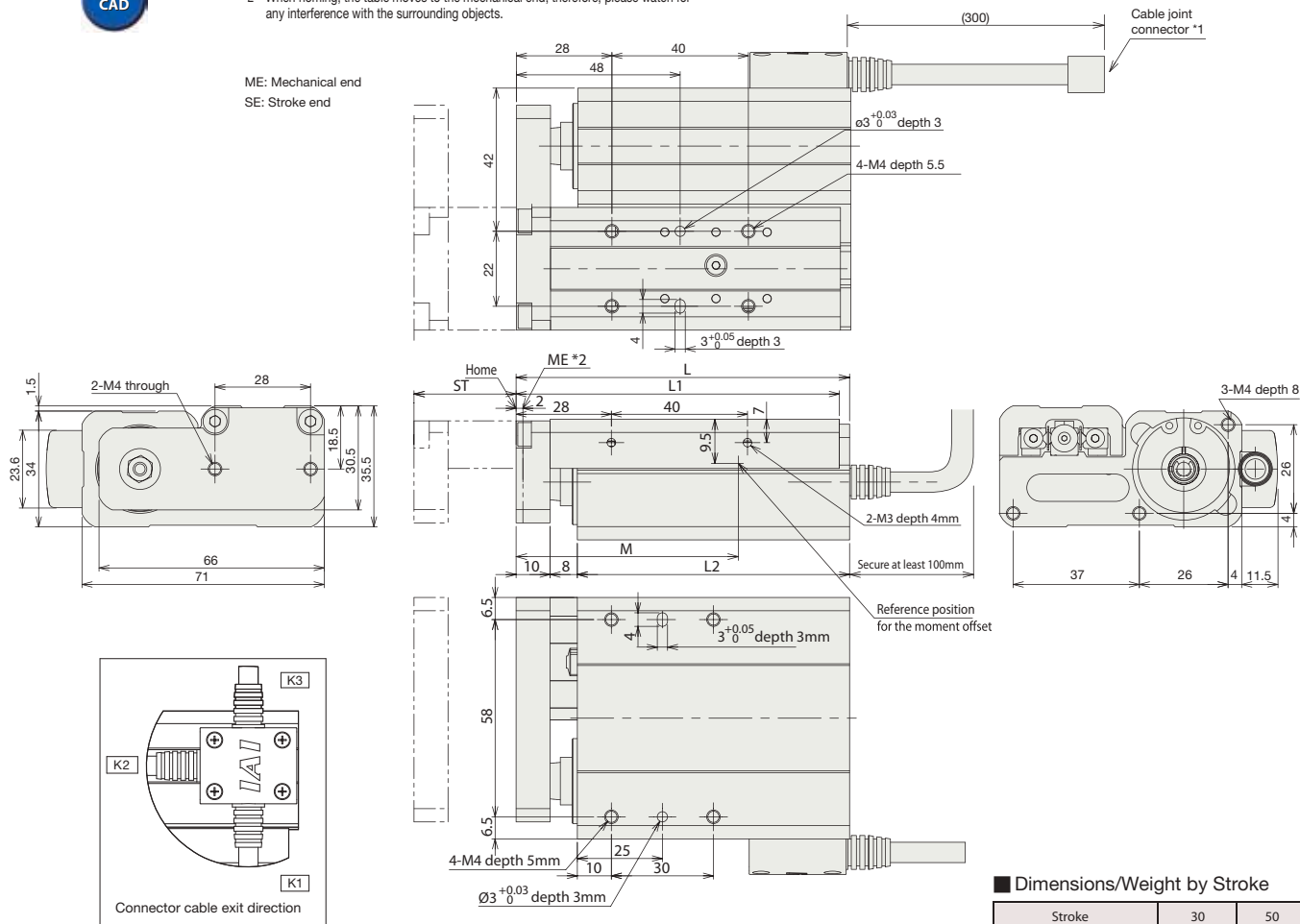
Dimensions

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

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 table moves to the mechanical end; therefore, please watch for any interference with the surrounding objects.



■ Dimensions/Weight by Stroke

Stroke	30	50
L	98	118
L1	95	115
L2	80	100
M	66	86
Weight (kg)	0.60	0.72

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	See Page
Solenoid Valve Type		AMEC-C-20①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-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.				
Splash-Proof Solenoid Valve Type		ASEP-CW-20①-NP-2-0					
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
		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	(-)			
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-TA4C

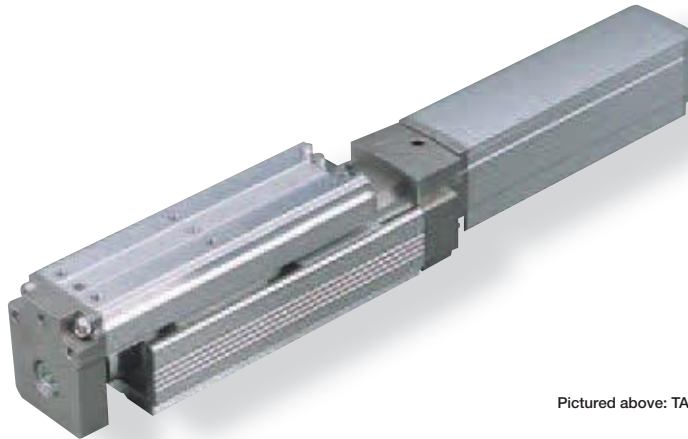
RoboCylinder Mini Table Type Motor Unit Coupled 40mm Width  
24V Servo Motor Ball Screw

■ Configuration: **RCA2** - **TA4C** - **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	6 : 6mm 4 : 4mm 2 : 2mm	20: 20mm 100: 100mm (10mm pitch increments)	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



Pictured above: TA3C

Technical References P. A-5



(1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2mm-lead model, or when used vertically). 0.3G (0.2G for 2mm lead) is the upper limit of the acceleration.

### 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-TA4C-I-10-6-①-②-③-④	10	Ball screw	6	1	0.5	28	±0.02	20~100 (10mm increments)
RCA2-TA4C-I-10-4-①-②-③-④			4	2	1	43		
RCA2-TA4C-I-10-2-①-②-③-④			2	3	1.5	85		

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

#### Stroke and Maximum Speed

Lead	Stroke	
	6	20 ~ 100 (10mm increments)
Ball screw	300	200
	200	100

(Unit: mm/s)

### Cable List

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

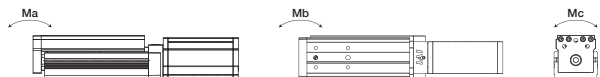
\* The RCA2 comes standard with a robot cable.  
\* See page A-39 for cables for maintenance.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø6mm C10 grade
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Dynamic Moment (Note)	Ma: 4.2 N·m Mb: 6 N·m Mc: 8.2 N·m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(Note) Based on a 5,000km service life.

#### Directions of Allowable Load Moments



### Option List

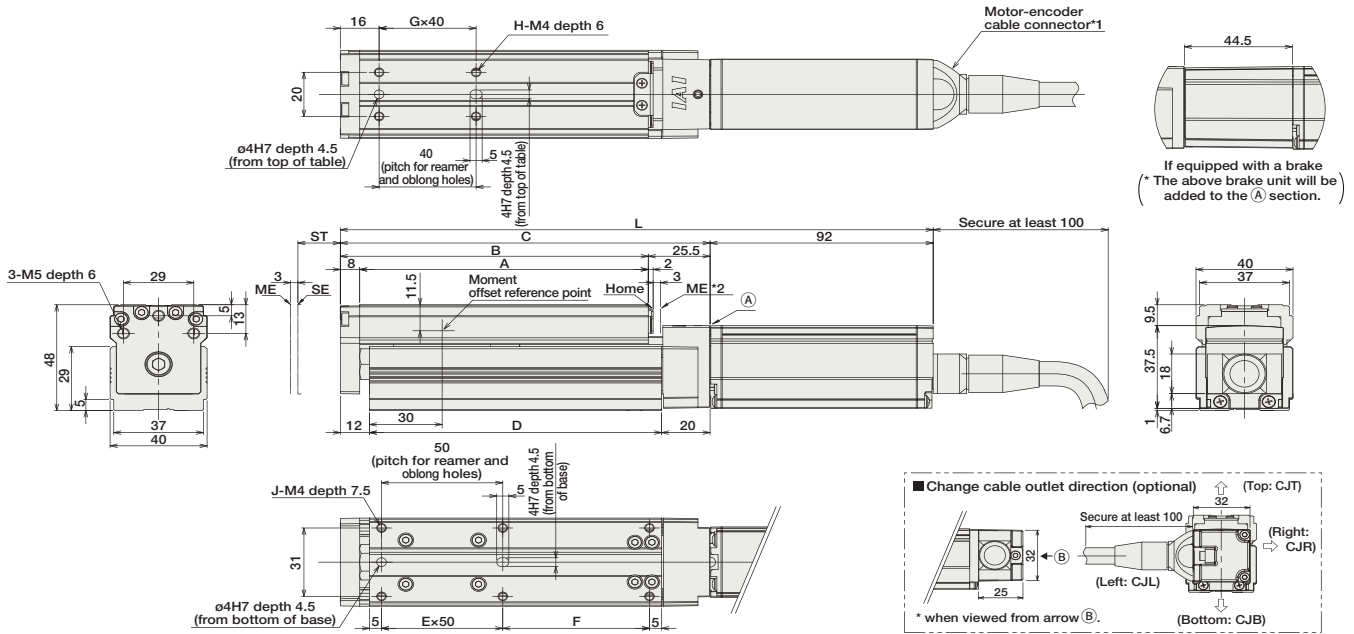
Name	Option Code	See Page
Brake	B	→ A-25
Cable exit direction (Top)	CJT	→ A-25
Cable exit direction (Right)	CJR	
Cable exit direction (Left)	CJL	
Cable exit direction (Bottom)	CJB	
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33

Dimensions

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



For Special Order P. A-9



- \*1 The motor-encoder cable is connected directly to the motor cover of the actuator. 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.  
 ST : Stroke  
 ME : Mechanical end  
 SE : Stroke end

Dimensions/Weight by Stroke \* Adding a brake will increase the actuator's weight by 0.2kg.

Stroke	20	30	40	50	60	70	80	90	100	
L	No Brake	214.5	224.5	234.5	244.5	254.5	264.5	274.5	284.5	294.5
	Brake-equipped	259	269	279	289	299	309	319	329	339
A	89	99	109	119	129	139	149	159	169	
B	97	107	117	127	137	147	157	167	177	
C	122.5	132.5	142.5	152.5	162.5	172.5	182.5	192.5	202.5	
D	90.5	100.5	110.5	120.5	130.5	140.5	150.5	160.5	170.5	
E	1	1	1	1	2	2	2	2	2	
F	30.5	40.5	50.5	60.5	20.5	30.5	40.5	50.5	60.5	
G	1	1	1	1	2	2	2	2	2	
H	4	4	4	4	6	6	6	6	6	
J	6	6	6	6	8	8	8	8	8	
Weight (kg)	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	

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	See Page
Solenoid Valve Type		AMEC-C-10①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	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.				
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.	→ 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	(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.	→ 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	(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.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-TA5C

RoboCylinder Table Type Motor Unit Coupled 55mm Width 24V Servo Motor  
Ball Screw

■ Configuration: **RCA2** - **TA5C** - **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

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

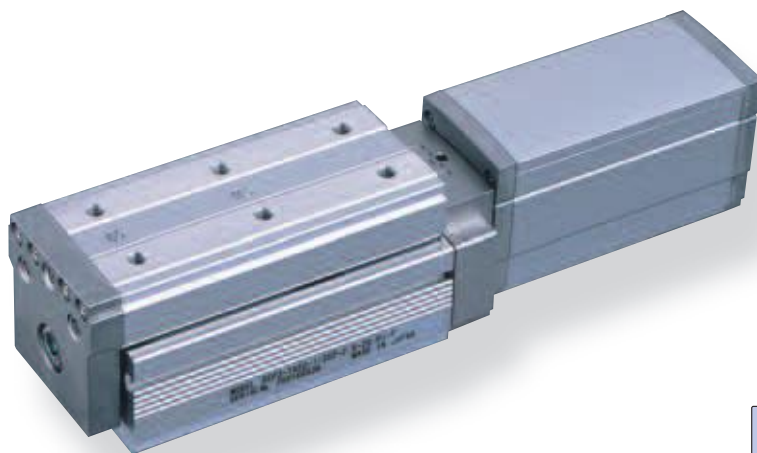
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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



- (1) Please note that the maximum speed is different when used horizontally versus vertically.
- (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.

### Actuator Specifications

#### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-TA5C-I-20-10- [1] - [2] - [3] - [4]	20	10	2	1	34	25~100 (25mm increments)
RCA2-TA5C-I-20-5- [1] - [2] - [3] - [4]		5	3.5	2	68	
RCA2-TA5C-I-20-2.5- [1] - [2] - [3] - [4]		2.5	5	3	137	

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

#### Stroke and Maximum Speed

Lead	Stroke	25 ~ 100 (25mm increments)
		10
5	250	
2.5	125	

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

### Cable List

Type	Cable Symbol
Standard Type (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.

### Options List

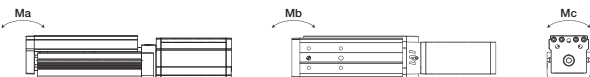
Name	Option Code	See Page
Brake	B	→ A-25
Cable exit direction (Top)	CJT	→ A-25
Cable exit direction (Right)	CJR	→ A-25
Cable exit direction (Left)	CJL	→ A-25
Cable exit direction (Bottom)	CJB	→ A-25
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33

### Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 25.5 N·m Mb: 36.5 N·m Mc: 56.1 N·m
Allowable Dynamic Moment (*)	Ma: 6.57 N·m Mb: 9.32 N·m Mc: 14.32 N·m
Overhang Load Length	Within the load moment range
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on a 5,000km service life.

#### Directions of Allowable Load Moments

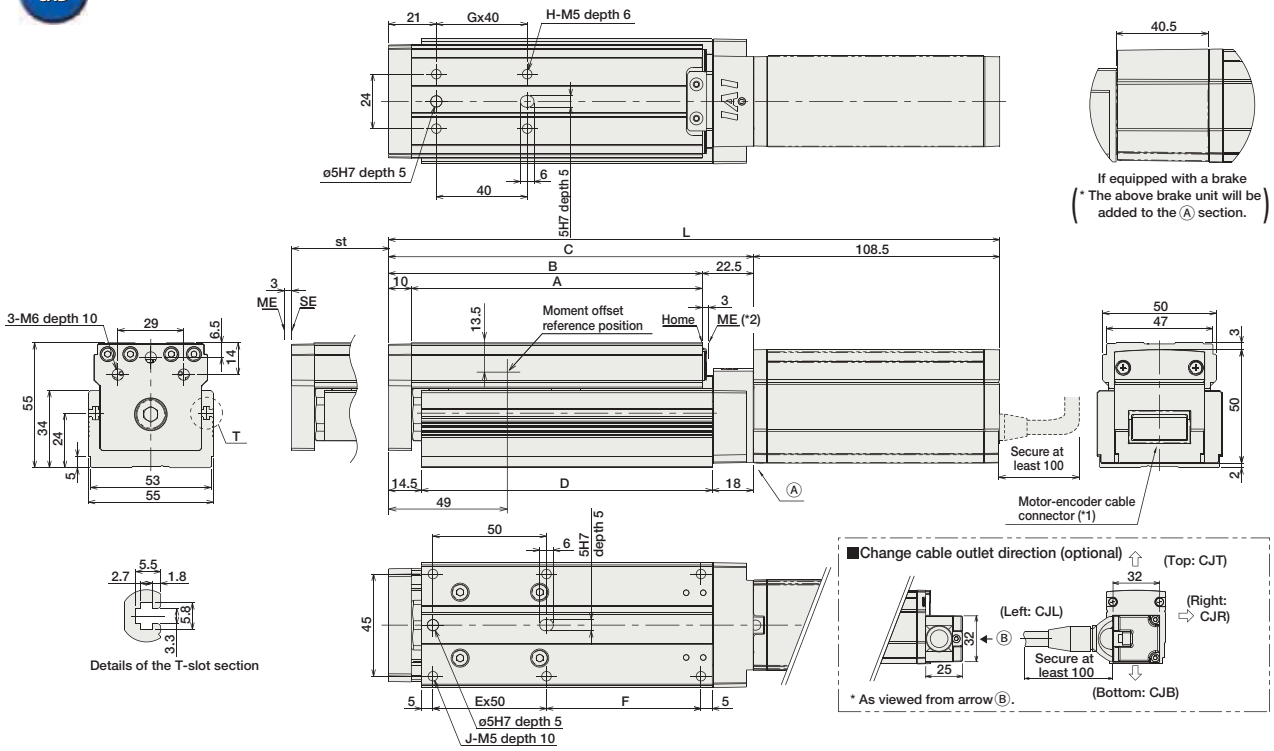


Dimensions

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

For Special Order P. A-9

2/3D CAD



**Dimensions and Weight by Stroke** \* Adding a brake will increase the actuator's weight by 0.3kg.

Stroke	L			
	No brake	25	50	75
No brake	244	269	294	319
Brake-equipped	284.5	309.5	334.5	359.5
A	103	128	153	178
B	113	138	163	188
C	135.5	160.5	185.5	210.5
D	103	128	153	178
E	1	1	2	2
F	43	68	43	68
G	1	1	2	2
H	4	4	6	6
J	6	6	8	8
Weight (kg)	1.2	1.4	1.5	1.7

(\*1) The motor-encoder cable is connected directly to the motor cover of the actuator. See page A-39 for details on cables.  
 (\*2) After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end

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	See Page
Solenoid Valve Type		AMEC-C-20Si①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
Splash-Proof Solenoid Valve Type		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.				
Positioner Type		ACON-C-20Si①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ 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	(Power-saving) 1.3A rated 2.5A max.	→ 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-TA6C

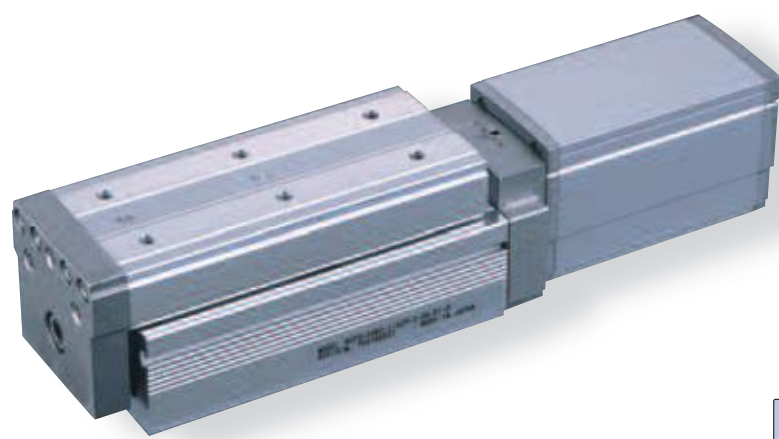
RoboCylinder Table Type Motor Unit Coupled 65mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA2-TA6C-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	12: 12mm 6: 6mm 3: 3mm	25: 25mm 150: 150mm (25mm pitch increments)	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

POINT  
Notes on Selection

(1) Please note that the maximum speed is different when used horizontally versus vertically.

(2) 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.

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
RCA2-TA6C-I-20-12-①-②-③-④	20	12	2	0.5	17	25 ~ 150 (25mm increments)
RCA2-TA6C-I-20-6-①-②-③-④		6	4	1.5	34	560 <500>
RCA2-TA6C-I-20-3-①-②-③-④		3	6	3	68	300
						150

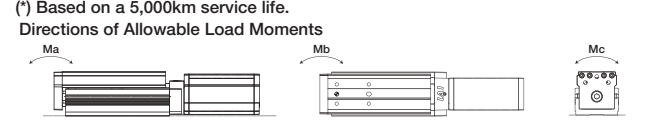
Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

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

Cable List	
Type	Cable Symbol
Standard Type (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.

Actuator Specifications	
Item	Description
Drive System	Ball screw $\phi$ 10mm C10 grade
Positioning Repeatability	$\pm$ 0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 29.4 N·m Mb: 42.0 N·m Mc: 74.1 N·m
Allowable Dynamic Moment (*)	Ma: 7.26 N·m Mb: 10.3 N·m Mc: 18.25 N·m
Overhang Load Length	Within the load moment range
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)



Options List			
Name	Option Code	See Page	
Brake	B	→ A-25	
Cable exit direction (Top)	CJT	→ A-25	
Cable exit direction (Right)	CJR	→ A-25	
Cable exit direction (Left)	CJL	→ A-25	
Cable exit direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
Reversed-home	NM	→ A-33	

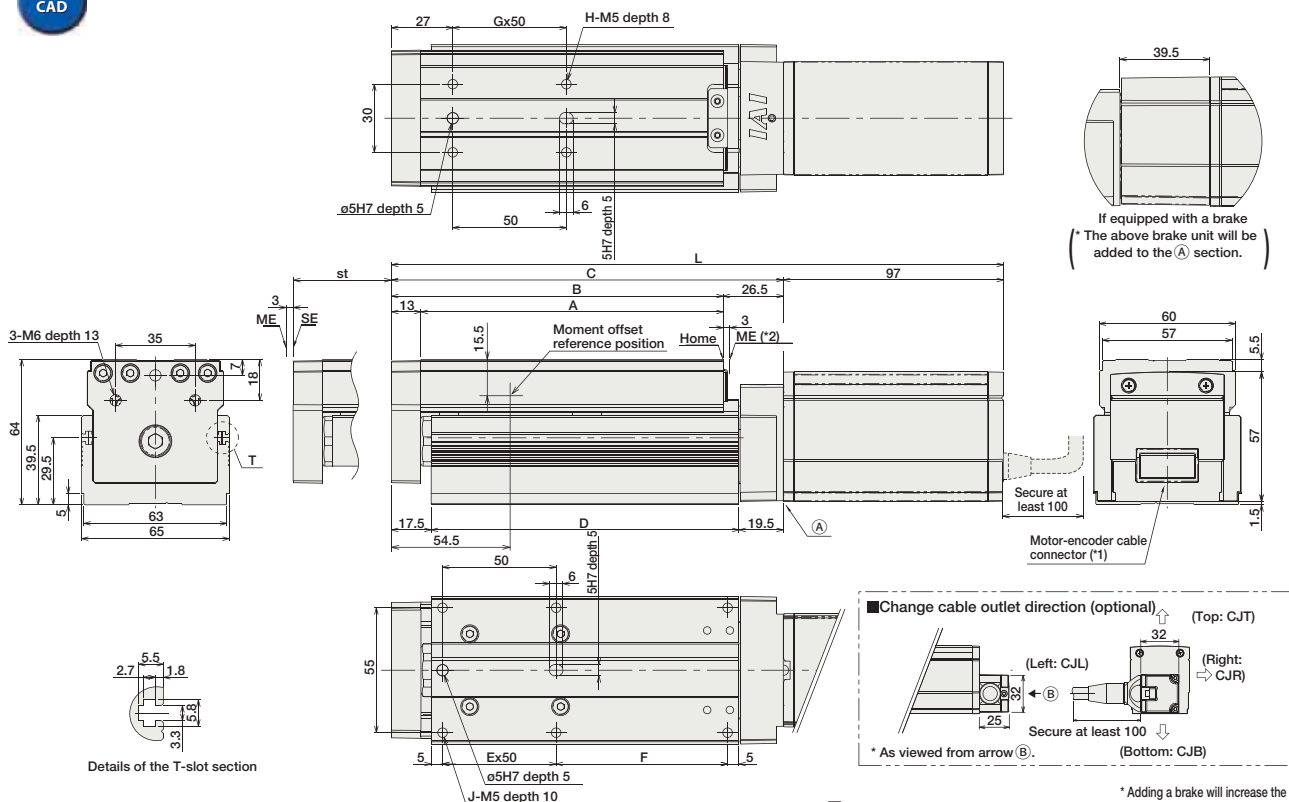


Dimensions

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

For Special Order P. A-9

2/3D CAD



■ Dimensions and Weight by Stroke \* Adding a brake will increase the actuator's weight by 0.4kg.

Stroke	25						50						75						100						125						150																																																																																							
	No brake		244.5		269.5		294.5		319.5		344.5		369.5		108		133		158		183		208		233		121		146		171		196		221		246		147.5		172.5		197.5		222.5		247.5		272.5		110.5		135.5		160.5		185.5		210.5		235.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10	
L	No brake		244.5		269.5		294.5		319.5		344.5		369.5		108		133		158		183		208		233		121		146		171		196		221		246		147.5		172.5		197.5		222.5		247.5		272.5		110.5		135.5		160.5		185.5		210.5		235.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10	
A	108		133		158		183		208		233		121		146		171		196		221		246		147.5		172.5		197.5		222.5		247.5		272.5		110.5		135.5		160.5		185.5		210.5		235.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10															
B	121		146		171		196		221		246		147.5		172.5		197.5		222.5		247.5		272.5		110.5		135.5		160.5		185.5		210.5		235.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																											
C	147.5		172.5		197.5		222.5		247.5		272.5		110.5		135.5		160.5		185.5		210.5		235.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																							
D	110.5		135.5		160.5		185.5		210.5		235.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																																			
E	1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																											
F	50.5		75.5		50.5		75.5		50.5		75.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																																			
G	1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																											
H	4		4		6		6		8		8		50.5		75.5		50.5		75.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																											
J	6		6		8		8		10		10		50.5		75.5		50.5		75.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																											
Weight (kg)	1.8		2		2.2		2.4		2.6		2.8		50.5		75.5		50.5		75.5		1		1		2		2		3		3		50.5		75.5		50.5		75.5		1		1		2		2		3		3		4		4		6		6		8		8		6		6		8		8		10		10																																											

(\*) The motor-encoder cable is connected directly to the motor cover of the actuator. See page A-39 for details on cables.  
 (\*\*) After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end

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	See Page
Solenoid Valve Type		AMEC-C-20I①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
	Splash-Proof Solenoid Valve Type		ASEP-C-20I①-NP-2-0				
Positioner Type			ACON-C-20I①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.
	Safety-Compliant Positioner Type		ACON-CG-20I①-NP-2-0				
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I①-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I①-N-0-0	Dedicated to serial communication	64 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P503
Field Network Type		RACON-20I①	Dedicated to field network	768 points			
Program Control Type		ASEL-C-1-20I①-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points	DC24V	(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.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-TA7C

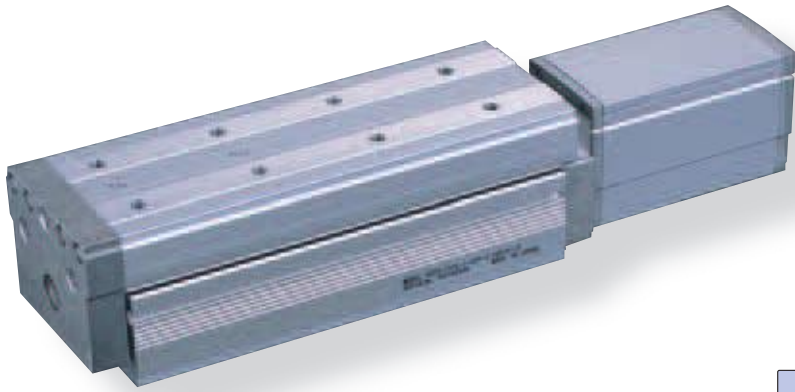
RoboCylinder Table Type Motor Unit Coupled 75mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA2** - **TA7C** - **I** - **30** - [ ] - [ ] - [ ] - [ ] - [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The simple absolute encoder is also considered type "I".	30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	25: 25mm 200: 200mm (25mm pitch increments)	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

POINT  
Notes on Selection

(1) Please note that the maximum speed is different when used horizontally versus vertically.

(2) 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.

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
RCA2-TA7C-I-30-12-①-②-③-④	30	12	4	1	26	25 ~ 200 (25mm increments)
RCA2-TA7C-I-30-6-①-②-③-④		6	6	2.5	53	600 <580>
RCA2-TA7C-I-30-3-①-②-③-④		3	8	4	105	300
Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options						

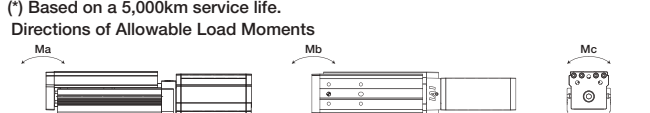
\* The values enclosed in "<" >" apply to vertical usage. (Unit: mm/s)

Cable List	
Type	Cable Symbol
Standard Type (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.

Options List			
Name	Option Code	See Page	
Brake	B	→ A-25	
Cable exit direction (Top)	CJT	→ A-25	
Cable exit direction (Right)	CJR	→ A-25	
Cable exit direction (Left)	CJL	→ A-25	
Cable exit direction (Bottom)	CJB	→ A-25	
Power-saving	LA	→ A-32	
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
Base	Material: Aluminum (special alumite treated)
Allowable Static Moment	Ma: 42.6 N·m Mb: 60.8 N·m Mc: 123.2 N·m
Allowable Dynamic Moment (*)	Ma: 9.91 N·m Mb: 14.13 N·m Mc: 28.65 N·m
Overhang Load Length	Within the load moment range
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

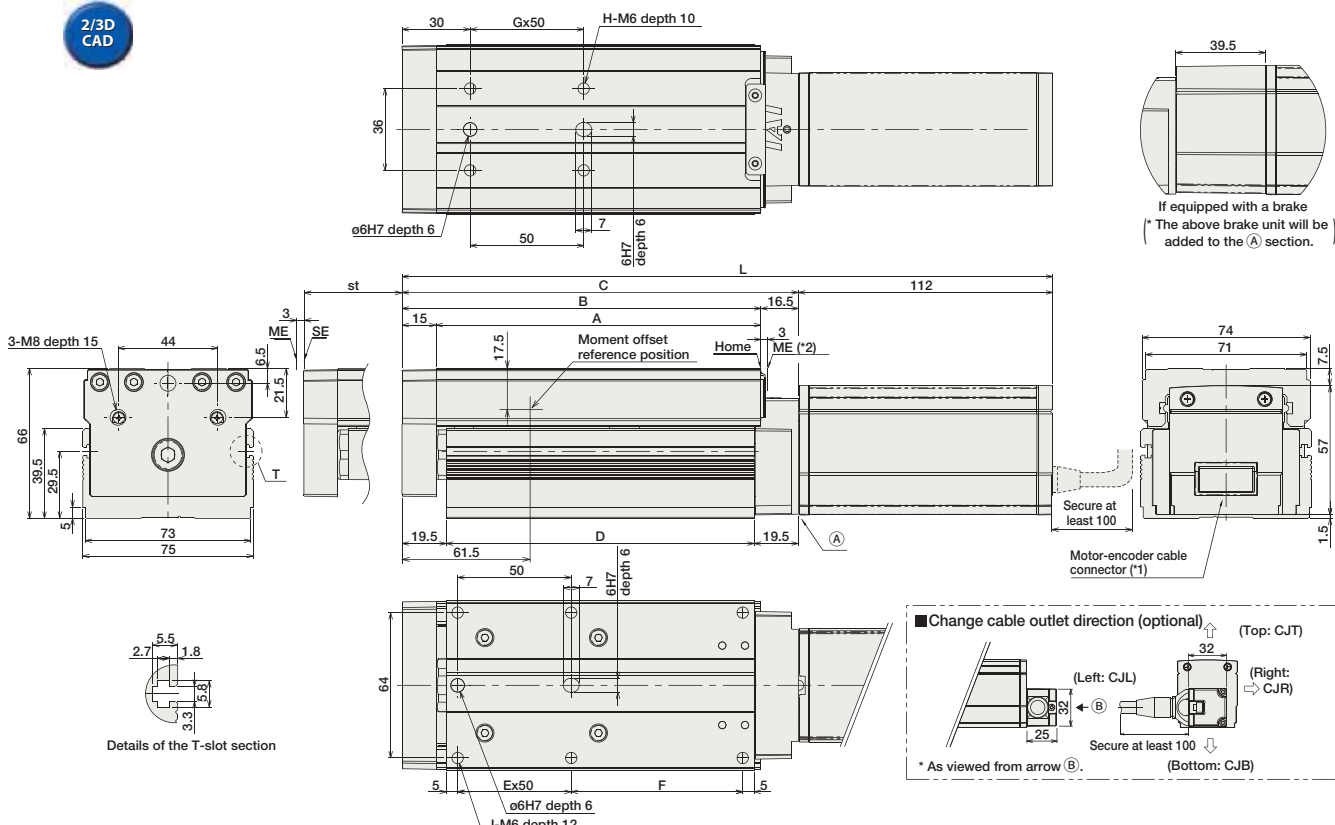


Dimensions

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

2/3D CAD

For Special Order P. A-9



Dimensions and Weight by Stroke

\* Adding a brake will increase the actuator's weight by 0.4kg.

Stroke	Stroke								
	25	50	75	100	125	150	175	200	
L	No brake	261.5	286.5	311.5	336.5	361.5	386.5	411.5	436.5
	Brake-equipped	301	326	351	376	401	426	451	476
A	118	143	168	193	218	243	268	293	
B	133	158	183	208	233	258	283	308	
C	149.5	174.5	199.5	224.5	249.5	274.5	299.5	324.5	
D	110.5	135.5	160.5	185.5	210.5	235.5	260.5	285.5	
E	1	1	2	2	3	3	4	4	
F	50.5	75.5	50.5	75.5	50.5	75.5	50.5	75.5	
G	1	1	2	2	3	3	4	4	
H	4	4	6	6	8	8	10	10	
J	6	6	8	8	10	10	12	12	
Weight (kg)	2.1	2.3	2.5	2.8	3	3.2	3.4	3.6	

(\*) The motor-encoder cable is connected directly to the motor cover of the actuator. See page A-39 for details on cables.  
 (\*\*) After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end

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	See Page						
Solenoid Valve Type		AMEC-C-30①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477						
		ASEP-C-30①-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-30①-NP-2-0											
Positioner Type		ACON-C-30①-NP-2-0	Positioning is possible for up to 512 points	512 points			DC24V	(Standard) 1.3A rated 4.0A max.					
Safety-Compliant Positioner Type		ACON-CG-30①-NP-2-0											
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30①-NP-2-0	Pulse train input type with differential line driver support	(-)					(Power-saving) 1.3A rated 2.2A max.		→ P535		
Pulse Train Input Type (Open Collector)		ACON-PO-30①-NP-2-0	Pulse train input type with open collector support										
Serial Communication Type		ACON-SE-30①-N-0-0	Dedicated to serial communication	64 points									
Field Network Type		RACON-30①	Dedicated to field network	768 points									→ P503
Program Control Type		ASEL-C-1-30①-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 Motor 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 (230V)
- Linear Motor

# RCA2-TA4R

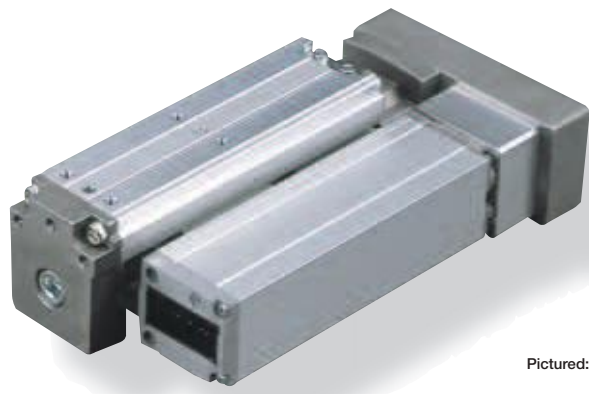
RoboCylinder Mini Table Type Side-Mounted Motor 40mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA2** - **TA4R** - **I** - **10** - [ ] - [ ] - [ ] - [ ] - [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCA2	TA4R	I: Incremental * The simple absolute encoder is also considered type "I".	10: 10W Servo motor	6 : 6mm 4 : 4mm 2 : 2mm	20: 20mm ↓ 100: 100mm (10mm pitch increments)	A1 : ACON RACON ASEL A3 : AMEC ASEP	N : None P : 1m S : 3m M : 5m X [ ] : Custom	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.

**Power-saving**



Pictured: TA3R with left-mounted motor (ML).

Technical References P. A-5

**POINT** Notes on Selection

(1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2mm-lead model, or when used vertically). 0.3G (0.2G for 2mm lead) is the upper limit of the acceleration.

**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-TA4R-I-10-6-①-②-③-④	10	Ball screw	6	1	0.5	28	±0.02	20~100 (10mm increments)
RCA2-TA4R-I-10-4-①-②-③-④			4	2	1	43		
RCA2-TA4R-I-10-2-①-②-③-④			2	3	1.5	85		

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

■ Stroke and Maximum Speed

Lead	Stroke	
	6	20 ~ 100 (10mm increments)
Ball screw	300	200
	200	100

(Unit: mm/s)

**Cable List**

Type	Cable Symbol
Standard Type (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.

**Actuator Specifications**

Item	Description
Drive System	Ball screw ø6mm C10 grade
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Dynamic Moment (Note)	Ma: 4.2 N·m Mb: 6 N·m Mc: 8.2 N·m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(Note) Based on a 5,000km service life.

**Option List**

Name	Option Code	See Page
Brake	B	→ A-25
Cable exit direction (Top)	CJT	→ A-25
Cable exit direction (Outside)	CJO	
Cable exit direction (Bottom)	CJB	
Power-saving	LA	→ A-32
Left-Mounted Motor (Standard)	ML	→ A-33
Right-mounted motor	MR	→ A-33
Reversed-home	NM	→ A-33

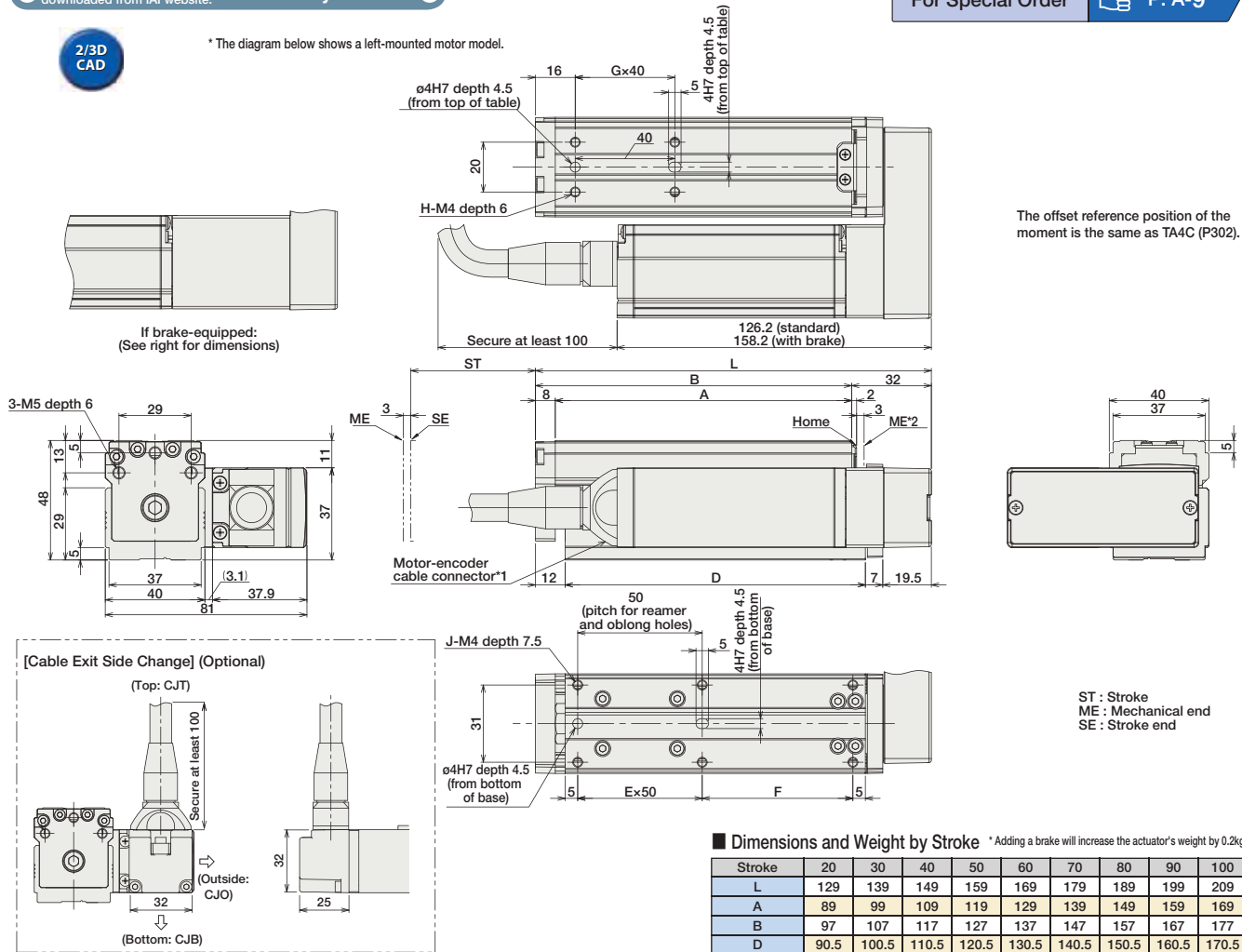
Dimensions

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

For Special Order P. A-9

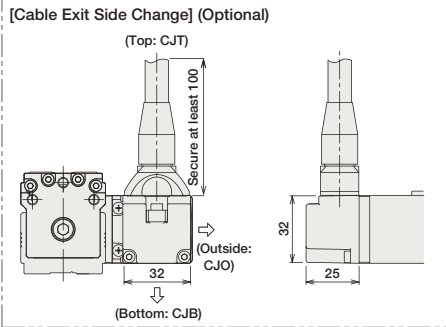
2/3D CAD

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



The offset reference position of the moment is the same as TA4C (P302).

ST : Stroke  
ME : Mechanical end  
SE : Stroke end



- \*1 The motor-encoder cable is connected directly to the motor cover of the actuator. 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.

■ Dimensions and Weight by Stroke \* Adding a brake will increase the actuator's weight by 0.2kg.

Stroke	20	30	40	50	60	70	80	90	100
L	129	139	149	159	169	179	189	199	209
A	89	99	109	119	129	139	149	159	169
B	97	107	117	127	137	147	157	167	177
D	90.5	100.5	110.5	120.5	130.5	140.5	150.5	160.5	170.5
E	1	1	1	1	2	2	2	2	2
F	30.5	40.5	50.5	60.5	20.5	30.5	40.5	50.5	60.5
G	1	1	1	1	2	2	2	2	2
H	4	4	4	4	6	6	6	6	6
J	6	6	6	6	8	8	8	8	8
Weight (kg)	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1

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	See Page
Solenoid Valve Type		AMEC-C-101①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
Splash-Proof Solenoid Valve Type		ASEP-C-101①-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		ACON-C-101①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-101①-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-101①-NP-2-0	Pulse train input type with differential line driver support	(-)		(Power-saving) 1.3A rated 2.5A max.	→ P503
Pulse Train Input Type (Open Collector)		ACON-PO-101①-NP-2-0					
Serial Communication Type		ACON-SE-101①-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-101①	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1101①-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 Motor 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 (230V)
- Linear Motor

# RCA2-TA5R

RoboCylinder Table Type Side-Mounted Motor 55mm Width 24V Servo Motor  
Ball Screw

■ Configuration: **RCA2** - **TA5R** - **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

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

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

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.

**Power-saving**



Technical References P. A-5

**POINT**  
Notes on Selection

- Please note that the maximum speed is different when used horizontally versus vertically.
- 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.

**Actuator Specifications**

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-TA5R-I-20-10-①-②-③-④	20	10	2	1	34	25~100 (25mm increments)
RCA2-TA5R-I-20-5-①-②-③-④		5	3.5	2	68	
RCA2-TA5R-I-20-2.5-①-②-③-④		2.5	5	3	137	

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

■ Stroke and Maximum Speed

Lead	Stroke	25 ~ 100 (25mm increments)
		10
5		250
2.5		125

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

**Cable List**

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-39 for cables for maintenance.

**Option List**

Name	Option Code	See Page
Brake	B	→ A-25
Cable exit direction (Top)	CJT	→ A-25
Cable exit direction (Outside)	CJO	
Cable exit direction (Bottom)	CJB	
Power-saving	LA	→ A-32
Left-Mounted Motor (Standard)	ML	→ A-33
Right-mounted motor	MR	→ A-33
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
Base	Material: Aluminum (special alumite treated)
Allowable Static Load Moment	Ma: 25.5 N·m Mb: 36.5 N·m Mc: 56.1 N·m
Allowable Dynamic Load Moment	Ma: 6.57 N·m Mb: 9.32 N·m Mc: 14.32 N·m
Overhang Load Length	Within the load moment range
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Directions of Allowable Load Moments



5,000 km service life



- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Controllers Integrated
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

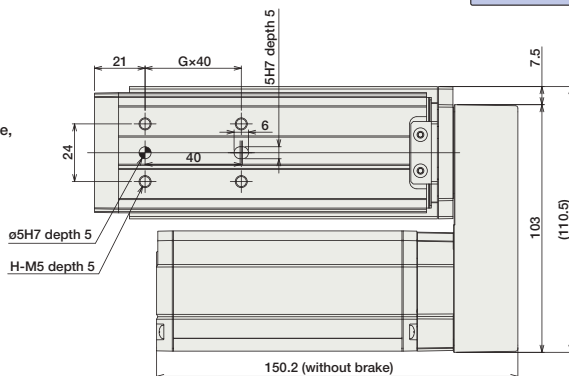
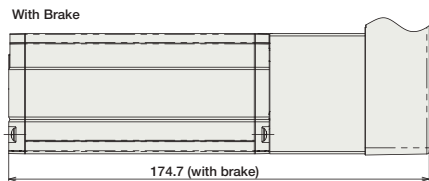
Dimensions

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

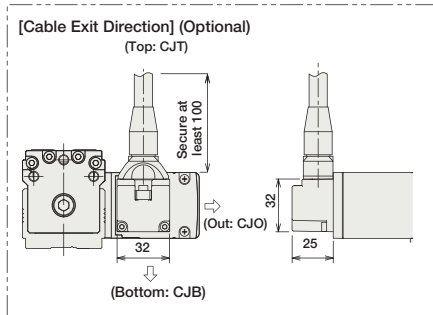
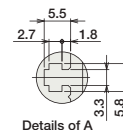
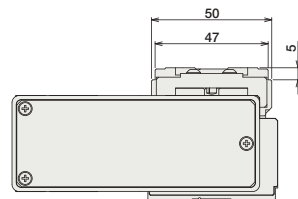
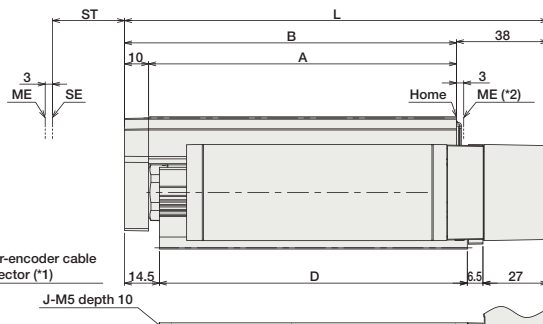
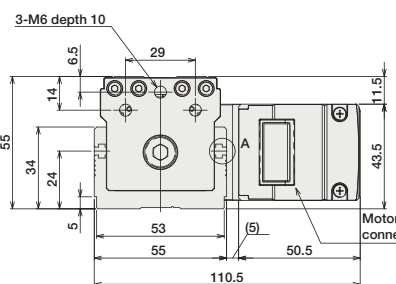
For Special Orders P. A-9

2/3D CAD

\* Please note that, for 25mm stroke model with brake, the motor unit protrudes from the end of the table.



The offset reference position of the moment is the same as TASC (P304).



■ Dimensions and Weight by Stroke

Stroke	25	50	75	100
L	151	176	201	226
A	103	128	153	178
B	113	138	163	188
D	103	128	153	178
E	1	1	2	2
F	43	68	43	68
G	1	1	2	2
H	4	4	6	6
J	6	6	8	8
Weight (kg)	1.4	1.6	1.7	1.9

\* Adding a brake will increase the actuator's weight by 0.3kg.

(\*1) The motor-encoder cable is connected directly to the motor cover of the actuator. See page A-39 for details on cables.

(\*2) After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.

ME: Mechanical end  
SE: Stroke end

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	See Page
Solenoid Valve Type		AMEC-C-20Si①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
Splash-Proof Solenoid Valve Type		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.				
Positioner Type		ACON-C-20Si①-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ 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	(Power-saving) 1.3A rated 2.5A max.	→ 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-TA6R

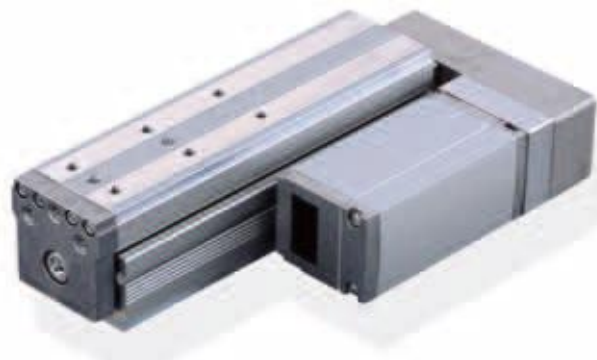
RoboCylinder Table Type Side-Mounted Motor 65mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA2** - **TA6R** - **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	12 : 12mm 6 : 6mm 3 : 3mm	25: 25mm 150: 150mm (25mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N : None P : 1m S : 3m M : 5m X <input type="checkbox"/> <input type="checkbox"/> : Custom	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.

**Power-saving**



**Technical References** P. A-5

POINT  
Notes on Selection

(1) Please note that the maximum speed is different when used horizontally versus vertically.

(2) 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.

Actuator Specifications						
■ Lead and Load Capacity						
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
RCA2-TA6R-I-20-12- <span style="border: 1px solid black; padding: 0 2px;">①</span> - <span style="border: 1px solid black; padding: 0 2px;">②</span> - <span style="border: 1px solid black; padding: 0 2px;">③</span> - <span style="border: 1px solid black; padding: 0 2px;">④</span>	20	12	Horizontal (kg)	Vertical (kg)	17	25~150 (25mm increments)
RCA2-TA6R-I-20-6- <span style="border: 1px solid black; padding: 0 2px;">①</span> - <span style="border: 1px solid black; padding: 0 2px;">②</span> - <span style="border: 1px solid black; padding: 0 2px;">③</span> - <span style="border: 1px solid black; padding: 0 2px;">④</span>		6	4	1.5	34	
RCA2-TA6R-I-20-3- <span style="border: 1px solid black; padding: 0 2px;">①</span> - <span style="border: 1px solid black; padding: 0 2px;">②</span> - <span style="border: 1px solid black; padding: 0 2px;">③</span> - <span style="border: 1px solid black; padding: 0 2px;">④</span>		3	6	3	68	
Legend: <span style="border: 1px solid black; padding: 0 2px;">①</span> Stroke <span style="border: 1px solid black; padding: 0 2px;">②</span> Compatible controller <span style="border: 1px solid black; padding: 0 2px;">③</span> Cable length <span style="border: 1px solid black; padding: 0 2px;">④</span> Options						

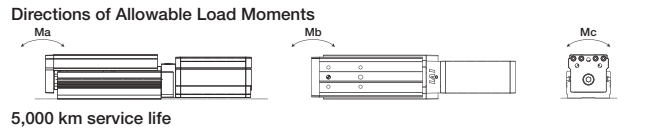
Stroke and Maximum Speed	
Stroke / Lead	25 ~ 150 (25mm increments)
12	560 <500>
6	300
3	150

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

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-39 for cables for maintenance.

Actuator Specifications	
Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Load Moment	Ma: 29.4 N-m Mb: 42.0 N-m Mc: 74.1 N-m
Allowable Dynamic Load Moment	Ma: 7.26 N-m Mb: 10.3 N-m Mc: 18.25 N-m
Overhang Load Length	Within the load moment range
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)



Option List			
Name	Option Code	See Page	
Brake	B	→ A-25	
Cable exit direction (Top)	CJT	→ A-25	
Cable exit direction (Outside)	CJO		
Cable exit direction (Bottom)	CJB		
Power-saving	LA	→ A-32	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-mounted motor	MR	→ A-33	
Reversed-home	NM	→ A-33	

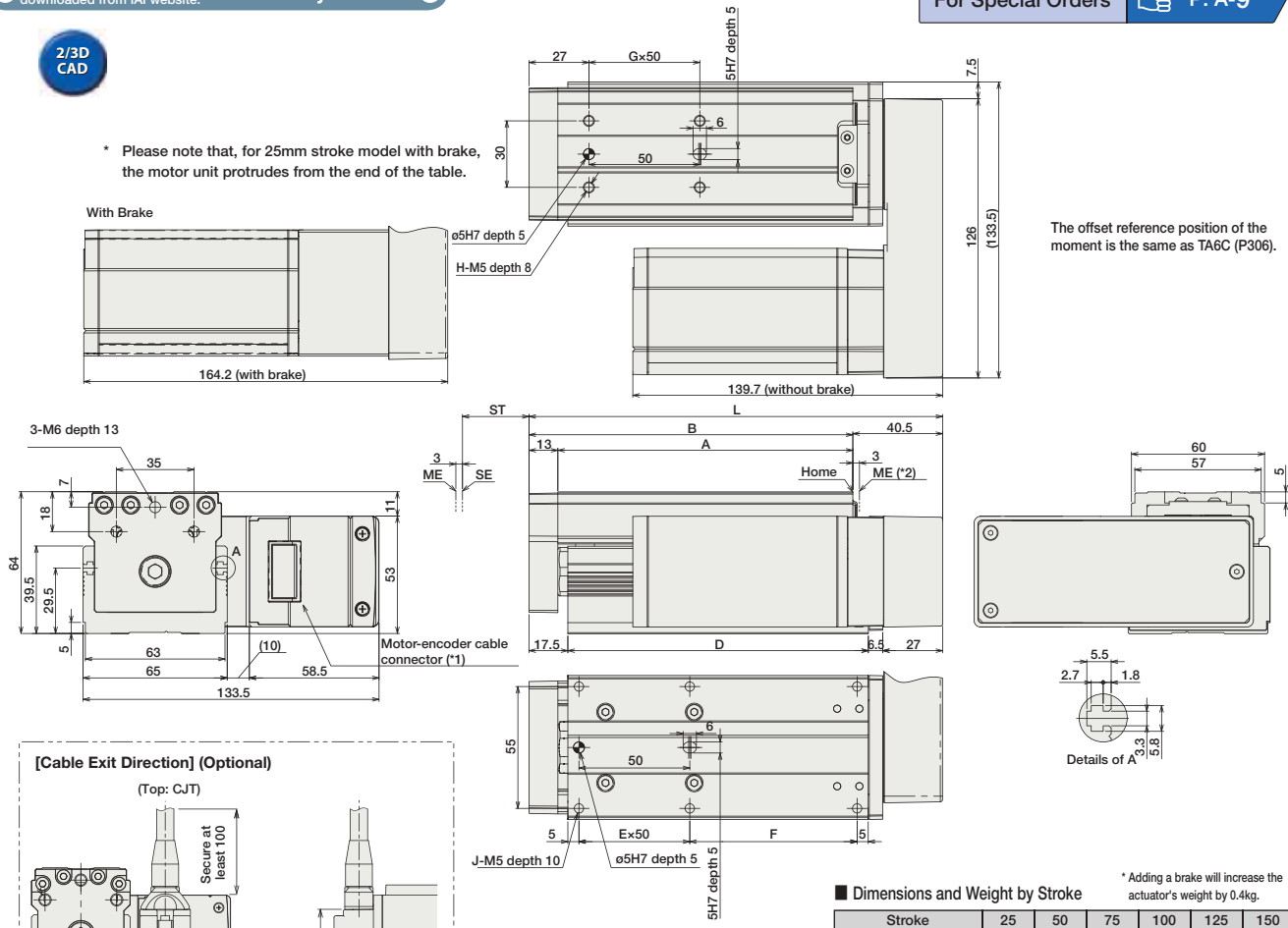
Dimensions

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

For Special Orders P. A-9

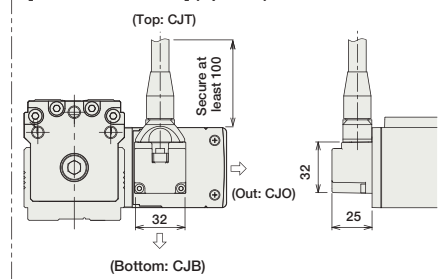


\* Please note that, for 25mm stroke model with brake, the motor unit protrudes from the end of the table.



The offset reference position of the moment is the same as TA6C (P306).

[Cable Exit Direction] (Optional)



(\*1) The motor-encoder cable is connected directly to the motor cover of the actuator. See page A-39 for details on cables.

(\*2) After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.

ME: Mechanical end  
SE: Stroke end

■ Dimensions and Weight by Stroke

\* Adding a brake will increase the actuator's weight by 0.4kg.

Stroke	25	50	75	100	125	150
L	161.5	186.5	211.5	236.5	261.5	286.5
A	108	133	158	183	208	233
B	121	146	171	196	221	246
D	110.5	135.5	160.5	185.5	210.5	235.5
E	1	1	2	2	3	3
F	50.5	75.5	50.5	75.5	50.5	75.5
G	1	1	2	2	3	3
H	4	4	6	6	8	8
J	6	6	8	8	10	10
Weight (kg)	2.1	2.3	2.5	2.7	2.9	3.1

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	See Page
Solenoid Valve Type		AMEC-C-20①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-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.				
Splash-Proof Solenoid Valve Type		ASEP-CW-20①-NP-2-0					
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.	→ 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	(-)		(Power-saving) 1.3A rated 2.5A max.	
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			→ P667

\* 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 Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA2-TA7R

RoboCylinder Table Type Side-Mounted Motor 75mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA2** - **TA7R** - **I** - **30** - [ ] - [ ] - [ ] - [ ] - [ ]

Series	Type	Encoder	Motor	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The simple absolute encoder is also considered type "I".	30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	25: 25mm 200: 200mm (25mm pitch increments)	A1: ACON RACON ASEL A3: AMEC ASEP	N: None P: 1m S: 3m M: 5m X [ ] [ ]: Custom	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.

**Power-saving**



**Technical References** P. A-5

POINT  
Notes on Selection

(1) Please note that the maximum speed is different when used horizontally versus vertically.

(2) 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.

Actuator Specifications						
■ Lead and Load Capacity						
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-TA7R-I-30-12-①-②-③-④	30	12	4	1	26	25~200 (25mm increments)
RCA2-TA7R-I-30-6-①-②-③-④		6	6	2.5	53	
RCA2-TA7R-I-30-3-①-②-③-④		3	8	4	105	
Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options						

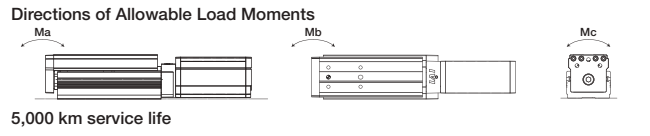
Stroke and Maximum Speed	
Stroke / Lead	25 ~ 200 (25mm increments)
12	600 <580>
6	300
3	150

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

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

\* The standard cable is the motor-encoder integrated robot cable.  
 \* See page A-39 for cables for maintenance.

Actuator Specifications	
Item	Description
Drive System	Ball screw $\phi$ 10mm C10 grade
Positioning Repeatability	$\pm$ 0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (special alumite treated)
Allowable Static Load Moment	Ma: 42.6 N·m Mb: 60.8 N·m Mc: 123.2 N·m
Allowable Dynamic Load Moment	Ma: 9.91 N·m Mb: 14.13 N·m Mc: 28.65 N·m
Overhang Load Length	Within the load moment range
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)



Option List			
Name	Option Code	See Page	
Brake	B	→ A-25	
Cable exit direction (Top)	CJT	→ A-25	
Cable exit direction (Outside)	CJO		
Cable exit direction (Bottom)	CJB		
Power-saving	LA	→ A-32	
Left-Mounted Motor (Standard)	ML	→ A-33	
Right-mounted motor	MR	→ A-33	
Reversed-home	NM	→ A-33	

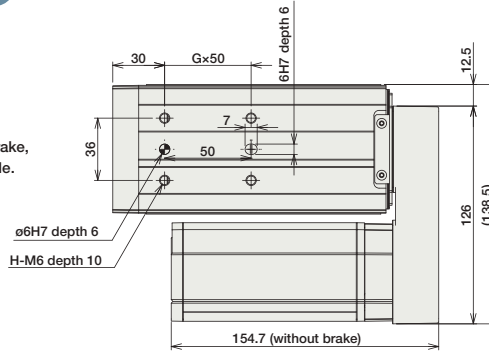
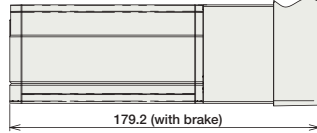
Dimensions

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

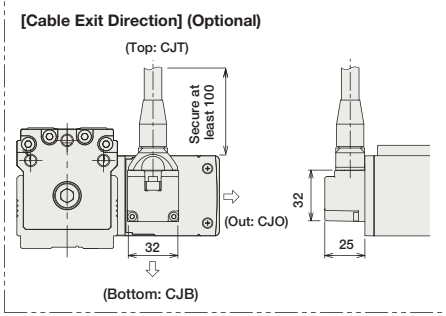
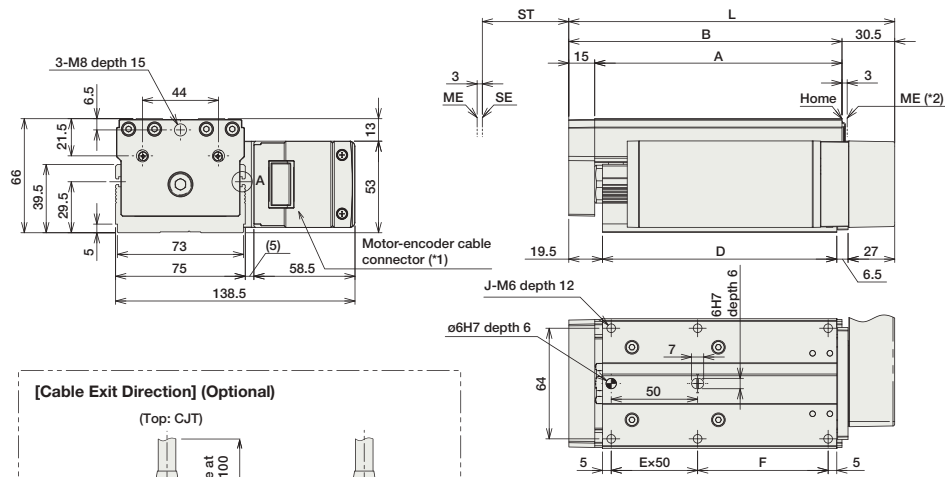


\* Please note that, for 25mm stroke model with brake, the motor unit protrudes from the end of the table.

With Brake



The offset reference position of the moment is the same as TA7C (P308).



(\*1) The motor-encoder cable is connected directly to the motor cover of the actuator. See page A-39 for details on cables.  
(\*2) After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end

Dimensions and Weight by Stroke

\* Adding a brake will increase the actuator's weight by 0.4kg.

Stroke	25	50	75	100	125	150	175	200
L	163.5	188.5	213.5	238.5	263.5	288.5	313.5	338.5
A	118	143	168	193	218	243	268	293
B	133	158	183	208	233	258	283	308
D	110.5	135.5	160.5	185.5	210.5	235.5	260.5	285.5
E	1	1	2	2	3	3	4	4
F	50.5	75.5	50.5	75.5	50.5	75.5	50.5	75.5
G	1	1	2	2	3	3	4	4
H	4	4	6	6	8	8	10	10
J	6	6	8	8	10	10	12	12
Weight (kg)	2.4	2.6	2.8	3.1	3.3	3.5	3.7	3.9

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	See Page					
Solenoid Valve Type		AMEC-C-30i①-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477					
		ASEP-C-30i①-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-30i①-NP-2-0										
Positioner Type		ACON-C-30i①-NP-2-0	Positioning is possible for up to 512 points	512 points			DC24V	(Standard) 1.3A rated 4.0A max.				
Safety-Compliant Positioner Type		ACON-CG-30i①-NP-2-0										
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30i①-NP-2-0	Pulse train input type with differential line driver support	(-)					(Power-saving) 1.3A rated 2.2A max.	→ P535		
Pulse Train Input Type (Open Collector)		ACON-PO-30i①-NP-2-0	Pulse train input type with open collector support									
Serial Communication Type		ACON-SE-30i①-N-0-0	Dedicated to serial communication	64 points								
Field Network Type		RACON-30i①	Dedicated to field network	768 points								→ P503
Program Control Type		ASEL-C-1-30i①-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-A4R

RoboCylinder Arm Type Side-Mounted Motor 40mm Width 24V Servo Motor Ball Screw

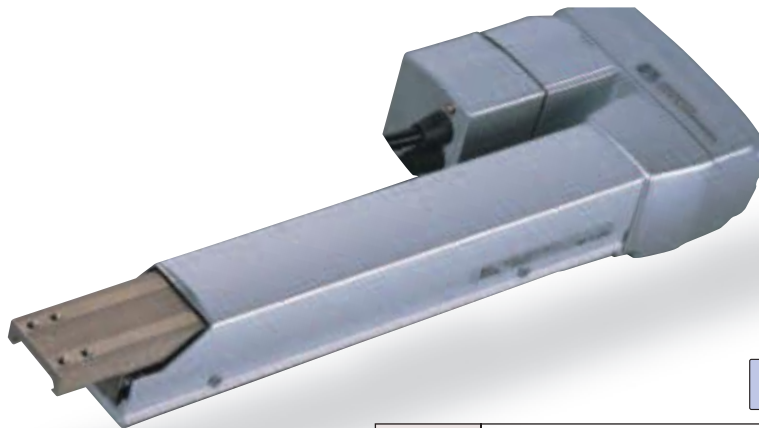
■ Configuration: **RCA** - **A4R** - [ ] - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

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

I : Incremental    20 : 20W servo motor    10 : 10mm    50 : 50mm    A1: ACON    N : None    See Options below  
 A : Absolute    motor    5 : 5mm    200 : 200mm (50mm pitch increments)    RACON    P : 1m    \* Be sure to specify which side the motor is to be mounted (ML/MR).  
 ASEL    M : 5m    X [ ] : Custom  
 A3: AMEC    R [ ] : Robot cable  
 ASEP

\* See page Pre-35 for an explanation of the naming convention.  
 \* ASEL can only be used as the absolute encoder. Simple absolute encoders are considered incremental.

**Power-saving**



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 0.2G. This is the upper limit of the acceleration.

Actuator Specifications								
■ Lead and Load Capacity						■ Stroke and Maximum Speed		
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)	Stroke and Maximum Speed	
			Horizontal (kg)	Vertical (kg)			Lead	50 ~ 200 (50mm increments)
RCA-A4R-①-20-10-②-③-④-B-⑤	20	10	-	2.5	39.2	50~200 (50mm increments)	10	330
RCA-A4R-①-20-5-②-③-④-B-⑤		5	-	4.5	78.4	5	165	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Cable List	
Type	Cable Symbol
Standard Type	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.

Actuator Specifications	
Item	Description
Drive System	Ball screw ø8mm C10 grade (ball screw speed reduced by 1/2 by timing belt)
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Load Moment	Ma: 2.7 N·m Mb: 3.1 N·m Mc: 2.9 N·m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Directions of Allowable Load Moments

5,000 km service life

Option List			
Name	Option Code	See Page	
Brake (standard)	B	→ A-25	
Power-saving	LA	→ A-32	
Bottom-mounted motor	MB	→ A-33	
Right-mounted motor	MR	→ A-33	
Left-mounted motor	ML	→ A-33	
Reversed-home	NM	→ A-33	



Dimensions

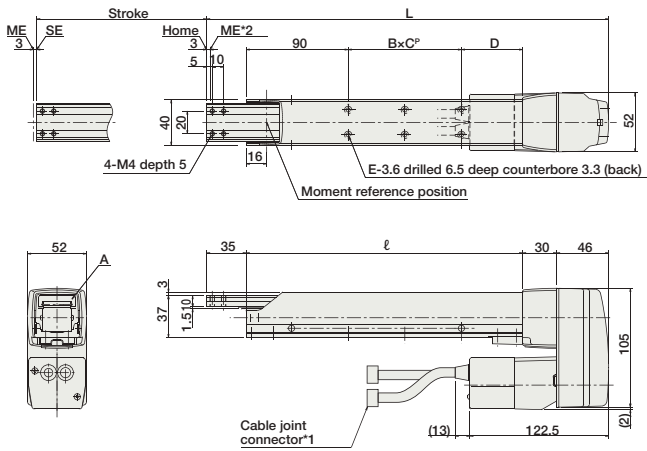
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9

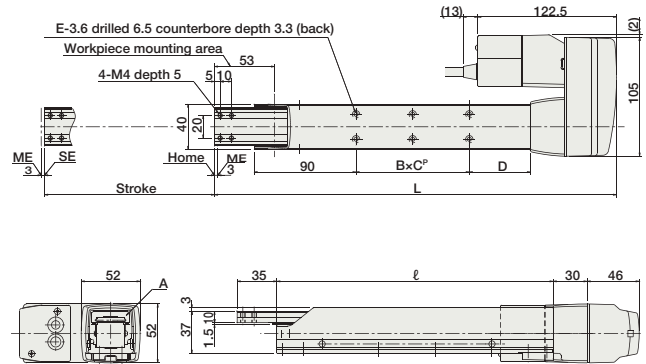


- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

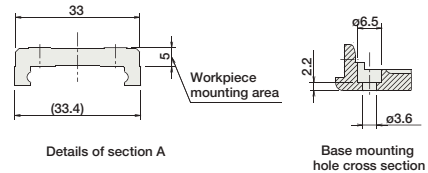
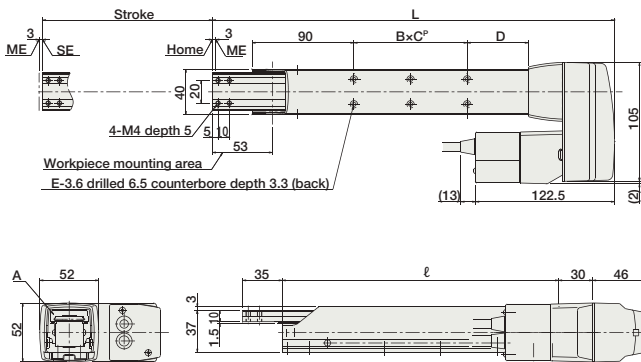
Bottom-mounted motor (option code: MB)



Right-mounted motor (option code: MR)



Left-mounted motor (option code: ML)



■ Dimensions and Weight by Stroke

Stroke	50	100	150	200
L	255	305	355	405
ℓ	144	194	244	294
BxC*	1x19	1x50	2x50	2x50
D	35	54	54	104
E	4	4	6	6
Weight (kg)	1.7	1.8	2.0	2.1

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3 A rated 4.4 A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)		(Power-saving) 1.3 A rated 2.5 A max.	
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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. 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-A5R

RoboCylinder Arm Type Side-Mounted Motor 52mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA** - **A5R** - [ ] - **20** - [ ] - [ ] - [ ] - [ ] - [ ]

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    motor    6 : 6mm    200: 200mm (50mm pitch increments)    RACON    P : 1m    \* Be sure to specify which side the motor is to be mounted (ML/MR).  
 ASEL    A3 : AMEC    S : 3m    X [ ] : Custom  
 ASEP       M : 5m    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
- (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 0.2G. This is the upper limit of the acceleration.

**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-A5R-①-20-12-②-③-④-B-⑤	20	12	-	2	33.3	50~200 (50mm increments)
RCA-A5R-①-20-6-②-③-④-B-⑤		6	-	4	65.7	

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

■ Stroke and Maximum Speed

Lead	Stroke	50 ~ 200 (50mm increments)
	12	400
6	200	

(Unit: mm/s)

**Cable List**

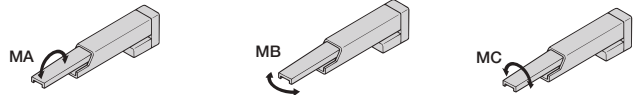
Type	Cable Symbol
Standard Type	P (1m)
	S (3m)
	M (5m)
Special Lengths	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
Robot Cable	R01 (1m) ~ R03 (3m)
	R04 (4m) ~ R05 (5m)
	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)

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

**Actuator Specifications**

Item	Description
Drive System	Ball screw ø8mm C10 grade (ball screw speed reduced by 1/2 by timing belt)
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Load Moment	Ma: 4.5 N·m Mb: 5.4 N·m Mc: 4.1 N·m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Directions of Allowable Load Moments



5,000 km service life

**Option List**

Name	Option Code	See Page
Brake (standard)	B	→ A-25
Power-saving	LA	→ A-32
Bottom-mounted motor	MB	→ A-33
Right-mounted motor	MR	→ A-33
Left-mounted motor	ML	→ A-33
Reversed-home	NM	→ A-33

Dimensions

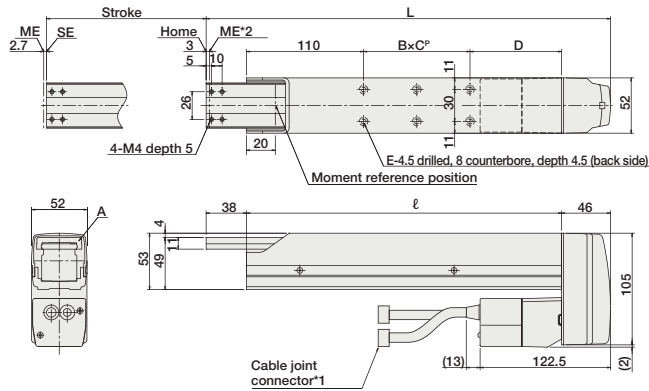
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9

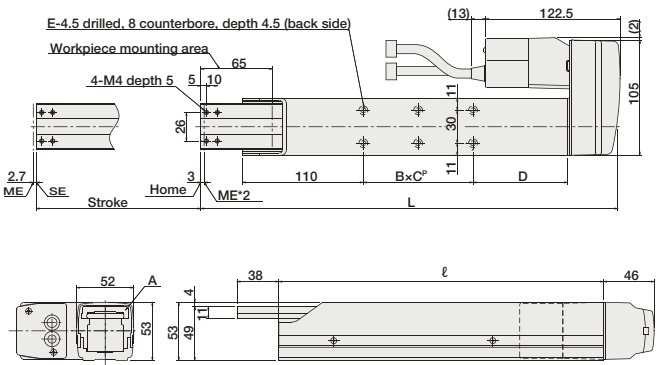


- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

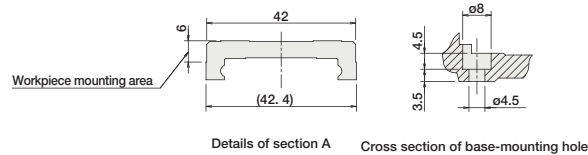
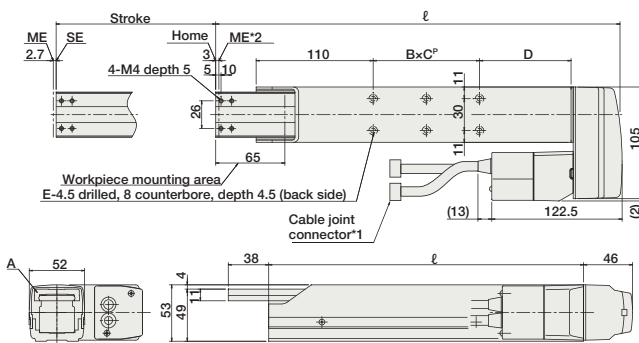
Bottom-mounted motor (option code: MB)



Right-mounted motor (option code: MR)



Left-mounted motor (option code: ML)



■ Dimensions and Weight by Stroke

Stroke	50	100	150	200
L	280	330	380	430
ℓ	196	246	296	346
B×C*	1×30	1×50	2×50	2×50
D	56	86	86	136
E	4	4	6	6
Weight (kg)	2.2	2.4	2.6	2.8

Note: The 50mm stroke model is only available with a right- or left-mounted motor. Please note that there is no 50mm stroke configuration for the standard model.

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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Standard) 1.3 A rated 4.4 A max.  (Power-saving) 1.3 A rated 2.5 A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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. 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCA-A6R

RoboCylinder Arm Type Side-Mounted Motor 58mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA** - **A6R** - [ ] - **30** - [ ] - [ ] - [ ] - [ ]

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

I : Incremental    30 : 30W servo motor    12 : 12mm    50 : 50mm    A1 : ACON    N : None    See Options below  
 A : Absolute    motor    6 : 6mm    200 : 200mm (50mm pitch increments)    RACON    P : 1m    \* Be sure to specify which side the motor is to be mounted (ML/MR).  
 ASEL    A3 : AMEC    S : 3m    X [ ] : Custom  
 ASEP    R [ ] : Robot cable

\* See page Pre-35 for an explanation of the naming convention.  
 \* ASEL can only be used as the absolute encoder. Simple absolute encoders are considered incremental.

**Power-saving**



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 0.2G. This is the upper limit of the acceleration.

**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-A6R-①-30-12-②-③-④-B-⑤	30	12	-	3	48.4	50~200 (50mm increments)
RCA-A6R-①-30-6-②-③-④-B-⑤		6	-	6		

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

■ Stroke and Maximum Speed

Lead	Stroke	50 ~ 200 (50mm increments)
	12	400
6	200	

(Unit: mm/s)

**Cable List**

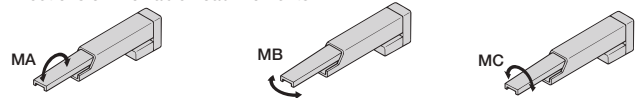
Type	Cable Symbol
Standard Type	P (1m)
	S (3m)
	M (5m)
Special Lengths	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
Robot Cable	R01 (1m) ~ R03 (3m)
	R04 (4m) ~ R05 (5m)
	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)

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

**Actuator Specifications**

Item	Description
Drive System	Ball screw φ10mm C10 grade (ball screw speed reduced by 1/2 by timing belt)
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Load Moment	Ma: 8.1 N·m Mb: 10.0 N·m Mc: 6.5 N·m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Directions of Allowable Load Moments



5,000 km service life

**Option List**

Name	Option Code	See Page
Brake (standard)	B	→ A-25
Power-saving	LA	→ A-32
Bottom-mounted motor	MB	→ A-33
Right-mounted motor	MR	→ A-33
Left-mounted motor	ML	→ A-33
Reversed-home	NM	→ A-33

Dimensions

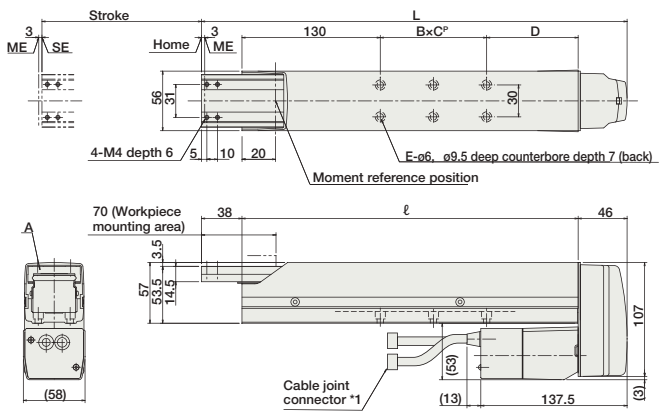
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9

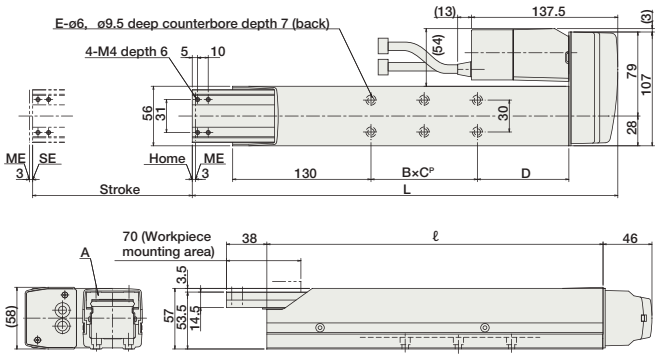


- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

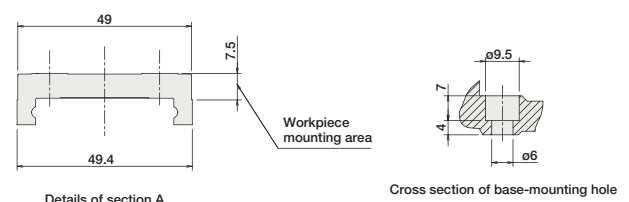
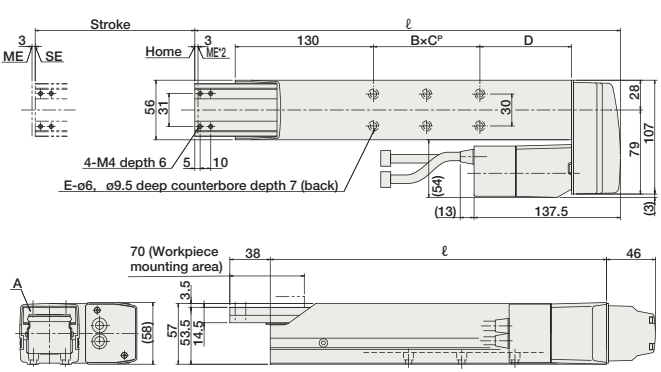
Bottom-mounted motor (option code: MB)



Right-mounted motor (option code: MR)



Left-mounted motor (option code: ML)



Dimensions and Weight by Stroke

Stroke	50	100	150	200
L	300	350	400	450
ℓ	216	266	316	366
BxC <sup>P</sup>	1×30	1×50	2×50	2×50
D	56	86	86	136
E	4	4	6	6
Weight (kg)	3.0	3.3	3.6	3.9

Note: The 50mm stroke model is only available with a right- or left-mounted motor. Please note that there is no 50mm stroke configuration for the standard model.

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	See Page
Solenoid Valve Type		AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30I②-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-30I②-NP-2-0					
Positioner Type		ACON-C-30I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3 A rated 4.4 A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3 A rated 2.5 A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30I②-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30②	Dedicated to field network	768 points			→ P503
Program Control Type		ASEL-C-1-30I②-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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCACR-SA4C Cleanroom RoboCylinder Slider Coupling Type 40mm Width 24V Servo Motor Aluminum Base

■ Configuration: **RCACR-SA4C** - [ ] - **20** - [ ] - [ ] - [ ] - [ ]

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

I: Incremental  
A: Absolute

20: 20W servo motor

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

50: 50mm  
400: 400mm (50mm pitch increments)

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

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

\* See page Pre-35 for an explanation of the naming convention.  
\* The absolute model can only use ASEL. The simple absolute type is considered an incremental model.

See Options below

**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.

Actuator Specifications							Stroke, Max. Speed/Suction Volume		
■ Lead and Load Capacity							Stroke (mm)	50 ~ 400 (50mm increments)	Suction Volume (Nl/min)
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)				
			Horizontal (kg)	Vertical (kg)		Lead			
RCACR-SA4C-①-20-10-②-③-④-⑤	20	10	4	1	19.6	10	665	50	
RCACR-SA4C-①-20-5-②-③-④-⑤		5	6	2.5	39.2	5	330	30	
RCACR-SA4C-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	2.5	165	15	

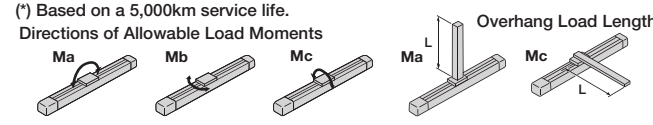
Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Cable List	
Type	Cable Symbol
Standard Type	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.

Option List			
Name	Option Code	See Page	
Brake	B	→ A-25	
Foot bracket	FT	→ A-29	
Home sensor	HS	→ A-32	
Power-saving	LA	→ A-32	
Reversed-home	NM	→ A-33	
Slider spacer	SS	→ A-36	
Intake port mounted on opposite side	VR	→ 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)
Allowable Static Moment	Ma: 6.9N·m Mb: 9.9N·m Mc: 17.0N·m
Allowable Dynamic Moment (*)	Ma: 2.7N·m Mb: 3.9N·m Mc: 6.8N·m
Overhang Load Length	Ma direction: 120mm or less; Mb-Mc direction: 120mm or less
Grease Type	Low dust generation grease (both ball screw and guide)
Cleanliness	ISO class 4 (US FED STD class 10)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)





Dimensions

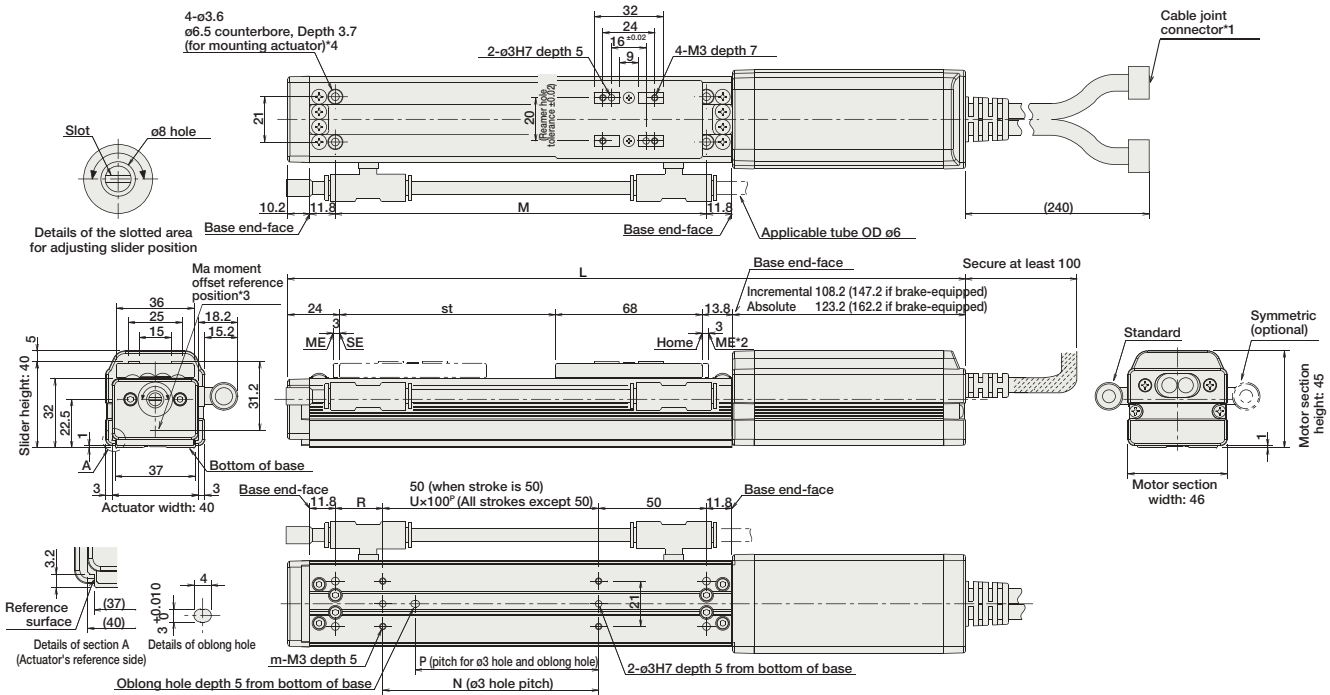
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

For Special Orders P. A-9

- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.



■ Dimensions and Weight by Stroke \* Adding a brake will increase the actuator's weight by 0.3kg.

		Stroke	50	100	150	200	250	300	350	400
L	Incremental	No Brake	264	314	364	414	464	514	564	614
		With Brake	303	353	403	453	503	553	603	653
	Absolute	No Brake	279	329	379	429	479	529	579	629
		With Brake	318	368	418	468	518	568	618	668
M			122	172	222	272	322	372	422	472
N			50	100	100	200	200	300	300	400
P			35	85	85	185	185	285	285	385
R			22	22	72	22	72	22	72	22
U			-	1	1	2	2	3	3	4
m			4	4	4	6	6	8	8	10
Weight (kg)			0.7	0.8	0.9	1	1.1	1.2	1.3	1.4

Compatible Controllers

The RCACR 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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
	Splash-Proof Solenoid Valve Type		ASEP-C-20I②-NP-2-0				
Positioner Type			ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P503
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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. 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCACR-SA5C

Cleanroom RoboCylinder Slider Coupling Type 52mm Width 24V Servo Motor Aluminum Base

■ Configuration: **RCACR-SA5C** - [ ] - **20** - [ ] - [ ] - [ ] - [ ]

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

I : Incremental 20 : 20W servo motor  
 A : Absolute motor

20 : 20mm  
 12 : 12mm  
 6 : 6mm  
 3 : 3mm

50 : 50mm  
 500 : 500mm (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 model can only use ASEL. The simple absolute type is considered an incremental model.

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

Power-saving



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.

Actuator Specifications

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCACR-SA5C-①-20-20-②-③-④-⑤	20	20	2	0.5	9.9	50 ~ 500 (50mm increments)
RCACR-SA5C-①-20-12-②-③-④-⑤		12	4	1	16.7	
RCACR-SA5C-①-20-6-②-③-④-⑤		6	6	2	33.3	
RCACR-SA5C-①-20-3-②-③-④-⑤		3	12	4	65.7	

■ Stroke, Max. Speed/Suction Volume

Stroke Lead	Stroke 50 ~ 450 (50mm increments)	500 (mm)	Suction Volume (N L/min)
	20	1300	1300
12	800	760	50
6	400	380	30
3	200	190	15

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Cable List

Type	Cable Symbol	
Standard Type	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.

Option List

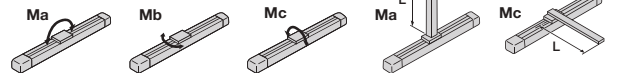
Name	Option Code	See Page
Brake	B	→ A-25
Foot bracket	FT	→ A-29
Home sensor	HS	→ A-32
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Intake port mounted on opposite side	VR	→ A-38

Actuator Specifications

Item	Description
Drive System	Ball screw $\phi$ 10mm C10 grade
Positioning Repeatability	$\pm$ 0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Static Moment	Ma: 18.6N-m Mb: 26.6N-m Mc: 47.5N-m
Allowable Dynamic Moment (*)	Ma: 4.9N-m Mb: 6.8N-m Mc: 11.7N-m
Overhang Load Length	Ma direction: 150mm or less; Mb, Mc direction: 150mm or less
Grease Type	Low dust generation grease (both ball screw and guide)
Cleanliness	ISO class 4 (US FED STD class 10)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on a 5,000km service life.

Directions of Allowable Load Moments



Dimensions

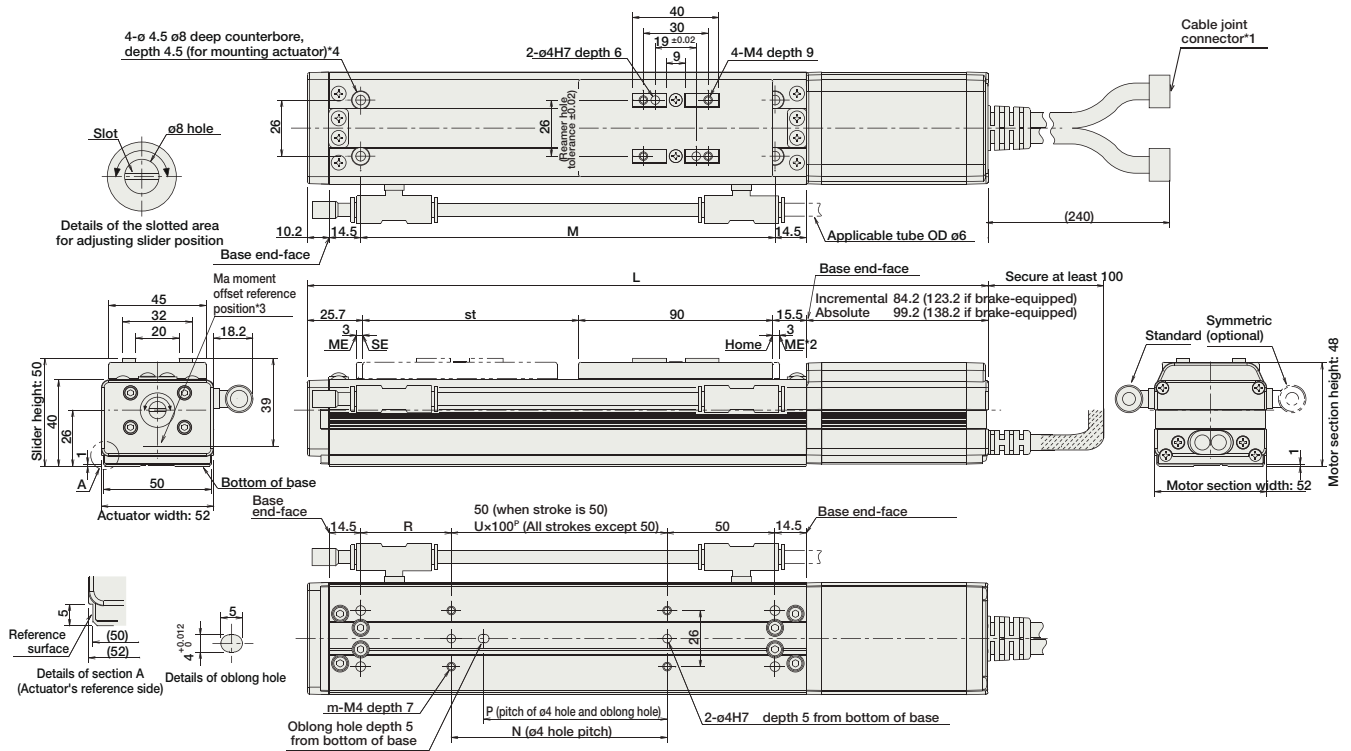
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)



- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

For Special Orders P. A-9

- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



■ Dimensions and Weight by Stroke

\* Adding a brake will increase the actuator's weight by 0.3kg.

		Stroke	50	100	150	200	250	300	350	400	450	500
L	Incremental	No Brake	265.4	315.4	365.4	415.4	465.4	515.4	565.4	615.4	665.4	715.4
		With Brake	304.4	354.4	404.4	454.4	504.4	554.4	604.4	654.4	704.4	754.4
	Absolute	No Brake	280.4	330.4	380.4	430.4	480.4	530.4	580.4	630.4	680.4	730.4
		With Brake	319.4	369.4	419.4	469.4	519.4	569.4	619.4	669.4	719.4	769.4
M			142	192	242	292	342	392	442	492	542	592
N			50	100	100	200	200	300	300	400	400	500
P			35	85	85	185	185	285	285	385	385	485
R			42	42	92	42	92	42	92	42	92	42
U			-	1	1	2	2	3	3	4	4	5
m			4	4	4	6	6	8	8	10	10	12
Weight (kg)			1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2

Compatible Controllers

The RCACR 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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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. 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCACR-SA6C

Cleanroom RoboCylinder Slider Coupling Type 58mm Width 24V Servo Motor Aluminum Base

■ Configuration: **RCACR-SA6C** - [ ] - **30** - [ ] - [ ] - [ ] - [ ] - [ ]

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

I : Incremental 30 : 30W servo motor  
 A : Absolute motor  
 \* The absolute model can only use ASEL. The simple absolute type is considered an incremental model.

20 : 20mm  
 12 : 12mm  
 6 : 6mm  
 3 : 3mm

50 : 50mm  
 600 : 600mm (50mm pitch increments)

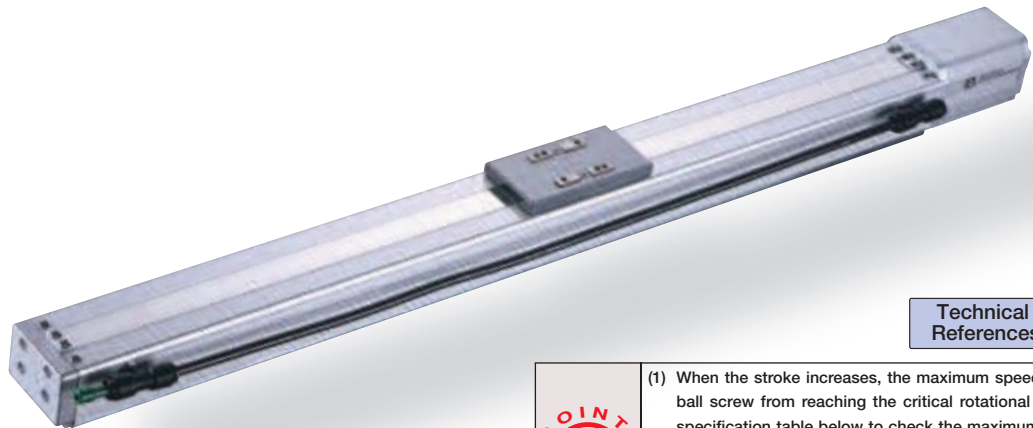
A1 : ACON  
 RACON  
 ASEL  
 A3 : AMEC  
 ASEP

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
- (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.

**Actuator Specifications**

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCACR-SA6C-①-30-20-②-③-④-⑤	30	20	3	0.5	14.5	50 ~ 600 (50mm increments)
RCACR-SA6C-①-30-12-②-③-④-⑤		12	6	1.5	24.2	
RCACR-SA6C-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCACR-SA6C-①-30-3-②-③-④-⑤		3	18	6	96.8	

■ Stroke, Max. Speed/Suction Volume

Lead	Stroke					Suction Volume (NL/min)
	50 ~ 450 (50mm increments)	500 (mm)	550 (mm)	600 (mm)		
20	1300	1300	1160	990	80	
10	800	760	640	540	50	
5	400	380	320	270	30	
2.5	200	190	160	135	15	

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

**Cable List**

Type	Cable Symbol	
Standard Type	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.

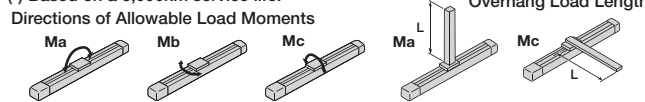
**Option List**

Name	Option Code	See Page
Brake	B	→ A-25
Foot bracket	FT	→ A-29
Home sensor	HS	→ A-32
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Intake port mounted on opposite side	VR	→ 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)
Allowable Static Moment	Ma: 38.3N·m Mb: 54.7N·m Mc: 81.0N·m
Allowable Dynamic Moment (*)	Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m
Overhang Load Length	Ma direction: 220mm or less; Mb, Mc directions: 220mm or less
Grease Type	Low dust generation grease (both ball screw and guide)
Cleanliness	ISO class 4 (US FED STD class 10)
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

(\*) Based on a 5,000km service life.



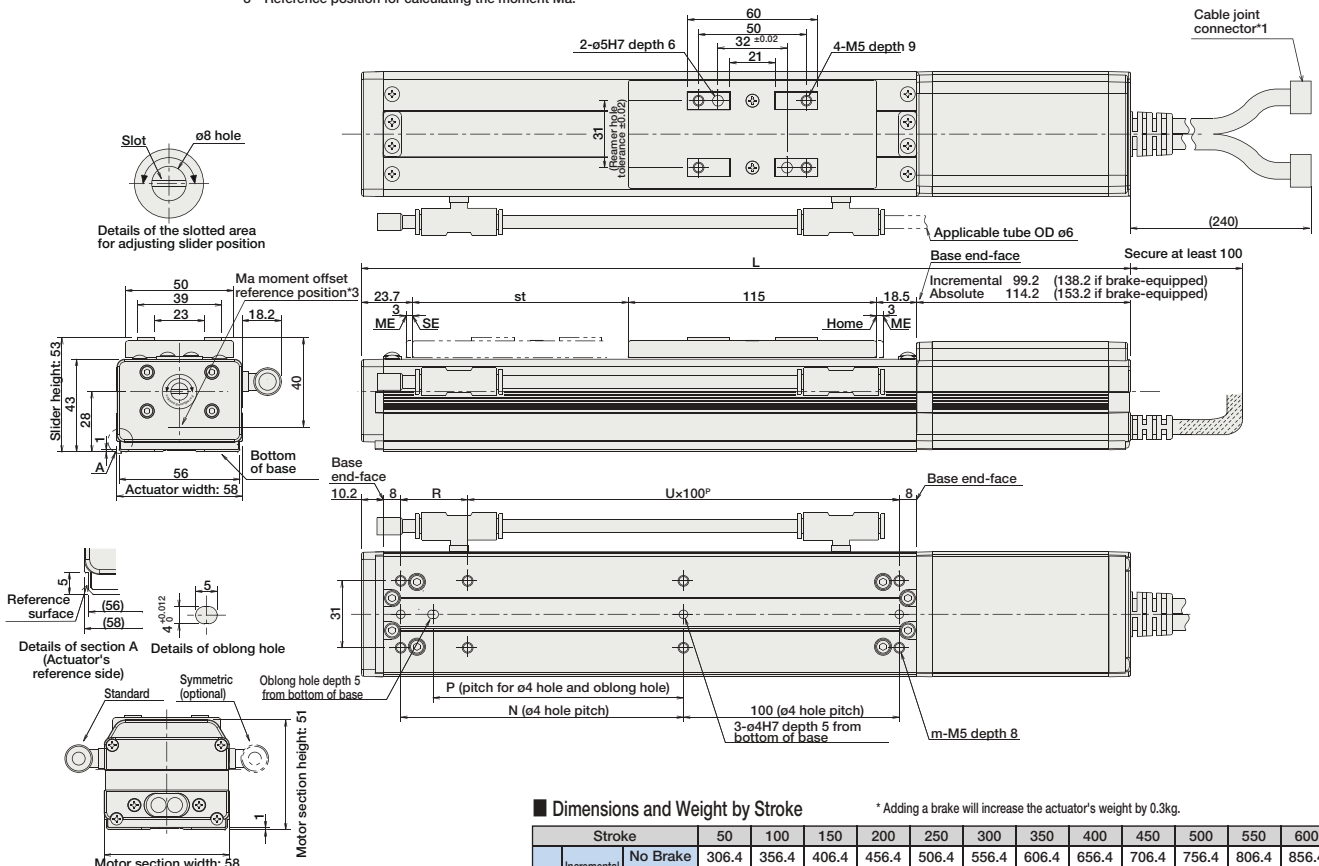
Dimensions

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

For Special Orders P. A-9



- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.



Dimensions and Weight by Stroke

\* Adding a brake will increase the actuator's weight by 0.3kg.

Stroke	Stroke														
	50	100	150	200	250	300	350	400	450	500	600				
L	Incremental		No Brake	306.4	356.4	406.4	456.4	506.4	556.4	606.4	656.4	706.4	756.4	806.4	856.4
			With Brake	345.4	395.4	445.4	495.4	545.4	595.4	645.4	695.4	745.4	795.4	845.4	895.4
	Absolute		No Brake	321.4	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4	871.4
			With Brake	360.4	410.4	460.4	510.4	560.4	610.4	660.4	710.4	760.4	810.4	860.4	910.4
	N	81	131	181	231	281	331	381	431	481	531	581	631		
	P	66	116	166	216	266	316	366	416	466	516	566	616		
	R	81	31	81	31	81	31	81	31	81	31	81	31		
	U	1	2	2	3	3	4	4	5	5	6	6	7		
	m	6	8	8	10	10	12	12	14	14	16	16	18		
	Weight (kg)	1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6		

Compatible Controllers

The RCACR 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	See Page						
Solenoid Valve Type		AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477						
		ASEP-C-30I②-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-30I②-NP-2-0											
Positioner Type		ACON-C-30I②-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 2.2A max.					
Safety-Compliant Positioner Type		ACON-CG-30I②-NP-2-0											
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I②-NP-2-0	Pulse train input type with differential line driver support	(-)							→ P535		
Pulse Train Input Type (Open Collector)		ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support										
Serial Communication Type		ACON-SE-30I②-N-0-0	Dedicated to serial communication	64 points									
Field Network Type		RACON-30②	Dedicated to field network	768 points									
Program Control Type		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  
Gripper/ Rotary Type  
Linear Motor 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 (230V)  
Linear Motor



- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCACR-SA5D

Cleanroom RoboCylinder Slider Built-In Type 52mm Width 24V Servo Motor Aluminum Base

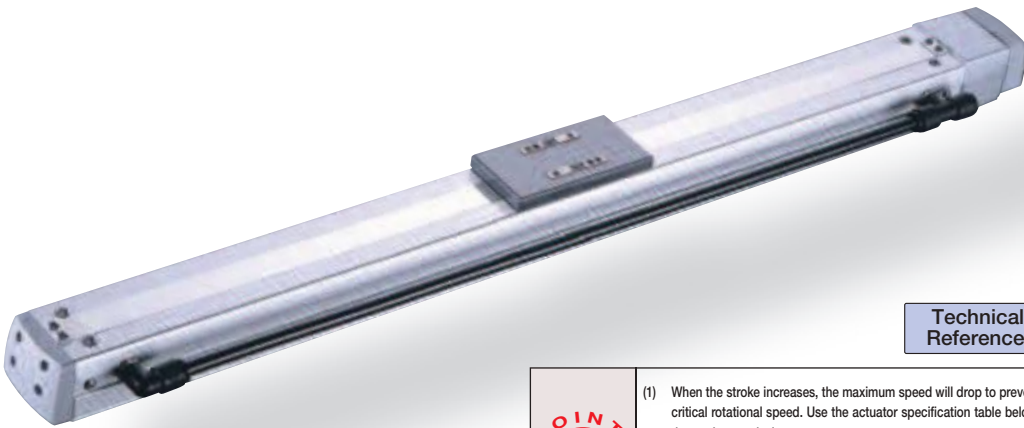
■ Configuration: **RCACR-SA5D** - [ ] - **20** - [ ] - [ ] - [ ] - [ ]

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

I : Incremental    20 : 20W servo    12: 12mm    50: 50mm    A1: ACON    N : None    See Options below  
 A : Absolute    motor    6 : 6mm    500: 500mm    RACON    P : 1m  
 \* The absolute model can only use ASEL.    3 : 3mm    ASEL    S : 3m  
 The simple absolute type is considered    500mm pitch    A3: AMEC    M : 5m  
 an incremental model.    (50mm pitch    ASEP    X [ ] : Custom  
 increments)    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

  - (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 ISO cleanliness class 4 is for horizontal usage. Please note that the actuator may not support C10 when used on its side or in vertical orientation.

Actuator Specifications						Stroke, Max. Speed/Suction Volume				
■ Lead and Load Capacity						Stroke (mm)	50 ~ 450 (50mm increments)	500 (mm)	Suction Volume (Nl/min)	
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)					
			Horizontal (kg)	Vertical (kg)						
RCACR-SA5D-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50 ~ 500 (50mm increments)	12	800	760	50
RCACR-SA5D-①-20-6-②-③-④-⑤		6	8	2	33.3		6	400	380	30
RCACR-SA5D-①-20-3-②-③-④-⑤		3	12	4	65.7		3	200	190	15

Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Cable List	
Type	Cable Symbol
Standard Type	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.

Option List			
Name	Option Code	See Page	
Brake (Cable exiting from end)	BE	→ A-25	
Brake (Cable exiting from left)	BL	→ A-25	
Brake (Cable exiting from right)	BR	→ A-25	
Power-saving	LA	→ A-32	
Reversed-home	NM	→ A-33	
Intake port mounted on opposite side	VR	→ 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)
Allowable Static Moment	Ma: 18.6N·m Mb: 26.6N·m Mc: 47.5N·m
Allowable Dynamic Moment (*)	Ma: 4.9N·m Mb: 6.8N·m Mc: 11.7N·m
Overhang Load Length	Ma direction: 150mm or less; Mb, Mc direction: 150mm or less
Grease Type	Low dust generation grease (both ball screw and guide)
Cleanliness	ISO class 4 (US FED STD class 10)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(\*) Based on a 5,000km service life.

Directions of Allowable Load Moments



Dimensions

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



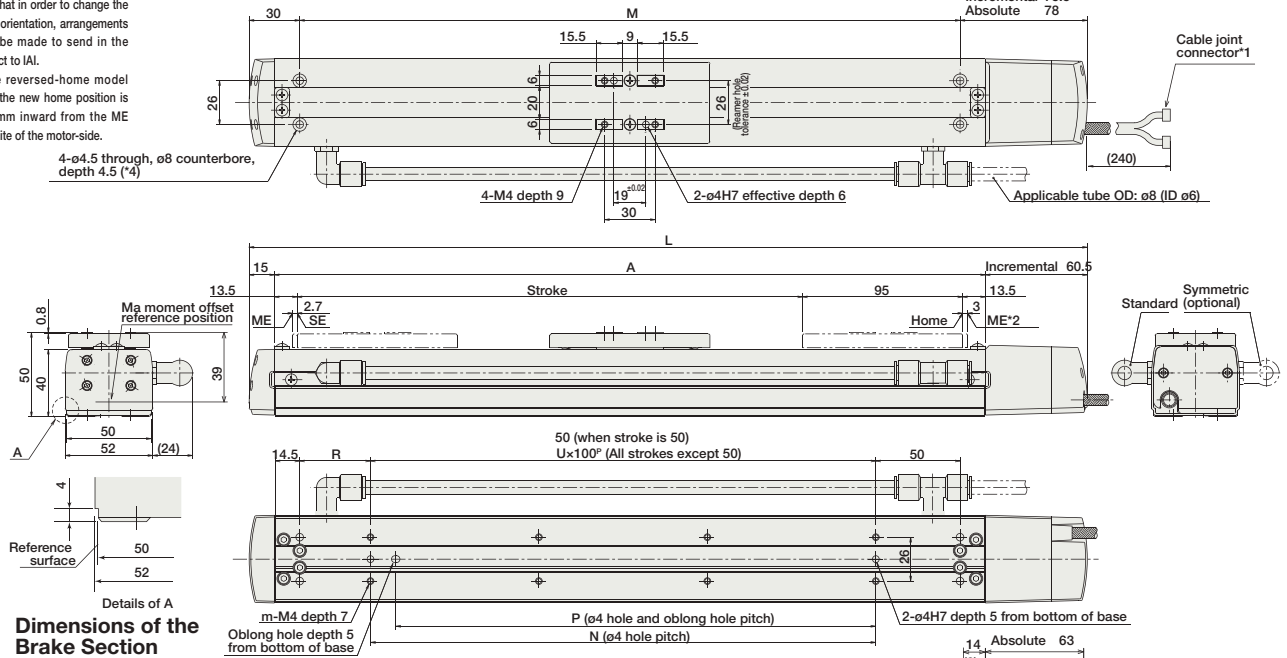
\* Note that in order to change the home orientation, arrangements must be made to send in the product to IAI.

\* In the reversed-home model (NM), the new home position is set 3mm inward from the ME opposite of the motor-side.

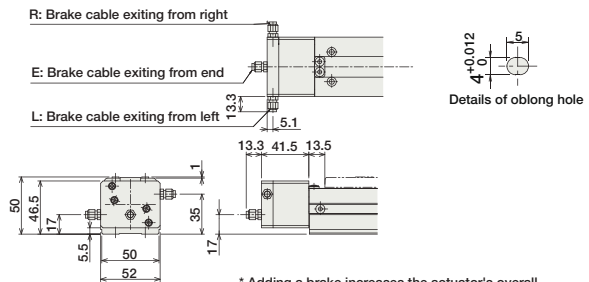
- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

For Special Orders P. A-9

- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



Dimensions of the Brake Section



Dimensions and Weight by Stroke

L	Stroke	50	100	150	200	250	300	350	400	450	500
		Incremental	247.5	297.5	347.5	397.5	447.5	497.5	547.5	597.5	647.5
	Absolute	250	300	350	400	450	500	550	600	650	700
	A	172	222	272	322	372	422	472	522	572	622
	M	142	192	242	292	342	392	442	492	542	592
	N	50	100	100	200	200	300	300	400	400	500
	P	35	85	85	185	185	285	285	385	385	485
	R	42	42	92	42	92	42	92	42	92	42
	U	-	1	1	2	2	3	3	4	4	5
	m	4	4	4	6	6	8	8	10	10	12
	Weight (kg)	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1

\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out the end), and its weight by 0.3kg.

Compatible Controllers

The RCACR 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	See Page
Solenoid Valve Type		AMEC-C-20I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V*planned	2.4A rated	→ P477
		ASEP-C-20I②-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-20I②-NP-2-0					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-20I②-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. Operation is possible on up to 2 axes	1500 points			→ P667

\* 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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCACR-SA6D Cleanroom RoboCylinder Slider Built-In Type 58mm Width 24V Servo Motor Aluminum Base

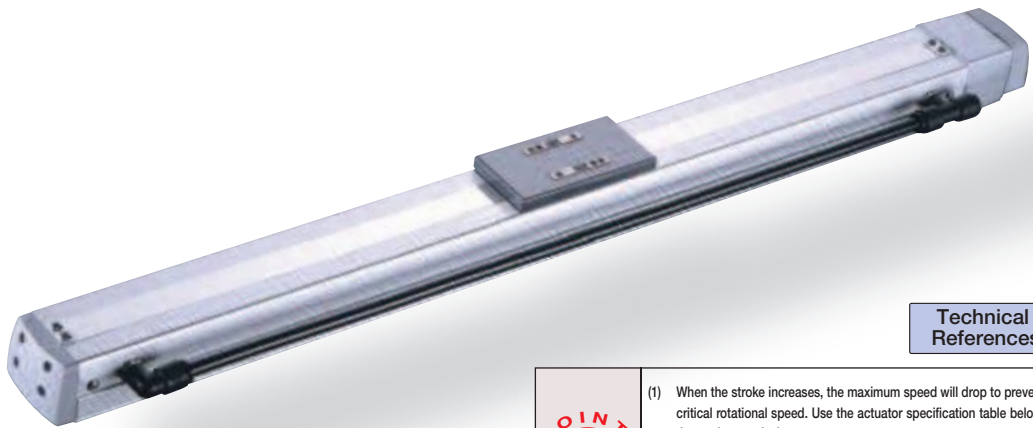
■ Configuration: **RCACR-SA6D** - [ ] - **30** - [ ] - [ ] - [ ] - [ ]

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

I : Incremental 30 : 30W servo motor 12: 12mm 50: 50mm A1: ACON N : None See Options below  
 A : Absolute 6: 6mm 3: 3mm 50: 50mm ASEL RACON P : 1m  
 \* The absolute model can only use ASEL. The simple absolute type is considered an incremental model. 600: 600mm (50mm pitch increments) A3: AMEC ASEP M : 5m 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 ISO cleanliness class 4 is for horizontal usage. Please note that the actuator may not support C10 when used on its side or in vertical orientation.

Actuator Specifications							Stroke, Max. Speed/Suction Volume					
■ Lead and Load Capacity							Stroke (mm)	Suction Volume (Nl/min)	Stroke			
Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	50 ~ 450 (50mm increments)			500 (mm)	550 (mm)	600 (mm)	
RCACR-SA6D-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50 ~ 600 (50mm increments)	12	800	760	640	540	50
RCACR-SA6D-①-30-6-②-③-④-⑤		6	12	3	48.4		6	400	380	320	270	30
RCACR-SA6D-①-30-3-②-③-④-⑤		3	18	6	96.8		3	200	190	160	135	15

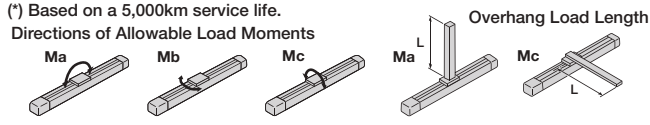
Legend: ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

Type	Cable Symbol
Standard Type	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.

Name	Option Code	See Page
Brake (Cable exiting from end)	BE	→ A-25
Brake (Cable exiting from left)	BL	→ A-25
Brake (Cable exiting from right)	BR	→ A-25
Power-saving	LA	→ A-32
Reversed-home	NM	→ A-33
Intake port mounted on opposite side	VR	→ A-38

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)
Allowable Static Moment	Ma: 38.3N·m Mb: 54.7N·m Mc: 81.0N·m
Allowable Dynamic Moment (*)	Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m
Overhang Load Length	Ma direction: 220mm or less; Mb, Mc directions: 220mm or less
Grease Type	Low dust generation grease (both ball screw and guide)
Cleanliness	ISO class 4 (US FED STD class 10)
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)



Dimensions

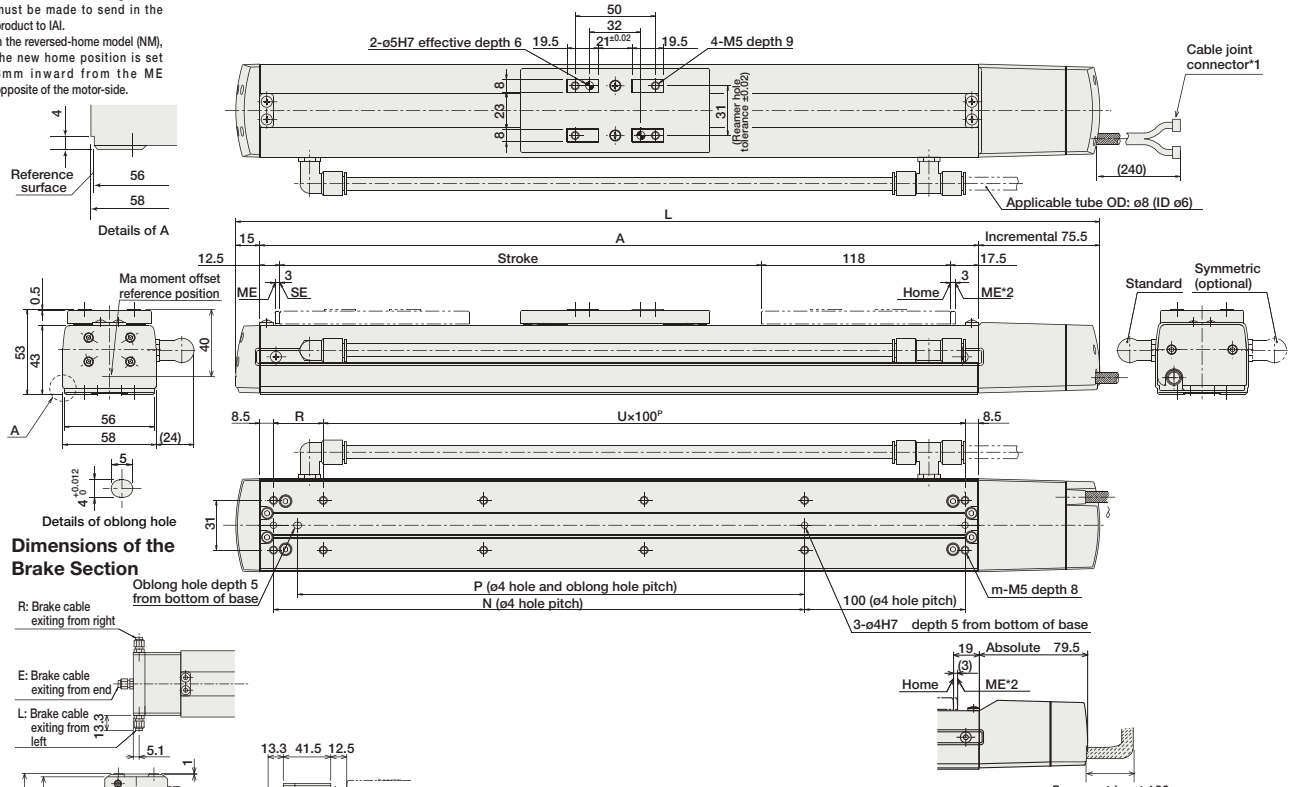
CAD drawings can be downloaded from IAI website. [www.robocylinder.de](http://www.robocylinder.de)

For Special Orders P. A-9

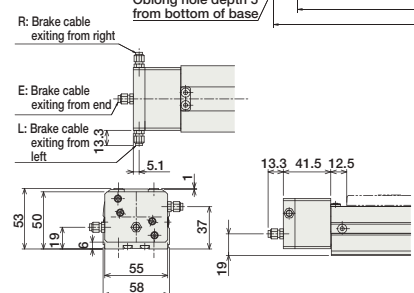


\* Note that in order to change the home orientation, arrangements must be made to send in the product to IAI.  
 \* In the reversed-home model (NM), the new home position is set 3mm inward from the ME opposite of the motor-side.

- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 After homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.



Dimensions of the Brake Section



■ Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	
L	Incremental	288.5	338.5	388.5	438.5	488.5	538.5	588.5	638.5	688.5	738.5	788.5	838.5
	Absolute	292.5	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5
A	198	248	298	348	398	448	498	548	598	648	698	748	
N	81	131	181	231	281	331	381	431	481	531	581	631	
P	66	116	166	216	266	316	366	416	466	516	566	616	
R	81	31	81	31	81	31	81	31	81	31	81	31	
U	1	2	2	3	3	4	4	5	5	6	6	7	
m	6	8	8	10	10	12	12	14	14	16	16	18	
Weight (kg)	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	

\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out the end), and its weight by 0.3kg.

Compatible Controllers

The RCACR 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	See Page
Solenoid Valve Type		AMEC-C-30I②-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-30I②-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-30I②-NP-2-0					
Positioner Type		ACON-C-30I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	→ P535
Safety-Compliant Positioner Type		ACON-CG-30I②-NP-2-0					
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I②-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	(Power-saving) 1.3A rated 2.2A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-30I②-NP-2-0	Pulse train input type with open collector support				
Serial Communication Type		ACON-SE-30I②-N-0-0	Dedicated to serial communication	64 points			
Field Network Type		RACON-30②	Dedicated to field network	768 points			→ P503
Program Control Type		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
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

# RCAW-RA3C/RA3D/RA3R

RoboCylinder Splash-proof Rod Type  
 ø32mm Diameter 24V Servo Motor  
 Coupled/Built-in/Side-Mounted Motor Specification

■ Configuration: **RCAW** —  — **I** — **20** —  —  —  —  —

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

RA3C: Coupled type	I: Incremental Type * 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"/> <input type="checkbox"/> : Custom Length R <input type="checkbox"/> <input type="checkbox"/> : Robot Cable	See Options below
-----------------------	---	----------------------	-------------------------------------	--	---	--	-------------------

\* See page Pre-35 for explanation of each code that makes up the configuration name.

**Power-saving**



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 2.5mm-lead model). These values are the upper limits for the acceleration.
  - (3) Please use external guide combination for horizontal load capacity; the value is for when no external force coming from a direction other than that of rod's advance is applied.
  - (4) The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.

**Actuator Specifications**

■ Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. load capacity		Rated thrust (N)	Stroke (mm)
			Horizontal(kg)	Vertical(kg)		
RCAW-①-I-20-10-②-③-④-⑤	20	10	4	1.5	36.2	50-200 (50mm increments)
RCAW-①-I-20-5-②-③-④-⑤		5	9	3	72.4	
RCAW-①-I-20-2.5-②-③-④-⑤		2.5	18	6.5	144.8	

■ Stroke and Maximum Speed

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

Legend ① Type ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

**Cable List**

Type	Cable Symbol
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.

**Actuator Specifications**

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1 mm or less
Base	Material: Aluminum (white alumite treated)
Rod diameter	ø16mm
Rod non-rotational accuracy	±1.0 degrees
Protection Structure	IP54
Ambient Operating Temp./Humidity	0~40°C, 85%RH or less (Non-condensing)

**Option List**

Name	Option Code	See Page
Brake (*1)	B	→ A-25
Flange bracket	FL	→ A-27
Foot bracket	FT	→ A-29
Home confirmation sensor (*2)	HS	→ A-32
Power-saving	LA	→ A-32
Knuckle Joint	NJ	→ A-34
Reversed-home (*2)	NM	→ A-33
Clevis Bracket (*3)	QR	→ A-34
Rear mounting plate (*3)	RP	→ A-33
Trunnion Bracket (Front) (*4)	TRF	→ A-38
Trunnion Bracket (Back) (*4)	TRR	→ A-38

(\*1) No brake option for RA3D.  
 (\*2) Home sensor (HS) can't be used with reversed-home (NM).  
 (\*3) Clevis bracket and rear mounting plate only available for RA3R.  
 (\*4) Trunnion bracket (rear) only available for RA3C/RA3D.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Controllers Integrated
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

Dimensions

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

2/3D CAD

Note: No 3D CAD data for RA3D type.

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

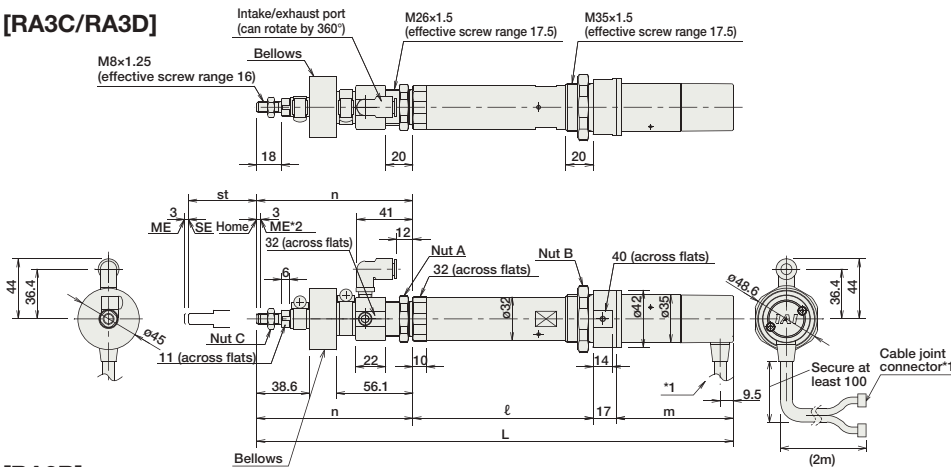
\*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

For Special Orders P. A-9

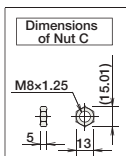
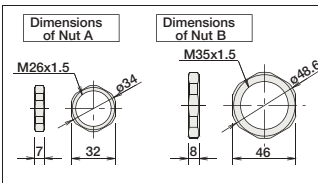
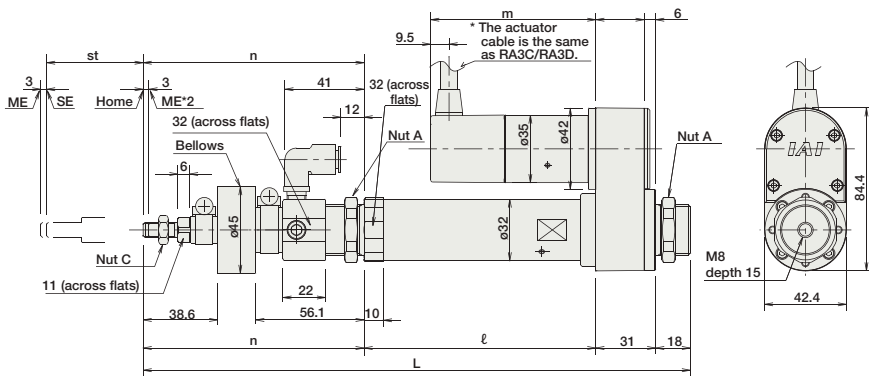
Note:

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.

[RA3C/RA3D]



[RA3R]



■ Dimensions/Weight by Stroke

RCAW-RA3C/RA3D/RA3R (without brake)

Stroke		50	100	150	200
L	RA3C	348.9	408.9	468.9	528.9
	RA3D	329.9	389.9	449.9	509.9
	RA3R	283.4	343.4	403.4	463.4
ℓ	RA3C	132	182	232	282
	RA3D	132	182	232	282
	RA3R	120	170	220	270
m	RA3C	85.5			
	RA3D	66.5			
	RA3R	85.5			
n	RA3C	114.4	124.4	134.4	144.4
	RA3D	114.4	124.4	134.4	144.4
	RA3R	114.4	124.4	134.4	144.4
Weight (kg)	RA3C	1.0	1.1	1.2	1.3
	RA3D	1.0	1.1	1.2	1.3
	RA3R	1.1	1.2	1.3	1.4

RCAW-RA3C/RA3D/RA3R (with brake)

Stroke		50	100	150	200
L	RA3C	387.9	447.9	507.9	567.9
	RA3D	No brake-equipped model.			
	RA3R	283.4	343.4	403.4	463.4
ℓ	RA3C	132	182	232	282
	RA3D	No brake-equipped model.			
	RA3R	120	170	220	270
m	RA3C	124.5			
	RA3D	No brake-equipped model.			
	RA3R	124.5			
n	RA3C	114.4	124.4	134.4	144.4
	RA3D	No brake-equipped model.			
	RA3R	114.4	124.4	134.4	144.4
Weight (kg)	RA3C	1.2	1.3	1.4	1.5
	RA3D	1.2	1.3	1.4	1.5
	RA3R	1.3	1.4	1.5	1.6

Compatible Controllers

The RCAW 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	See Page				
Solenoid Valve Type		AMEC-C-20SI ①-NP-2-2	Easy-to-use controller, even for beginners.	3 points	AC115V / AC230V* *planned	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 possible for up to 512 points	512 points			DC24V	(Standard) 1.7A rated 5.1A max.			
Safety Category Compliant Positioner Type		ACON-CG-20SI ①-NP-2-0									
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI ①-NP-2-0	Differential line driver support Pulse Train Input Type	(-)					(Power-saving) 1.7A rated 3.4A max.		→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20SI ①-NP-2-0	Open Collector Pulse Train Input Type								
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. Can operate up to 2 axes	1500 points							→ P567

\* This is for the single-axis ASEL.

\* ① is a placeholder for the code "LA", when the the energy-saving option is selected.



# RCAW-RA4C/RA4D/RA4R

RoboCylinder Splash-proof Rod Type  
 ø37mm Diameter 24V Servo Motor  
 Coupled/Built-in/Side-Mounted Motor Specification

■ Configuration: **RCAW** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

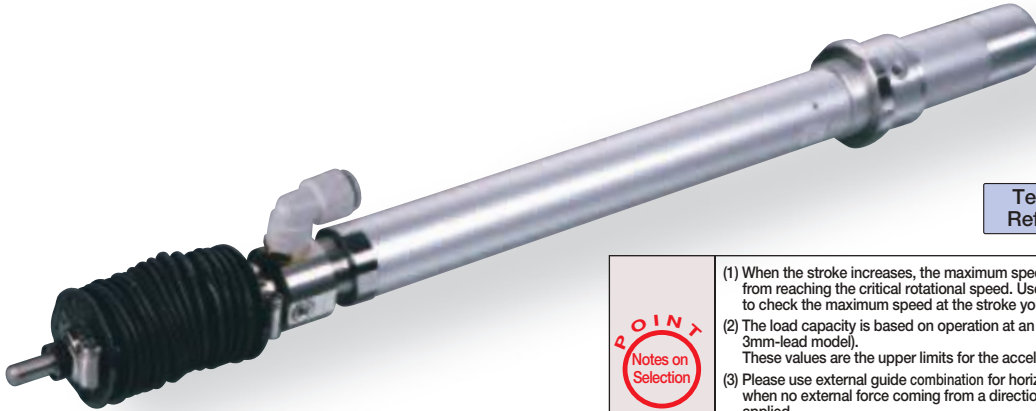
Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

RA4C: Coupled type	I : Incremental Type A : Absolute Type	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 Length R [ ] : Robot Cable	See Options below
-----------------------	---	--	---------------------------------	--	---	--	-------------------

\* See page Pre-35 for explanation of each code that makes up the configuration name.

\* The absolute model can only use ASEL.  
 The simple absolute type is considered an incremental 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 is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model). These values are the upper limits for the acceleration.
  - Please use external guide combination for horizontal load capacity; the value is for when no external force coming from a direction other than that of rod's advance is applied.
  - The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.

### Actuator Specifications

#### Lead and Load Capacity

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

#### Stroke and Maximum Speed

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

(Unit: mm/s)

Legend ① Type ② Encoder ③ Stroke ④ Compatible controller ⑤ Cable length ⑥ Options

### Cable List

Type	Cable Symbol	
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.

### Actuator Specifications

Item	Description
Drive System	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1 mm or less
Base	Material: Aluminum (white alumite treated)
Rod diameter	ø20mm
Rod non-rotational accuracy	±1.0 degrees
Protection Structure	IP54
Ambient Operating Temp./Humidity	0~40°C, 85%RH or less (Non-condensing)

### Option List

Name	Option Code	See Page
Brake (*1)	B	→ A-25
Flange bracket	FL	→ A-27
Foot bracket	FT	→ A-29
Home confirmation sensor (*2)	HS	→ A-32
Power-saving	LA	→ A-32
Knuckle Joint	NJ	→ A-34
Reversed-home (*2)	NM	→ A-33
Clevis Bracket (*3)	QR	→ A-34
Rear mounting plate (*3)	RP	→ A-33
Trunnion Bracket (Front) (*4)	TRF	→ A-38
Trunnion Bracket (Back) (*4)	TRR	→ A-38

- (\*1) No brake setting for RA4D.  
 (\*2) Home sensor (HS) can't be used under reversed-home (NM).  
 (\*3) Clevis bracket and rear mounting plate only available for RA4R.  
 (\*4) Trunnion bracket only available for RA4C/RA4D.



- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

Dimensions

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

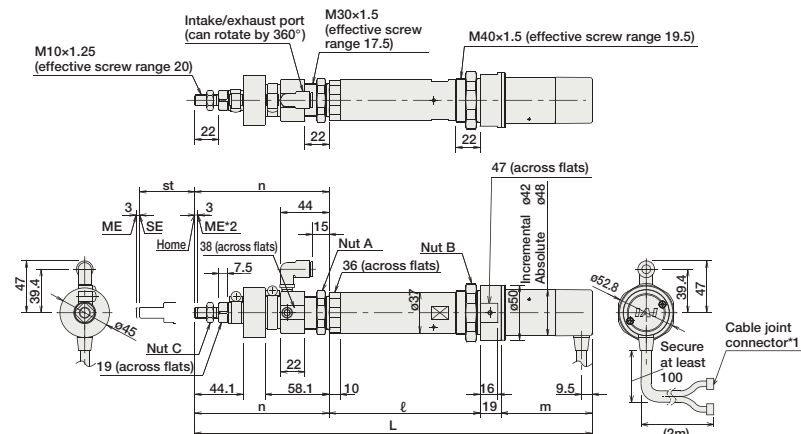
2/3D CAD

Note: No 3D CAD data for RA4D type.

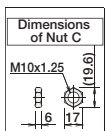
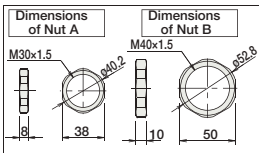
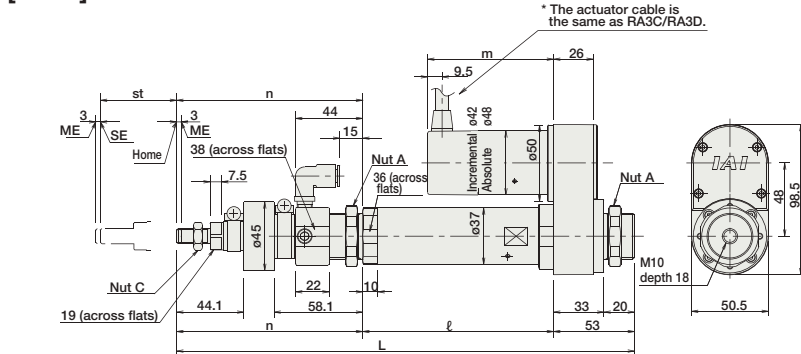
\* 1 A motor-encoder cable is connected here. See page A-39 for details on cables.  
 \* 2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME: Mechanical end SE: Stroke end

For Special Orders P. A-9

[RA4C/RA4D]



[RA4R]



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

RCAW-RA4C/RA4D/RA4R (without brake)

Type	Stroke	Resolution	Stroke						
			50	100	150	200	250	300	
L	RA4C	20W Incremental	345.4	405.4	465.4	525.4	586.4	647.4	
		30W Absolute	358.4	418.4	478.4	538.4	599.4	660.4	
	30W	Incremental	360.4	420.4	480.4	540.4	601.4	662.4	
		Absolute	373.4	433.4	493.4	553.4	614.4	675.4	
	RA4D	20W	Incremental	323.4	383.4	443.4	503.4	564.4	625.4
		30W	Absolute	336.4	396.4	456.4	516.4	577.4	638.4
l	RA4C	20W Incremental	351.4	411.4	471.4	531.4	592.4	653.4	
		30W Absolute	299.9	359.9	419.9	479.9	540.9	601.9	
	30W	Incremental	299.9	359.9	419.9	479.9	540.9	601.9	
		Absolute	299.9	359.9	419.9	479.9	540.9	601.9	
	RA4D	20W Common	137	187	237	287	337	387	
		30W	Absolute	137	187	237	287	337	387
m	RA4C	20W Incremental				67.5			
		30W Absolute				80.5			
	30W	Incremental				82.5			
		Absolute				95.5			
	RA4D	20W	Incremental				45.5		
		30W	Absolute				58.5		
n	RA4C	20W	Incremental	121.9	131.9	141.9	151.9	162.9	173.9
		30W Absolute	121.9	131.9	141.9	151.9	162.9	173.9	
	30W	Common	121.9	131.9	141.9	151.9	162.9	173.9	
		Absolute	121.9	131.9	141.9	151.9	162.9	173.9	
	RA4R	20W	Incremental	121.9	131.9	141.9	151.9	162.9	173.9
		30W Absolute	121.9	131.9	141.9	151.9	162.9	173.9	
Weight (kg)	RA4C	20W/30W	1.4	1.5	1.7	1.8	2.0	2.1	
	RA4D	20W/30W	1.3	1.5	1.6	1.8	1.9	2.1	
	RA4R	20W/30W	1.5	1.7	1.8	2.0	2.1	2.3	

\* Adding a brake increases the RA4C type's overall length by 43mm. Adding a brake also increases the RA4R type's motor portion length by 43mm. However, the overall length does not change because the type is a Side-Mounted type. No brake setting for the RA4D type. Also the weight increases by 0.2kg for all types.

Compatible Controllers

The RCAW 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	See Page
Solenoid Valve Type		AMEC-C-20I ②-NP-2-2 AMEC-C-30I ②-NP-2-2	Easy-to-use controller, even for beginners.	3 points	AC115V / AC230V* *planned	2.4A rated	→ P477
		ASEP-C-20I ②-NP-2-0 ASEP-C-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.				
Splash-Proof Solenoid Valve Type		ASEP-CW-20I ②-NP-2-0 ASEP-CW-30I ②-NP-2-0					
Positioner Type		ACON-C-20I ②-NP-2-0 ACON-C-30I ②-NP-2-0	Positioning possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	
Safety Category Compliant Positioner Type		ACON-CG-200I ②-NP-2-0 ACON-CG-300I 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	Differential line driver support Pulse Train Input Type	(-)		(Power-Saving) 1.3A rated 2.5A max.	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I ②-NP-2-0 ACON-PO-30I ②-NP-2-0	Open Collector Pulse Train Input Type				
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-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 Can operate 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", when the energy-saving option is selected.

# ACON

■ Models C / CG / CY / PL / PO / SE

Position Controllers  
For RCA2/RCA/RCL series



## List of models

This position controller enables movement of the RCA2/RCA/RCL series actuators. A line-up of 5 types to support various controlling methods.

Type	C	CG	CY	PL/PO	SE
Name	Positioner type	Safety category compatible type	Solenoid valve type	Pulse train control type	Serial Communication Type
External view					
Description	Positioner capable of a maximum of 512 points of Positioning	Conforming to type C safety category specifications	Can be operated using the same control as the air cylinder type	For pulse train control	For serial communication
Position points	512 points	512 points	3 points	(-)	64 points

## Model

ACON — [ ] — [ ] | [ ] — [ ] — [ ] — 0 — [ ]

Series      Type      Motor      Encoder      Option      I/O Type      I/O Cable Length      Power Voltage      Simple absolute unit

**I** Incremental

The absolute-type RCA actuators cannot be operated with the ACON controller. To operate an absolute-type actuator, use the ASEL controller. However, you can operate a simple absolute-type actuator, in which the absolute unit ACON-ABU (see P545) is attached to an incremental actuator.

<b>C</b>	Positioner Type	<b>2</b>	2W motor-compatible
<b>CG</b>	Safety-compliant type	<b>5</b>	5W motor-compatible
<b>CY</b>	Solenoid Valve Type	<b>10</b>	10W motor-compatible
<b>SE</b>	Serial Communication Type	<b>20S</b>	20W motor-compatible (*)
<b>PL</b>	Pulse Train Control Type (differential line driver model)	<b>20</b>	20W motor-compatible
<b>PO</b>	Pulse Train Control Type (open collector model)	<b>30</b>	30W motor-compatible

\* When connecting an RCA-RA3□/RGS3□/RGD3□ and RCA2-SA4□/TA5□, the motor type is 20S.

**HA** High Accel./Decel.

**LA** Power-saving

<b>NP</b>	NPN
<b>PN</b>	PNP (standard)
<b>DV</b>	DeviceNet
<b>CC</b>	CC-Link
<b>PR</b>	ProfiBus
<b>PT</b>	ProfiNet
<b>ML</b>	MechatroLink
<b>CN</b>	CompoNet
<b>EC</b>	EtherCAT
<b>EP</b>	EtherNet/IP
<b>SC</b>	Sercos III (*)
<b>N</b>	No I/O (SE type only)

\* Planned industrial ethernet interface

The network models (DV .. SC) support C/CG types only. When selecting type SE (serial communication), the standard I/O is "N" (no I/O).

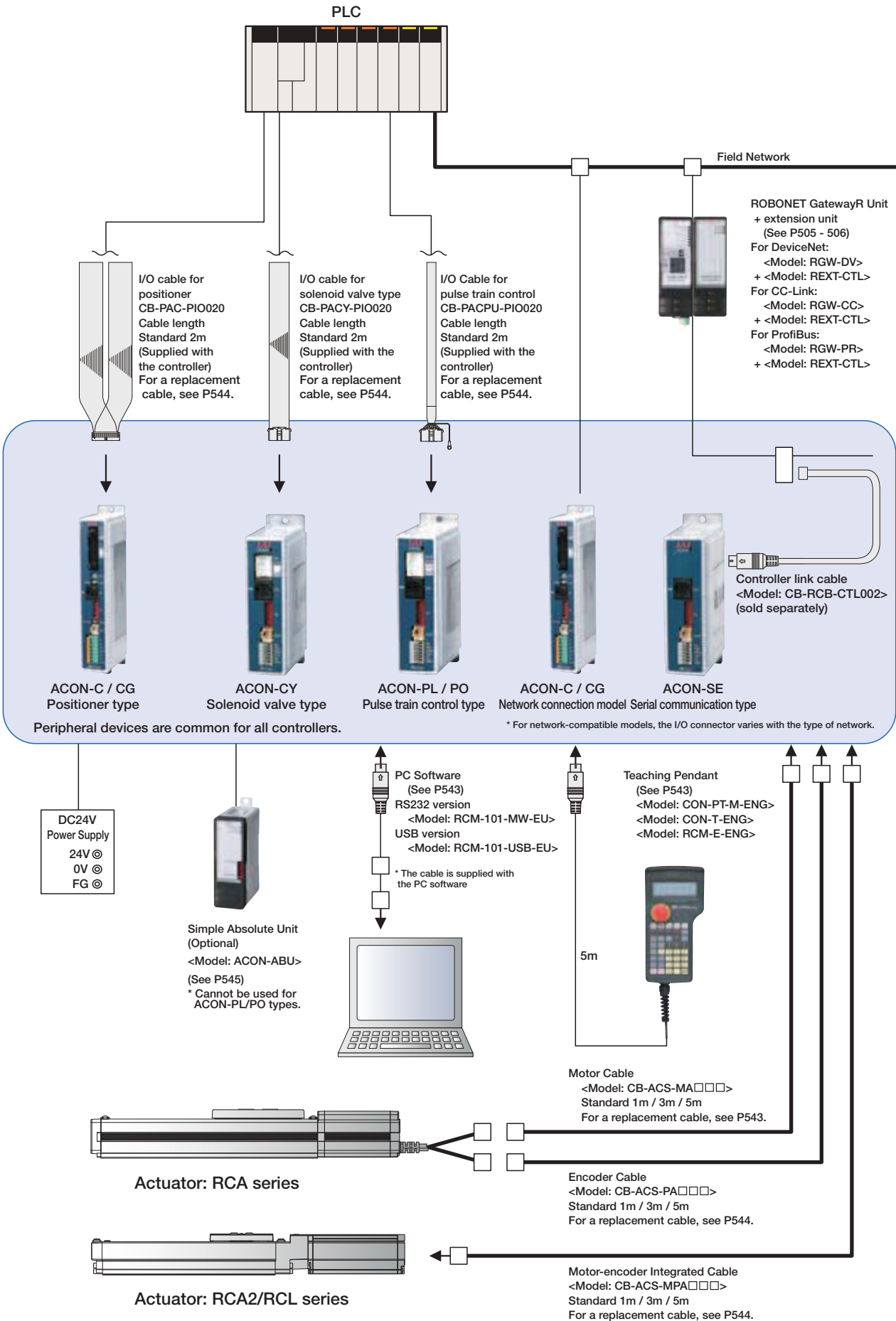
<b>Blank</b>	Not used
<b>ABU</b>	Used

**0** DC24V

<b>0</b>	No cable (*)
<b>2</b>	2m (standard)
<b>3</b>	3m
<b>5</b>	5m

\* If SE (serial communication type), and the network model I/O type DV, CC, PR, PN, ML, CN, EC, SC or EP) is selected, specify "0" (no cable) for the I/O cable.

System configuration

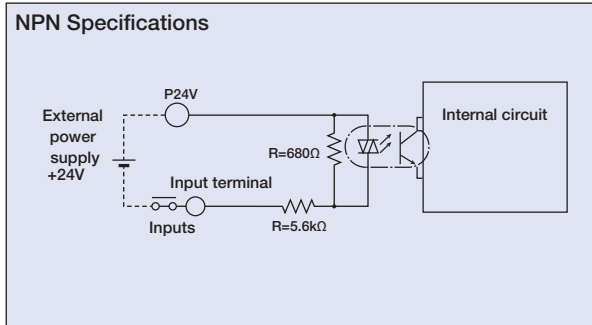


- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

**I/O Specifications**

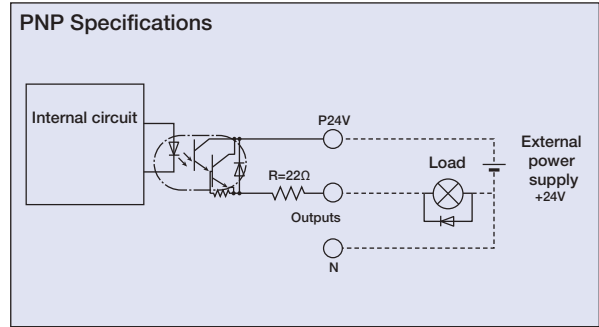
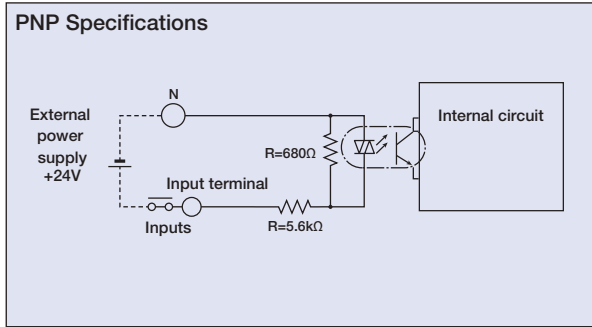
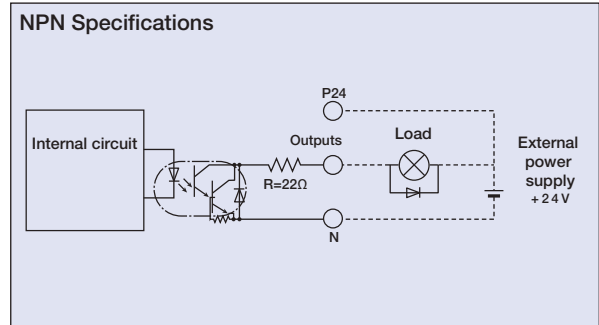
■ **Input section** External input specifications

Item	Specifications
Input voltage	DC24V ±10%
Input current	4mA/circuit
Leak current	1mA max./point
Isolation method	Photocoupler



■ **Output section** External output specifications

Item	Specifications
Load Voltage	DC24V
Max. load current	50mA/point
Remaining voltage	2V or less
Isolation method	Photocoupler



**I/O Specifications**

The 4 types of controllers (C/CG, CY, PL/PO, and SE) are classified by their respective I/O specifications. Also, for the positioner type and solenoid valve type, the I/O signal information can be changed in the controller settings, so multiple functions can be effectively used.

■ **Control Function by Type**

Type	C/CG	CY	PL/PO	SE	Features
Name	Positioner type	Solenoid valve type	Pulse train control type	Serial communication type	
Positioner mode	○	-	-	○ (*1)	This is the basic operating mode, in which the user designates position numbers and inputs start signals.
Teaching mode	○	-	-	○ (*1)	In this mode, the slider (rod) moves based on an external signal, and the stopped positions can be registered as position data.
Solenoid valve mode	○	○	-	○ (*1)	The actuator can be moved simply by ON/OFF position signals. This mode supports the same control signals you are already familiar with on solenoid valves of air cylinders.
Pulse train mode	-	-	○	-	In this mode, you can operate the actuator freely without inputting position data.
Network compatible	○ (*2)	-	-	○ (*3)	The controller can be connected to a DeviceNet or CC-Link network.

\*1 Operates using network communications or serial communications.  
 \*2 Can make a direct connection to a field network with the network specifications.  
 \*3 Can be connected to a field network using a gateway unit.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

Explanation of I/O Signal Functions

The table below explains the functions allocated to the controller's I/O signal.

Since the signals that can be used vary depending on the controller type and settings, check the signal table for each controller to confirm the available functions.

■ Signal Function Description

Classification	Signal abbreviations	Signal	Function description
Input	CSTR	Start signal	Input this signal to cause the actuator to start moving to the position set by the command position number signal.
	PC1 to PC256	Command position number signal	This signal is used to input a target position number (binary input).
	BKRL	Brake forced release signal	This signal forcibly releases the brake.
	RMOD	Running mode switching signal	This signal can switch the running mode when the MODE switch on the controller is set to AUTO. (AUTO when this signal is OFF, or MANU when the signal is ON).
	* STP	Pause signal (*1)	Turning this signal OFF causes the moving actuator to decelerate to a stop. The actuator will resume the remaining movement if the signal is turned ON during the pause.
	RES	Reset signal	Turning this signal ON resets the alarms that are present. If this signal is turned ON while the actuator is paused (*STP is OFF), the remaining movement can be cancelled.
	SON	Servo ON signal	The servo remains on while this signal is ON, or off while the signal is OFF.
	HOME	Home return signal	Turning this signal ON performs home-return operation.
	MODE	Teaching mode signal	Turning this signal ON switches the controller to teaching mode (provided that CSTR, JOG+ and JOG- are all OFF and the actuator is not moving).
	JISL	JOG/INJOG switching signal	When the main signal is off, the JOG operation will be conducted for JOG+ and JOG-. When the signal is on, the unit will do the inching operation for JOG+ and JOG-.
	JOG+, JOG-	JOG signal	When the JISL signal is off and the JOG +/- signal turns on, the unit will jog in the + (positive) direction when the JOG + turns on and the - (negative) direction when the JOG - turns on. During the JOG operation, the unit slows to a stop when the JOG +/- signal turns off.
	PWRT	Teaching signal	In the teaching mode, specify a desired position number and then turn this signal ON for at least 20ms to write the current position to the specified position number.
	ST0 to ST6	Start position command	Turning this signal ON in the solenoid valve mode causes the actuator to move to the specified position. (Start signal is not required)
	TL	Torque limit selection signal	While this signal is ON, torque is limited by the value set by a parameter. The TLR signal turns on if torque has reached the specified value. (Dedicated pulse train type)
DCLR	Deviation counter clear signal	The position deviation counter is continuously cleared while this signal is ON. (Dedicated pulse train type)	
Output	PEND/INP	In position signal	This signal turns ON when the actuator has entered the positioning band after movement. If the actuator has exceeded the positioning band, PEND does not turn OFF, but INP does. PEND and INP can be swapped within parameters.
	PM1 to PM256	Position complete signal	This signal is used to output the position number achieved at the completion of positioning (binary output)
	HEND	Home return completion signal	This signal turns ON upon completion of home return.
	ZONE1	Zone signal	This signal turns ON when the current actuator position has entered the range specified by the parameters.
	PZONE	Positioning zone signal	Turns ON when actuator moves into a position within the range of the target position data that was set. PZONE can be used together with ZONE1, but PZONE is valid only during movement to a specified position.
	RMDS	Running mode status signal	This outputs the operation mode status.
	* ALM	Controller alarm status signal	This signal remains ON while the controller is not in the alarm condition, and turns OFF when an alarm has occurred.
	MOVE	Moving signal	Turns ON while the actuator is moving (home return), including when there is push force.
	SV	Servo ON status signal	This signal turns ON when servo is ON.
	* EMGS	Emergency stop status signal	This signal remains ON while the controller is not in the emergency stop mode, and turns OFF once an emergency stop has been actuated.
	MODES	Mode status signal	The mode signal input turns it ON when it goes into teaching mode. It turns OFF when it goes into normal mode.
	WEND	Writing complete signal	This signal remains OFF after the controller has switched to the teaching mode. It turns ON upon completion of data write using the PWRT signal. If the PWRT signal is turned Off, this signal also turns OFF.
	PE0 to PE6	Current position number signal	This signal turns ON after the controller has completed moving to the target position in the solenoid valve mode.
	TLR	Torque limiting signal	This signal turns ON once the motor torque has reached the specified value in a condition where torque is being limited by the TL signal. (Dedicated pulse train type)
LSO to LS2	Limit switch output signal	Each signal turns ON when the current actuator position has entered the positioning band before or after the target position. If the actuator has already completed home return, these signals are output even before a movement command is issued or while the servo is OFF. (Dedicated Solenoid Valve Mode)	

(Note) Signals with asterisks (\*) are normally ON and OFF during operation.  
 (\*1) A „pause“ function is not available during S-curve motion.

I/O Signal table

■ Positioner type (ACON-C / CG)

Pin No.	Classification		Parameters (select PIO pattern)					
			0	1	2	3	4	5
			Positioning mode	Teaching mode	256-point mode	512-point mode	Solenoid Valve Mode 1	Solenoid Valve Mode 2
			Positioning Points	64 points	64 points	256 points	512 points	7 points
		Zone signal	○	—	—	—	○	○
		P-zone signal	○	○	○	—	○	○
1A	24V		P24					
2A	24V		P24					
3A	—		NC					
4A	—		NC					
5A		IN0	PC1	PC1	PC1	PC1	ST0	ST0
6A		IN1	PC2	PC2	PC2	PC2	ST1	ST1 (JOG+)
7A		IN2	PC4	PC4	PC4	PC4	ST2	ST2 (-)
8A		IN3	PC8	PC8	PC8	PC8	ST3	—
9A		IN4	PC16	PC16	PC16	PC16	ST4	—
10A		IN5	PC32	PC32	PC32	PC32	ST5	—
11A		IN6	—	MODE	PC64	PC64	ST6	—
12A		IN7	—	JISL	PC128	PC128	—	—
13A		IN8	—	JOG+	—	PC256	—	—
14A		IN9	BKRL	JOG-	BKRL	BKRL	BKRL	BKRL
15A		IN10	RMOD	RMOD	RMOD	RMOD	RMOD	RMOD
16A		IN11	HOME	HOME	HOME	HOME	HOME	—
17A		IN12	* STP	* STP	* STP	* STP	* STP	—
18A		IN13	CSTR	CSTR/PWRT	CSTR	CSTR	—	—
19A		IN14	RES	RES	RES	RES	RES	RES
20A		IN15	SON	SON	SON	SON	SON	SON
1B		OUT0	PM1	PM1	PM1	PM1	PE0	LSO
2B		OUT1	PM2	PM2	PM2	PM2	PE1	LS1
3B		OUT2	PM4	PM4	PM4	PM4	PE2	LS2 (-)
4B		OUT3	PM8	PM8	PM8	PM8	PE3	—
5B		OUT4	PM16	PM16	PM16	PM16	PE4	—
6B		OUT5	PM32	PM32	PM32	PM32	PE5	—
7B		OUT6	MOVE	MOVE	PM64	PM64	PE6	—
8B		OUT7	ZONE1	MODES	PM128	PM128	ZONE1	ZONE1
9B		OUT8	PZONE	PZONE	PZONE	PM256	PZONE	PZONE
10B		OUT9	RMDS	RMDS	RMDS	RMDS	RMDS	RMDS
11B		OUT10	HEND	HEND	HEND	HEND	HEND	HEND
12B		OUT11	PEND	PEND/WEND	PEND	PEND	PEND	—
13B		OUT12	SV	SV	SV	SV	SV	SV
14B		OUT13	* EMGS	* EMGS	* EMGS	* EMGS	* EMGS	* EMGS
15B		OUT14	* ALM	* ALM	* ALM	* ALM	* ALM	* ALM
16B		OUT15	—	—	—	—	—	—
17B	—		NC					
18B	—		NC					
19B	0V		N					
20B	0V		N					

(Note) The names of signals above inside ( ) are functions before the unit returns home.  
 (Note) Signals with asterisks (\*) are normally ON, and OFF during operation.

■ Solenoid valve type (ACON-CY)

Pin No.	Classification		Parameters (select PIO pattern)	
			0	1
			Solenoid valve mode 0	Solenoid valve mode 1
			Positioning Points	3 points
		Zone signal	—	—
		P-zone signal	—	○
1	24V			
2	0V			
3		IN0	ST0	ST0
4		IN1	ST1 (JOG+)	ST1 (JOG+)
5		IN2	ST2 (RES)	ST2 (RES)
6		IN3	SON	SON
7		OUT0	LS0	PE0
8		OUT1	LS1	PE1
9		OUT2	LS2 (-)	PE2 (-)
10		OUT3	SV	PZONE
11		OUT4	HEND	HEND
12		OUT5	* ALM	* ALM

(Note) The names of signals above inside ( ) are functions before the unit returns home.  
 (Note) Signals with asterisks (\*) are normally ON, and OFF during operation.

■ Pulse Train Type (ACON-PL/PO)

Pin No.	Classification		Parameters (select PIO pattern)	
			0	1
			Standard mode	Push mode
			Positioning Points	—
		Zone signal	—	—
		P-zone signal	—	—
1	24V			
2	0V			
3		IN0	SON	SON
4		IN1	TL	TL
5		IN2	HOME	HOME
6		IN3	RES	RES / DCLR
7		OUT0	SV	SV
8		OUT1	INP	INP / TLR
9		OUT2	HEND	HEND
10		OUT3	* ALM	* ALM
11			* PP	* PP
12			PP	PP
13			* NP	* NP
14			NP	NP

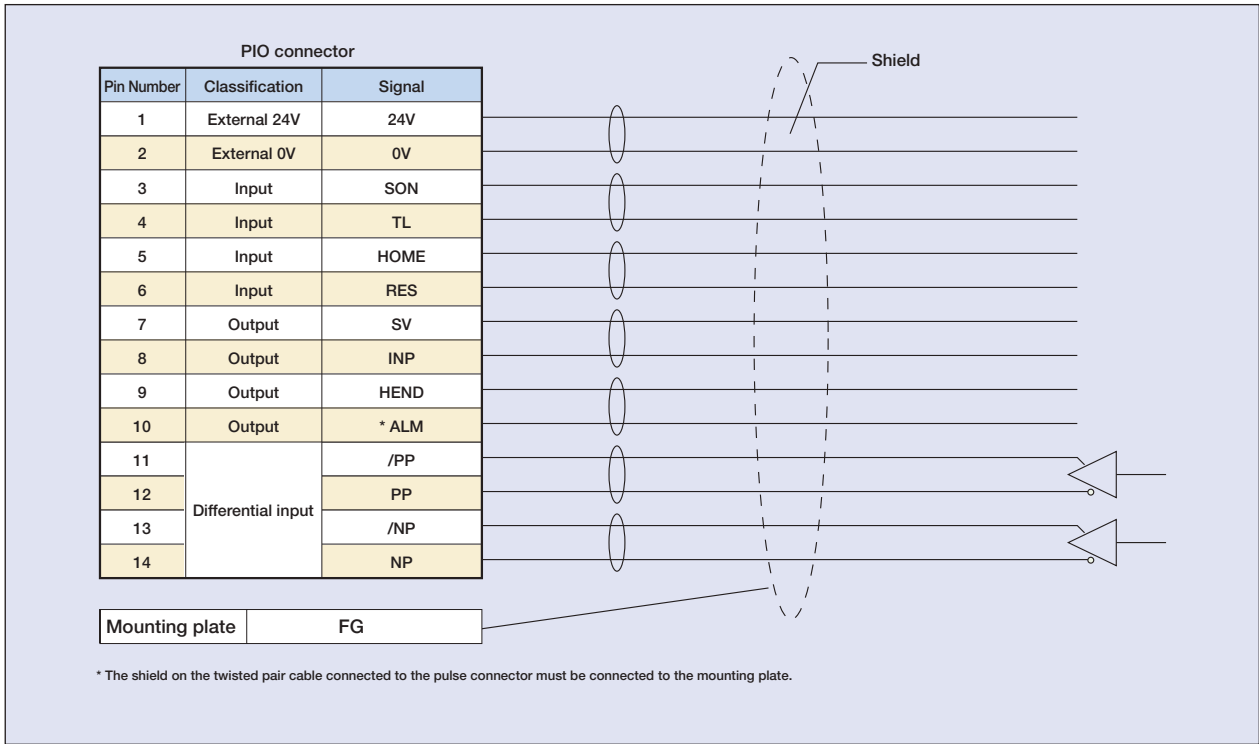
(Note) Signals with asterisks (\*) are normally ON, and OFF during operation.



Wiring Diagram for the Pulse-Train Input Type

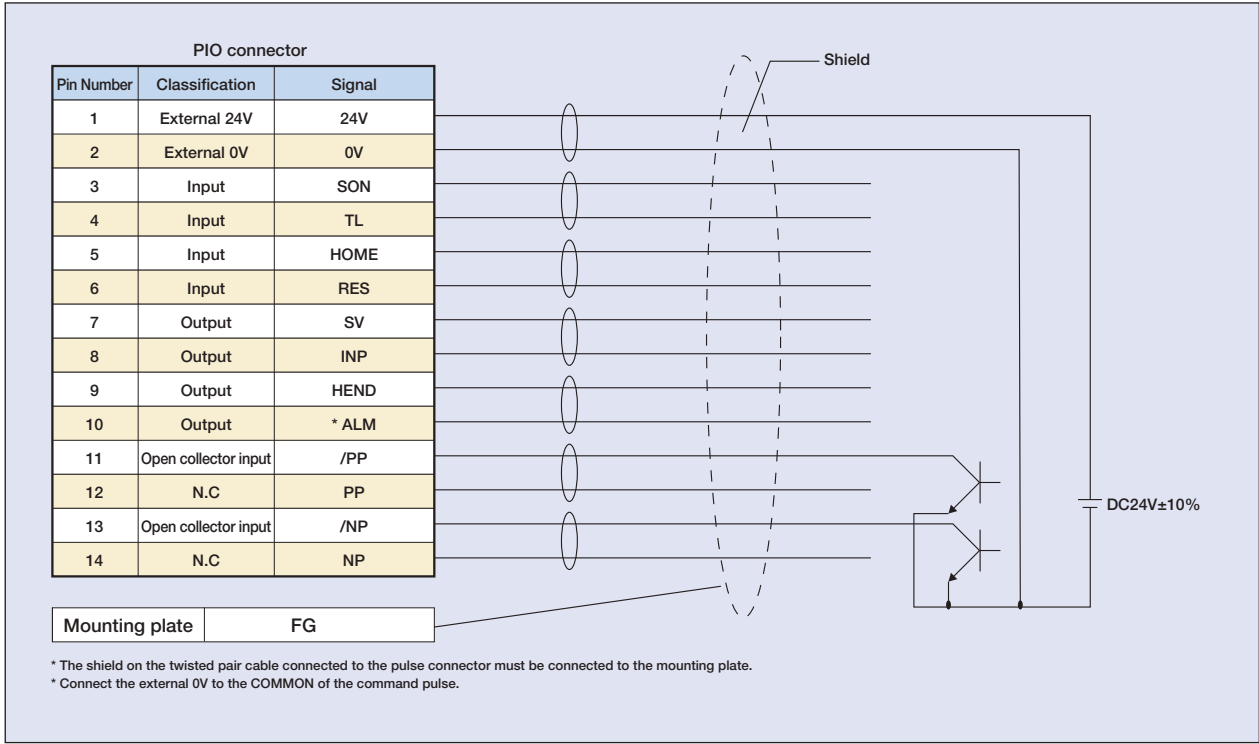
■ Differential Line Driver Method (ACON-PL)

Max. input pulse frequency : Max. 200 kpps  
 Cable Length : Max. 10m



■ Open Collector Method (ACON-PO)

Max. input pulse frequency : Max. 60 kpps  
 Cable Length : Max. 2m



- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

Command Pulse Input State

Command pulse train state		Input terminal	During forward operation	During reversed operation	
Negative logic	Forward pulse train	PP·/PP			
	Reversed pulse train	NP·/NP			
	The forward pulse train causes the motor to rotate forward, and the reverse pulse train causes the motor to rotate in reverse.				
	Pulse train	PP·/PP			
	Symbols	NP·/NP	Low	High	
	The command pulse is used for the amount of motor rotation, and the command symbol is used for rotational direction.				
	A/B phase pulse train	PP·/PP			
		NP·/NP			
	An A/B phase pulse with a 90° phase difference (multiplier is 4) is used to generate commands for the amount of rotation and rotational direction.				
	Positive logic	Forward pulse train	PP·/PP		
Reversed pulse train		NP·/NP			
Pulse train		PP·/PP			
Symbols		NP·/NP	High	Low	
A/B phase pulse train		PP·/PP			
		NP·/NP			

Table of specifications

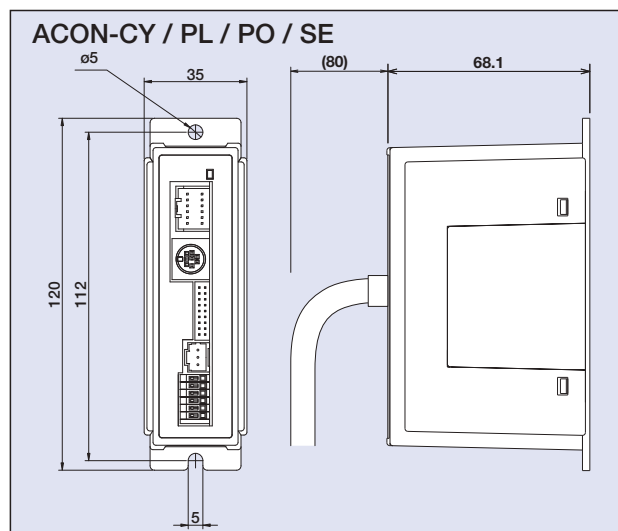
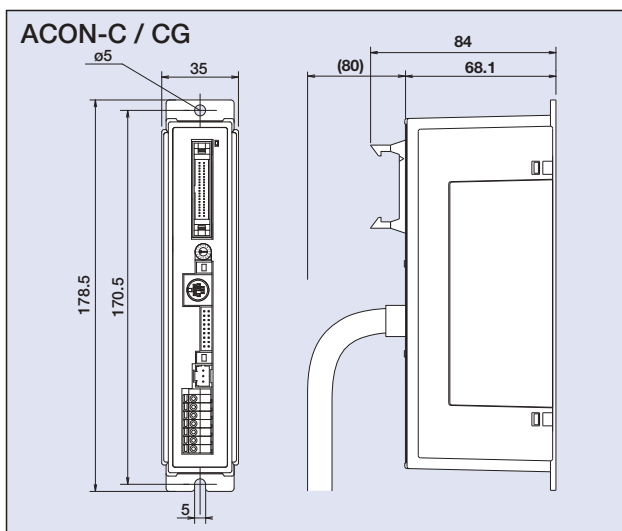
Item	Specifications					
Controller type	C	CG	CY	PL	PO	SE
Connected actuator	RCA/RCA2/RCL Series Actuator					
Number of control axes	1-axis					
Operating method	Positioner type		Solenoid valve type	Pulse train input type		Serial communication type
Positioning Points	512 points		3 points	-		64 points
Backup memory	EEPROM					
I/O connector	40-pin connector		12-pin connector	14-pin connector		None
Number of I/O	16 input points/16 output points		4 input points / 6 output points	4 input points/4 output points		None
I/O power	External supply DC24V±10%					
Serial Communication	RS485 1ch					
Peripheral device communication cable	CB-PAC-PIO □□□		CB-PACY-PIO □□□	CB-PACPU-PIO □□□		CB-RCB-CTL002
Command pulse train input method	-			Differential line driver	Open collector	-
Max. input pulse frequency (Note 1)	-			Max. 200 kpps	Max. 60 kpps	-
Position detection method	Incremental encoder					
Drive-source cutoff relay at emergency stop	Integrated	External				
Forced release of electromagnetic brake	Brake release switch ON/OFF		ON/OFF terminal signal inside the power terminal for brake release			
Input Voltage	DC24V ± 10%					
Dielectric strength voltage	DC500V 1MΩ					
Vibration resistance	XYZ directions		10 to 57Hz, One side amplitude: 0.035mm (continuous), 0.075mm (intermittent) 58 to 150 Hz 4.9 m/s <sup>2</sup> (continuous), 9.8 m/s <sup>2</sup> (intermittent)			
Ambient operating temperature	0 ~ 40°C					
Ambient operating humidity	10 - 95% (non-condensing)					
Ambient operating atmosphere	Without corrosive gases					
Protection class	IP20					
Weight	Approx. 300g			Approx. 130g		

(Note 1) With the open collector specification, keep the maximum input frequency to 60 kpps or below to prevent malfunction. For applications exceeding 60kpps, use the differential line driver.

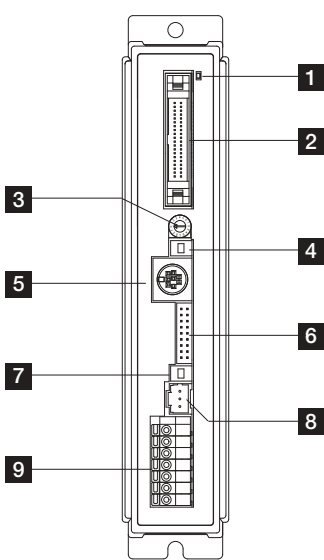
	Actuator	Motor	Standard specifications/high acceleration and deceleration model		Power-saving model	
			Rated [A]	Max. [A]	Rated [A]	Max. [A]
Motor Power Supply Capacity (Note 2)	RCA	10W	1.3	4.4	1.3	2.5
		20W [Model symbol: 20]	1.3	4.4	1.3	2.5
		30W	1.3	4.4	1.3	2.2
	RCA2	20W [Model symbol: 20S] SA4, RA3, TA5 Type dedicated	1.7	5.1	1.7	3.4
		RCL	2W	0.8	4.6	
	5W		1.0	6.4		
10W	1.3		6.4			

(Note 2) Other than motor power supply capacity, increase 0.5A as control power supply. Inrush current of approx. 5 to 12 times the rated current occurs within 1 to 2 msec from turning the power on. The inrush current changes depending on the power supply line impedance.

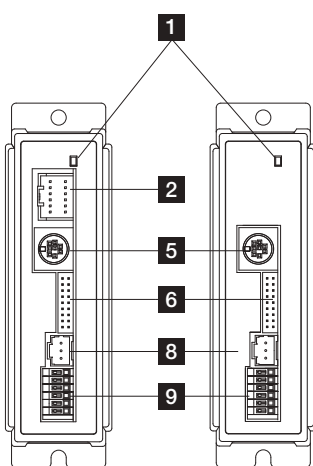
External Dimensions



Name of Each Part



C / CG type



CY/PL/PO Type

SE Type

\* PIO connectors are:  
CY: 12 pin  
PL/PO: 14 pin

**1 LED display**

These LED colors indicate the condition of the controller.

Lit (green) Servo ON    Lit (red) Alarm activated    Unlit Servo OFF    Blinking (green) Automatic servo-OFF  
Emergency stop

**2 PIO connector**

Connects a cable for communicating with a PLC or other external equipment.

**3 Address-setting rotary switch**

This switch sets the addresses for controllers used when the unit is linked with controllers.

**4 Mode switch**

Switches between manual teaching pendant operations (MANU) and automatic operations (AUTO).

Operation details

<b>MANUAL</b>	I/O commands are not accepted. Data can be written from a teaching pendant or PC.
<b>AUTO</b>	I/O commands are valid, while operations from a teaching pendant or PC are not accepted. However, monitoring is possible.

**5 SIO connector**

Connects a teaching pendant, PC cable, controller, or gateway unit to a controller.

Operation details

Pin No.	Signal	Name	Remarks
1	SGA	Positive side, RS485 differential signal	
2	SGB	Negative side, RS485 differential signal	
3	5V	+5V output	For RS232/485 conversion
4	ENBL	Enable signal	
5	EMGA	EMG line connection to external equipment	
6	24V	24-V power for T/P	For T/P
7	0V	GND	
8	EMGB	EMG line connection to external equipment	
9	0V	EMG line connection to external equipment ground	

**6 Encoder brake connector**

Connects the encoder/brake cable for the actuator.

**7 Brake release switch**

This switch forces the brake to release.

**8 Motor connector**

Connects the motor cable for the actuator.

**9 Power terminal block**

Main power for controller(s), emergency stop

C / CG type

Terminal number	Signal	Name
7	S1	External drive-source cutoff for
6	S2	TP_EMG terminal
5	MPI	Motor drive-source cutoff terminal
4	MPO	Motor drive-source cutoff terminal
3	24V	Positive side of the 24-V power supply
2	0V	Negative side of the 24-V power supply
1	EMG	EMG signal (application of 24 V)

CY / PL / PO / SE type

Terminal number	Signal	Name
6	BK	BK release
5	MPI	Motor drive-source cutoff terminal
4	MPO	Motor drive-source cutoff terminal
3	24V	Positive side of the 24-V power supply
2	0V	Negative side of the 24-V power supply
1	EMG	EMG signal (application of 24 V)

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

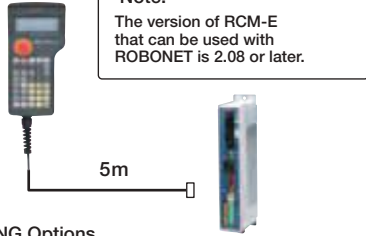
## Option

### Teaching Pendant

■ Features This is a teaching device that provides information on functions such as position input, performing test runs, and monitoring.

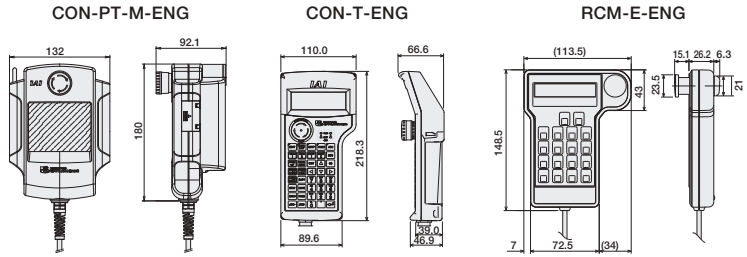
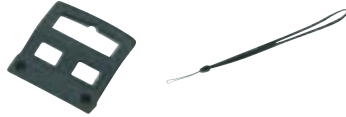
- Model **CON-PT-M-ENG** (Touch panel teaching pendant)
- CON-T-ENG** (Standard type)
- RCM-E-ENG** (Simple teaching pendant)

■ Configuration



■ CON-T-ENG Options

- Wall-mounting hook Model HK-1
- Strap Model STR-1



■ Specifications

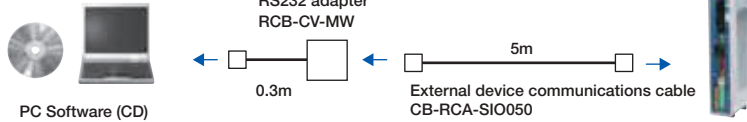
Item	CON-PT-M-ENG	CON-T-ENG	RCM-E-ENG
Data Input	○	○	○
Actuator motion	○	○	○
Ambient Operating Temp./Humidity	Temp: 0~40°C; Humidity: 85% RH or below		
Ambient Operating Atmosphere	No corrosive gases. Especially no dust.		
Protection class	IP40	IP54	-
Weight	Approx. 750g	Approx. 400g	Approx. 400g
Cable Length		5m	
Display	3-color LED touch panel with backlight	20 char. × 4 lines LCD display	16 char. × 2 lines LCD display

### PC Software (Windows Only)

■ Features A startup support software for inputting positions, performing test runs, and monitoring. With enhancements for adjustment functions, the startup time is shortened.

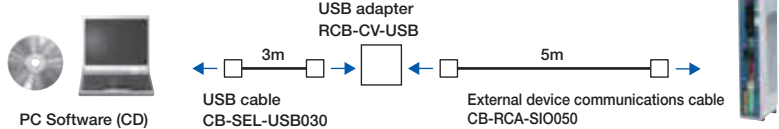
- Model **RCM-101-MW-EU** (External device communications cable + RS232 conversion unit)

■ Configuration



- Model **RCM-101-USB-EU** (External device communications cable + USB adapter + USB cable)

■ Configuration



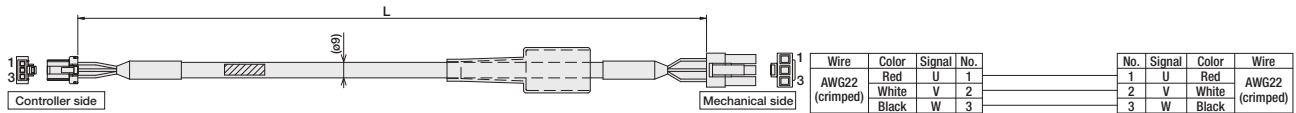
### Spare parts

When you need spare parts after purchasing the product, such as when replacing a cable, refer to the list of models below.

### Motor Cable for RCA

Model **CB-ACS-MA**

\* The standard cable for the motor cable is a robot cable. \* Enter the cable length (L) into   . Compatible to a maximum of 20 meters. Ex.: 080 = 8 m



Min. bend radius r = 50 mm or larger (when movable type is used)

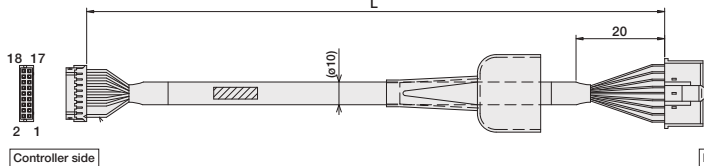
Encoder Cable / Encoder Robot Cable for RCA

Model **CB-ACS-PA** / **CB-ACS-PA-RB**

\* The standard cable for the encoder cable is the normal cable.  
A robot cable can be specified as an option.

\* Enter the cable length (L) into . Compatible to a maximum of 20 meters.  
Ex.: 080 = 8 m

Min. bend radius r = 50 mm or larger (when movable type is used)  
\* Only robot cable is to be used in a cable track.



CN2			CN1				
Robot Cable	Standard Cable	Signal	Pin No.	Signal	Pin No.		
White/Purple	Blue	LS+	18	1	ENA	Gray	White/Blue
White/Gray	Orange	LS-	17	2	ENA	Red	White/Red
Yellow	Green	BK+	16	3	ENB	Black	White/Black
Blue	Brown	BK-	15	4	ENB	Yellow	White/Black
White/Blue	Gray	ENA	14	5	-	-	-
White/Yellow	Red	ENA	13	6	-	-	-
White/Black	Black	ENB	12	7	LS+	Blue	White/Purple
Orange	Pink	ENZ	10	8	-	-	-
Green	Purple	ENZ	9	9	FG	Ground	Ground
Purple	White	ENZ	8	10	ENZ	Pink	Orange
Gray	Blue/red	VPS	7	11	ENZ	Purple	Purple
Red	Orange/White	SV	6	12	VPS	Blue/red	Gray
Black	Green/White	GND	5	13	SV	Orange/White	Red
-	-	-	4	14	SV	Orange/White	Red
-	-	-	3	15	GND	Green/White	Black
-	-	-	2	16	LS-	Orange	White/Gray
Ground	Ground	F.G	1	17	BK-	Brown	Blue
				18	BK+	Green	Yellow

Housing : PHDR-18VR (JST)  
Contact : SPHD-001T-P0.5 (JST)

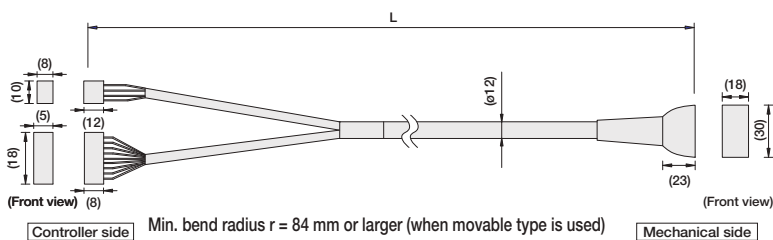
Plug housing : XMP-18V (JST)  
Socket contact : BX-A011T-P0.6 (JST)  
Retainer : XMS-09V (JST)

Motor-Encoder Integrated Cable for RCA2/RCL

Model **CB-ACS-MPA**

\* The standard cable for the motor-encoder cable is a robot cable.

\* Enter the cable length (L) into . Compatible to a maximum of 20 meters.  
Ex.: 080 = 8 m



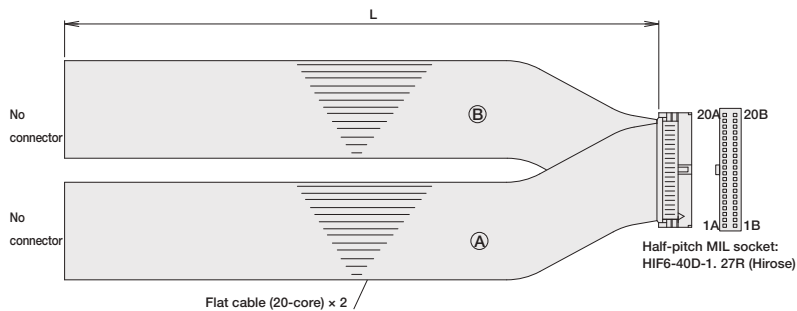
Signal	Pin No.	Wire color	Pin No.	Signal
U	1	Red	B1	V
V	2	Yellow	B2	NC
W	3	Black	A3	NC
			B3	NC
			A4	BK+
			B4	BK-
			A5	LS+
			B5	LS-
			A6	A+
			B6	A-
			A7	B+
			B7	B-
			A8	Z+
			B8	Z-
			A9	-
			B9	PS
			A10	VCC
			B10	GND
			A11	NC
			B11	FG

Shield

I/O Flat Cable (for ACON-C/CG)

Model **CB-PAC-PIO**

\* Enter the cable length (L) into . Compatible to a maximum of 10 meters.  
Ex.: 080 = 8 m



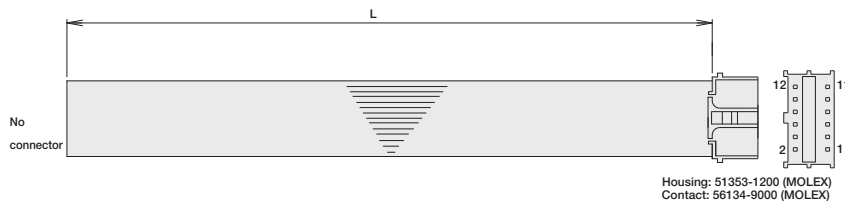
Pin No.	Signal	Cable Color	Wire	Pin No.	Signal	Cable Color	Wire
1A	24V	Brown-1		1B	OUT0	Brown-3	
2A	24V	Red-1		2B	OUT1	Red-3	
3A	-	Orange-1		3B	OUT2	Orange-3	
4A	-	Yellow-1		4B	OUT3	Yellow-3	
5A	IN0	Green-1		5B	OUT4	Green-3	
6A	IN1	Blue-1		6B	OUT5	Blue-3	
7A	IN2	Purple-1		7B	OUT6	Purple-3	
8A	IN3	Gray-1		8B	OUT7	Gray-3	
9A	IN4	White-1		9B	OUT8	White-3	
10A	IN5	Black-1		10B	OUT9	Black-3	
11A	IN6	Brown-2		11B	OUT10	Brown-4	
12A	IN7	Red-2		12B	OUT11	Red-4	
13A	IN8	Orange-2		13B	OUT12	Orange-4	
14A	IN9	Yellow-2		14B	OUT13	Yellow-4	
15A	IN10	Green-2		15B	OUT14	Green-4	
16A	IN11	Blue-2		16B	OUT15	Blue-4	
17A	IN12	Purple-2		17B	-	Purple-4	
18A	IN13	Gray-2		18B	-	Gray-4	
19A	IN14	White-2		19B	0V	White-4	
20A	IN15	Black-2		20B	0V	Black-4	

Flat cable A (crimped)  
Flat cable B (crimped) AWG28

I/O Cable for Solenoid Valve Type (for ACON-CY)

Model **CB-PACY-PIO**

\* Enter the cable length (L) into . Compatible to a maximum of 10 meters.  
Ex.: 080 = 8 m



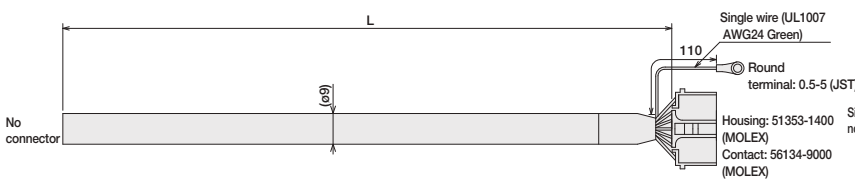
Pin No.	Signal	Cable Color	Wire
1	24V	Brown-1	
2	0V	Red-1	
3	IN0	Orange-1	
4	IN1	Yellow-1	
5	IN2	Green-1	
6	IN3	Blue-1	
7	OUT0	Purple-1	
8	OUT1	Gray-1	
9	OUT2	White-1	
10	OUT3	Black-1	
11	OUT4	Brown-2	
12	OUT5	Red-2	

Flat cable (crimped) AWG28

Pulse Train Control I/O Cable (for ACON-PL/PO)

Model **CB-PACPU-PIO**

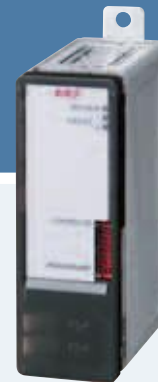
\* Enter the cable length (L) into . Compatible to a maximum of 10 meters.  
Ex.: 080 = 8 m



No.	Signal Name	Cable Color	Wire
1	IO 24V	Black	
2	IO 24G	White/Black	
3	IN0	Red	
4	IN1	White/Red	
5	IN2	Green	
6	IN3	White/Green	
7	OUT0	Yellow	
8	OUT1	White/Yellow	
9	OUT2	Brown	
10	OUT3	White/Brown	
11	PP	Blue	
12	PG	White/Blue	
13	NP	Gray	
14	NG	White/Gray	

0.2sq  
0.5-5 (JST)  
1 FG White/Gray AWG24

# PCON-ABU ACON-ABU



Simple absolute unit  
For PCON/ACON/PSEL controller

## Features

- When attached to a ACON/PCON-C/-CG/-CY/-SE or PSEL-C (incremental) controller, the data from the encoder is retained even after the controller's main power has been turned OFF, allowing you to use it as an absolute model, which does not require homing at power-up.

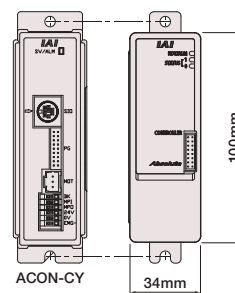
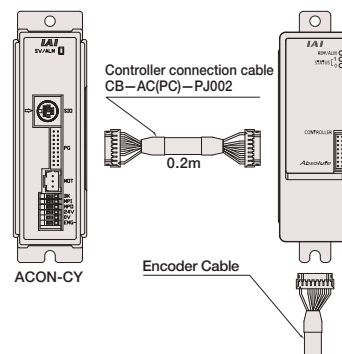
\* Cannot be used for ACON/PCON-PL or PO types.

**Caution:** The encoder type for the actuators and controllers with a simple absolute unit is "I" (incremental) and not "A" (absolute).

- Having the same size as the CY and SE compact controllers (W 34mm × H 100mm × D 75.3mm), it can be installed in a small space.

- Encoder data can be retained up to 20 days.

**Caution:** An error will occur if the actuator's slider or rod is moved faster than the fixed speed, while the encoder data is retained. Check the specifications table on page 546 for the allowable speed (rotations).



## Dedicated controllers and software

Controller	PCON-C/CG/CY/SE	ACON-C/CG/CY/SE	PSEL-C
Absolute unit	PCON-ABU	ACON-ABU	PCON-ABU
PC software	RCM-101-MW/USB-EU, V6.0 or later		IA-101-X-MW/USB, V7.4 or later

## Connectable actuator

The simple absolute unit is available for the following actuators. (Models other than following models are not available.)

Corresponding series	Reference
RCP3 series	Corresponding to all models
RCP2 series	Corresponding to all models other than HS8C/HS8R/RA10C.
RCP2 CR series	Corresponding to all models other than HS8C.
RCP2 W series	Corresponding to all models other than SA16C/RA10C.
RCA2 series	Corresponding to all models
RCA series	Corresponding to all models
RCA CR series	Corresponding to all models
RCA W series	Corresponding to all models



## Specifications

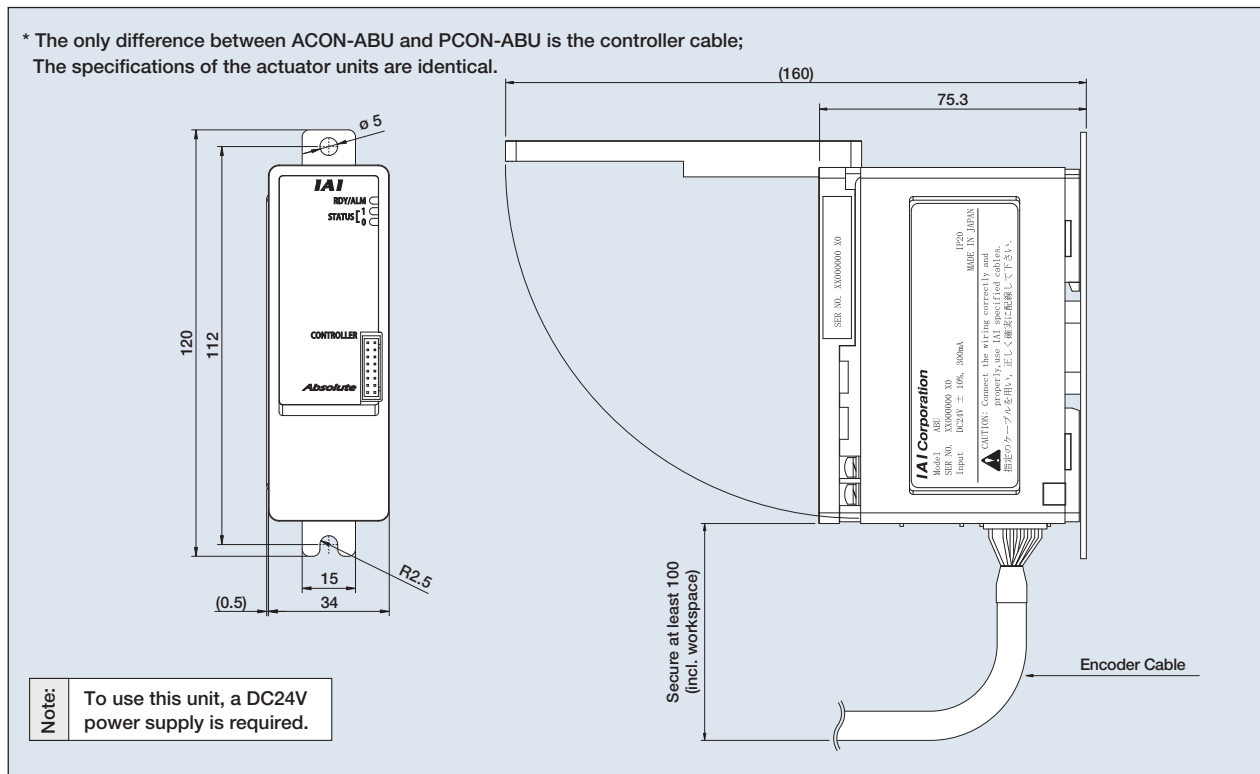
Item	Details			
Model	ACON-ABU		PCON-ABU	
Connecting controller	ACON - C / CG / CY / SE		PCON - C / CG / CY / SE ; PSEL - C	
Connecting actuator	RCA2 / RCA series		RCP3/RCP2 series (* 1)	
Controller connection cable (included accessory)	Model CB - AC - PJ002 (0.2m)		Model CB - PC - PJ002 (0.2m)	
Simple absolute unit	Model ABU			
Backup battery (included accessory)	Model AB - 7 (Ni - MH battery / Life: approx. 3 years)			
Power supply voltage	DC24V±10%			
Power supply current	Max. 300 mA			
Ambient operating temperature	0 to 40°C (approx. 20°C is preferred)			
Ambient operating humidity	95% RH or lower (non-condensing)			
Ambient operating atmosphere	Without corrosive gases, without dust			
Weight	330g			
Allowable encoder RPM during data retention (*2)	800 rpm	400 rpm	200 rpm	100 rpm
Position data retaining time (*2)	120h	240h	360h	480h

(\*1) Cannot be used with RCP2-RA10C/HS8C/HS8R/RCP2W-RA10C/SA16C

(\*2) Position data retention time changes with the allowable encoder RPMs during data retention.

(800rpm → 120h / 400rpm → 240h / 200rpm → 360h / 100rpm → 480h)

## External dimensions




- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor



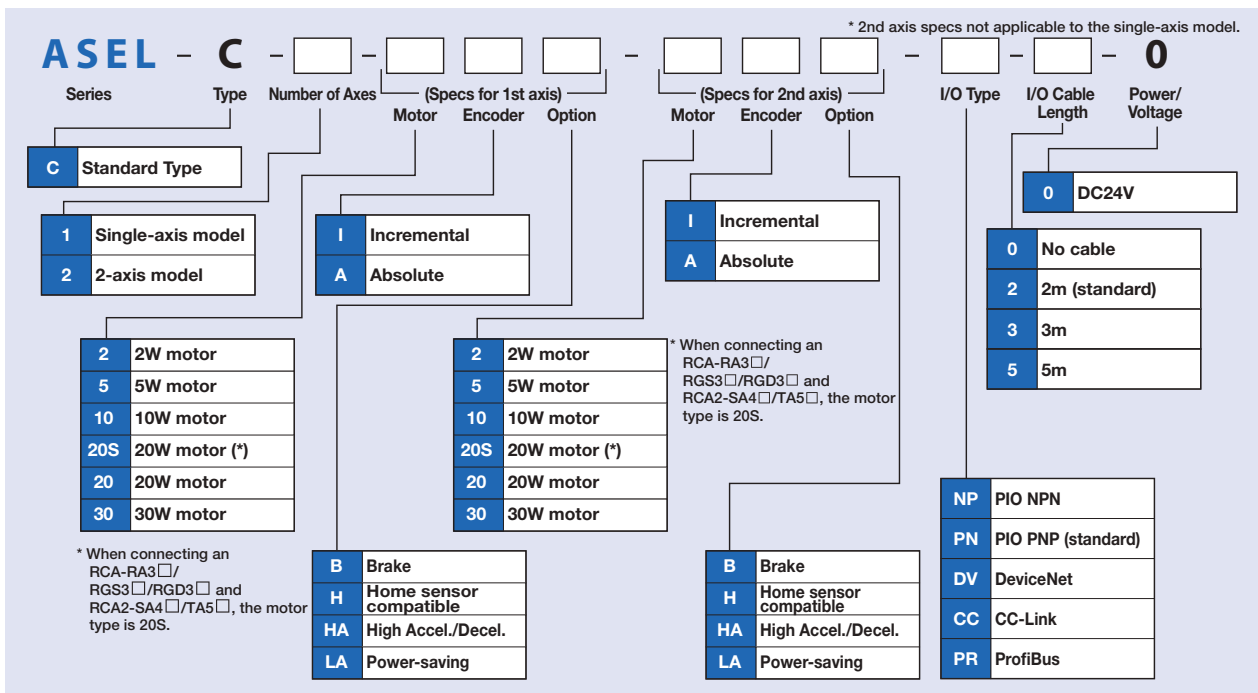
Program controller  
For RCA2/RCA/RCL series

List of models

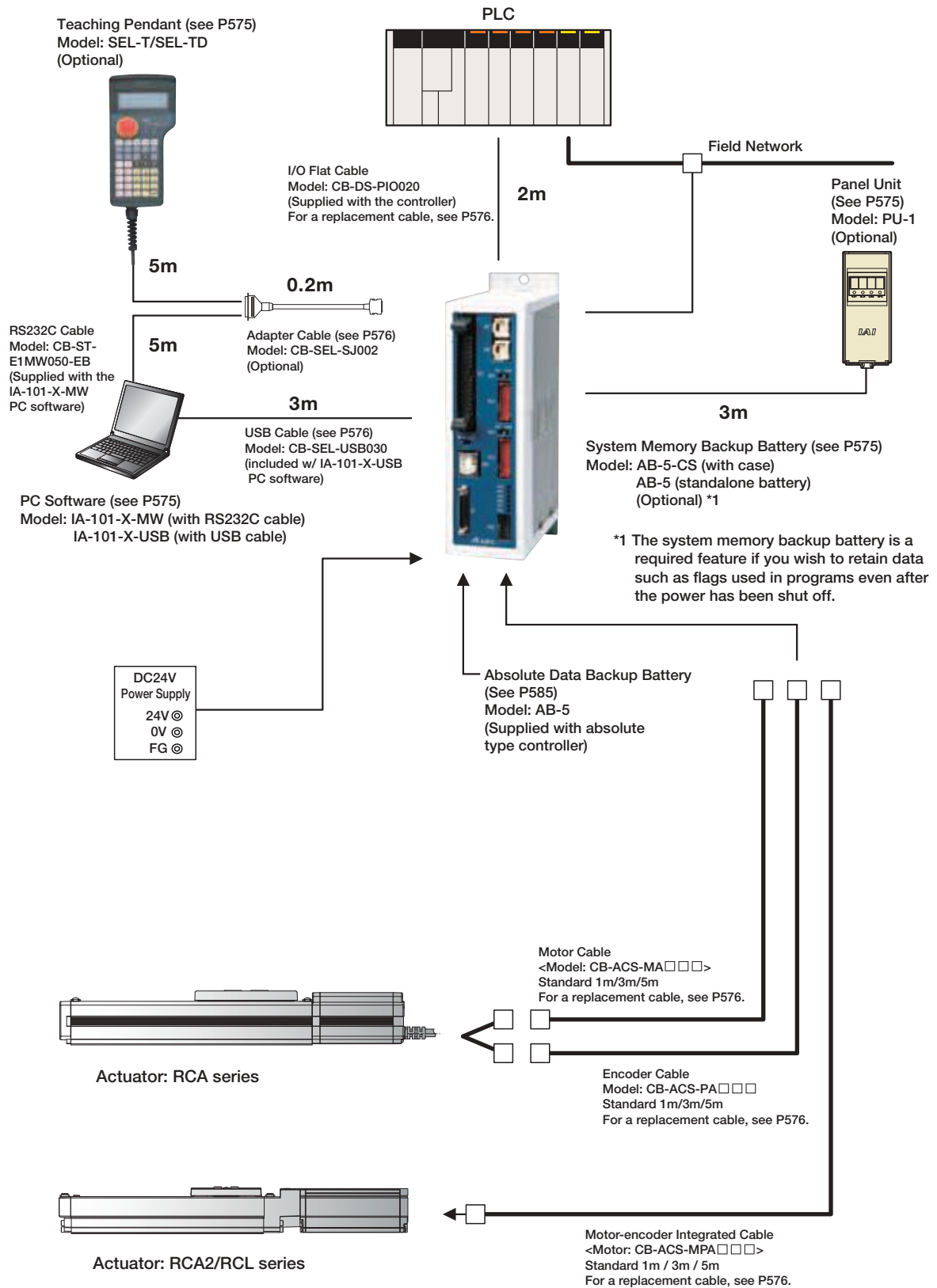
Program controller for operating RCA2/RCA/RCL series actuators. One unit can handle various controls.

Type	<b>C</b>	
Name	Program mode	Positioner Mode
External view		
Description	Both the actuator operation and communication with external equipment can be handled by a single controller. When two axes are connected, arc interpolation, path operations, and synchronization can be performed.	Up to 1500 positioning points are supported. Push-motion operation and teaching operation are also possible.
Position points	1500 points	
Number of control axes	Up to 2 axes	

Model



System configuration

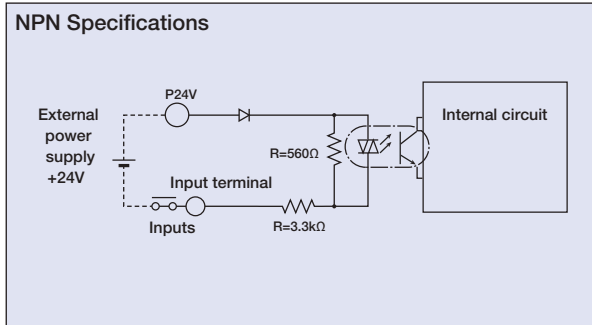


- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

I/O Specifications

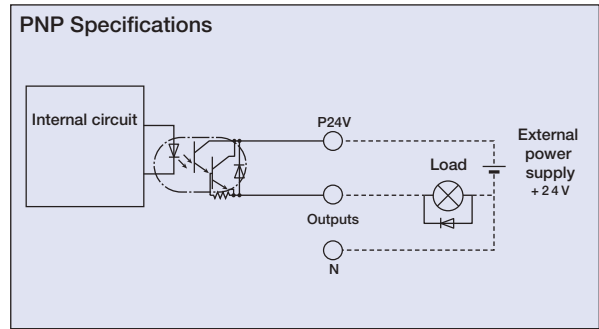
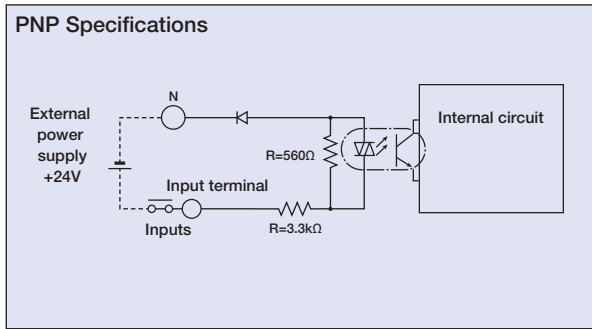
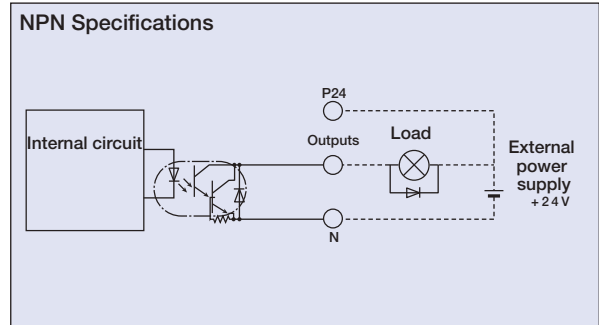
Input section External input specifications

Item	Specifications
Input voltage	DC24V ±10%
Input current	7mA / circuit
ON/OFF voltage	ON voltage (min.) NPN : DC16V / PNP : DC8V OFF voltage (max.) NPN : DC5V / PNP : DC19V
Isolation method	Photocoupler



Output section External output specifications

Item	Specifications
Load Voltage	DC24V
Max. load current	100mA / 1 point 400mA / 8 points in total
Residual voltage (Max.)	Max 0.1mA / 1 point
Isolation method	Photocoupler



Explanation of I/O Signal Functions

Two modes can be selected for the ASEL controller: "Program Mode," in which the actuator is operated by entering a program, and "Positioner Mode," in which PLC signals are received and the actuator is moved to designated positions. The Positioner Mode has the five input patterns listed below to enable various applications.

Control Function by Type

Operation mode		Features
Program mode		Various operations including linear/arc interpolation operation, path operation ideal for coating processes, etc., arch-motion operation and palletizing operation can be performed using the Super SEL language that lets you program complex control actions using simple commands.
Positioner mode	Standard mode	This is the basic mode from which operations can be conducted by designating position numbers and inputting the start signal. Push-motion operation and teaching operation are also possible.
	Product Change mode	Multiple parts of the same shape with slightly different hole positions can be handled using movement commands to the same position numbers by simply changing the product type number.
	2-axis independent mode	With a 2-axis controller, each axis can be commanded and operated separately.
	Teaching mode	In this mode, the slider (rod) moves based on an external signal, when the actuator is stopped, the current location can be registered as position data.
	DS-S-C1 Compatible mode	If you were using a DS-S-C1 controller, you can replace it with a ASEL controller without having to change the host programs. *This mode does not ensure actuator compatibility.

Explanation of I/O Signal Functions

Program mode

Pin Number	Category	Port No.	Program Mode	Functions	NPN Wiring Diagram
1A	P24		24V input	Connect 24V.	
1B		016	Select Program No. 1	Selects the program number to start. (Input as BCD values to ports 016 to 022)	
2A		017	Select Program No. 2		
2B		018	Select Program No. 4		
3A		019	Select Program No. 8		
3B		020	Select Program No. 10		
4A		021	Select Program No. 20		
4B		022	Select Program No. 40		
5A		023	CPU reset		
5B		000	Start	Starts the program selected by ports 016 to 022.	
6A	Input	001	General-purpose input	Waits for external input via program instructions.	
6B		002	General-purpose input		
7A		003	General-purpose input		
7B		004	General-purpose input		
8A		005	General-purpose input		
8B		006	General-purpose input		
9A		007	General-purpose input		
9B		008	General-purpose input		
10A		009	General-purpose input		
10B		010	General-purpose input		
11A	011	General-purpose input	Turns off when an alarm occurs. (Contact B)		
11B	012	General-purpose input			
12A	013	General-purpose input			
12B	014	General-purpose input			
13A	015	General-purpose input			
13B	300	Alarm			
14A	301	Ready		Turns on when the controller starts up normally and is in an operable state.	
14B	302	General-purpose output	These outputs can be turned ON/OFF as desired via program instructions.		
15A	303	General-purpose output			
15B	304	General-purpose output			
16A	305	General-purpose output			
16B	306	General-purpose output			
17A	307	General-purpose output			
17B	N	0V input	Connect 0V.		

\*Note: With regard to PNP wiring diagram, please refer to ASEL manual.

Positioner mode

Pin Number	Category	Port No.	Positioner Standard Mode	Functions	NPN Wiring Diagram	
1A	P24		24V input	Connect 24V.		
1B		016	Position input 10	Specifies the position numbers to move to, using port number 007 to 019. The number can be specified either as BCD or binary.		
2A		017	Position input 11			
2B		018	Position input 12			
3A		019	Position input 13			
3B		020	-			
4A		021	-			
4B		022	-			
5A		023	Error reset			Resets minor errors. (Severe errors require a restart.)
5B		000	Start			Starts moving to the selected position.
6A	Input	001	Home Return	Performs Home Return.		
6B		002	Servo ON	Switches between Servo ON and OFF.		
7A		003	Push	Performs a push motion.		
7B		004	Pause	Pauses the motion when turned OFF, and resumes motion when turned ON.		
8A		005	Cancel	Stops the motion when turned OFF. The remaining motion is canceled.		
8B		006	Interpolation settings	When this signal turned ON for a 2-axis model, the actuator moves by linear interpolation.		
9A		007	Position input 1	Specifies the position numbers to move to, using ports 007 to 019. The number can be specified either as BCD or binary.		
9B		008	Position input 2			
10A		009	Position input 3			
10B		010	Position input 4			
11A	011	Position input 5				
11B	012	Position input 6				
12A	013	Position input 7				
12B	014	Position input 8	Turns off when an alarm occurs. (Contact B)			
13A	015	Position input 9				
13B	300	Alarm				
14A	301	Ready		Turns on when the controller starts up normally and is in an operable state.		
14B	302	Positioning complete		Turns on when the movement to the destination is complete.		
15A	303	Home Return complete		Turns on when the home return operation is complete.		
15B	304	Servo ON output	Turns on when servo is ON.			
16A	305	Pushing complete	Turns on when a push motion is complete.			
16B	306	System battery error	Turns on when the system battery runs low (warning level).			
17A	307	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).			
17B	N	0V input	Connect 0V.			

\*Note: With regard to PNP wiring diagram, please refer to ASEL manual.

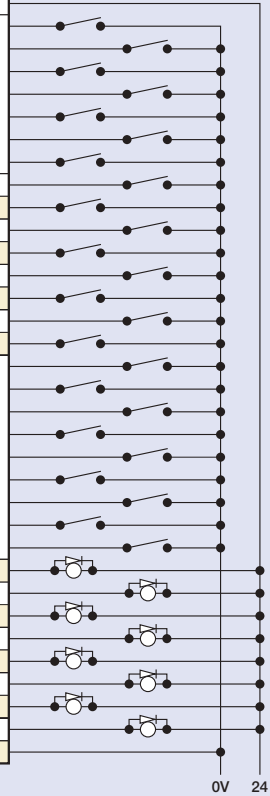
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (230V)
- Linear Motor

Explanation of I/O Signal Functions

Positioner, Product-Type Change Mode

Pin Number	Category	Port No.	Positioner Product Type Change Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	Position/Product Type Input 10	Specifies the position numbers to move to, and the product type numbers, using ports 007 to 022. The position and product type numbers are assigned by parameter settings. The number can be specified either as BCD or binary.
2A		017	Position/Product Type Input 11	
2B		018	Position/Product Type Input 12	
3A		019	Position/Product Type Input 13	
3B		020	Position/Product Type Input 14	
4A		021	Position/Product Type Input 15	
4B		022	Position/Product Type Input 16	
5A		023	Error reset	Resets minor errors. (Severe errors require a restart.)
5B		000	Start	Starts moving to the selected position.
6A		001	Home Return	Performs Home Return.
6B		002	Servo ON	Switches between Servo ON and OFF.
7A		003	Push	Performs a push motion.
7B		004	Pause	Pauses the motion when turned OFF, and resumes motion when turned ON.
8A		005	Cancel	Stops the motion when turned OFF. The remaining motion is canceled.
8B		006	Interpolation settings	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.
9A		007	Position/Product Type Input 1	Specifies the position numbers to move to, and the product type numbers, using ports 007 to 022. The position and product type numbers are assigned by parameter settings. The number can be specified either as BCD or binary.
9B	008	Position/Product Type Input 2		
10A	009	Position/Product Type Input 3		
10B	010	Position/Product Type Input 4		
11A	011	Position/Product Type Input 5		
11B	012	Position/Product Type Input 6		
12A	013	Position/Product Type Input 7		
12B	014	Position/Product Type Input 8		
13A	015	Position/Product Type Input 9		
13B	300	Alarm		
14A	301	Ready		
14B	302	Positioning complete		
15A	303	Home Return complete	Turns on when the home return operation is complete.	
15B	304	Servo ON output	Turns on when servo is ON.	
16A	305	Pushing complete	Turns on when a push motion is complete.	
16B	306	System battery error	Turns on when the system battery runs low (warning level).	
17A	307	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).	
17B	N		0V input	Connect 0V.

NPN\* Wiring Diagram



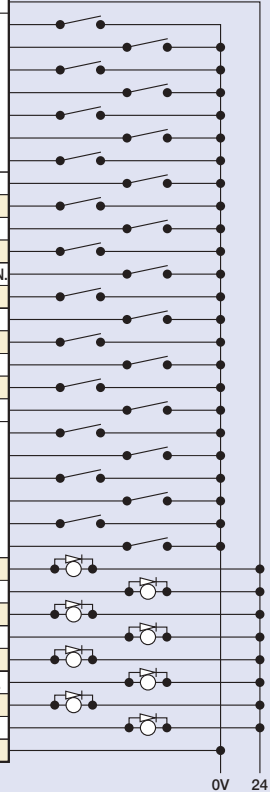
\*Note: With regard to PNP wiring diagram, please refer to ASEL manual.

0V 24

Positioner, 2-axis Independent Mode

Pin Number	Category	Port No.	Positioner 2-axis Independent Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	Position input 7	Specifies the position numbers to move to, using ports 010 to 022. The position numbers on the 1st and 2nd axes are assigned by parameter settings. The number can be specified either as BCD or binary.
2A		017	Position input 8	
2B		018	Position input 9	
3A		019	Position input 10	
3B		020	Position input 11	
4A		021	Position input 12	
4B		022	Position input 13	
5A		023	Error reset	Resets minor errors. (Severe errors require a restart.)
5B		000	Start 1	Starts movement to the selected position number on the 1st axis.
6A		001	Home Return 1	Performs home return on the 1st axis.
6B		002	Servo ON 1	Switches between servo ON and OFF for the 1st axis.
7A		003	Pause 1	Pauses the motion on 1st axis when turned OFF, and resumes motion when turned ON.
7B		004	Cancel 1	Cancels the movement on the 1st axis.
8A	005	Start 2	Starts the movement to the selected position number on the 2nd axis.	
8B	006	Home Return 2	Performs home return on the 2nd axis.	
9A	007	Servo ON 2	Switches between servo ON and OFF for the 2nd axis.	
9B	008	Pause 2	Pauses the motion on 2nd axis when turned OFF, and resumes when turned ON.	
10A	009	Cancel 2	Cancels the movement on the 2nd axis.	
10B	010	Position input 1	Specifies the position numbers to move to, using ports 010 to 022. The position numbers on the 1st and 2nd axes are assigned by parameter settings. The number can be specified either as BCD or binary.	
11A	011	Position input 2		
11B	012	Position input 3		
12A	013	Position input 4		
12B	014	Position input 5		
13A	015	Position input 6		
13B	300	Alarm	Turns off when an alarm occurs (Contact B)	
14A	301	Ready	Turns on when the controller starts up normally and is in an operable state.	
14B	302	Positioning complete 1	Turns on when the movement to the specified position on the 1st axis is complete.	
15A	303	Home Return complete 1	Turns on when home return on the 1st axis is complete.	
15B	304	Servo ON output 1	Turns on when the 1st axis is in a servo ON state.	
16A	305	Positioning complete 2	Turns on when the movement to the specified position on the 2nd axis is complete.	
16B	306	Home Return complete 2	Turns on when home return on the 2nd axis is complete.	
17A	307	Servo ON output 2	Turns on when the 2nd axis is in a servo ON state.	
17B	N		0V input	Connect 0V.

NPN\* Wiring Diagram



\*Note: With regard to PNP wiring diagram, please refer to ASEL manual.

0V 24



Explanation of I/O Signal Functions

Positioner, Teaching Mode

Pin Number	Category	Port No.	Positioner Teaching Mode	Functions	NPN* Wiring Diagram
1A	P24		24V input	Connect 24V.	
1B		016	JOG- on 1st axis	While the signal is on, the 1st axis is moved in the - (negative) direction.	
2A		017	JOG+ on 2nd axis	While the signal is on, the 2nd axis is moved in the + (positive) direction.	
2B		018	JOG- on 2nd axis	While the signal is on, the 2nd axis is moved in the - (negative) direction.	
3A		019	Specify inching (0.01mm)	Specifies how much to move during inching. (Total of the values specified for ports 019 to 022)	
3B		020	Specify inching (0.1mm)		
4A		021	Specify inching (0.5mm)		
4B		022	Specify inching (1mm)		
5A		023	Error reset	Resets minor errors. (Severe errors require a restart.)	
5B		000	Start	Starts moving to selected position.	
6A		001	Servo ON	Switches between Servo ON and OFF.	
6B		002	Pause	Pauses the motion when turned OFF, and resumes motion when turned ON.	
7A	Input	003	Position input 1	Ports 003 to 013 are used to specify the position number to move, and the position number for inputting the current position. - When the teaching mode setting on port 014 is in the ON state, the current value is written to the specified position number.	
7B		004	Position input 2		
8A		005	Position input 3		
8B		006	Position input 4		
9A		007	Position input 5		
9B		008	Position input 6		
10A		009	Position input 7		
10B		010	Position input 8		
11A		011	Position input 9		
11B		012	Position input 10		
12A		013	Position input 11		
12B	014	Teaching mode setting			
13A		015	JOG+ on 1st axis	While the signal is input, the 1st axis is moved in the + (positive) direction.	
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact B)	
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.	
14B		302	Positioning complete	Turns on when the movement to the destination is complete.	
15A		303	Home return complete	Turns on when the home return operation is complete.	
15B		304	Servo ON output	Turns on when servo is ON.	
16A		305	-	-	
16B		306	System battery error	Turns on when the system battery runs low (warning level).	
17A		307	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).	
17B	N		0V input	Connect 0V.	

\*Note: With regard to PNP wiring diagram, please refer to ASEL manual.

Positioner, DS-S-C1 Compatible Mode

Pin Number	Category	Port No.	Positioner DS-S-C1 Compatible Mode	Functions	NPN* Wiring Diagram
1A	P24		24V input	Connect 24V.	
1B		016	Position No. 1000	(Same as ports 004 through 015)	
2A		017	-	-	
2B		018	-	-	
3A		019	-	-	
3B		020	-	-	
4A		021	-	-	
4B		022	-	-	
5A		023	CPU reset	Resets the system to the same state as when the power is turned on.	
5B		000	Start	Starts moving to selected position.	
6A		001	Hold (Pause)	Pauses the motion when turned ON, and resumes when turned OFF.	
6B		002	Cancel	Stops the motion when turned ON. The remaining motion is canceled.	
7A	Input	003	Interpolation settings	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.  Ports 004 through 016 are used to specify the position number to move. The numbers are specified as BCD.	
7B		004	Position No. 1		
8A		005	Position No. 2		
8B		006	Position No. 4		
9A		007	Position No. 8		
9B		008	Position No. 10		
10A		009	Position No. 20		
10B		010	Position No. 40		
11A		011	Position No. 80		
11B		012	Position No. 100		
12A		013	Position No. 200		
12B	014	Position No. 400			
13A		015	Position No. 800		
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact A)	
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.	
14B		302	Positioning complete	Turns on when the movement to the destination is complete.	
15A		303	-	-	
15B		304	-	-	
16A		305	-	-	
16B		306	System battery error	Turns on when the system battery runs low (warning level).	
17A		307	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).	
17B	N		0V input	Connect 0V.	

\*Note: With regard to PNP wiring diagram, please refer to ASEL manual.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Motor 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 (230V)
- Linear Motor

## Table of specifications

	Item	Specifications
Basic Specifications	Connected actuator	RCA/RCA2/RCL Series Actuator
	Input Voltage	DC24V ±10%
	Power Supply Capacity	Control power supply (Max. 1.2A) + motor power supply (See the table below)
	Dielectric strength voltage	DC500V 10MΩ or higher
	Withstand voltage	AC500V 1 min.
	Rush current	Max. 30A
	Vibration resistance	XYZ directions 10 to 57Hz, One side amplitude: 0.035mm (continuous), 0.075mm (intermittent) 58 to 150 Hz 4.9 m/s <sup>2</sup> (continuous), 9.8 m/s <sup>2</sup> (intermittent)
Control specification	Number of control axes	1 axis / 2 axis
	Maximum total output of connected axis	60W (30W + 30W)
	Position detection method	Incremental encoder / Absolute encoder
	Speed setting	1mm/sec and up, the maximum depends on actuator specifications
	Acceleration setting	0.01G and up, the maximum depends on the actuator
	Operating method	Program operation / Positioner operation (switchable)
Program	Programming language	Super SEL language
	Number of programs	64 programs
	Number of program steps	2000 steps
	Number of multi-tasking programs	8 points
	Positioning Points	1500 points
	Data memory device	FLASHROM (A system-memory backup battery can be added as an option)
Communication	Data input method	Teaching pendant or PC software
	Number of I/O	24 input points / 8 output points (NPN or PNP selectable)
	I/O power	Externally supplied 24VDC ± 10%
	PIO cable	CB-DS-PIO □□□ (supplied with the controller)
	Serial communications function	RS232C (D-Sub Half-pitch connector) / USB connector
	Field Network	DeviceNet, CC-Link, ProfiBus
	Motor Cable	RCA: CB-ACS-MA □□□ (Max. 20m) / RCA2&RCL: CB-ACS-MPA □□□ (Max. 20m)
	Encoder cable	RCA: CB-ACS-PA □□□ (Max. 20m) / RCA2&RCL: see motor cable (dual motor-encoder cable)
	Protection function	Motor overcurrent, Motor driver temperature check, Overload check, Encoder open-circuit check Soft limit over, system error, battery error, etc.
	Ambient operating humidity and temperature	0 to 40°C 10 to 95% (non-condensing)
General specifications	Ambient atmosphere	Free from corrosive gases. In particular, there shall be no significant dust.
	Protection class	IP20
	Weight	Approx. 450g
	External dimensions	43 mm (W) x 159 mm (H) x 110 mm (D)

Motor power supply capacity (Note1)	Actuator type	1-Axis specification				2-Axis specification			
		Standard specifications/high acceleration and deceleration model		Power-saving		Standard specifications/high acceleration and deceleration model		Power-saving	
		Rated	Max. (Note2)	Rated	Max. (Note3)	Rated	Max. (Note2)	Rated	Max. (Note3)
RCA RCA2	10W, 20W [Model symbol: 20]	1.3A	4.4A	1.3A	2.5A	2.6A	8.8A	2.6A	5.0A
	30W	1.3A	4.4A	1.3A	2.2A	2.6A	8.8A	2.6A	4.4A
	20W [Model symbol: 20S] SA4, RA3, TA5 type dedicated	1.7A	5.1A	1.7A	3.4A	3.4A	10.2A	3.4A	6.8A
RCL	2W	0.8A	4.6A	-	-	1.6A	9.2A	-	-
	5W	1.0A	6.4A	-	-	2.0A	12.8A	-	-
	10W	1.3A	6.4A	-	-	2.6A	12.8A	-	-

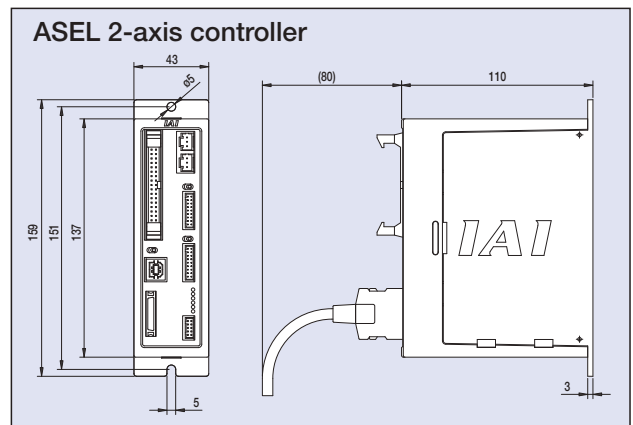
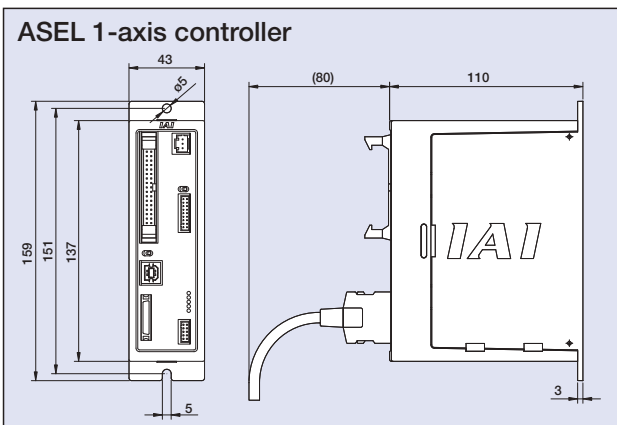
(Note 1) For both 1-axis and 2-axis specifications, approx. 30.0A inrush current flows for 5 ms when the control power supply is turned on.

(Note 2) Max. current at accelerating/decelerating

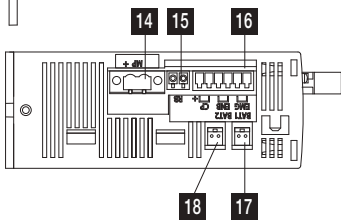
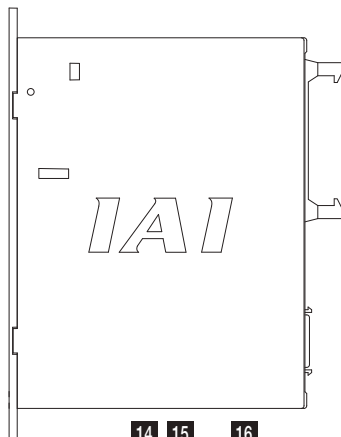
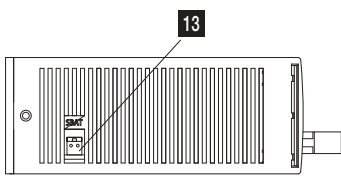
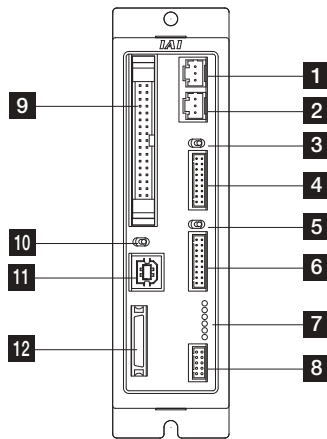
(Note 3) Current reaches the maximum when detecting the servo motor excitation phase at the first servo on after the power is on. (Normal: Approx. 1 to 2 sec., Max.: 10 sec)

(Note 4) Other than motor power supply capacity, it increases 0.5A for control power.

## External Dimensions



Name of Each Part



**1 Motor connector for axis 1**

Connect the motor cable of the axis 1 actuator.

**2 Motor connector for axis 2**

Connect the motor cable of the axis 2 actuator.

**3 Brake switch for axis 1**

This switch is used to release the axis brake. Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

**4 Encoder connector for axis 1**

Connect the encoder cable of the axis 1 actuator.

**5 Brake switch for axis 2**

This switch is used to release the axis brake.

Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

**6 Encoder connector for axis 2**

Connect the encoder cable of the axis 2 actuator.

**7 Status indicator LEDs**

These LEDs are used to indicate the operating condition of the controller.

The LED status indicators are as follows:

- PWR : Power is input to controller.
- RDY : The controller is ready to perform program operation.
- ALM : The controller is abnormal.
- EMG : An emergency stop is actuated and the drive source is cut off.
- SV1 : The axis 1 actuator servo is on.
- SV2 : The axis 2 actuator servo is on.

**8 Panel unit connector**

A connector for the panel unit (optional) that displays the controller status and error codes.

**9 I/O Connector**

A connector for interface I/Os.

34-pin flat cable connector for DIO (24IN/8OUT) interface.

I/O power is also supplied to the controller via this connector (Pin No. 1 and No. 34).

**10 Mode switch**

This switch is used to specify the running mode of the controller. The left position indicates the MANU (manual operation) mode, while the right position indicates the AUTO (automatic operation) mode. Teaching can only be performed in manual operation, and automatic operation using external I/Os is not possible in the MANU mode.

**11 USB connector**

A connector for PC connection via USB. If the USB connector is connected, the TP connector is disabled and all communication inputs to the TP connector are cut off.

**12 Teaching pendant connector**

A half-pitch I/O 26-pin connector that connects a teaching pendant when the running mode is MANU. A special conversion cable is needed to connect a conventional Dsub, 25-pin connector.

**13 System-memory backup battery connector**

If you wish to retain the various data recorded in the SRAM of the controller even after the power is cut off, connect the necessary battery to this connector. This battery is installed externally to the unit. The controller does not come standard with the battery (Option).

**14 Motor power input connector**

This connector is used to input the motor power. It consists of a 2-pin, 2-piece connector by Phoenix Contact.

**15 External regenerative resistor connector**

A connector for the regenerative resistor that must be connected when the built-in regenerative resistor alone does not offer sufficient capacity in high-acceleration/high-load operation, etc.

Whether or not an external regenerative resistor is necessary depends on the conditions of your specific application such as the axis configuration.

**16 Control power/System input connector**

This connector is used to connect the control power input, emergency stop switch, and enable switch. It consists of a Phoenix Contact 6-pin 2-piece connector.

**17 Absolute-data backup battery connector for axis 1**

A connector for the battery that backs up absolute data when the actuator uses an absolute encoder. Secure installation of the battery is the customer's responsibility.

**18 Absolute-data backup battery connector for axis 2**

A connector for the battery that backs up absolute data when the actuator uses an absolute encoder. Secure installation of the battery is the customer's responsibility.

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm /Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Motor 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 (230V)

Linear Motor

## Option

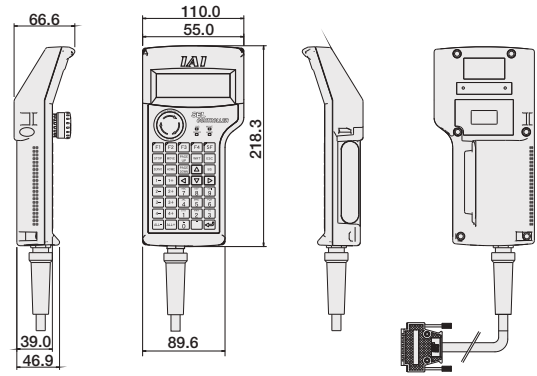
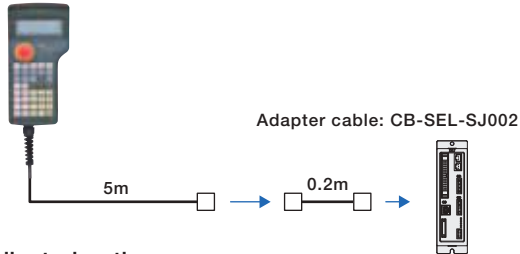
### Teaching Pendant

**Features** This is a teaching device that provides information on functions such as position input, test runs, and monitoring.

#### Model

Model	Description
SEL-T-J	Standard type with adapter cable
SEL-TD-J	Equipped with a deadman switch and adapter cable

#### Configuration



#### Specifications

Item	SEL-T-J	SEL-TD-J
3-position Enable Switch	No	Yes
ANSI/UL standards	Non-compliant	Compliant
CE mark	Compliant	
Display	20 char. x 4 lines	
Ambient Operating Temp./Humidity	0~40°C 10~90% RH (non-condensing)	
Protective structure	IP54	
Weight	Approx. 0.4kg (not incl. cable)	

#### SEL-T dedicated options

- Wall-mounting hook
- Strap

Model HK-1

Model STR-1

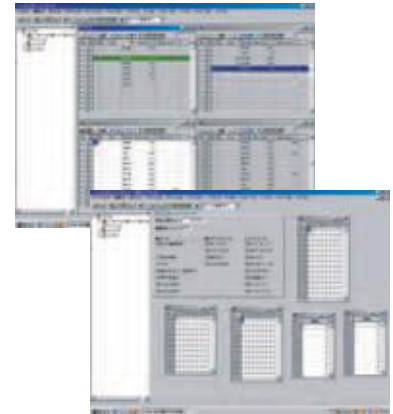
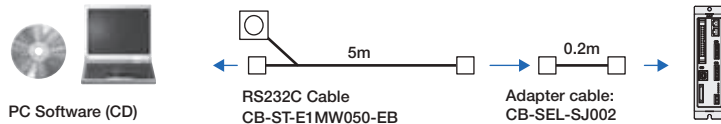


#### PC Software (Windows Only)

**Features** A startup support software for entering programs/positions, performing test runs, and monitoring. More functions have been added for debugging, and improvements have been made to shorten the start-up time.

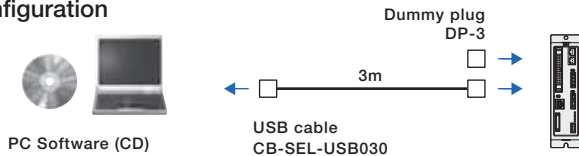
**Model** IA-101-X-MW-J (with RS232C cable + adapter cable)  
IA-101-X-MW (with RS232C cable)

#### Configuration



**Model** IA-101-X-USB (with USB cable)

#### Configuration

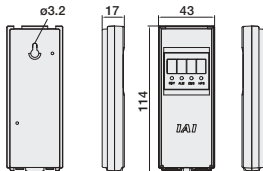


**Note:**  
Only versions 7.0.0.0 and later can be used with the PSEL controller.

### Panel Unit

**Features** Display device that shows the error code from the controller or the currently running program number.

**Model** PU-1 (Cable length: 3m)



### Absolute Data Backup Battery

**Features** Battery for saving absolute data, when operating an actuator with an absolute encoder. Same as the battery used for system memory backup.

**Model** AB-5



### System Memory Backup Battery

**Features** This battery is required when you are using global flags in the program and you want to retain your data even after the power has been turned OFF.

**Model** AB-5-CS (with case)  
AB-5 (Standalone battery)

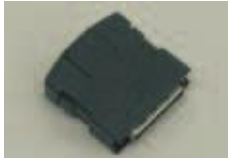


Option

Dummy Plug

**Features** When connecting the ASEL controller to a computer with a USB cable, this plug is inserted in the teaching port to shut off the enable circuit.  
(Supplied with the PC software IA-101-X-USB)

**Model DP-3**



USB Cable

**Features** A cable for connecting the controller to the USB port to a computer. A controller with no USB port (e.g. XSEL) can be connected to the USB port of a computer by connecting an RS232C cable to the USB cable via a USB adapter.  
(See PC software IA-101-X-USBMW)

**Model CB-SEL-USB030** (Cable length: 3m)



Adapter Cable

**Features** An adapter cable to connect the D-sub 25-pin connector from the teaching pendant or a PC to the teaching connector (half-pitch) of the ASEL controller.

**Model CB-SEL-SJ002** (Cable length: 0.2m)



Spare Parts

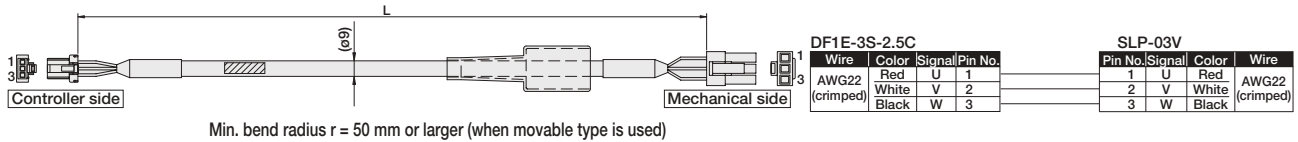
When you need spare parts after purchasing the product, such as when replacing a cable, refer to the list of models below.

Motor cable

**Model CB-ACS-MA**

\* The standard motor cable is a robot cable.

\* Enter the cable length (L) into    . Compatible to a maximum of 20 meters.  
Ex.: 080 = 8 m

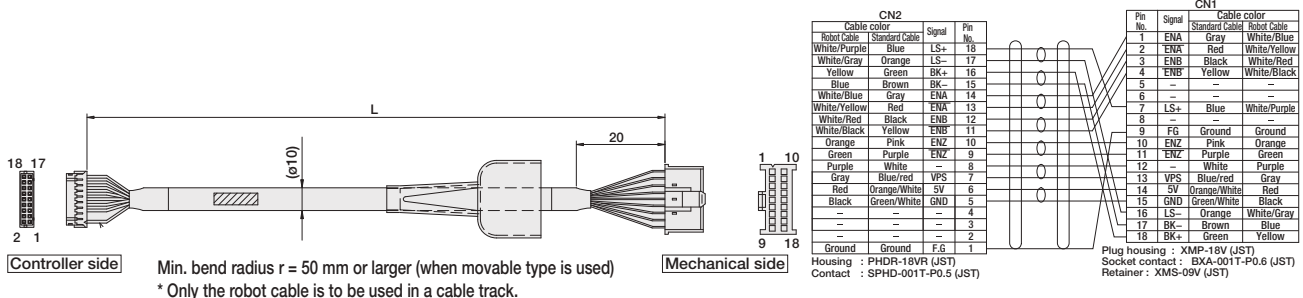


Encoder cable/Encoder robot cable

**Model CB-ACS-PA**    / **CB-ACS-PA**    **-RB**

\* The standard cable for the encoder cable is a normal cable. A robot cable can be specified as an option.

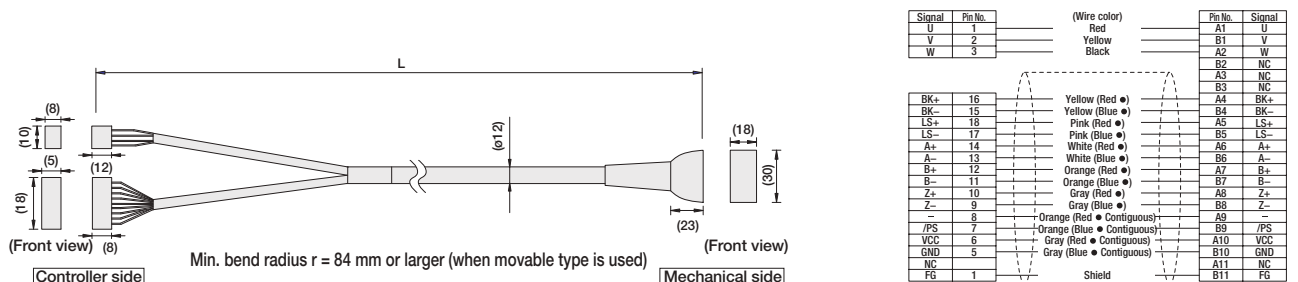
\* Enter the cable length (L) into    . Compatible to a maximum of 20 meters.  
Ex.: 080 = 8 m



Motor-Encoder Integrated Cable for RCA2/RCL

**Model CB-ACS-MPA**

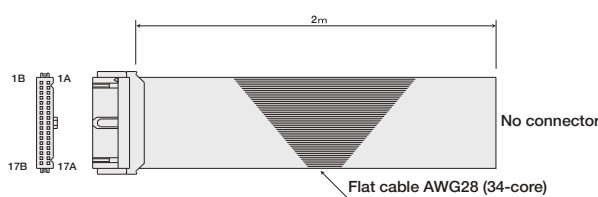
\* Enter the cable length (L) into    . Compatible to a maximum of 20 meters.  
Ex.: 080 = 8 m



I/O Flat Cable

**Model CB-DS-PIO**

\* Enter the cable length (L) into    . Compatible to a maximum of 10 meters.  
Ex.: 080 = 8 m



Pin No.	Color	Wire	Pin No.	Color	Wire
1A	Brown 1		9B	Gray 2	
1B	Red 1		10A	White 2	
2A	Orange 1		10B	Black 2	
2B	Yellow 1		11A	Brown-3	
3A	Green 1		11B	Red 3	
3B	Blue 1		12A	Orange 3	
4A	Purple 1		12B	Yellow 3	
4B	Gray 1		13A	Green 3	
5A	White 1		13B	Blue 3	
5B	Black 1		14A	Purple 3	
6A	Brown-2		14B	Gray 3	
6B	Red 2		15A	White 3	
7A	Orange 2		15B	Black 3	
7B	Yellow 2		16A	Brown-4	
8A	Green 2		16B	Red 4	
8B	Blue 2		17A	Orange 4	
9A	Purple 2		17B	Yellow 4	

**RCA&RCA2 Series**  
**Extract Cat. No. 0513-E**

The information contained in this catalog is subject to change without notice for the purpose of product improvement



Providing quality products  
since 1986



**IAI Industrieroboter GmbH**  
Ober der Röth 4  
D-65824 Schwalbach / Frankfurt  
Germany  
Tel.:+49-6196-8895-0  
Fax:+49-6196-8895-24  
E-Mail: [info@IAI-GmbH.de](mailto:info@IAI-GmbH.de)  
Internet: <http://www.eu.IAI-GmbH.de>

---

**IAI America Inc.**

2690 W. 237th Street, Torrance, CA 90505, U.S.A  
Phone: +1-310-891-6015 Fax: +1-310-891-0815

**IAI CORPORATION**

645-1 Shimizu Hirose, Shizuoka 424-0102, Japan  
Phone: +81-543-64-5105 Fax: +81-543-64-5182