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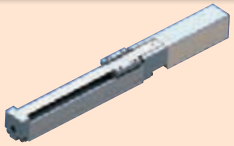
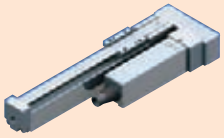
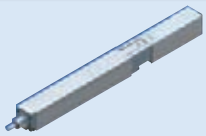
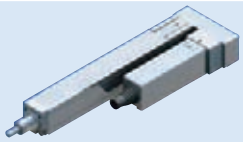
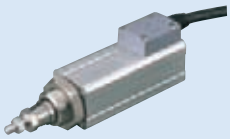
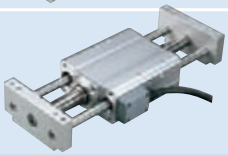
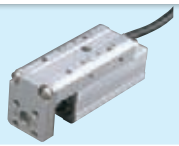
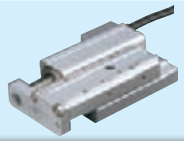
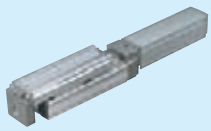
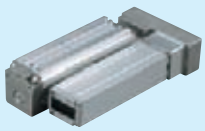
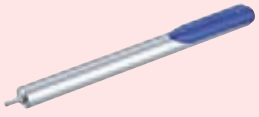
Mini RoboCylinder

RCP3
RCA2
RCL

www.robocylinder.de

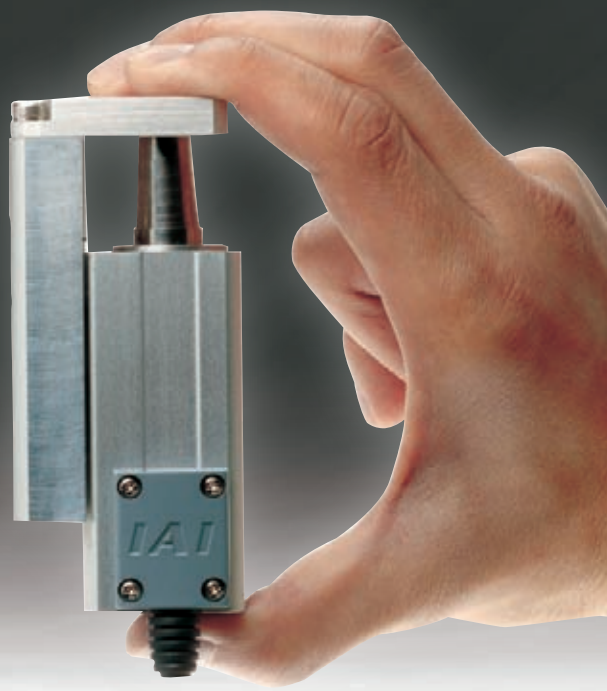
Product Overview

Category	Type	Title / External view	Model			Reference Page
			Series Name	Actuator width	Type name	
Mini Slider type	Motor Unit type	Coupling type 	RCP3	22mm	SA2AC	→P.13
				28mm	SA2BC	→P.15
		Reversing type 	RCP3	58mm	SA2AR	→P.17
				59.5mm	SA2BR	→P.19
Mini Rod type	Without guide / Motor Unit type	Coupling type 	RCP3	22mm	RA2AC	→P.21
				28mm	RA2BC	→P.23
		Reversing type 	RCP3	58mm	RA2AR	→P.25
				59.5mm	RA2BR	→P.27
	Without guide / Short Length type	Fixed Nut type 	RCA2	28mm	RN3N	→P.29
				34mm	RN4N	→P.31
		Tapped Hole type 	RCA2	28mm	RP3N	→P.33
				34mm	RP4N	→P.35
	With guide / Short Length type	Single Guide Free Mount type 	RCA2	28mm	GS3N	→P.37
				34mm	GS4N	→P.39
		Double Guide Free Mount type 	RCA2	28mm	GD3N	→P.41
				34mm	GD4N	→P.43
		Double Guide Slide Unit type 	RCA2	60mm	SD3N	→P.45
				72mm	SD4N	→P.47

Category	Type	Title / External view	Model			Reference Page
			Series Name	Actuator width	Type name	
Mini Table type	Short Length type	Compact type 	RCA2	32mm	TC3N	→P.49
				36mm	TC4N	→P.51
		Wide type 	RCA2	50mm	TW3N	→P.53
				58mm	TW4N	→P.55
		Flat type 	RCA2	61mm	TF3N	→P.57
				71mm	TF4N	→P.59
	Motor Unit type	Coupling type 	RCP3	36mm	TA3C	→P.61
				40mm	TA4C	→P.63
			RCA2	40mm	TA4C	→P.65
		Reversing type 	RCP3	72mm	TA3R	→P.67
				81mm	TA4R	→P.69
			RCA2	81mm	TA4R	→P.71
Mini Linear Servo type	Micro Slider	Slim type 	RCL	20mm	SA1L	→P.73
				24mm	SA2L	→P.75
				28mm	SA3L	→P.77
		Long Stroke type / Single slider 		40mm	SA4L	→P.79
				48mm	SA5L	→P.83
				58mm	SA6L	→P.87
		Long Stroke type / Multi-slider 		40mm	SM4L	→P.81
				48mm	SM5L	→P.85
				58mm	SM6L	→P.89
	Micro Cylinder	Slim type 	RCL	ϕ16mm	RA1L	→P.91
				ϕ20mm	RA2L	→P.93
				ϕ25mm	RA3L	→P.95
Controller		PSEP／ASEP Controller 				→P.101

The compact, next-generation electric actuator

Mini ROBO Cylinder

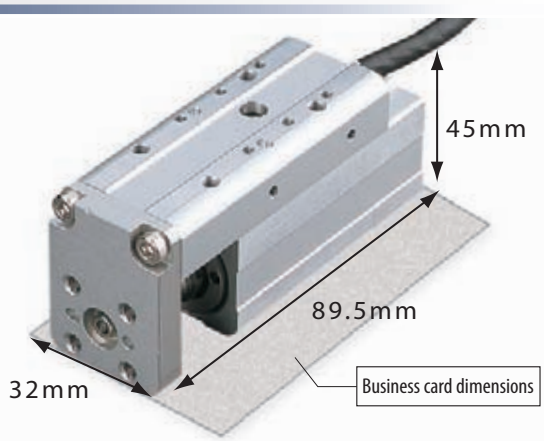


ROBO CYLINDER

Mini ROBO Cylinder (space-saving)

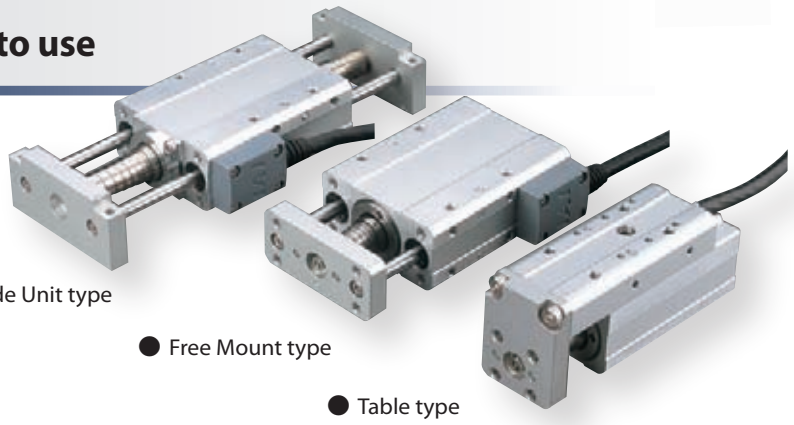
The new Mini ROBO Cylinder is an achievement in small electromechanical cylinders. It incorporates a newly developed motor, and its significantly reduced length, width and height make it comparable in size to air cylinders.
The Mini ROBO Cylinder is the perfect replacement for air cylinders in systems that previously could only use air cylinders due to size constraints.

The Mini Table Compact type RCA2-TC3N has dimensions smaller than a business card.



Shaped like an air cylinder and easy to use

The new ROBO Cylinder is available in shapes similar to air cylinders.
Users accustomed to the operation of pneumatic systems are able to use the new ROBO Cylinder effortlessly.



- Slide Unit type
- Free Mount type
- Table type

Abundant variations

Choose from such models as the Slider type, Rod type, Table type, and Linear Servo type that best fit your manufacturing needs. (See page on right.)

<List of existing ROBO Cylinder models and new ROBO Cylinder models>

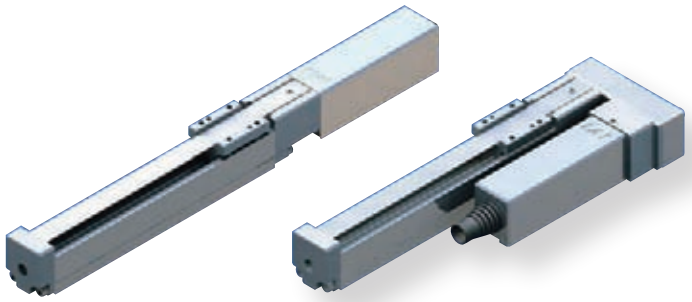
	Mini ROBO Cylinder	Existing Models			
Slider type	Motor unit type Pulse motor (24V) RCP3	Motor unit type Pulse motor (24V) RCP3	Coupling type Pulse motor (24V) RCP2	Coupling type Servo motor (24V) RCA High acceleration/deceleration	Coupling type Servo motor (100/200V) RCS2 High acceleration/deceleration
	Motor reversing type Pulse motor (24V) RCP3	Motor reversing type Pulse motor (24V) RCP3	Motor reversing type Pulse motor (24V) RCP2	Motor reversing type Servo motor (24V) RCA	Motor reversing type Servo motor (100/200V) RCS2
Rod type	Coupling type Pulse motor (24V) RCP3	Coupling type Pulse motor (24V) RCP2	Coupling type Servo motor (24V) RCA High acceleration/deceleration	Full length short type Servo motor (100/200V) RCS2	High thrust type Pulse motor (24V) RCP2
	Motor reversing type Pulse motor (24V) RCP3	Motor reversing type Servo motor (24V) RCA	Motor reversing type Servo motor (100/200V) RCS2	Ultra high thrust type Servo motor (100/200V) RCS2	
	Single-guide Servo motor (24V) RCA2	Single-guide Pulse motor (24V) RCP2	Single-guide Servo motor (24V) RCA High acceleration/deceleration	Single-guide Servo motor (100/200V) RCS2	
	Double-guide Servo motor (24V) RCA2	Double-guide Pulse motor (24V) RCP2	Double-guide Servo motor (24V) RCA High acceleration/deceleration	Double-guide Servo motor (100/200V) RCS2	
	Slide unit Servo motor (24V) RCA2				
Table type	Motor unit type Pulse motor (24V) RCP3	Motor unit type Servo motor (24V) RCA2	Motor unit type Pulse motor (24V) RCP3	Motor unit type Servo motor (24V) RCA2	
	Motor reversing type Pulse motor (24V) RCP3	Motor reversing type Servo motor (24V) RCA2	Motor reversing type Pulse motor (24V) RCP3	Motor reversing type Servo motor (24V) RCA2	
	Compact type Servo motor (24V) RCA2	Wide type Servo motor (24V) RCA2	Flat type Servo motor (24V) RCA2		
Linear Servo type	Micro Cylinder Linear motor RCL	Micro Slider Linear motor RCL	Micro Slider Linear motor RCL	Multi-slider Linear motor RCL	

Mini Slider type

The slider on the main body moves back and forth until it is positioned.

Features
- The motor can easily perform switching operations for the unit model.
- Select from Reversing type with a reduced total length and Slim Straight type (Coupling type).

Usage
Used for jig and workpiece positioning, table travel, etc



Motor Unit Coupling type

Motor Unit Reversing type

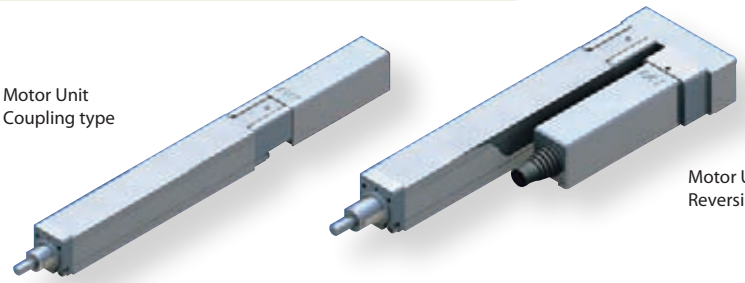
Mini Rod type

The rod extends and retracts from the main body, gets into position and presses.

Features
- Select from Slim Motor Unit types and Short Length types having greatly reduced overall length.
- Select from Guide types with highly rigid/ linear built-in guides and Non-Guide types having drastically miniaturized main body sizes.

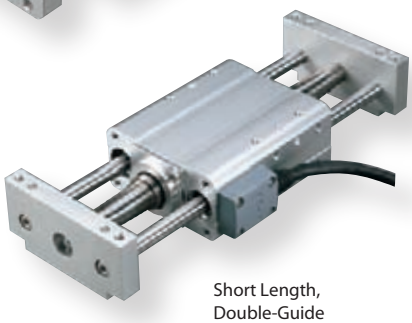
Usage
Used for raising/lowering products and jigs, pushing, clamping, etc.

Short Length,
Double-Guide
Free Mount type

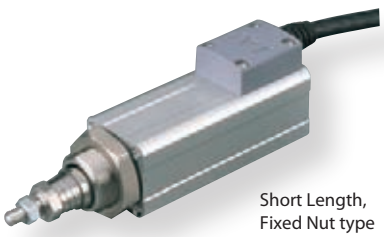


Motor Unit
Coupling type

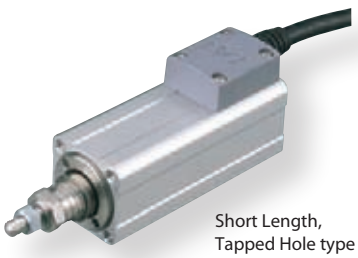
Motor Unit
Reversing type



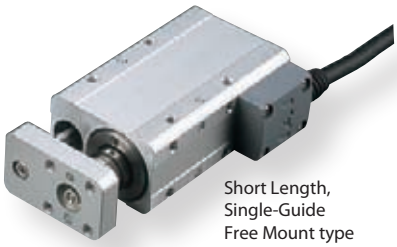
Short Length,
Double-Guide
Slide Unit type



Short Length,
Fixed Nut type



Short Length,
Tapped Hole type



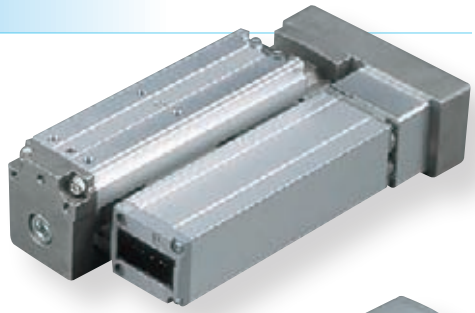
Short Length,
Single-Guide
Free Mount type

Mini Table type

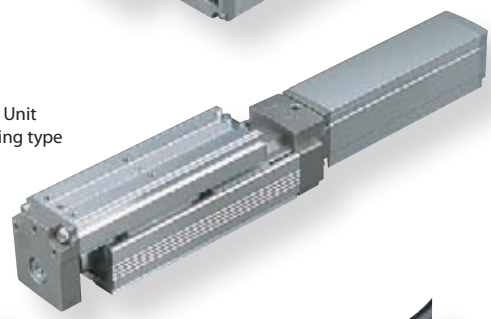
The table on the main body slides until it is positioned.

Features
- Comes equipped with an integrated guide that keeps overhung loads balanced.
- Select from Compact, Short Length types and Long Stroke Motor Unit types.

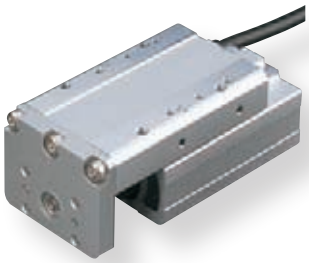
Usage
Used for raising/lowering products and jigs, horizontal moving, and pushing (handles overhung loads from the main unit).



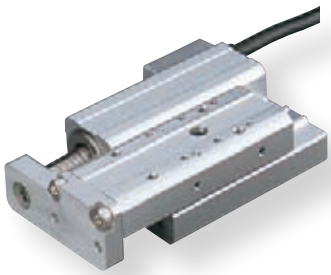
Motor Unit
Reversing type



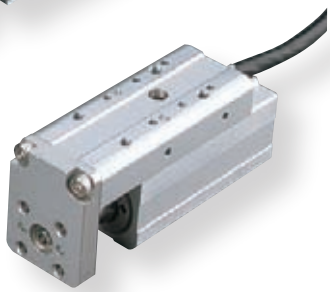
Motor Unit
Coupling type



Short Length
Wide type



Short Length
Flat type



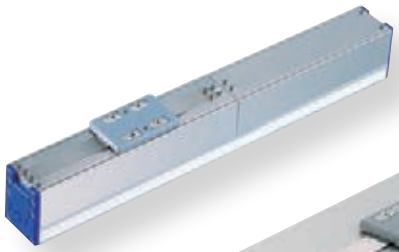
Short Length
Compact type

Mini Linear Servo type

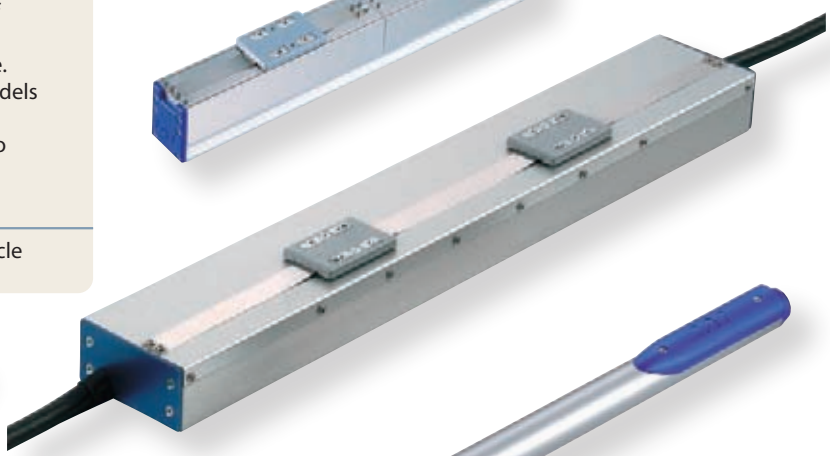
High speed, lightweight parts transfer.

Features
- Equipped with a high acceleration/ deceleration linear motor capable of operation at up to 2G.
- Available in Slider type and Rod type. Slider type comes in six different models for each size and stroke.
- The Multi-slider type comes with two sliders on one axis that can be independently operated.

Usage
Used for transfers requiring short cycle times, etc.



Mini Slider
Slim type



Micro Slider
Long Stroke Type
Multi-slider

Micro Slider
Long Stroke Type
single slider

Micro Cylinder
Slim type

Controller

ROBO CYLINDER

New PSEP/ASEP controllers designed exclusively for 2-point and 3-point positioning

Unlike conventional controllers, the PSEP/ASEP require only a few movement positions. These "**S**imple, **E**asy **P**ositioner" controllers are for applications where the actuator travels only between two or three points, which is usually the case with air cylinders.

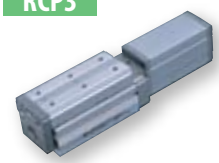
If you have been using air cylinders and are unhappy with the long time needed to change movement positions or want to stop actuator movement between two points, you can use the ROBO Cylinder with PSEP/ASEP controllers. We also have an IP53 rated dustproof type that can be placed near the actuator for operation as is done with solenoid valves.

PSEP/ASEP controllers are not just for the new Mini ROBO Cylinder lineup. They can also be used with existing ROBO Cylinders. Existing controllers can also be used with the new Robo Mini Cylinders. Please use them according to the application..

Existing models

RCP2

RCP3



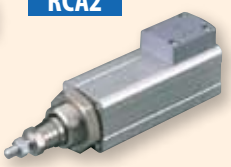
RCA

RCA2

New Mini ROBO Cylinder

RCP3

RCA2



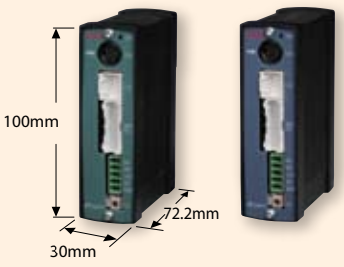
RCL

PCON/ACON

PSEL/ASEL

ROBONET

PSEP/ASEP



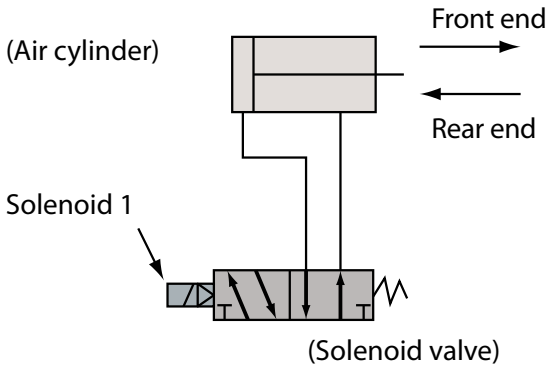
Operates using the same signals used for air cylinder solenoid valves.

PSEP/ASEP operating methods

PSEP/ASEP controllers can be operated with the same signals used for air cylinder solenoid valves.
Solenoid valves come in two types: Single solenoids and Double solenoids. The PSEP/ASEP supports signals for both.

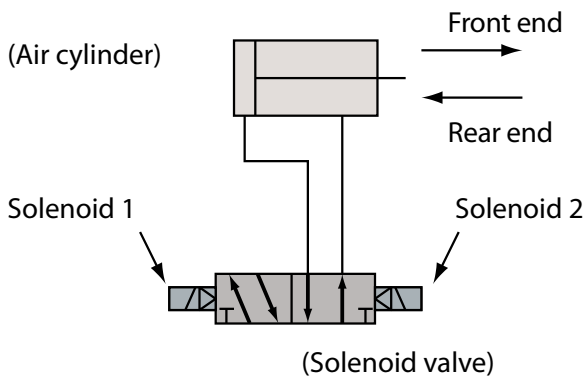
■When using an air cylinder solenoid valve:

<Single solenoid>



Signal to solenoid 1	Rod movement
ON	Front end
OFF	Rear end

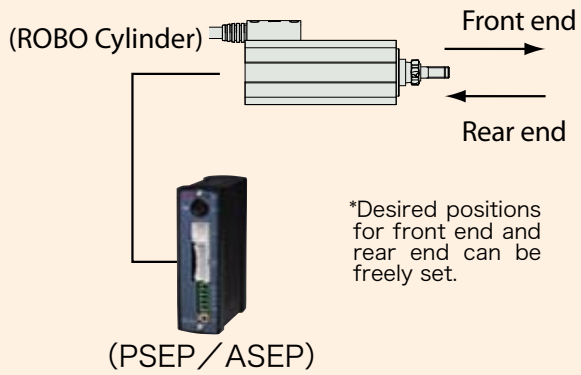
<Double solenoid>



Signal to solenoid 1	Signal to solenoid 2	Rod movement
ON	OFF	Front end
OFF	ON	Rear end

■PSEP/ASEP:

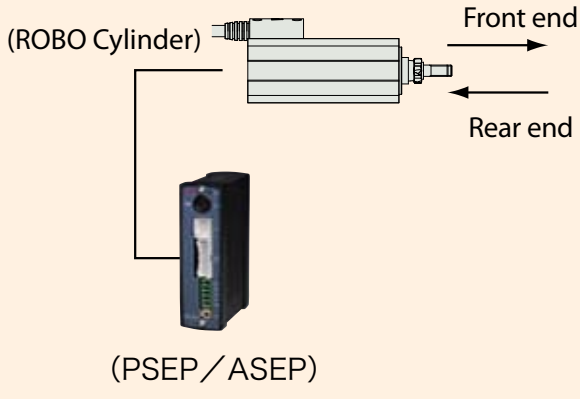
<Replacement of single solenoid>



*Desired positions for front end and rear end can be freely set.

Signal to controller Input 0	Rod movement
ON	Front end
OFF	Rear end

<Replacement of double solenoid>



Signal to controller Input 1	Signal to controller Input 0	Rod movement
ON	OFF	Front end
OFF	ON	Rear end

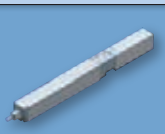
※The main body moves between the same two points listed above, but it can also travel between three points by switching the parameters.

Mini ROBO Cylinder Specification Table

Mini Slider type

Type	Title / External view	Model: Series Name	Model: Type name	Encoder	Motor type: Type	Motor type: Size	Feed screw	Lead (mm)	Rated thrust (N)	Max. load capacity (kg): Horizontal	Max. load capacity (kg): Vertical	Max.speed (mm/s)	Stroke (mm)	Positioning repeatability (mm)	Reference Pages
Motor Coupling Model	Coupling type 	RCP3	SA2AC	Incremental	Pulse motor	20□	Lead screw	4	—	0.25	—	200	25~100 (every 25)	±0.05	P.13
								2	—	0.5	—	100			
								1	—	1	—	50			
			SA2BC					6	—	0.25	—	300	25~150 (every 25)		P.15
								4	—	0.5	—	200			
								2	—	1	—	100			
	Reversing type 	RCP3	SA2AR					4	—	0.25	—	200	25~100 (every 25)		P.17
								2	—	0.5	—	100			
								1	—	1	—	50			
			SA2BR					6	—	0.25	—	300	25~150 (every 25)		P.19
								4	—	0.5	—	200			
								2	—	1	—	100			

Mini Rod type

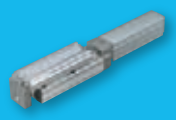
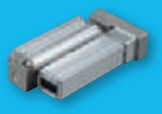
Type	Title / External view	Model: Series Name	Model: Type name	Encoder	Motor type: Type	Motor type: Size	Feed screw	Lead (mm)	Rated thrust (N)	Max. load capacity (kg): Horizontal	Max. load capacity (kg): Vertical	Max.speed (mm/s)	Stroke (mm)	Positioning repeatability (mm)	Reference Pages
Motor Coupling Model	Coupling type 	RCP3	RA2AC	Incremental	Pulse motor	20□	Lead screw	4	—	0.25	0.125	200	25~100 (every 25)	±0.05	P.21
								2	—	0.5	0.25	100			
								1	—	1	0.5	50			
			RA2BC					6	—	0.25	0.125	300	25~150 (every 25)		P.23
								4	—	0.5	0.25	200			
								2	—	1	0.5	100			
	Reversing type 	RCP3	RA2AR					4	—	0.25	0.125	200	25~100 (every 25)		P.25
								2	—	0.5	0.25	100			
								1	—	1	0.5	50			
			RA2BR					6	—	0.25	0.125	300	25~150 (every 25)		P.27
								4	—	0.5	0.25	200			
								2	—	1	0.5	100			
Short Length type	Fixed Nut type 	RCA2	RN3N		Pulse motor	10W	Lead screw	4	25.1	0.25	0.125	200	30	±0.05	P.29
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			RN4N			20W	Lead screw	6	19.9	0.25	0.125	220	30	±0.05	P.31
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	270〈220〉		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			
	Tapped Hole type 	RCA2	RP3N			10W	Lead screw	4	25.1	0.25	0.125	200	30	±0.05	P.33
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			RP4N			20W	Lead screw	6	19.9	0.25	0.125	220	30	±0.05	P.35
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	270〈220〉		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			
	Single Guide Free Mount type 	RCA2	GS3N			10W	Lead screw	4	25.1	0.25	0.125	200	30	±0.05	P.37
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			GS4N			20W	Lead screw	6	19.9	0.25	0.125	220	30	±0.05	P.39
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	270〈220〉		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			
	Double Guide Free Mount type 	RCA2	GD3N			10W	Lead screw	4	25.1	0.25	0.125	200	30	±0.05	P.41
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			GD4N			20W	Lead screw	6	19.9	0.25	0.125	220	30	±0.05	P.43
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	270〈220〉		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			
	Double Guide Slide Unit type 	RCA2	SD3N			10W	Lead screw	4	25.1	0.25	0.125	200	25 50	±0.05	P.45
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			SD4N			20W	Lead screw	6	19.9	0.25	0.125	300	25 50 75	±0.05	P.47
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	300		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			

*The value inside < > indicates vertical usage.

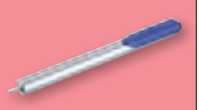
■Skillful use of "Lead Screw" type

(1) Lead screws are suitable for uses with infrequent operations. (As a guide, this would be approximately 5 years, for 1 operation every 10 seconds, 24-hour use, 240 days a year.)
(2) Lead screws are suitable for uses with small payloads, light loads. (1kg or less)
(3) Use when repeated positioning accuracy of less than ±0.05mm is needed.
(4) Please set up in a location where maintenance will be easy.

Mini Table type

Type	Title / External view	Model: Series Name	Model: Type name	Encoder	Motor type: Type	Motor type: Size	Feed screw	Lead (mm)	Rated thrust (N)	Max. load capacity (kg): Horizontal	Max. load capacity (kg): Vertical	Max.speed (mm/s)	Stroke (mm)	Positioning repeatability (mm)	Reference Pages
Short Length type	Compact type 	RCA2	TC3N	Incremental	Pulse motor	10W	Lead screw	4	25.1	0.25	0.125	200	30	±0.05	P.49
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			TC4N			20W	Lead screw	6	19.9	0.25	0.125	220	30	±0.05	P.51
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	270〈220〉		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			
	Wide type 	RCA2	TW3N			10W	Lead screw	4	25.1	0.25	0.125	200	30	±0.05	P.53
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			TW4N			20W	Lead screw	6	19.9	0.25	0.125	220	30	±0.05	P.55
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	270〈220〉		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			
	Flat type 	RCA2	TF3N			10W	Lead screw	4	25.1	0.25	0.125	200	30	±0.05	P.57
								2	50.3	0.5	0.25	100			
								1	100.5	1.0	0.5	50			
			TF4N			20W	Lead screw	6	19.9	0.25	0.125	220	30	±0.05	P.59
								4	29.8	0.5	0.25	200			
								2	59.7	1.0	0.5	100			
							Ball screw	6	33.8	2	0.5	270〈220〉		±0.02	
								4	50.7	3	0.75	200			
								2	101.5	6	1.5	100			
Motor Unit model	Coupling type 	RCP3	TA3C		Pulse motor	20□	Ball screw	6	-	~0.8	~0.4	300〈200〉	20~100 (every 10mm)	±0.02	P.61
								4	-	~1.5	~0.7	200〈133〉			
								2	-	~2	~1	100〈67〉			
			TA4C			28□		6	-	~1	~0.5	300			P.63
								4	-	~2	~1	200			
								2	-	~3	~1.5	100			
		RCA2	TA4C		Servo motor	10W		6	-	1	0.5	300			P.65
								4	-	2	1	200			
								2	-	3	1.5	100			
	Reversing type 	RCP3	TA3R		Pulse motor	20□	Ball screw	6	-	~0.8	~0.4	300〈200〉			P.67
								4	-	~1.5	~0.7	200〈133〉			
								2	-	~2	~1	100〈67〉			
			TA4R			28□		6	-	~1	~0.5	300			P.69
								4	-	~2	~1	200			
								2	-	~3	~1.5	100			
		RCA2	TA4R		Servo motor	10W		6	-	1	0.5	300			P.71
								4	-	2	1	200			
								2	-	3	1.5	100			

Mini Linear Servo type

Type	Title / External view	Model: Series Name	Model: Type name	Encoder	Motor type: Type	Motor type: Size	Feed screw	Lead (mm)	Rated thrust (N)	Max. load capacity (kg): Horizontal	Max. load capacity (kg): Vertical	Max.speed (mm/s)	Stroke (mm)	Positioning repeatability (mm)	Reference Pages
Micro Slider	Slim type 	RCL	SA1L	Incremental	Linear motor	2W	-	-	2	0.5	-	420	40	±0.1	P.73
			SA2L			5W		-	4	1	-	460	48		P.75
			SA3L			10W		-	8	2	-	600	64		P.77
	Long Stroke type 		SA4L			2W		-	2.5	0.8	-	1200	30~180		P.79
			SM4L					-					30~120		P.81
			SA5L			5W		-	5	1.6	-	1400	36~216		P.83
			SM5L					-					36~144		P.85
			SA6L			10W		-	10	3.2	-	1600	48~288		P.87
			SM6L					-					48~192		P.89
Micro Cylinder	Slim type 	RCL	RA1L			2W		-	2.5	0.5	0.1	300	25		P.91
			RA2L			5W		-	5	1	0.2	340	30		P.93
			RA3L			10W		-	10	2	0.4	450	40		P.95

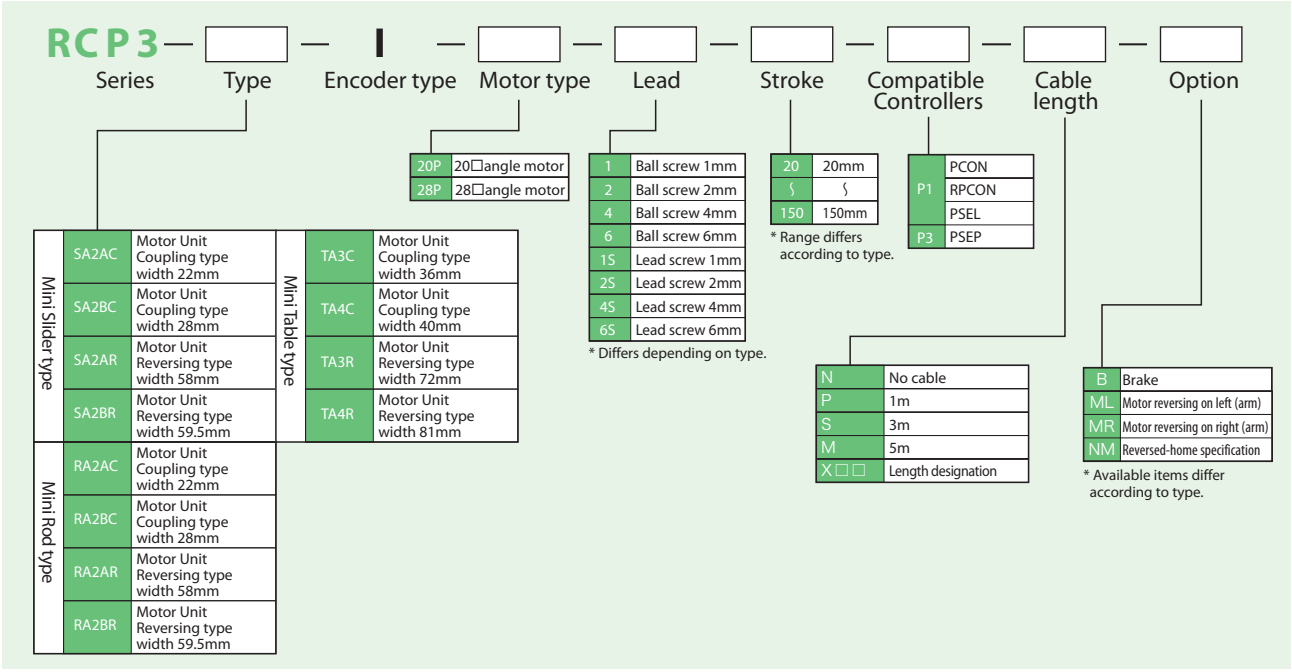
Model Descriptions

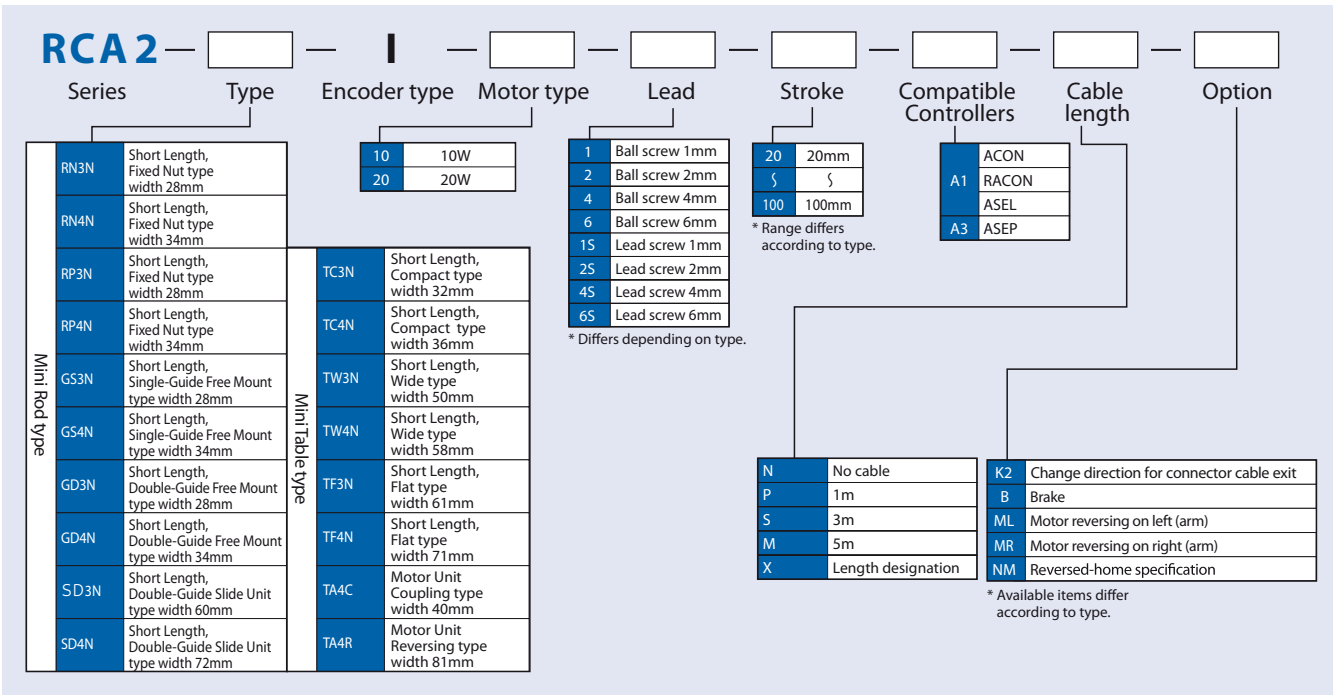
Models for each ROBO Cylinder series are designated by the items below.
See the explanations below for information on each item. The range of selections for each item (lead, stroke, etc.) varies by type, so refer to the page for each type for more information.

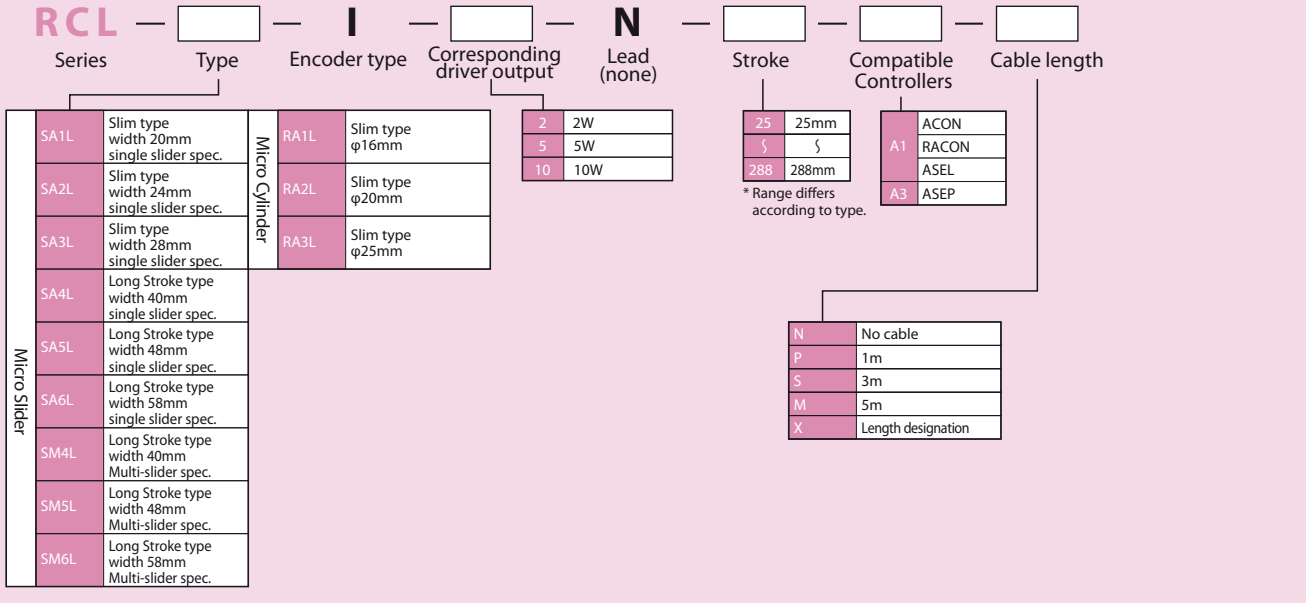
Explanation of Items

Series	–	Type	–	Encoder type	–	Motor type	–	Lead	–	Stroke	–	Compatible Controllers	–	Cable length	–	Option
①		②		③		④		⑤		⑥		⑦		⑧		⑨

①Series	This indicates the name of each series.
②Type	This indicates the shape (slider, rod, etc.), size (width 22mm, etc.) and motor connection method, etc.
③Encoder type	This indicates whether the encoder installed in the actuator is an "absolute type" or an "incremental" type. * If the controller for the Simple Absolute type is used, use actuator encoder type "I" (incremental specification).
④Motor type	This shows the wattage of the motor installed in the actuator. Since the RCP3 Series uses a pulse motor, the motor size (20P=20□motor) is shown instead of the wattage.
⑤Lead	This shows a feed screw lead (distance slider moves per revolution of ball screw). Ball screws are shown in numerals only. Lead screws have an S after the number.
⑥Stroke	This indicates the stroke for the actuator (operating range). (Units in mm)
⑦Compatible Controllers	This indicates the controller types that can be connected. (The motor encoder cable changes according to type of controller.)
⑧Cable length	This indicates the length of the motor-encoder cable connecting the actuator and controller.
⑨Option	This indicates options that can be installed on the actuator. * If multiple options are selected, specify them in alphabetical order. (Example : A3-B-ML)







Notes on selection

Skillful use of "Lead Screw" type

(1) Lead screws are suitable for uses with infrequent operations. (As a guide, this would be approximately 5 years, for 1 operation every 10 seconds, 24-hour use, 240 days a year.)
(2) Lead screws are suitable for uses with small payloads, light loads. (1kg or less)
(3) Use when repeated positioning accuracy of less than ±0.05mm is needed.
(4) Please set up in a location where maintenance will be easy.

Regarding PSEP/ASEP dedicated teaching panel

The PSEP/ASEP dedicated teaching panel SEP-PT (Japanese version), SEP-PT-ENG (English version) can only be used with PSEP/ASEP. They cannot be used with the conventional PCON/ACON/SCON.

A teaching box and PC software for common use of PSEP/ASEP and PCON/ACON/SCON are scheduled to go on sale in August 2009.

RCP3-SA2AC

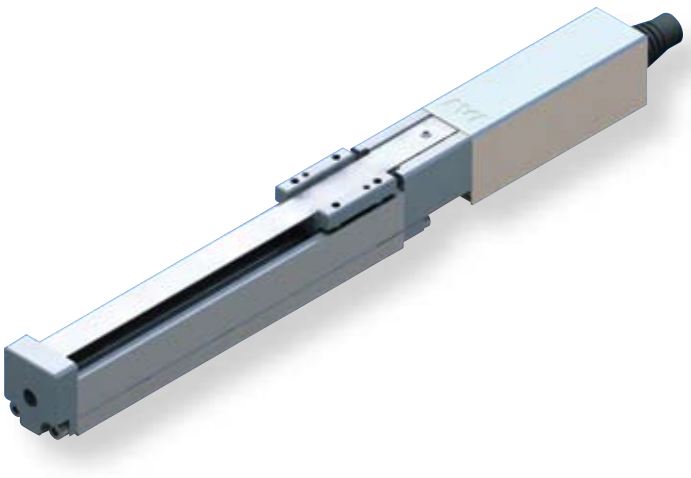
ROBO Cylinder Mini Slider Type Motor Unit Coupling Type Actuator Width 22mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – SA2AC – I – 20P – □ – □ – □ – □ – □ – □

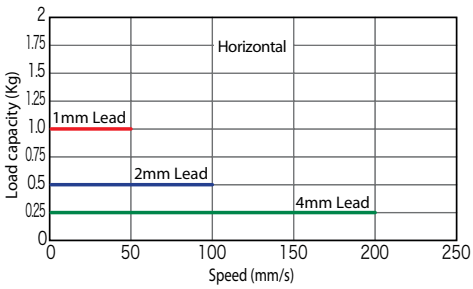
Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□Size	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	25: 25mm ‹ 100: 100mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



■ Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.



POINT Notes on selection

(1) The payload is the value when operated at 0.2G acceleration.
The acceleration upper limit is the value indicated above.

(2) Cannot be used in the horizontal orientation with the slider facing to the side or in the vertical orientation.

(3) Service life decreases significantly if used in a dusty environment.

Actuator Specification Table

■Leads and Payloads

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-SA2AC-I-20P-4S-①-②-③-④	Lead screw	4	0.25	–	±0.05	25 to 100 (every 25mm)
RCP3-SA2AC-I-20P-2S-①-②-③-④		2	0.5	–		
RCP3-SA2AC-I-20P-1S-①-②-③-④		1	1	–		

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code SA2AC Encoder type Incremental Feed screw Lead Screw
25	–
50	–
75	–
100	–

(3) Cable length

Type	Cable symbol	Standard price
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 **20** (20m)	–

* The standard cable for the RCP3 is the robot cable.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Reversed-home specification	**NM**	–	–

Actuator Specification

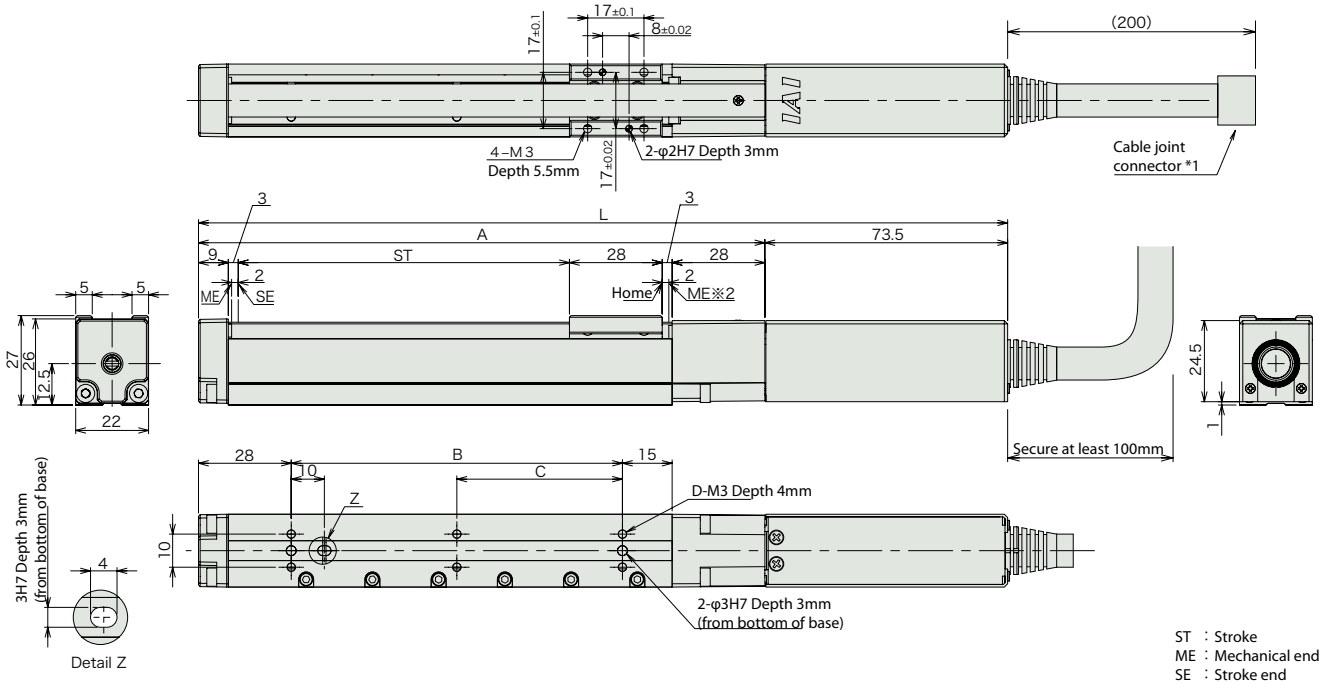
Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Slide guide
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (No condensation)
Service life	10 million cycles

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



ST : Stroke
ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	25	50	75	100
L	169.5	194.5	219.5	244.5
A	96	121	146	171
B	25	50	75	100
C	0	0	0	50
D	4	4	4	6
Mass (kg)	0.25	0.27	0.29	0.3

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points of positioning possible Simple absolute unit (sold separately) By attaching, the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes Simple absolute unit (sold separately) By attaching, the return to the home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-SA2BC

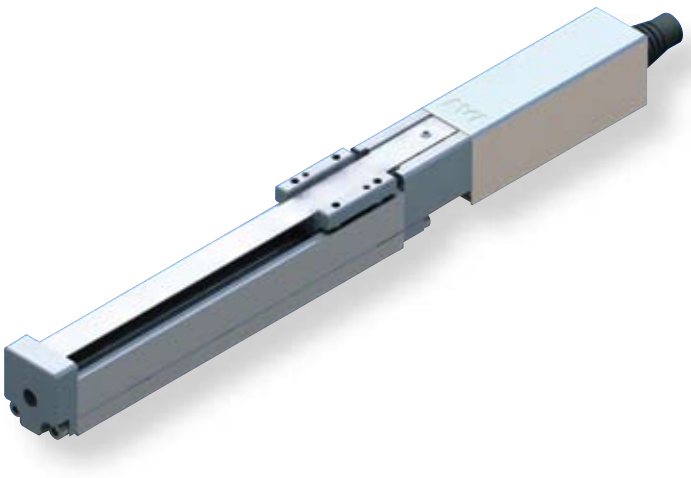
ROBO Cylinder Mini Slider Type Motor Unit Coupling Type Actuator Width 28mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – SA2BC – I – 20P – □ – □ – □ – □ – □

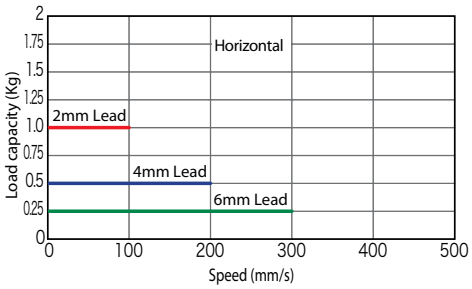
Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□ Size	6S: Lead screw 6mm 4S: Lead screw 4mm 2S: Lead screw 2mm	25: 25mm ↕ 150: 150mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



■ Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.



POINT Notes on selection

(1) The payload is the value when operated at 0.2G acceleration.
The acceleration upper limit is the value indicated above.

(2) Cannot be used in the horizontal orientation with the slider facing to the side or in the vertical orientation.

(3) Service life decreases significantly if used in a dusty environment.

Actuator Specification Table

■Leads and Payloads

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-SA2BC-I-20P-6S-①-②-③-④	Lead screw	6	0.25	–	±0.05	25 to 150 (every 25mm)
RCP3-SA2BC-I-20P-4S-①-②-③-④		4	0.5	–		
RCP3-SA2BC-I-20P-2S-①-②-③-④		2	1	–		

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	25 (mm)	50 (mm)	75 to 150 (mm)
Lead screw 6	180	280	300
Lead screw 4	180	200	
Lead screw 2	100		

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SA2BC
	Encoder type
	Incremental
	Feed screw
	Lead Screw
25	–
50	–
75	–
100	–
125	–
150	–

(3) Cable length

Type	Cable symbol	Standard price
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 RCP3 is the robot cable.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Reversed-home specification	**NM**	–	–

Actuator Specification

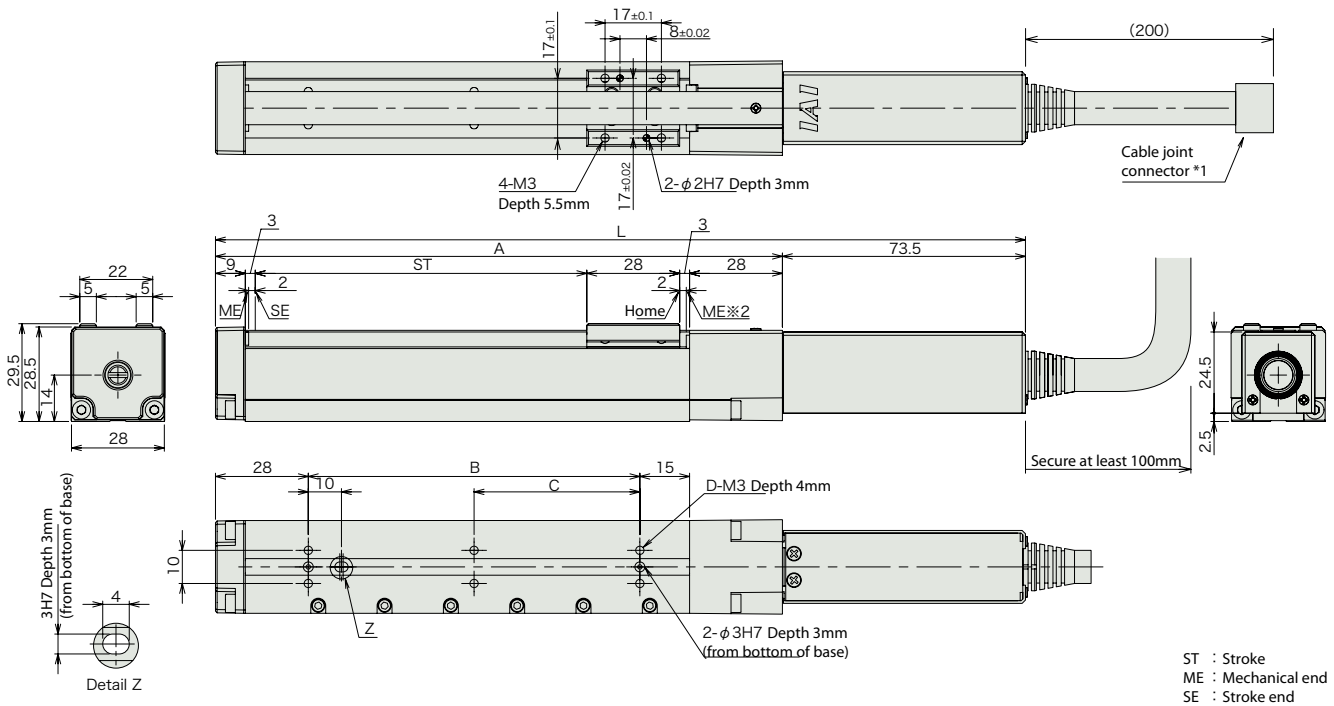
Item	Description
Drive System	Lead screw, φ6mm, rolled C10
Backlash	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Slide guide
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	10 million cycles

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



ST : Stroke
ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	25	50	75	100	125	150
L	169.5	194.5	219.5	244.5	269.5	294.5
A	96	121	146	171	196	221
B	25	50	75	100	125	150
C	0	0	0	50	62.5	75
D	4	4	4	6	6	6
Mass (kg)	0.3	0.32	0.35	0.37	0.4	0.42

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points of positioning possible Simple absolute unit (sold separately) By attaching, the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes Simple absolute unit (sold separately) By attaching, the return to the home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-SA2AR

ROBO Cylinder Mini Slider Type Motor Unit Reverse-mounted Type Actuator Width 58mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – SA2AR – I – 20P – ☐ – ☐ – ☐ – ☐ – ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20☐ Size	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	25: 25mm ~ 100: 150mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

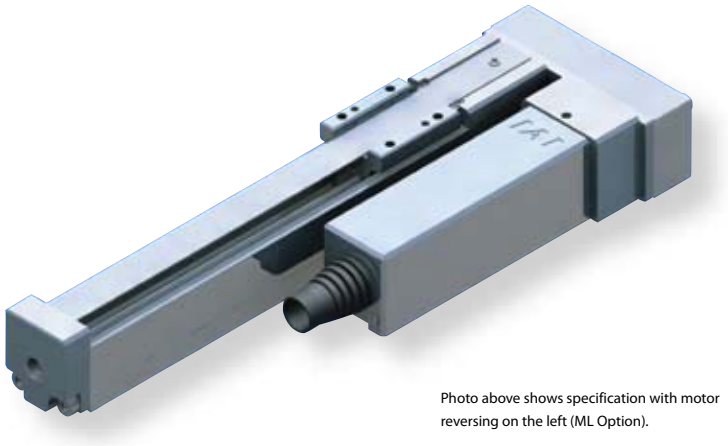
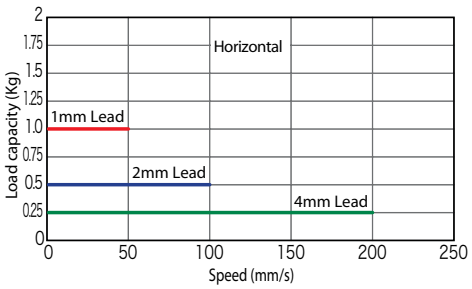


Photo above shows specification with motor reversing on the left (ML Option).

■ **Correlation Diagrams of Speed and Load Capacity**

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.



POINT Notes on selection

(1) The payload is the value when operated at 0.2G acceleration.
The acceleration upper limit is the value indicated above.
(2) Cannot be used in the horizontal orientation with the slider facing to the side or in the vertical orientation.
(3) Service life decreases significantly if used in a dusty environment.

Actuator Specification Table

■**Leads and Payloads**

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-SA2AR-I-20P-4S-①-②-③-④	Lead screw	4	0.25	–	±0.05	25 to 100 (every 25mm)
RCP3-SA2AR-I-20P-2S-①-②-③-④		2	0.5	–		
RCP3-SA2AR-I-20P-1S-①-②-③-④		1	1	–		

■**Stroke and Maximum Speed**

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

(Unit = mm/s)

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SA2AR
	Encoder type
	Incremental
	Feed screw
	Lead Screw
25	–
50	–
75	–
100	–

(3) Cable length

Type	Cable symbol	Standard price
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 RCP3 is the robot cable.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Specification with motor reversing on the left	**ML**	–	–
Specification with motor reversing on the right	**MR**	–	–
Reversed-home specification	**NM**	–	–

Actuator Specification

Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Slide guide
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	10 million cycles

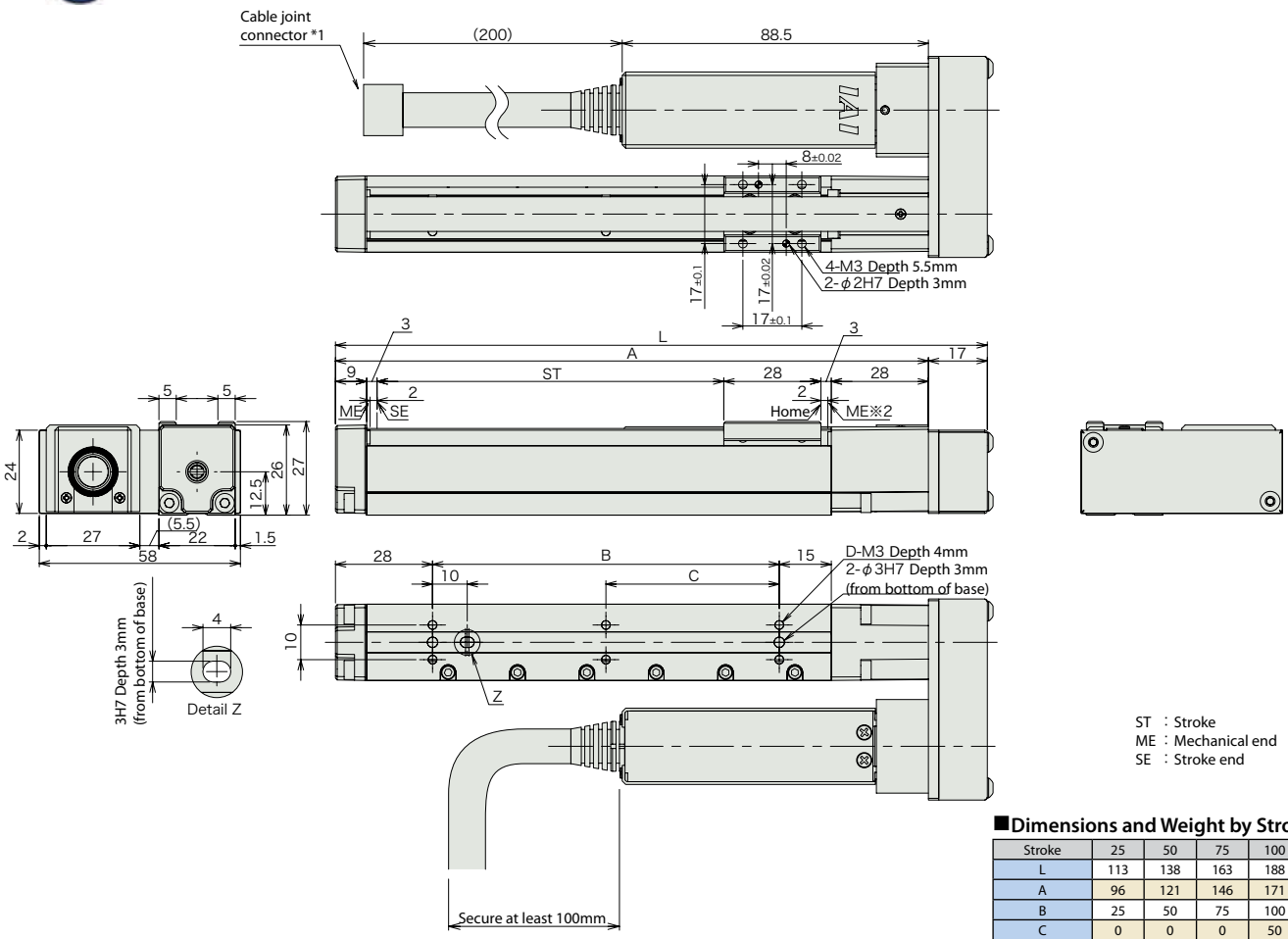
Dimensional Drawings

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

2D CAD

*The drawing below shows the right reverse-mounted motor specification.

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



ST : Stroke
ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	25	50	75	100
L	113	138	163	188
A	96	121	146	171
B	25	50	75	100
C	0	0	0	50
D	4	4	4	6
Mass (kg)	0.28	0.3	0.32	0.33

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points of positioning possible Simple absolute unit (sold separately) By attaching, the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes Simple absolute unit (sold separately) By attaching, the return to the home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-SA2BR

ROBO Cylinder Mini Slider Type Motor Unit Reverse-mounted Type Actuator Width 59.5mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – SA2BR – I – 20P – □ – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□ Size	65: Lead screw 4mm 45: Lead screw 2mm 25: Lead screw 1mm	25: 25mm ↓ 100: 150mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

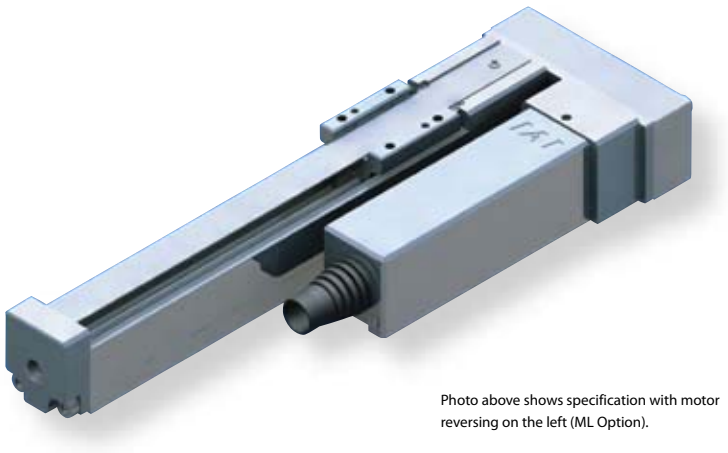
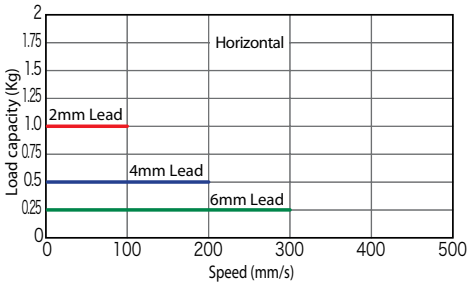


Photo above shows specification with motor reversing on the left (ML Option).

■Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.



POINT Notes on selection

(1) The payload is the value when operated at 0.2G acceleration.
The acceleration upper limit is the value indicated above.

(2) Cannot be used in the horizontal orientation with the slider facing to the side or in the vertical orientation.

(3) Service life decreases significantly if used in a dusty environment.

Actuator Specification Table

■Leads and Payloads

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-SA2BR-I-20P-6S-①-②-③-④	Lead screw	6	0.25	–	±0.05	25 to 150 (every 25mm)
RCP3-SA2BR-I-20P-4S-①-②-③-④		4	0.5	–		
RCP3-SA2BR-I-20P-2S-①-②-③-④		2	1	–		

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	25 (mm)	50 (mm)	75 to 150 (mm)
Lead screw 6	180	280	300
Lead screw 4	180	200	
Lead screw 2	100		

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SA2BR
	Encoder type
	Incremental
	Feed screw
	Lead Screw
25	–
50	–
75	–
100	–
125	–
150	–

(3) Cable length

Type	Cable symbol	Standard price
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 RCP3 is the robot cable.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Specification with motor reversing on the left	**ML**	–	–
Specification with motor reversing on the right	**MR**	–	–
Reversed-home specification	**NM**	–	–

Actuator Specification

Item	Description
Drive System	Lead screw, φ6mm, rolled C10
Backlash	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Slide guide
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (No condensation)
Service life	10 million cycles

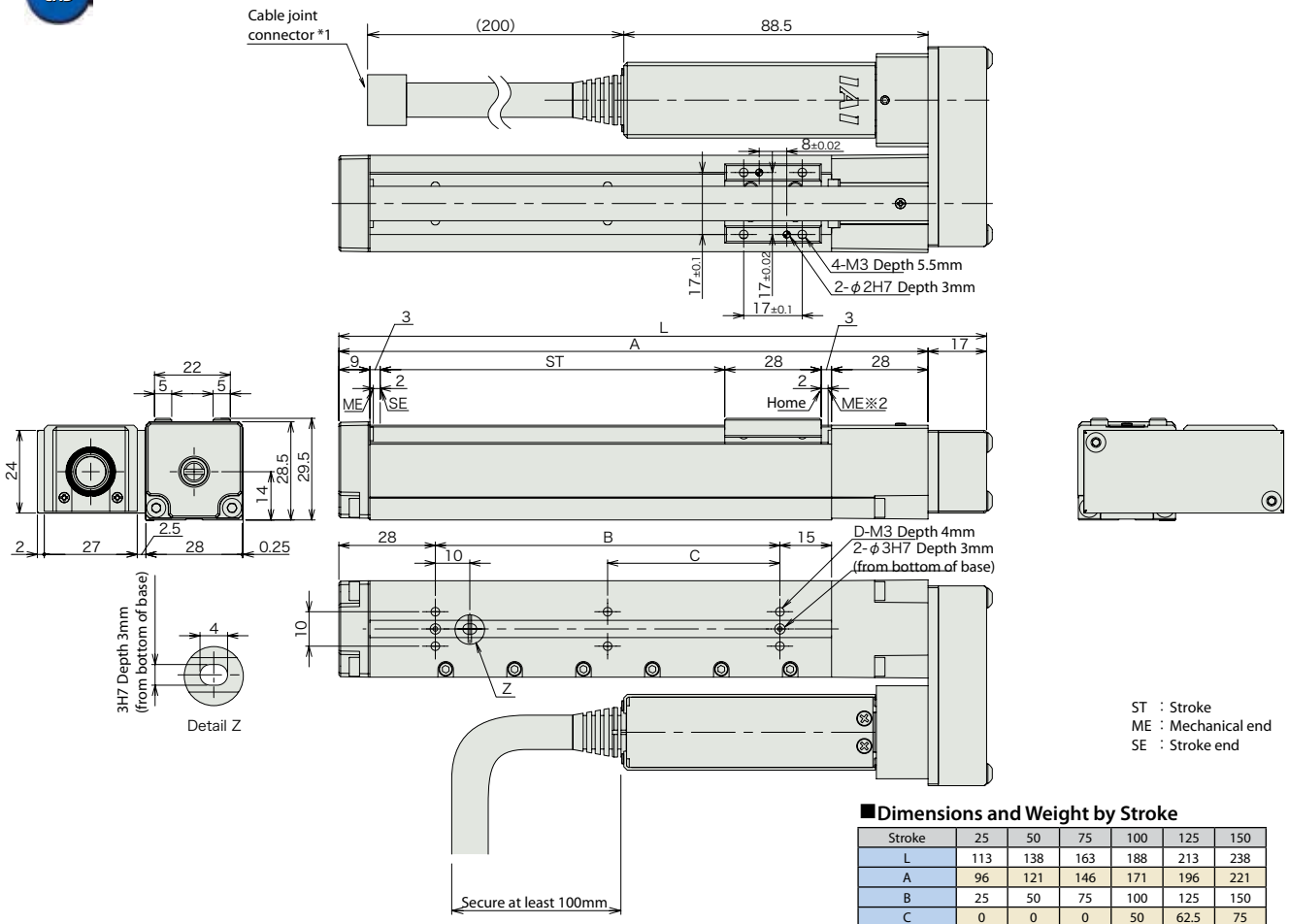
Dimensional Drawings

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

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.

2D CAD

*The drawing below shows the right reverse-mounted motor specification (MR option).



ST : Stroke
ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	25	50	75	100	125	150
L	113	138	163	188	213	238
A	96	121	146	171	196	221
B	25	50	75	100	125	150
C	0	0	0	50	62.5	75
D	4	4	4	6	6	6
Mass (kg)	0.32	0.34	0.37	0.39	0.42	0.46

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points of positioning possible Simple absolute unit (sold separately) By attaching, the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes Simple absolute unit (sold separately) By attaching, the return to the home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-RA2AC

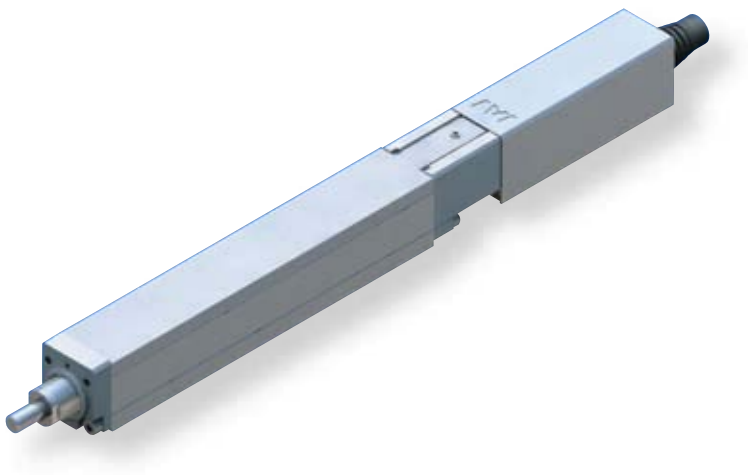
ROBO Cylinder Mini Rod type Motor Unit Coupling type Actuator Width 22mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – RA2AC – I – 20P – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□Size	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	25: 25 mm ~ 100: 100 mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

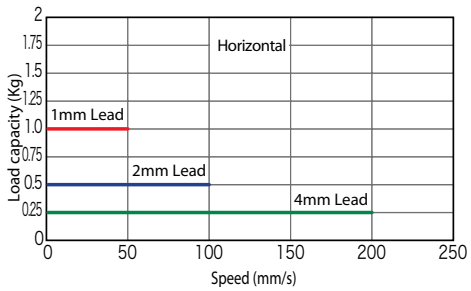


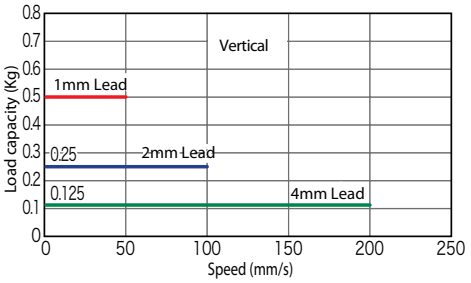
POINT Notes on selection

(1) The load capacity is the value when operated at 0.2G acceleration.
The acceleration 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) The maximum pushing force when the speed is 5mm/s.
(4) Service life decreases significantly if used in a dusty environment.

■Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.





Actuator Specification Table

■Leads and Payloads

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (N)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-RA2AC-I-20P-4S-①-②-③-④	Lead Screw	4	0.25	0.125	See page 97.	±0.05	25 to 100
RCP3-RA2AC-I-20P-2S-①-②-③-④		2	0.5	0.25			
RCP3-RA2AC-I-20P-1S-①-②-③-④		1	1	0.5			

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	RA2AC
	Encoder type
	Incremental
	Feed screw
	Lead screw
25	–
50	–
75	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot cable type comes standard on RCA3 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P22	–
Reversed - home specification	**NM**	–	–

Actuator Specification

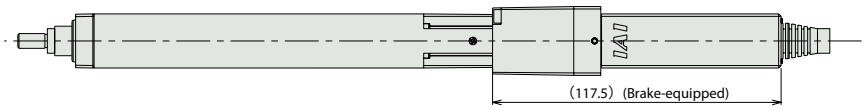
Item	Description
Drive System	Lead screw φ4mm rolled C10
Backlash	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Slide Guide
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	Horizontal: 10 million (number of cycles) Vertical: 5 million (number of cycles)

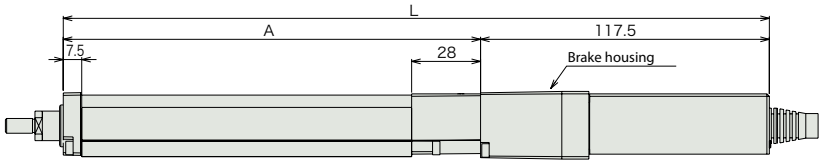
Dimensional Drawings

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

2D CAD

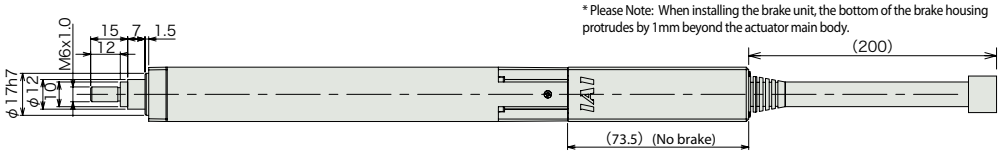
(Brake-equipped)

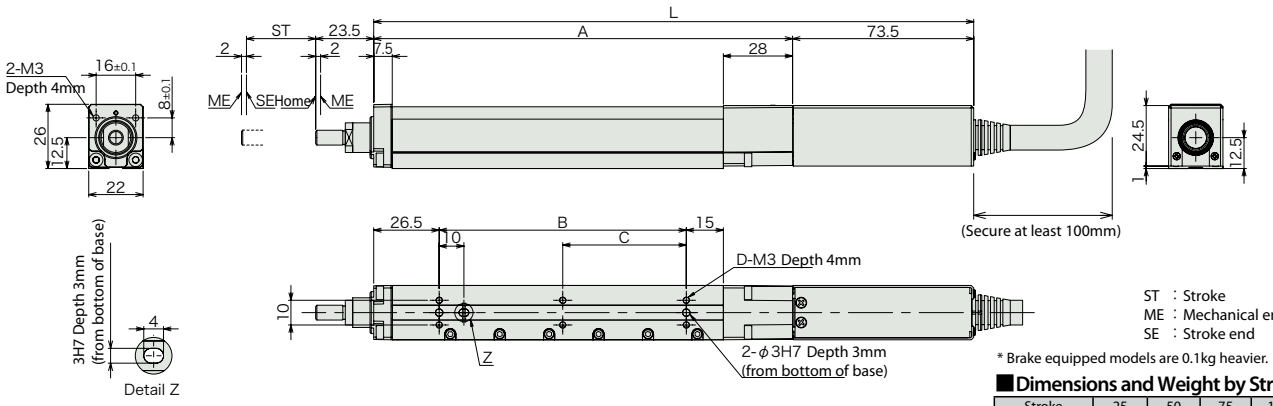




* Please Note: When installing the brake unit, the bottom of the brake housing protrudes by 1mm beyond the actuator main body.

(No brake)





ST : Stroke
ME : Mechanical end
SE : Stroke end

* Brake equipped models are 0.1kg heavier.

Dimensions and Weight by Stroke

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

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-RA2BC

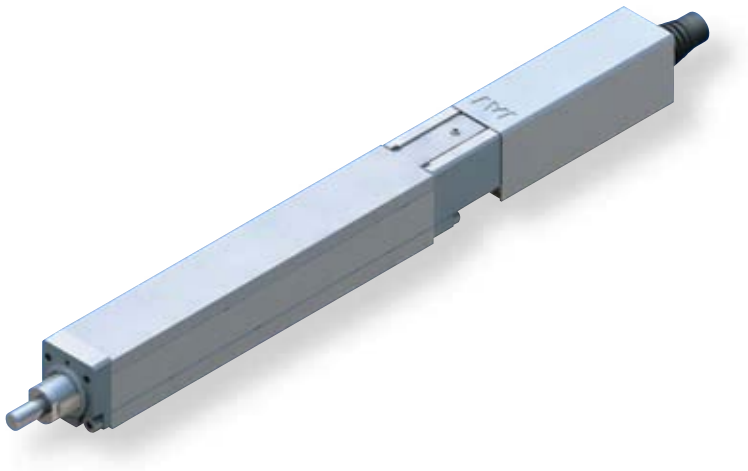
ROBO Cylinder Mini Rod type Motor Unit Coupling type Actuator Width 28mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – RA2BC – I – 20P – □ – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
—	—	I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20 □Size	6S: Lead screw 6mm 4S: Lead screw 4mm 2S: Lead screw 2mm	25: 25 mm ↓ 150: 150 mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

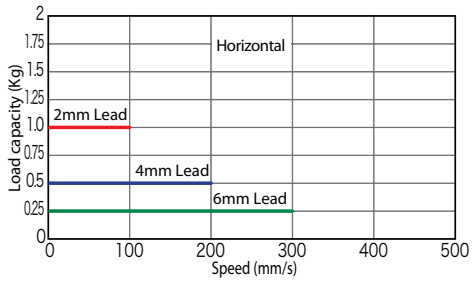


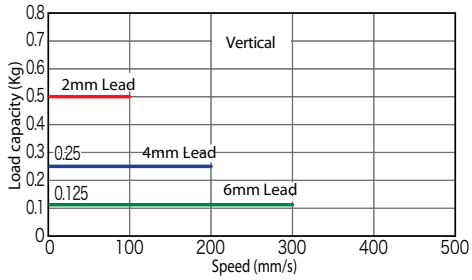
POINT Notes on selection

(1) The load capacity is the value when operated at 0.2G acceleration. The acceleration 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) The maximum pushing force when the speed is 5mm/s.
(4) Service life decreases significantly if used in a dusty environment.

■ Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.





Actuator Specification Table

■Leads and Payloads

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (N)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-RA2BC-I-20P-6S-①-②-③-④	Lead Screw	6	0.25	0.125	See page 97.	±0.05	25 to 150 (every 25mm)
RCP3-RA2BC-I-20P-4S-①-②-③-④		4	0.5	0.25			
RCP3-RA2BC-I-20P-2S-①-②-③-④		2	1	0.5			

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	25 (mm)	50 (mm)	75 to 150 (mm)
Lead screw 6	180	280	300
Lead screw 4	180	200	
Lead screw 2	100		

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	RA2BC
	Encoder type
	Incremental
	Feed screw
	Lead screw
25	–
50	–
75	–
100	–
125	–
150	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot cable type comes standard on RCA3 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P24	–
Reversed - home specification	**NM**	–	–

Actuator Specification

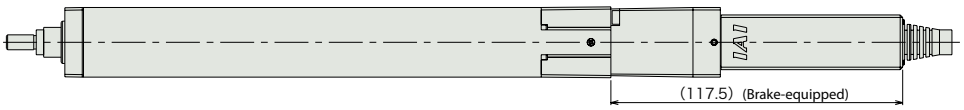
Item	Description
Drive System	Lead screw φ6mm rolled C10
Backlash	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Slide guide
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	Horizontal: 5 million (number of cycles) Vertical: 10 million (number of cycles)

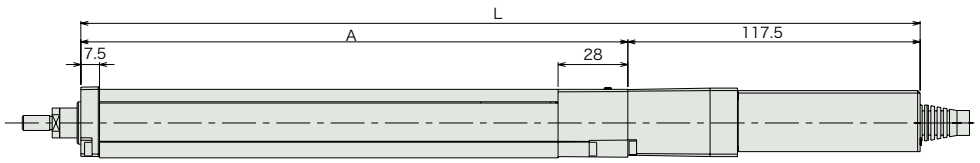
Dimensional Drawings

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

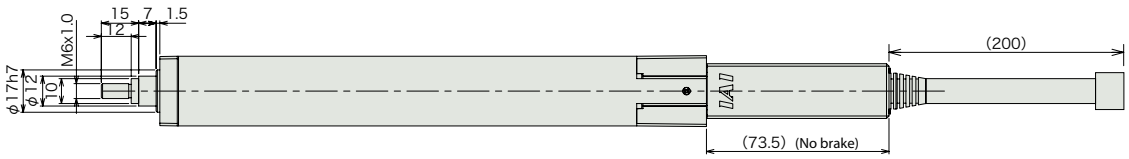
2D CAD

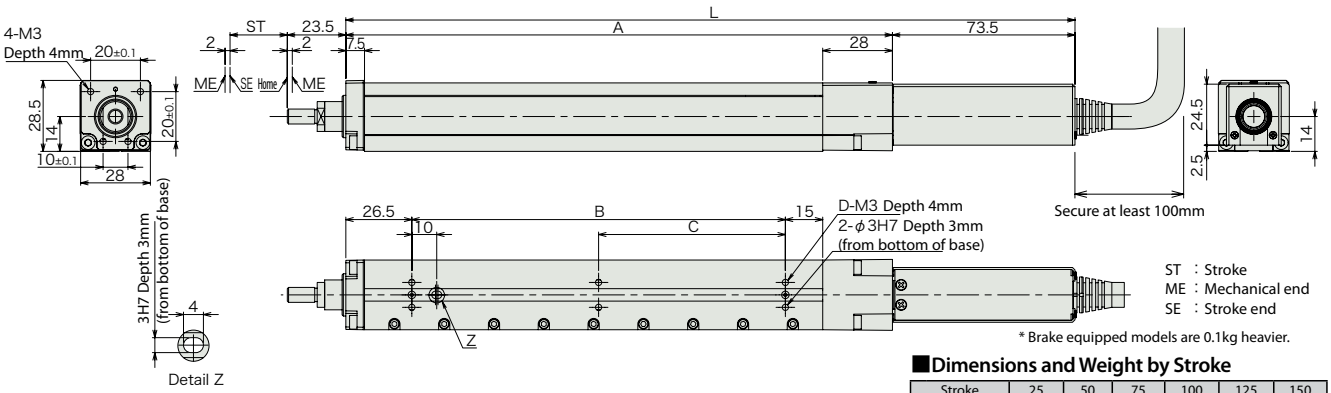
(Brake-equipped)





(No brake)





ST : Stroke
ME : Mechanical end
SE : Stroke end

* Brake equipped models are 0.1kg heavier.

■Dimensions and Weight by Stroke

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

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-RA2AR

ROBO Cylinder Mini Rod type Motor Unit Coupling type Actuator Width 58mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – RA2AR – I – 20P – □ – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
RCP3	RA2AR	I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□Size	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	25:25 mm ↓ 100:100 mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

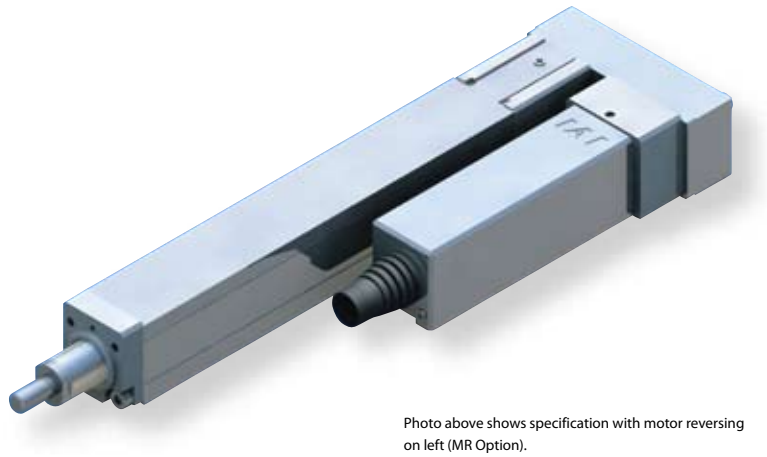


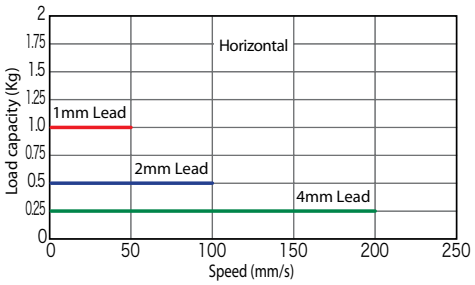
Photo above shows specification with motor reversing on left (MR Option).

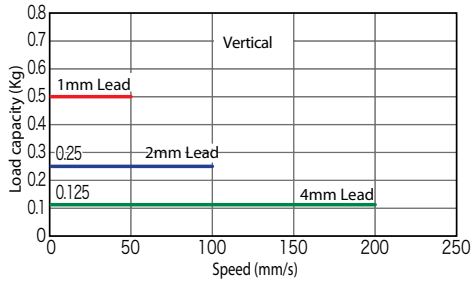
POINT Notes on selection

(1) The load capacity is the value when operated at 0.2G acceleration.
The acceleration 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) The maximum pushing force when the speed is 5mm/s.
(4) Service life decreases significantly if used in a dusty environment.

■ Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.





Actuator Specification Table

■Leads and Payloads

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (N)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-RA2AR-I-20P-4S-①-②-③-④	Lead Screw	4	0.25	0.125	See page 97.	±0.05	25 to 100 (every 25mm)
RCP3-RA2AR-I-20P-2S-①-②-③-④		2	0.5	0.25			
RCP3-RA2AR-I-20P-1S-①-②-③-④		1	1	0.5			

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	RA2AR
	Encoder type
	Incremental
	Feed screw
	Lead screw
25	–
50	–
75	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot cable type comes standard on RCA3 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	–	–
Specification with motor reversing on left	**ML**	–	–
Specification with motor reversing on right	**MR**	–	–
Reversed - home specification	**NM**	–	–

Actuator Specification

Item	Description
Drive System	Lead screw φ4mm rolled C10
Backlash	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Slide guide
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	Horizontal：10 million (number of cycles) Vertical：5 million (number of cycles)

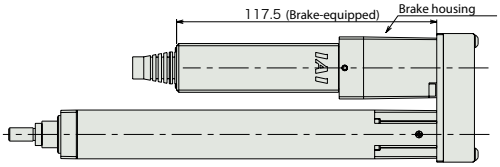
Dimensional Drawings

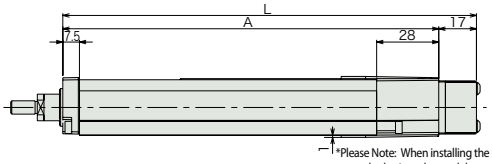
CAD drawings can be downloaded from the website. www.intelligentactuator.com

2D CAD

*The drawing below shows the specification with motor reversing on right.

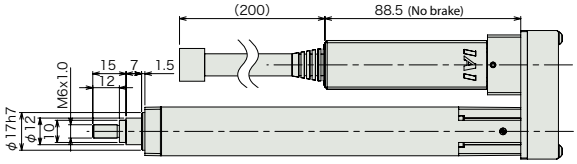
(Brake-equipped)

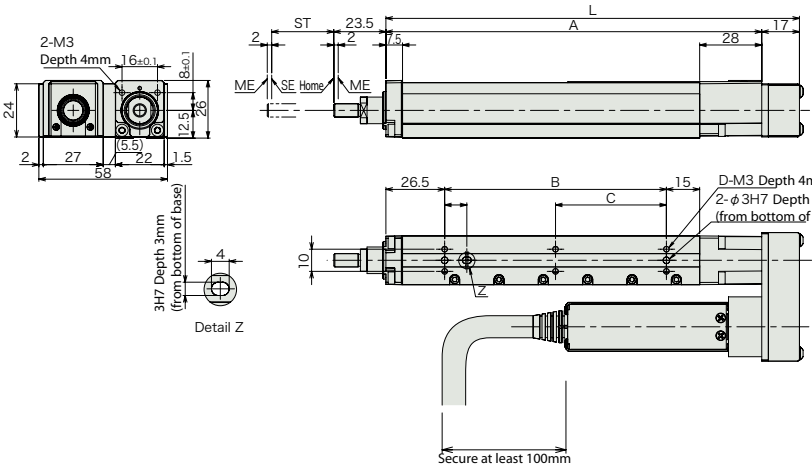




*Please Note: When installing the brake unit, the bottom of the brake housing protrudes by 1mm beyond the actuator main body.

(No brake)





ST : Stroke
ME : Mechanical end
SE : Stroke end

* Brake equipped models are 0.1kg heavier.

Dimensions and Weight by Stroke

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

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-RA2BR

ROBO Cylinder Mini Rod type Motor Unit Coupling type Actuator Width 59.5mm Pulse Motor Lead Screw Specification

■Model Description

RCP3 – RA2BR – I – 20P – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□Size	6S: Lead screw 6mm 4S: Lead screw 4mm 2S: Lead screw 2mm	25: 25 mm ↓ 150: 150 mm (every 25mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

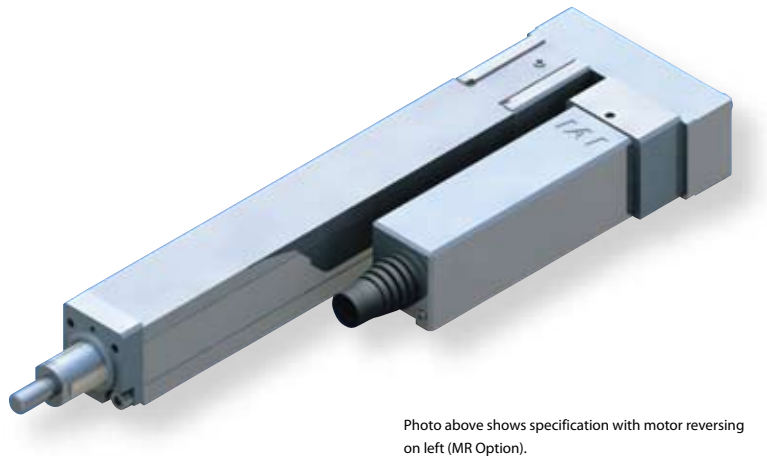
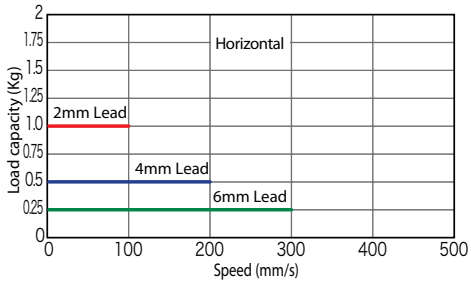
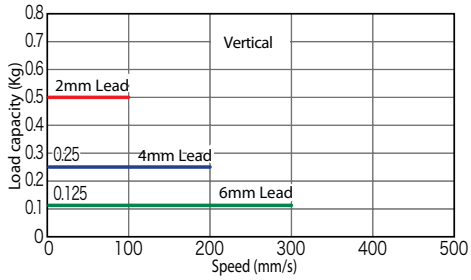


Photo above shows specification with motor reversing on left (MR Option).

■ Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.





POINT Notes on selection

(1) The load capacity is the value when operated at 0.2G acceleration. The acceleration 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) The maximum pushing force when the speed is 5mm/s.
(4) Service life decreases significantly if used in a dusty environment.

Actuator Specification Table

■Leads and Payloads

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (N)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-RA2BR-I-20P-6S-①-②-③-④	Lead Screw	6	0.25	0.125	See page 97.	±0.05	25 to 150 (every 25mm)
RCP3-RA2BR-I-20P-4S-①-②-③-④		4	0.5	0.25			
RCP3-RA2BR-I-20P-2S-①-②-③-④		2	1	0.5			

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	25 (mm)	50 (mm)	75 to 150 (mm)
Lead screw 6	180	280	300
Lead screw 4	180	200	
Lead screw 2	100		

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	RA2BR
	Encoder type
	Incremental
	Feed screw
	Lead screw
25	–
50	–
75	–
100	–
125	–
150	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot cable type comes standard on RCA3 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	–	–
Specification with motor reversing on left	**ML**	–	–
Specification with motor reversing on right	**MR**	–	–
Reversed - home specification	**NM**		

Actuator Specification

Item	Description
Drive System	Lead screw φ6mm rolled C10
Backlash	0.3mm or less initial value
Base	Material: Aluminum, white alumite treated
Guide	Slide Guide
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	Horizontal：10 million (number of cycles) Vertical：5 million (number of cycles)

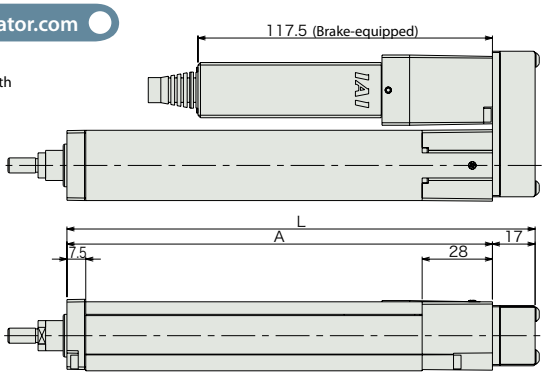
Dimensional Drawings

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

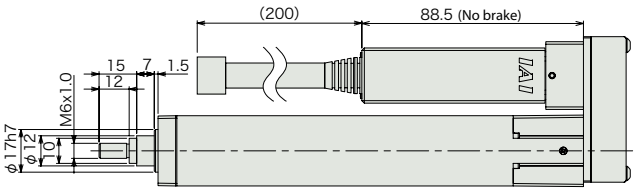
2D CAD

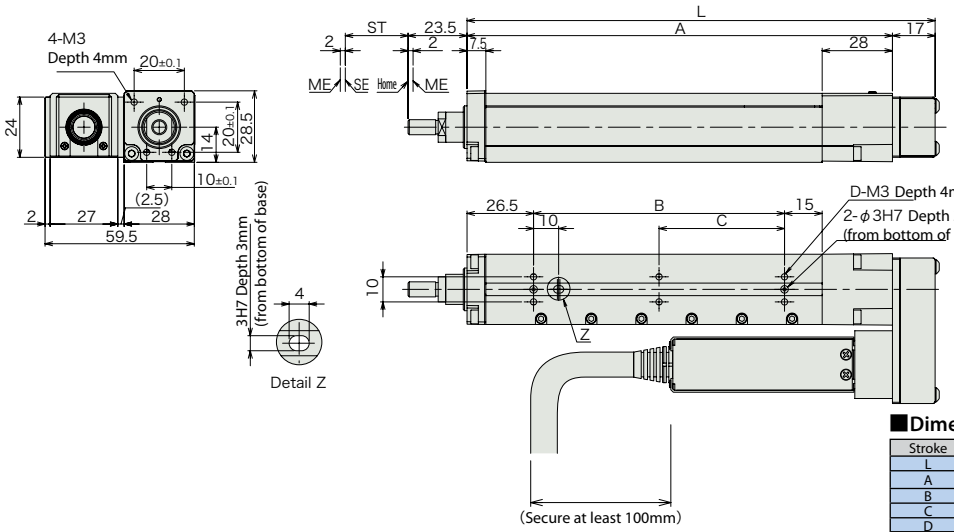
*The drawing below shows the specification with motor reversing on right.

(Brake-equipped)



(No brake)





ST : Stroke
ME : Mechanical end
SE : Stroke end

*With brake, the mass increases by 0.1kg.

Dimensions and Weight by Stroke

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

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCA2-RN3N

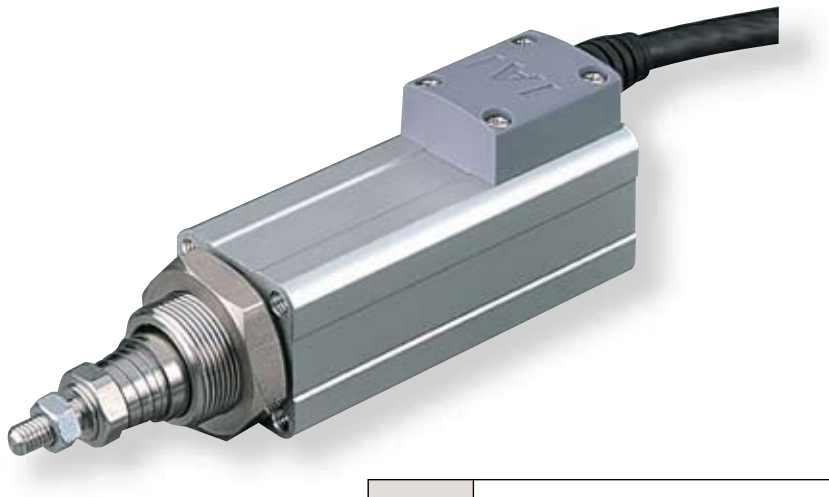
ROBO Cylinder Mini Rod type Short Length Fixed Nut type Actuator Width 28mm 24V servo motor Lead screw specification

■Model Description

RCA2 – RN3N – I – 10 – ☐ – 30 – ☐ – ☐ – ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	30: 30mm	A1 : ACON RACON ASEL A3 : ASEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The lead screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the lead screw prior to use. (If there is no anti-rotation device attached, the lead screw cannot extend or retract.)
(2) The load capacity is the value when operated at 0.2G acceleration. Acceleration limit is value indicated above.
(3) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-RN3N-I-10-4S-30-①-②-③	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-RN3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-RN3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	RN3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
30	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P30	–

Actuator Specification

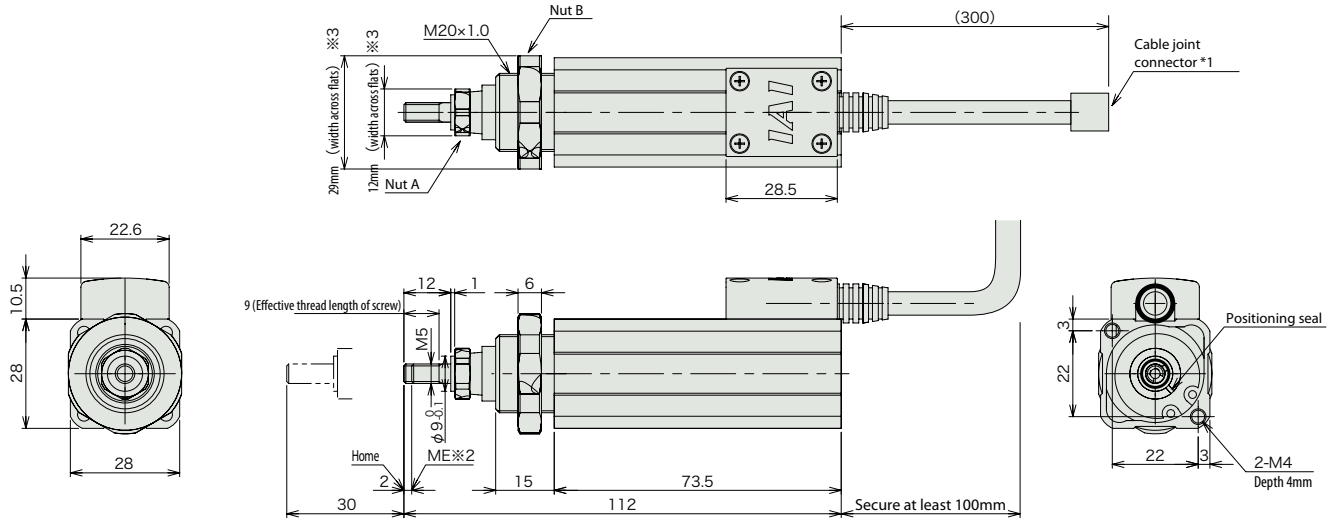
Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

Dimensional Drawings

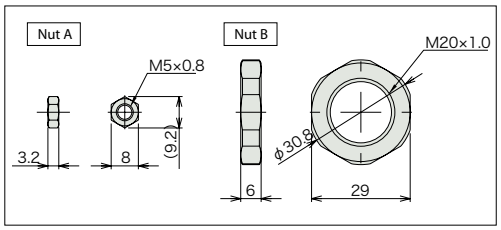
CAD drawings can be downloaded from the website. www.intelligentactuator.com

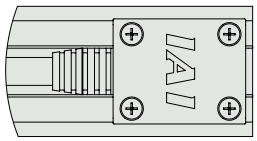
2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
*3 The orientation of the plane of the width between two faces varies according to the product.



ME : Mechanical end





Changing cable connector outlet direction (Model : K2)
* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-RN4N

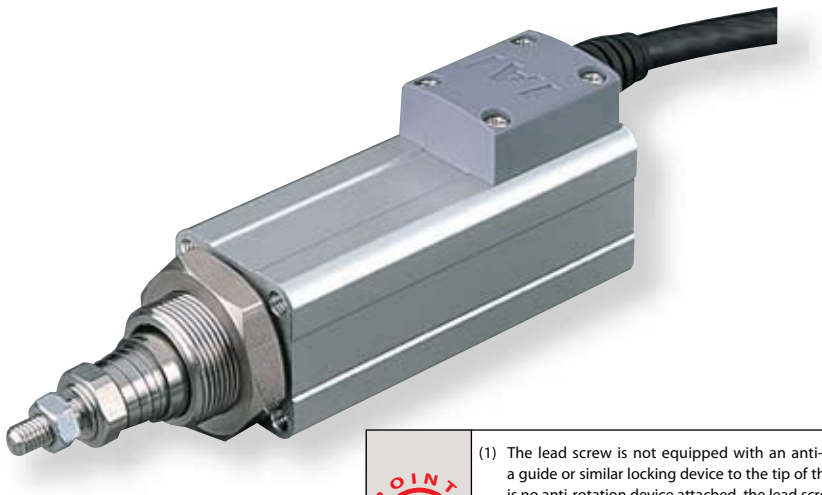
ROBO Cylinder Mini Rod type Short Length Fixed Nut type Fixed Nut type Actuator Width 34mm
24V servo motor Ball screw specification/Lead screw specification

■Model Description

RCA2 – RN4N – I – 20 – | – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
—	—	I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	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	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The lead screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the lead screw prior to use. (If there is no anti-rotation device attached, the lead screw cannot extend or retract.)
(2) Value when operated with payload acceleration of 0.3G
Acceleration limit is value indicated above.
(3) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-RN4N-I-20-6-30-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-RN4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-RN4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-RN4N-I-20-6S-30-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-RN4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-RN4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

*< > Indicates Vertical Use (Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code: RN4N	
	Encoder type: Incremental	
	Feed screw: Ball screw	Feed screw: Lead screw
30	–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P32	–

Actuator Specification

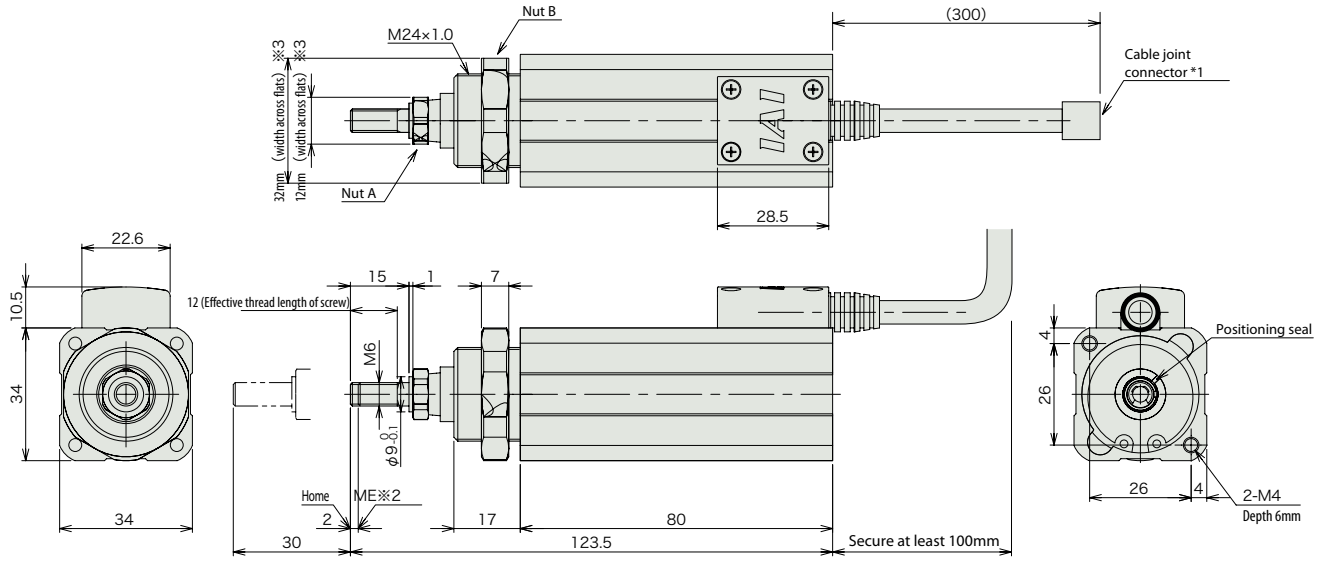
Item		Description
Drive System		Ball screw/lead screw dia. 6mm, rolled C10
Backlash		Ball screw: 0.1mm or less/ Lead screw: 0.3mm or less
Frame		Material: Aluminum, white alumite treated
Ambient operating temperature, humidity		0 to 40 °C ,85% RH or less (no condensation)
Service life	Ball screw	5,000km
	Lead screw	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

Dimensional Drawings

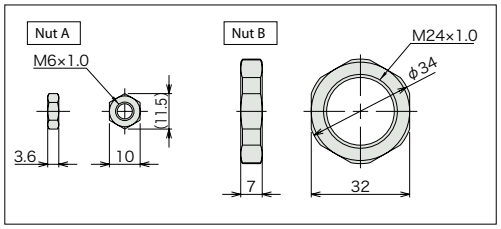
CAD drawings can be downloaded from the website. www.intelligentactuator.com

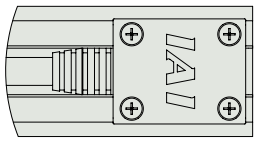
2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end. ROBO Cylinder Table type Rotary nut lead screw specification Rod.
*3 The orientation of the plane of the width between two faces varies according to the product.



ME : Mechanical end





Changing cable connector outlet direction (Model : K2)
* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.5

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-RP3N

ROBO Cylinder Mini Rod type Short Length Tapped Hole type Actuator Width 28mm 24V servo motor Lead screw specification

■Model Description

RCA2 – RP3N – I – 10 – □ – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	30: 30mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

POINT Notes on selection

(1) The lead screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the lead screw prior to use. (If there is no anti-rotation device attached, the lead screw cannot extend or retract.)

(2) The load capacity is the value when operated at 0.2G acceleration. Acceleration limit is value indicated above.

(3) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-RN3N-I-10-4S-30-①-②-③	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-RN3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-RN3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	RP3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
30	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.

* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P34	–

Actuator Specification

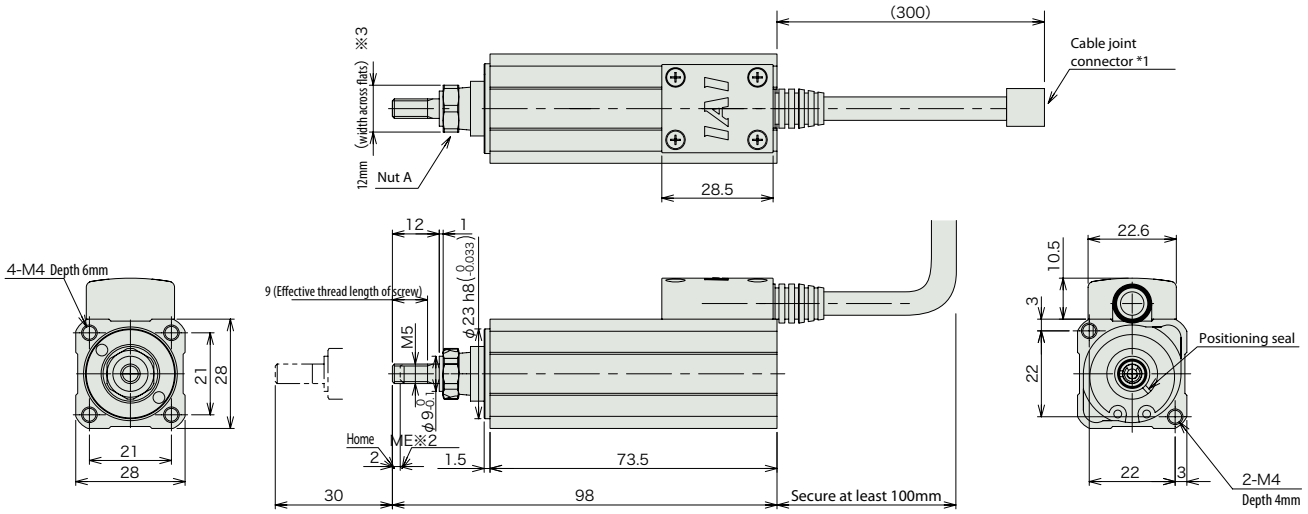
Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

Dimensional Drawings

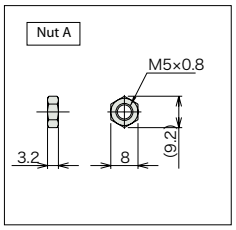
CAD drawings can be downloaded from the website. www.intelligentactuator.com

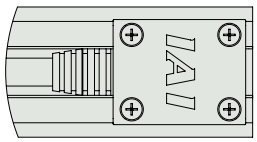
2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end. ROBO Cylinder Table type Rotary nut lead screw specification Rod.
*3 The orientation of the plane of the width between two faces varies according to the product. Remote device station) MSTBA2.5/5-G-5.08-AUM made by Phoenix Contact Remote device station) MSTBA2.5/5-G-5.08-AUM made by Phoenix Contact.



ME : Mechanical end





Changing cable connector outlet direction
(Model : K2)
* Rotate 180º relative to standard specification.

■Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.2

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1)) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-RP4N

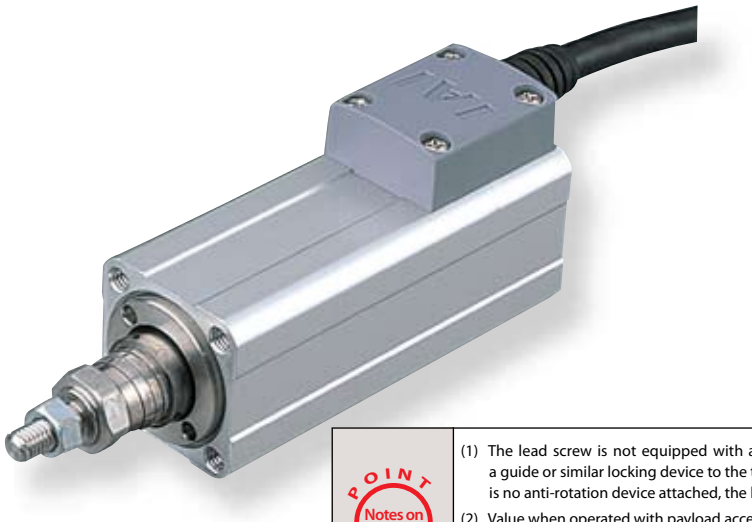
ROBO Cylinder Mini Rod type Short Length Tapped Hole type Actuator Width 34mm 24V servo motor Ball screw specification/ Lead screw specification

■Model Description

RCA2 – RP4N – I – 20 – □ – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	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	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The lead screw is not equipped with an anti-rotation device, so please attach a guide or similar locking device to the tip of the lead screw prior to use." (If there is no anti-rotation device attached, the lead screw cannot extend or retract.)

(2) Value when operated with payload acceleration of 0.3G
Acceleration limit is value indicated above.

(3) Do not apply an external force on the rod in any direction other than the direction the rod is moving in.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-RP4N-I-20-6-30-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-RP4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-RP4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-RP4N-I-20-6S-30-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-RP4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-RP4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

*< > Indicates Vertical Use (Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code: RP4N	
	Encoder type: Incremental	
	Feed screw: Ball screw	Feed screw: Lead screw
30	–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P32	–

Actuator Specification

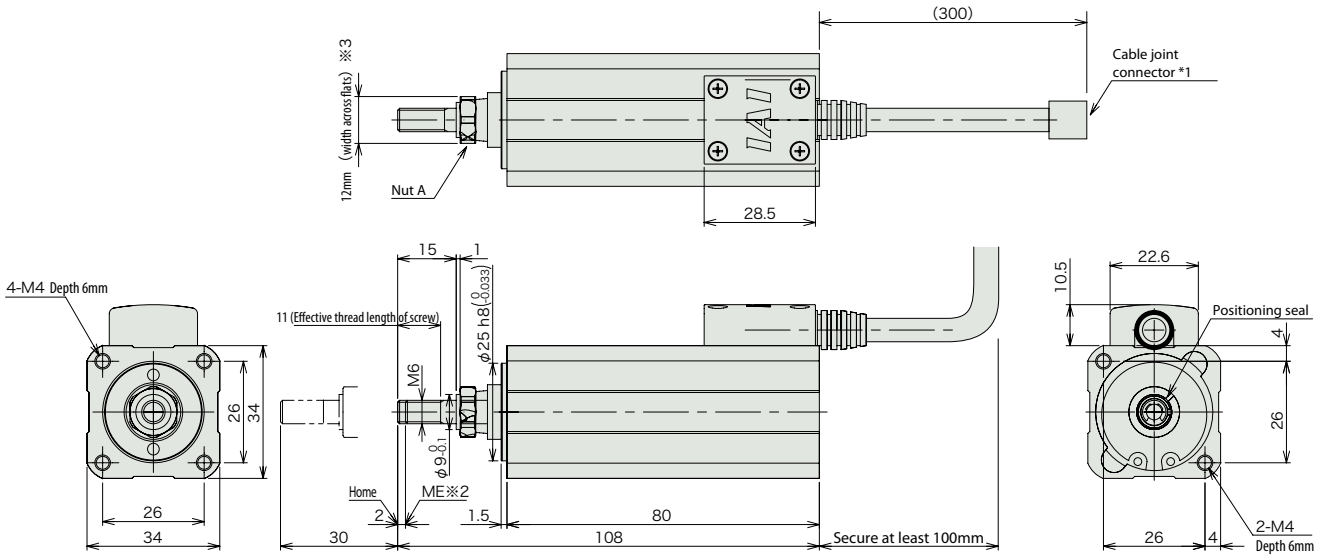
Item		Description
Drive System		Ball screw/ lead screw dia. 6mm, rolled C10
Backlash		Ball screw: 0.1mm or less/ Lead screw: 0.3mm or less
Frame		Material: Aluminum, white alumite treated
Ambient operating temperature, humidity		0 to 40 ºC ,85% RH or less (no condensation)
Service life	Ball screw	5,000km
	Lead screw	Horizontal specification: 10 million cycles Vertical specification: 5 million cycles

Dimensional Drawings

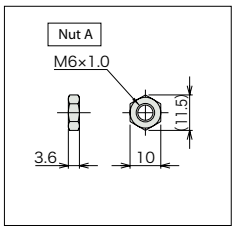
CAD drawings can be downloaded from the website. www.intelligentactuator.com

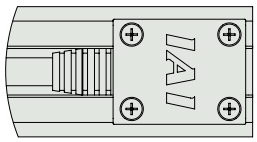
2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end. ROBO Cylinder Table type Rotary nut lead screw specification Rod.
*3 The orientation of the plane of the width between two faces varies according to the product.



ME : Mechanical end





Changing cable connector outlet direction (Model : K2)
* Rotate 180° relative to standard specification.

■Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.42

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-GS3N

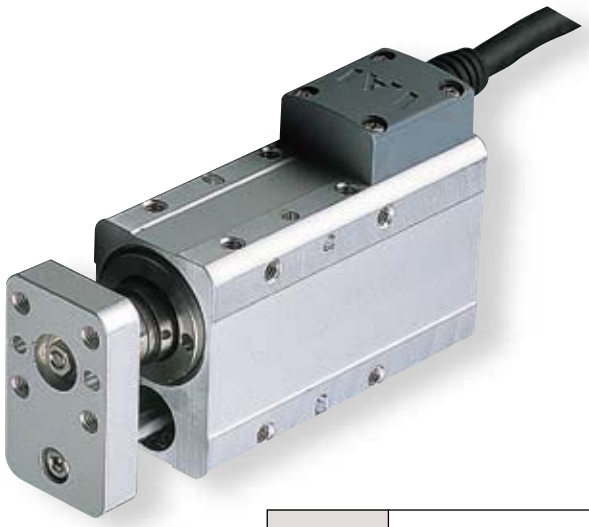
ROBO Cylinder Mini Rod type Short Length Single-Guide Free Mount type Actuator Width 28mm 24V servo motor Lead screw specification

■Model Description

RCA2 – GS3N – I – 10 – □ – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	30: 30mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The horizontal payload is the value when used in combination with the guide so that a radial load and moment load are not applied to the rod.
(2) See P99 for correlation diagrams of the tip load and service life when a guide is not installed.
(3) The load capacity is the value when operated at 0.2G acceleration. Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-GS3N-I-10-4S-30-①-②-③	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-GS3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-GS3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	GS3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
30	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P38	–

Actuator Specification

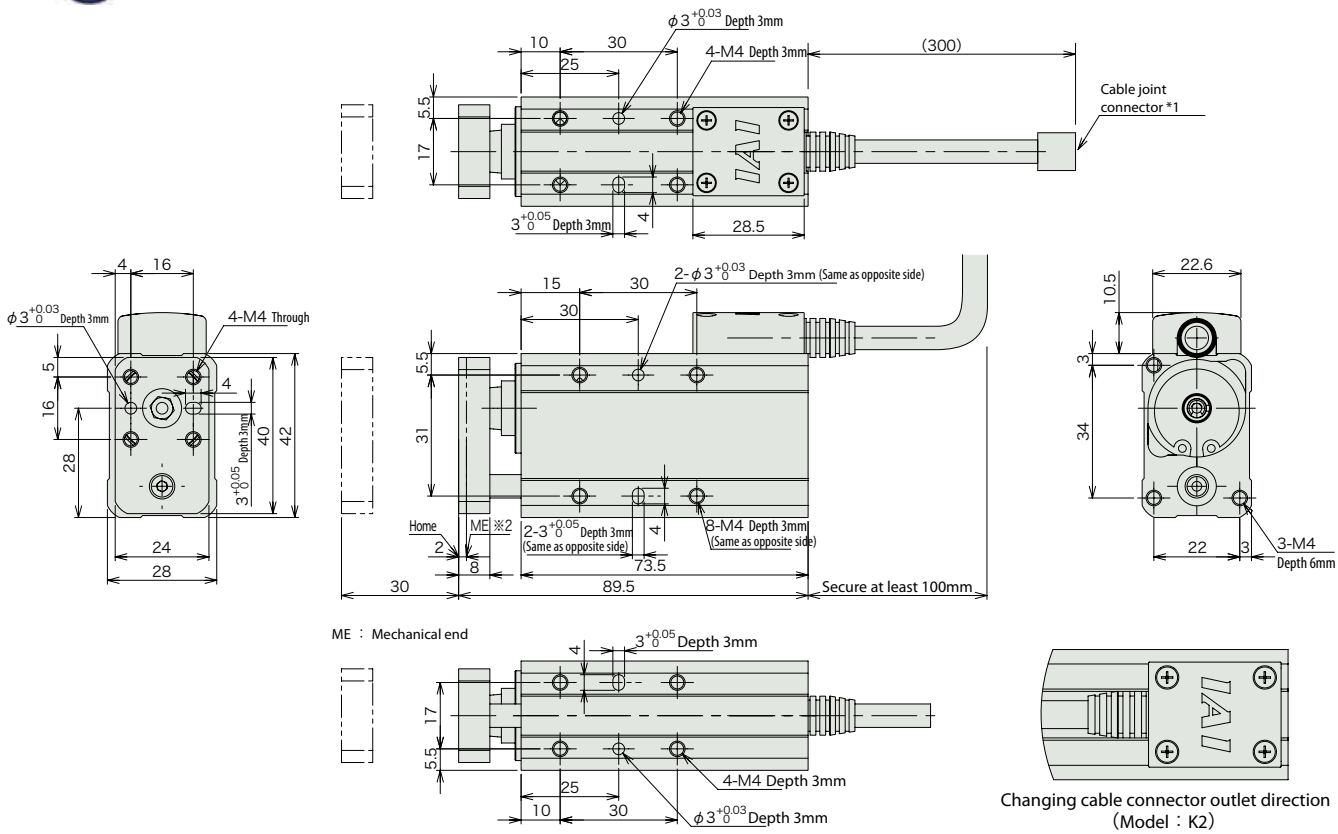
Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



Changing cable connector outlet direction (Model : K2)
* Rotate 180° relative to standard specification.

■Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.32

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-1000I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-GS4N

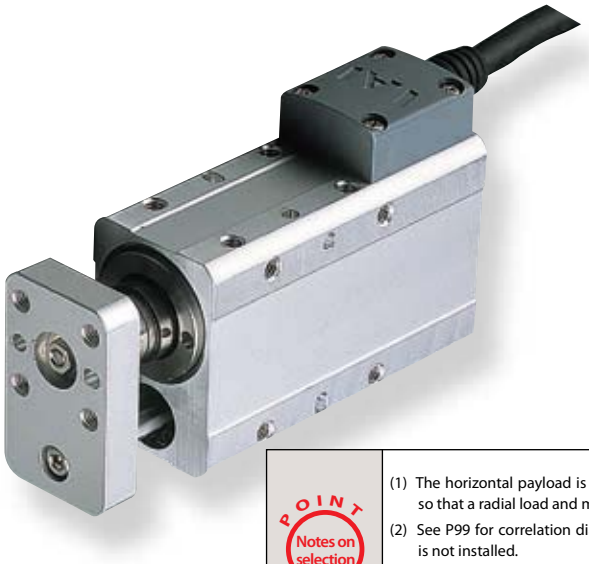
ROBO Cylinder Mini Rod type Short Length Single-Guide Free Mount type Actuator Width 34mm 24V servo motor
Ball screw specification/ Lead screw specification

■Model Description

RCA2 – GS4N – I – 20 – ☐ – 30 – ☐ – ☐ – ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	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	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The horizontal payload is the value when used in combination with the guide so that a radial load and moment load are not applied to the rod.
(2) See P99 for correlation diagrams of the tip load and service life when a guide is not installed.
(3) The load capacity is the value when operated at 0.2G acceleration. Acceleration limit is value indicated above.

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-GS4N-I-20-6-30-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-GS4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-GS4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-GS4N-I-20-6S-30-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-GS4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-GS4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

*< > Indicates Vertical Use (Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code GS4N	Encoder type Incremental	Feed screw Ball screw	Feed screw Lead screw
30			–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	Please refer to P40	–

Actuator Specification

Item	Description
Drive System	Ball screw/Lead screw, φ6mm, rolled C10
Backlash	Ball screw: 0.1mm or Less/Lead screw: 0.3mm or less (initial state)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

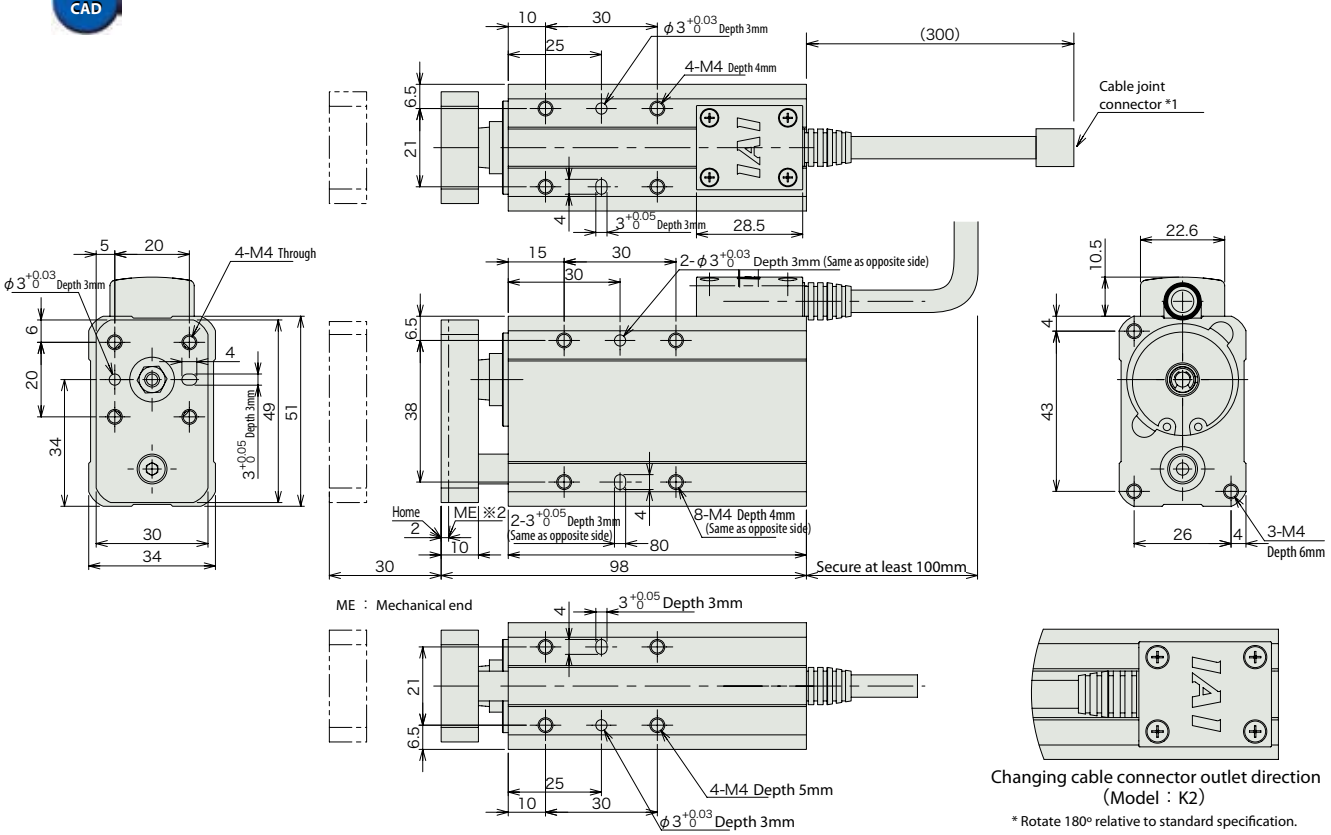
Dimensional Drawings

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

*1 Connect the motor and encoder cables. See page 113 for cable details.

*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.

2D CAD



Changing cable connector outlet direction (Model : K2)

* Rotate 180° relative to standard specification.

■Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.55

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-GD3N

ROBO Cylinder Mini Rod type Short Length Double-Guide Free Mount type Actuator Width 28mm 24V servo motor/Lead screw specification

■Model Description

RCA2 – GD3N – I – 10 – □ – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	30: 30 mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

POINT

Notes on selection

(1) The horizontal payload is the value when used in combination with the guide so that a radial load and moment load are not applied to the rod.

(2) See P99 for correlation diagrams of the tip load and service life when a guide is not installed.

(3) The load capacity is the value when operated at 0.2G acceleration. Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-GS3N-I-10-4S-30-①-②-③	10	Lead screw	4	0.25	0.125	25.1	±0.05	30
RCA2-GS3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-GS3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	GD3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
30	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P42	–

Actuator Specification

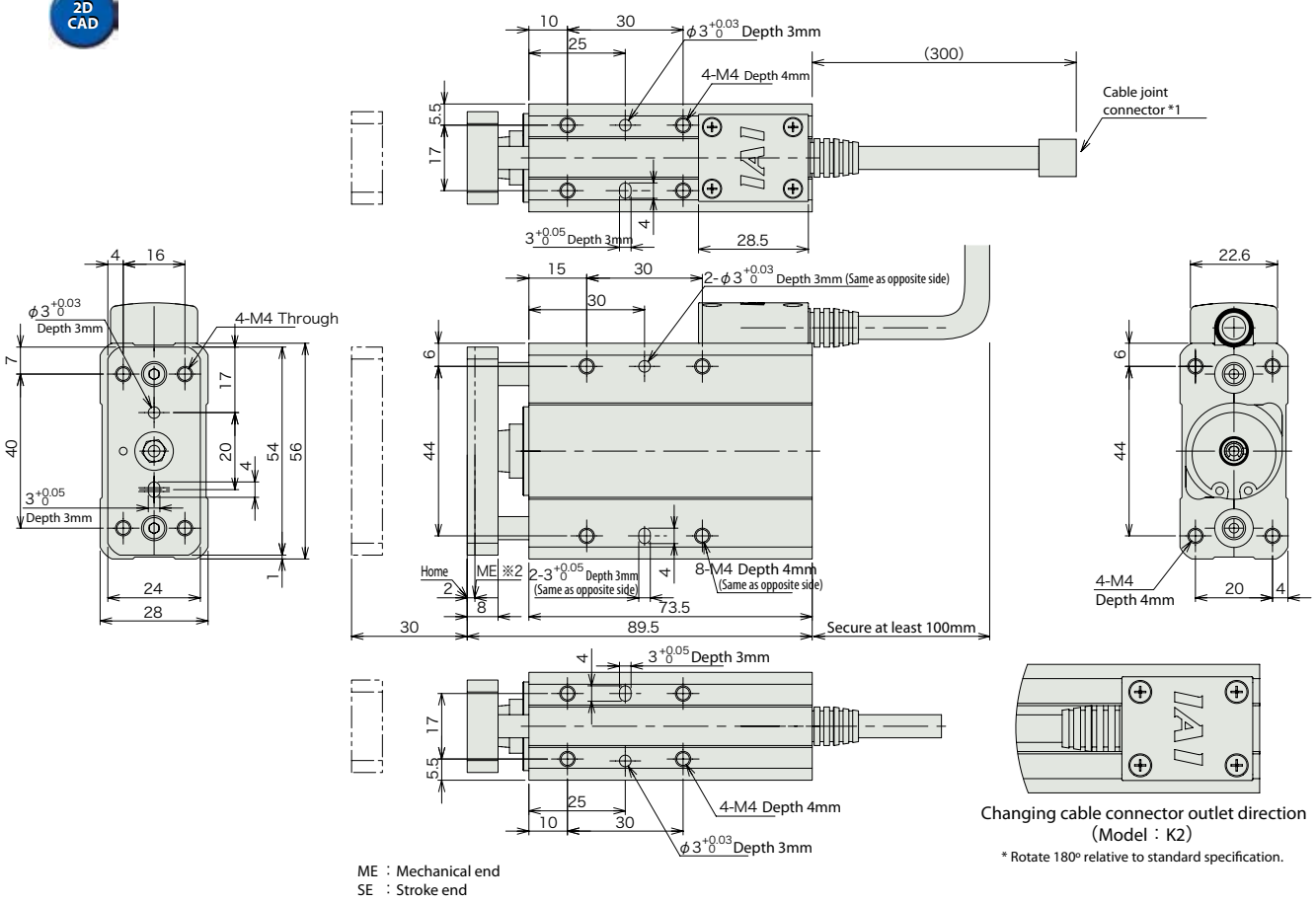
Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

Dimensional Drawings

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

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.

2D CAD



ME : Mechanical end
SE : Stroke end

Changing cable connector outlet direction
(Model : K2)
* Rotate 180° relative to standard specification.

■Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.41

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-GD4N

ROBO Cylinder Mini Rod type Short Length Double-Guide Free Mount type Actuator Width 34mm 24V servo motor
Ball screw specification/ Lead screw specification

■Model Description

RCA2 – GD4N – I – 20 – ☐ – 30 – ☐ – ☐ – ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	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	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

POINT Notes on selection

(1) The horizontal payload is the value when used in combination with the guide so that a radial load and moment load are not applied to the rod.
(2) See P99 for correlation diagrams of the tip load and service life when a guide is not installed.
(3) The load capacity is the value when operated at 0.2G acceleration. Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-GD4N-I-20-6-30-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-GD4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-GD4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-GD4N-I-20-6S-30-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-GD4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-GD4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

*< > Indicates Vertical Use (Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code: GD4N	
	Encoder type: Incremental	
	Feed screw: Ball screw	Feed screw: Lead screw
30	–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P44	–

Actuator Specification

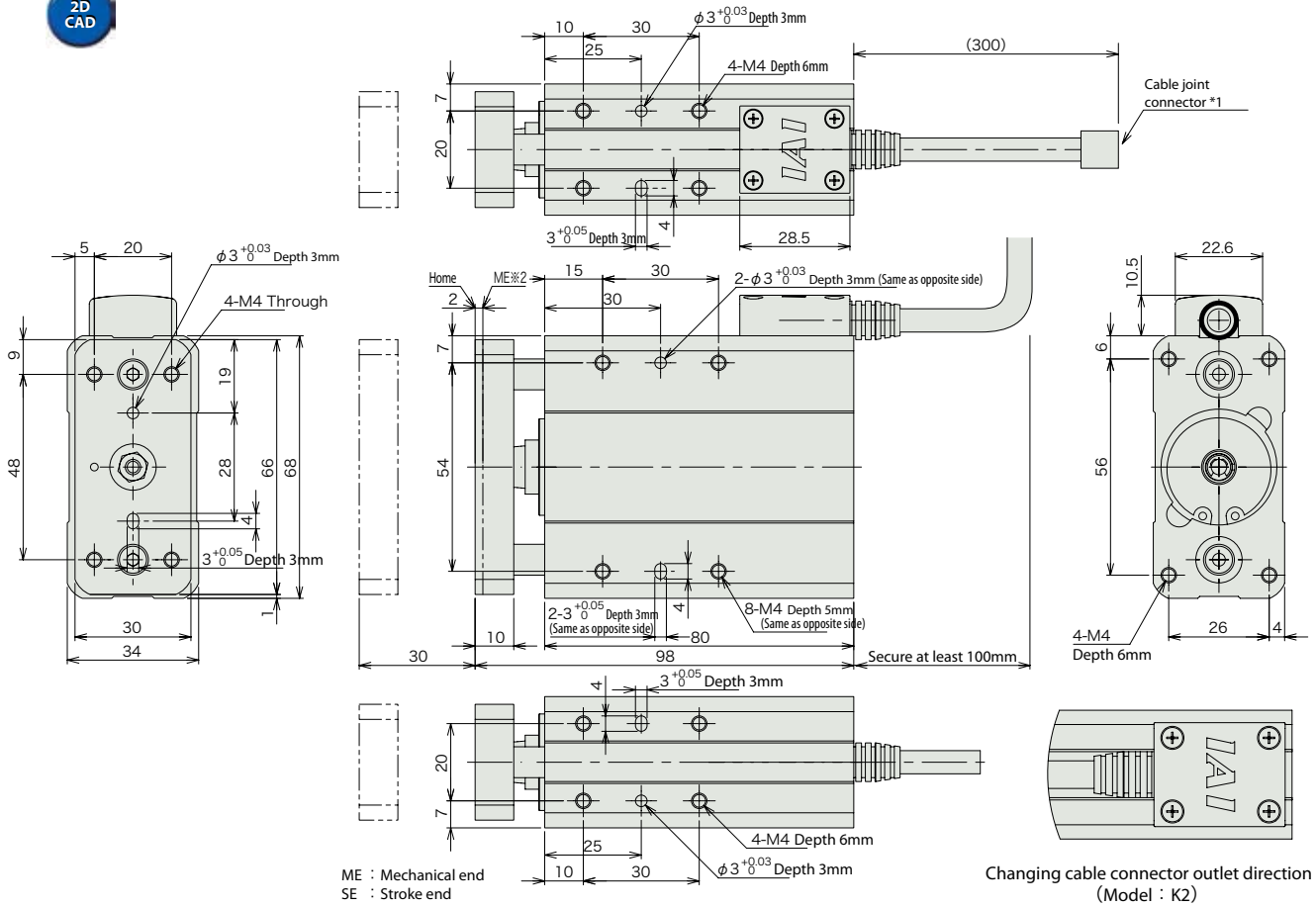
Item		Description
Drive System		Ball screw/ lead screw dia. 6mm, rolled C10
Backlash		Ball screw: 0.1mm or less/ Lead screw: 0.3mm or less
Frame		Material: Aluminum, white alumite treated
Ambient operating temperature, humidity		0 to 40 °C ,85% RH or less (no condensation)
Service life	Ball screw	5,000km
	Lead screw	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

Dimensional Drawings

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

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.

2D CAD



ME : Mechanical end
SE : Stroke end

Changing cable connector outlet direction
(Model : K2)
* Rotate 180° relative to standard specification.

■Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.64

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-SD3N

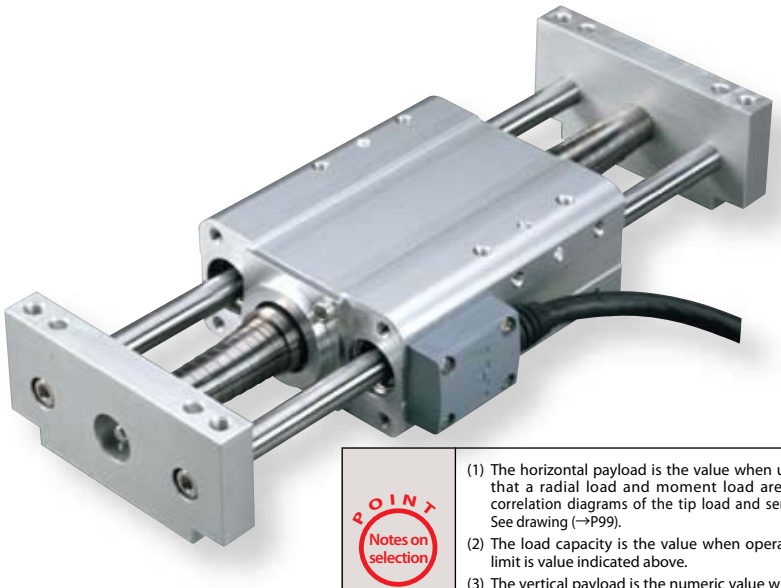
ROBO Cylinder Mini Rod type Short Length Double-Guide Slide Unit type Actuator Width 60mm 24V servo motor Lead screw specification

■Model Description

RCA2 – SD3N – I – 10 – ☐ – ☐ – ☐ – ☐ – ☐ –

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	25: 25mm 50: 50mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The horizontal payload is the value when used in combination with the guide so that a radial load and moment load are not applied to the rod. See P99 for correlation diagrams of the tip load and service life when a guide is not installed. See drawing (→P99).
(2) The load capacity is the value when operated at 0.2G acceleration. Acceleration limit is value indicated above.
(3) The vertical payload is the numeric value when the main unit is fixed and the side bracket is moved. Please note that the main unit cannot be moved in the case of vertical operation.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-SD3N-I-10-4S-30- ① - ② - ③	10	Lead screw	4	0.25	0.125	25.1	±0.05	25 50
RCA2-SD3N-I-10-2S-30- ① - ② - ③			2	0.5	0.25	50.3		
RCA2-SD3N-I-10-1S-30- ① - ② - ③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

(*1)When main unit side is fixed

■Stroke and Maximum Speed

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

(Unit = mm/s)

Price list (by stroke)

(1) Stroke (mm)	Type code
	SD3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
25	–
50	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

Actuator Specification

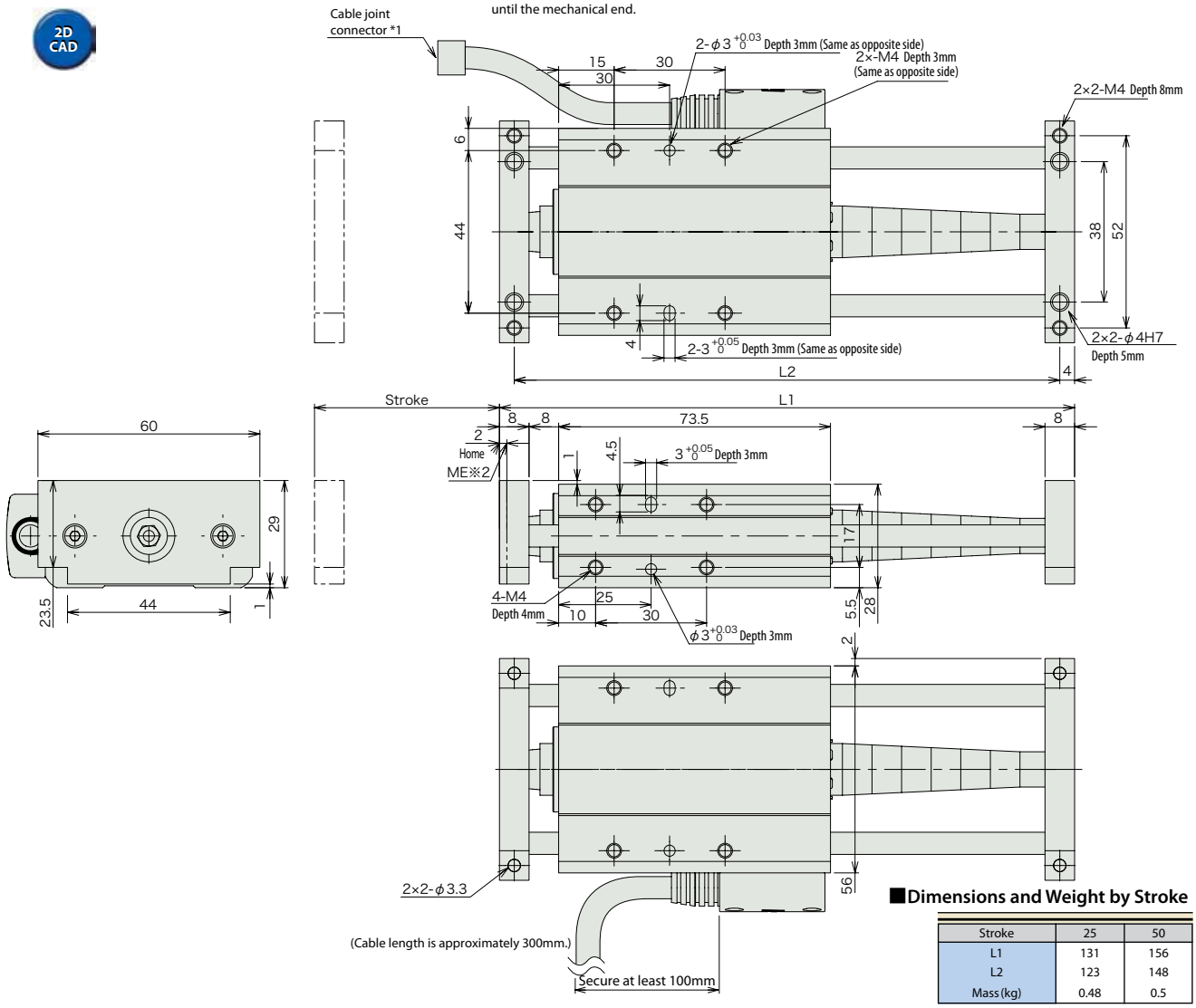
Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles Vertical specification: 5 million cycles

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



■Dimensions and Weight by Stroke

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

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-NP-2-0	Simple controller capable of operating w ith 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	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-SD4N

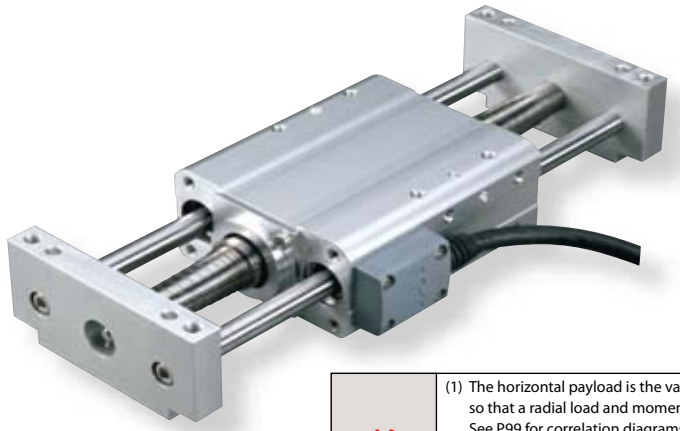
ROBO Cylinder Mini Rod type Short Length Double-Guide Slide Unit type Actuator Width 72mm 24V servo motor
Ball screw specification/ Lead screw specification

■Model Description

RCA2 – SD4N – I – 20 – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	6: Ball screw 6mm 4: Ball screw 4mm 2: Ball screw 2mm 6S: Lead screw 6mm 4S: Lead screw 4mm 2S: Lead screw 2mm	25: 25mm 50: 50mm 75: 75mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The horizontal payload is the value when used in combination with the guide so that a radial load and moment load are not applied to the rod.
See P99 for correlation diagrams of the tip load and service life when a guide is not installed. See drawing (→P99).

(2) Value when operated with payload acceleration of 0.3G G,)
Acceleration limit is value indicated above.

(3) The vertical payload is the numeric value when the main unit is fixed and the side bracket is moved. Please note that the main unit cannot be moved in the case of vertical operation.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-SD4N-I-20-6-①-②-③	20	Ball screw	6	2	0.5 (*1)	33.8	±0.02	25 50 75
RCA2-SD4N-I-20-4-①-②-③			4	3	0.75 (*1)	50.7		
RCA2-SD4N-I-20-2-①-②-③			2	6	1.5 (*1)	101.5		
RCA2-SD4N-I-20-6S-①-②-③	20	Lead screw	6	0.25	0.125 (*1)	19.9	±0.05	25 50 75
RCA2-SD4N-I-20-4S-①-②-③			4	0.5	0.25 (*1)	29.8		
RCA2-SD4N-I-20-2S-①-②-③			2	1	0.5 (*1)	59.7		

Legend ① Stroke ② Compatible Controllers ③ Cable length

(*1) When main unit side is fixed

■Stroke and Maximum Speed

Lead \ Stroke	25 (mm)	50 to 75 (mm)
Ball screw 6	240 <200>	300
Ball screw 4	200	200
Ball screw 2	100	100
Lead screw 6	200	300
Lead screw 4	200	200
Lead screw 2	100	100

*< > Indicates Vertical Use

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code: SD4N; Encoder type: Incremental; Feed screw: Ball screw	Feed screw: Lead screw
25	–	–
50	–	–
75	–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

Actuator Specification

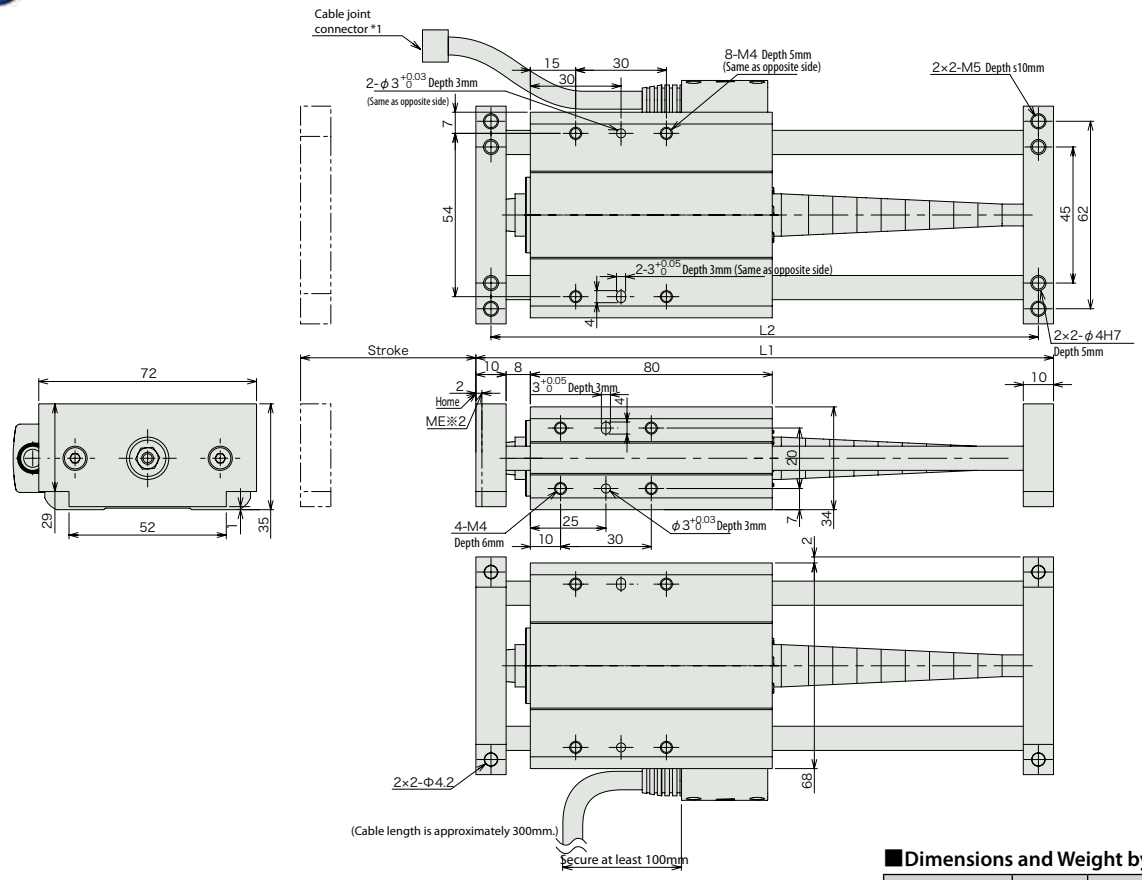
Item		Description
Drive System		Ball screw/ lead screw dia. 6mm, rolled C10
Backlash		Ball screw: 0.1mm or less/ Lead screw: 0.3mm or less
Frame		Material: Aluminum, white alumite treated
Ambient operating temperature, humidity		0 to 40 °C, 85% RH or less (no condensation)
Service life	Ball screw	5,000km
	Lead screw	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



■Dimensions and Weight by Stroke

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

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-TC3N

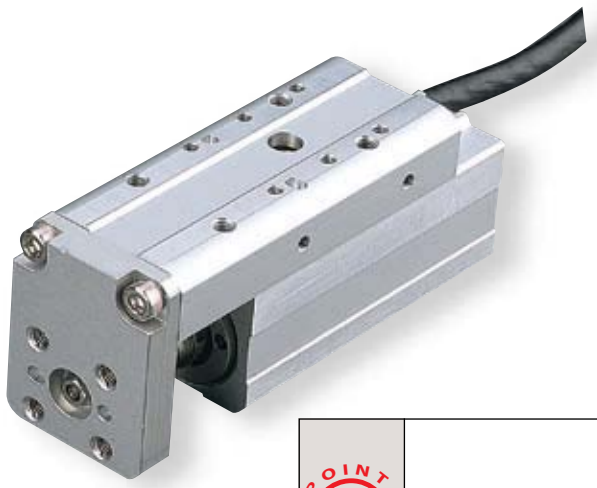
ROBO Cylinder Mini Table type Short Length Compact type Actuator Width 32mm 24V servo motor
Lead screw specification

■Model Description

RCA2 – TC3N – I – 10 – □ – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	30: 30mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



POINT
Notes on selection

(1) The payload is the value when operated at 0.2G acceleration.
Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TC3N-I-10-4S-30- ① ② ③	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-TC3N-I-10-2S-30- ① ② ③			2	0.5	0.25	50.3		
RCA2-TC3N-I-10-1S-30- ① ② ③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

(1) Price list (by stroke)

Stroke (mm)	Type code
	TC3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
25	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P50	–

Actuator Specification

Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Dynamic allowable moment (see note)	Ma : 9.9 N・m Mb : 9.9 N・m Mc : 3.3 N・m
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

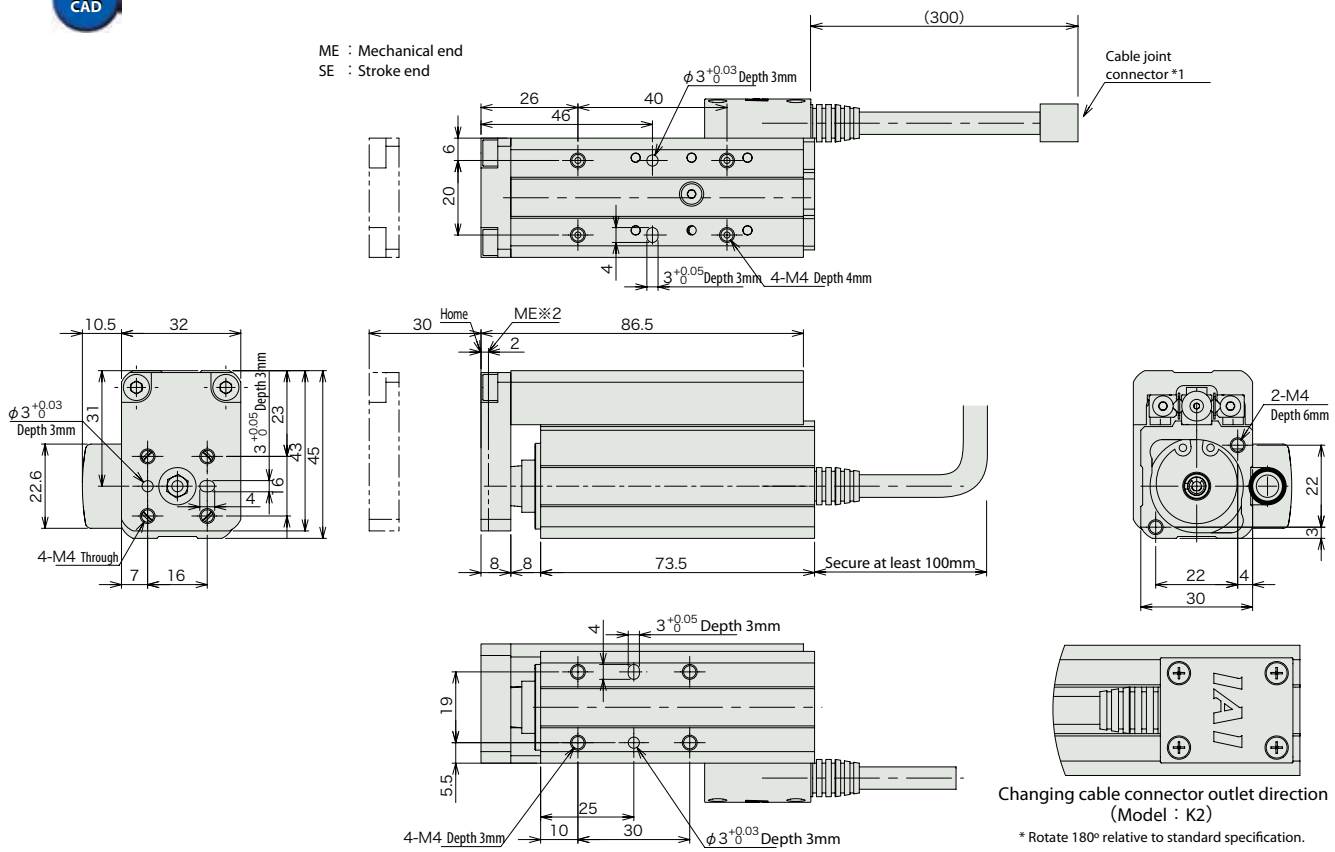
(Note) For cases when the guide service life has been set to 5,000km.

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



Changing cable connector outlet direction (Model : K2)
* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.37

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-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	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-TC4N

ROBO Cylinder Mini Table type Short Length Compact type Actuator Width 36mm
24V servo motor Ball screw specification/ Lead screw specification

■Model Description

RCA2 — TC4N — I — 20 — ☐ — 30 — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
RCA2	TC4N	I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	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	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

POINT
Notes on selection

(1) Value when operated with payload acceleration of 0.3G (or 0.2G in the case of lead 2, vertical).
Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TC4N-I-20-6-30-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-TC4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-TC4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-TC4N-I-20-6S-30-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-TC4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-TC4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

*< > Indicates Vertical Use (Unit = mm/s)

(1) Price list (by stroke)

Stroke (mm)	Type code: TC4N; Encoder type: Incremental; Feed screw: Ball screw	Type code: TC4N; Encoder type: Incremental; Feed screw: Lead screw
30	–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P52	–

Actuator Specification

Item		Description
Drive System		Ball screw/ lead screw dia. 6mm, rolled C10
Backlash		Ball screw: 0.1mm or less/ Lead screw: 0.3mm or less
Frame		Material: Aluminum, white alumite treated
Dynamic allowable moment (see note)		Ma : 9.9 N·m Mb : 9.9 N·m Mc : 3.3 N·m
Ambient operating temperature, humidity		0 to 40 °C, 85% RH or less (no condensation)
Service life	Ball screw	5,000km
	Lead screw	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

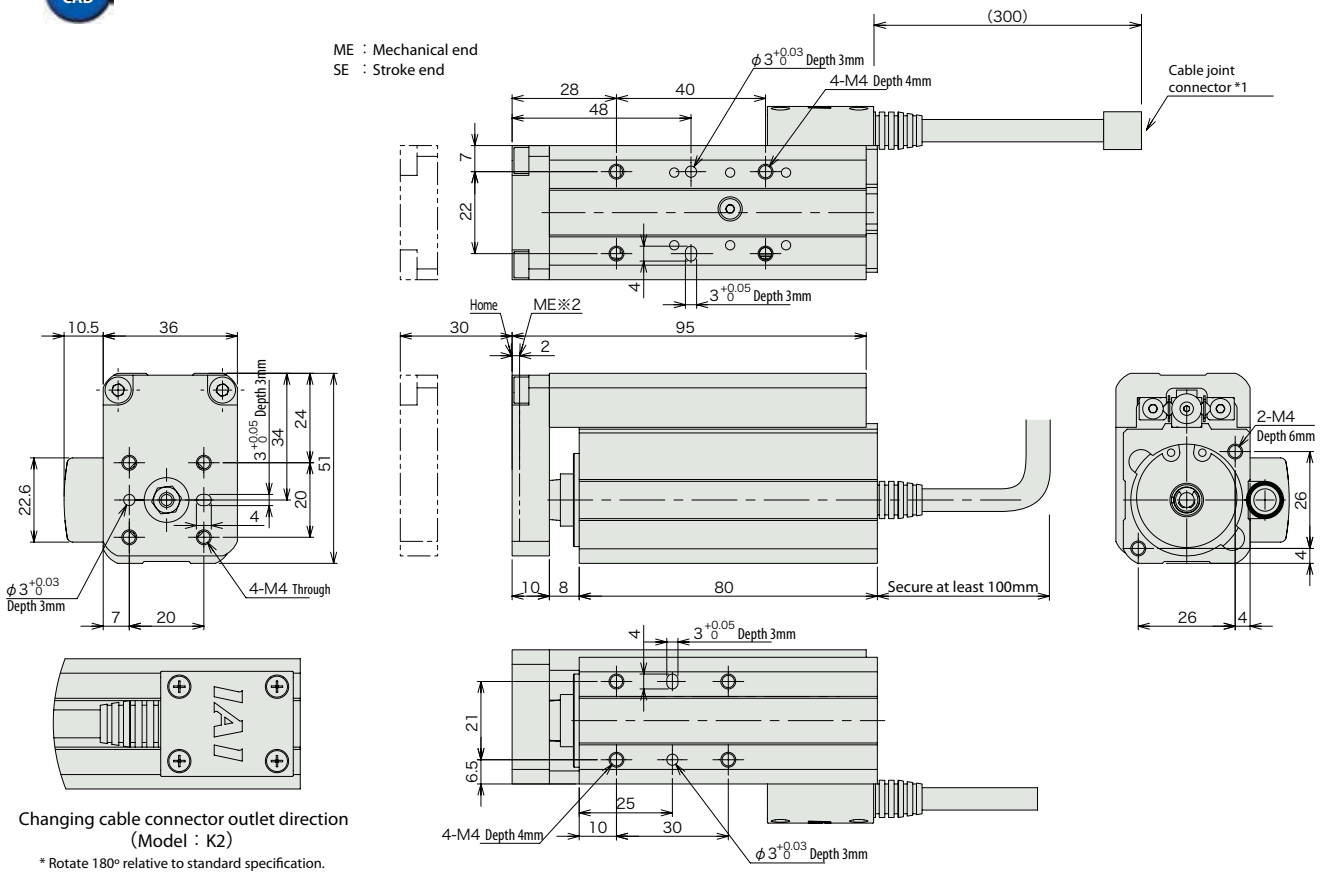
(Note) For cases when the guide service life has been set to 5,000km.

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



Changing cable connector outlet direction (Model : K2)

* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.48

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-TW3N

ROBO Cylinder Mini Table type Short Length Wide type Actuator Width 50mm
24V servo motor Lead screw specification

■Model Description

RCA2 – TW3N – I – 10 – ☐ – 30 – ☐ – ☐ – ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	30: 30mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

POINT Notes on selection

(1) The payload is the value when operated at 0.2G acceleration.
Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TW3N-I-10-4S-30-①-②-③	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-TW3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-TW3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

(1) Price list (by stroke)

Stroke (mm)	Type code
	TW3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
30	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P54	–

Actuator Specification

Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Dynamic allowable moment (see note)	Ma : 9.9 N m Mb : 9.9 N m Mc : 9.4 N m
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

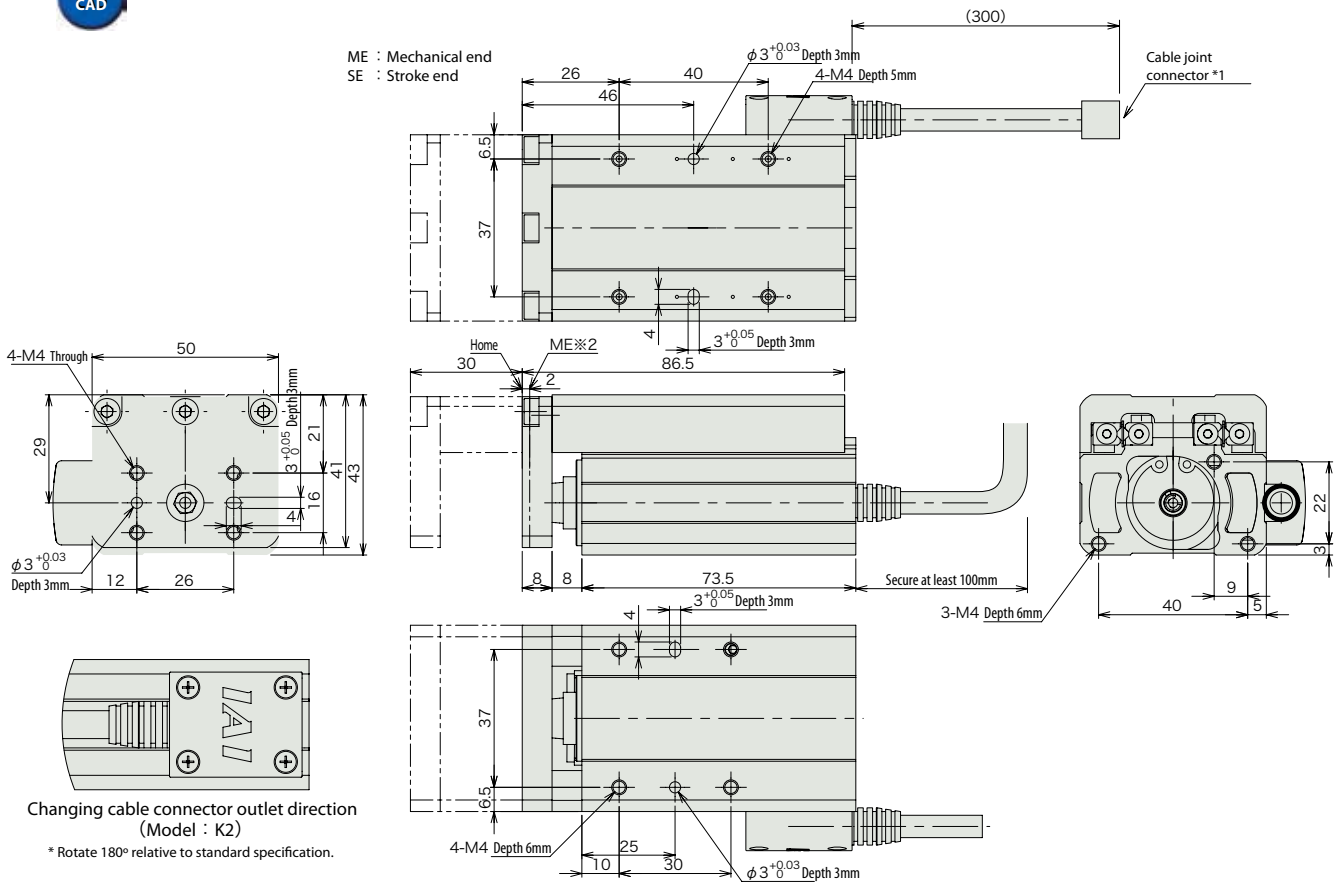
(Note) For cases when the guide service life has been set to 5,000km.

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



Changing cable connector outlet direction
(Model : K2)
* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.52

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-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	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-TW4N

ROBO Cylinder Mini Table type Short Length Wide type Actuator Width 58mm
24V servo motor Ball screw specification/ Lead screw specification

■Model Description

RCA2 – TW4N – I – 20 – □ – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	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	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

POINT
Notes on selection

(1) Value when operated with payload acceleration of 0.3G (or 0.2G in the case of lead 2, vertical).
Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TW4N-I-20-6-30-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-TW4N-I-20-4-30-①-②-③			4	3	0.75	50.7		
RCA2-TW4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-TW4N-I-20-6S-30-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-TW4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-TW4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

*< > Indicates Vertical Use (Unit = mm/s)

(1) Price list (by stroke)

Stroke (mm)	Type code	
	TW4N	
	Encoder type	
	Incremental	
	Feed screw	
	Ball screw	Lead screw
30	–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P56	–

Actuator Specification

Item		Description
Drive System		Ball screw/ lead screw dia. 6mm, rolled C10
Backlash		Ball screw: 0.1mm or less/ Lead screw: 0.3mm or less
Frame		Material: Aluminum, white alumite treated
Dynamic allowable moment (see note)		Ma : 9.9 N m Mb : 9.9 N m Mc : 12.2 N m
Ambient operating temperature, humidity		0 to 40 ºC, 85% RH or less (no condensation)
Service life	Ball screw	5,000km
	Lead screw	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

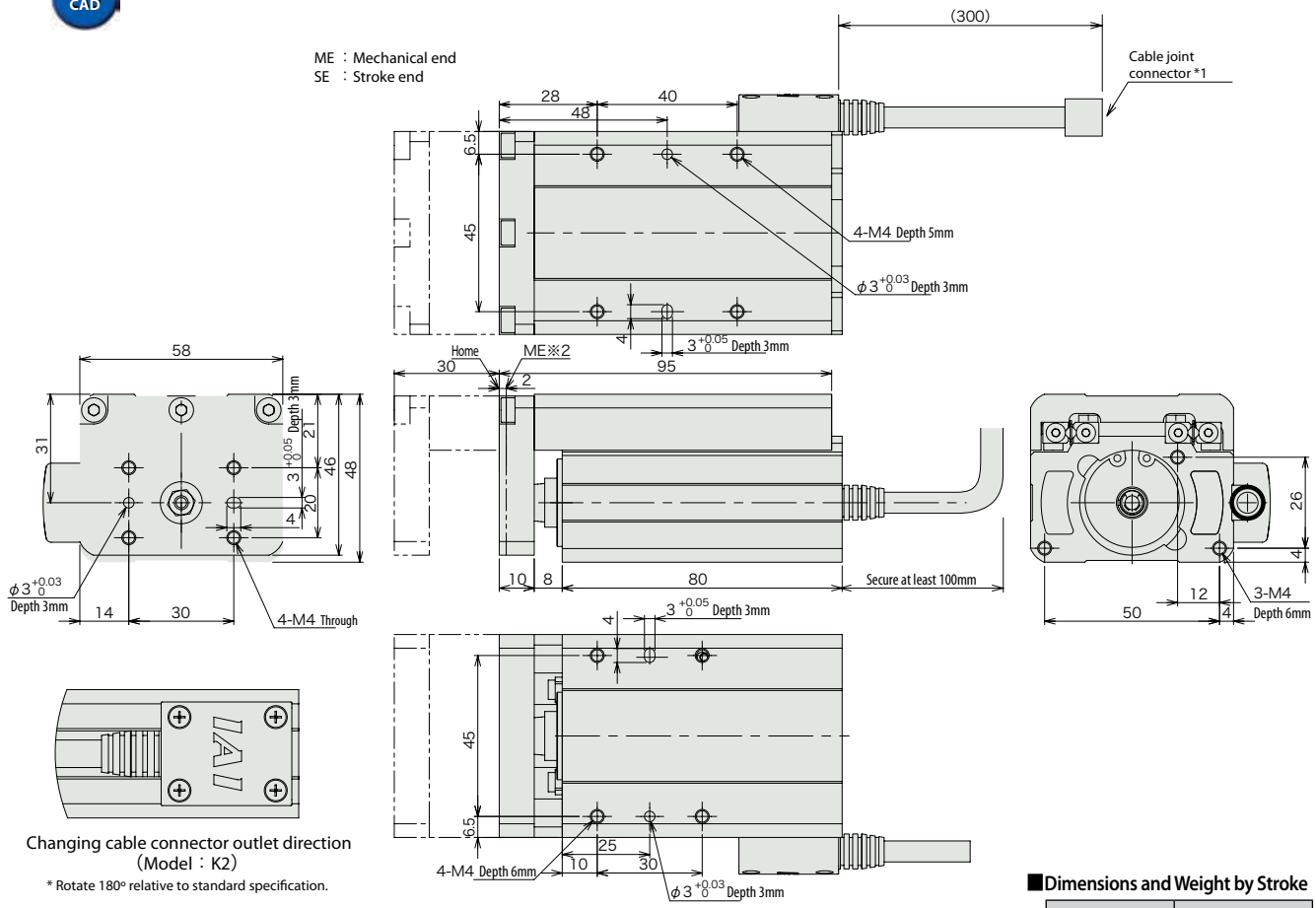
(Note) For cases when the guide service life has been set to 5,000km.)

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



Changing cable connector outlet direction (Model : K2)
* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.65

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-TF3N

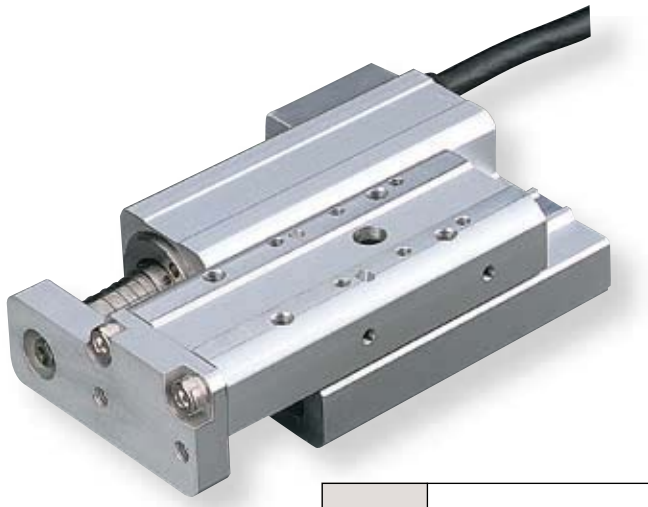
ROBO Cylinder Mini Table type Short Length Flat type Actuator Width 61mm
24V servo motor Lead screw specification

■Model Description

RCA2 – TF3N – I – 10 – □ – 30 – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	4S: Lead screw 4mm 2S: Lead screw 2mm 1S: Lead screw 1mm	30: 30mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The payload is the value when operated at 0.2G acceleration.
Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TF3N-I-10-4S-30-①-②-③	10	Lead screw	4	0.25	0.125	25.1	±0.05	30 (Fixed)
RCA2-TF3N-I-10-2S-30-①-②-③			2	0.5	0.25	50.3		
RCA2-TF3N-I-10-1S-30-①-②-③			1	1	0.5	100.5		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

(Unit = mm/s)

(1) Price list (by stroke)

Stroke (mm)	Type code
	TF3N
	Encoder type
	Incremental
	Feed screw
	Lead screw
25	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P32	–

Actuator Specification

Item	Description
Drive System	Lead screw, φ4mm, rolled C10
Backlash	0.3mm or less (initial value)
Frame	Material: Aluminum, white alumite treated
Dynamic allowable moment (see note)	Ma : 9.9 N m Mb : 9.9 N m Mc : 3.3 N m
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (no condensation)
Service life	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

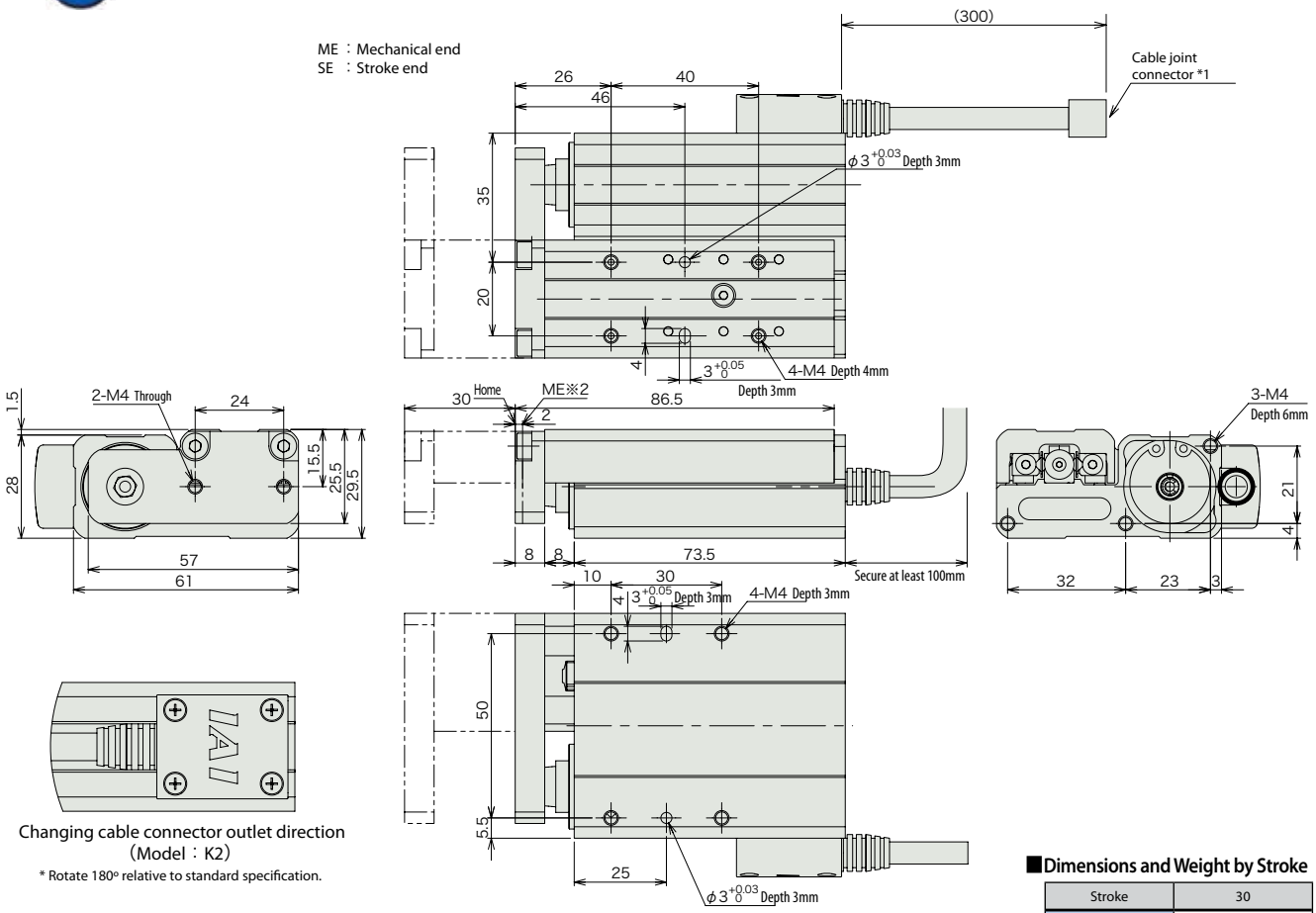
(Note) For cases when the guide service life has been set to 5,000km.

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



Changing cable connector outlet direction
(Model : K2)
* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.4

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-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	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCA2-TF4N

ROBO Cylinder Mini Table type Short Length Flat type Actuator Width 71mm
24V servo motor Lead screw specification

■Model Description

RCA2 – TF4N – I – 20 – ☐ – 30 – ☐ – ☐ – ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20: Servo Motor 20W	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	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X☐☐: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

POINT
Notes on selection

(1) Value when operated with payload acceleration of 0.3G (or 0.2G in the case of lead 2, vertical).
Acceleration limit is value indicated above.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TF4N-I-20-6-30-①-②-③	20	Ball screw	6	2	0.5	33.8	±0.02	30 (Fixed)
RCA2-TF4N-I-20-4-30-①-②-③			4	3	0.75)	50.7		
RCA2-TF4N-I-20-2-30-①-②-③			2	6	1.5	101.5		
RCA2-TF4N-I-20-6S-30-①-②-③	20	Lead screw	6	0.25	0.125	19.9	±0.05	30 (Fixed)
RCA2-TF4N-I-20-4S-30-①-②-③			4	0.5	0.25	29.8		
RCA2-TF4N-I-20-2S-30-①-②-③			2	1	0.5	59.7		

Legend ① Compatible Controllers ② Cable length ③ Option

■Stroke and Maximum Speed

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

*< > Indicates Vertical Use (Unit = mm/s)

(1) Price list (by stroke)

Stroke (mm)	Type code: TF4N; Encoder type: Incremental; Feed screw: Ball screw	Type code: TF4N; Encoder type: Incremental; Feed screw: Lead screw
30	–	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(3) Option price list (standard price)

Title	Option code	See page	Standard price
Change the cable connector outlet direction	**K2**	→P60	–

Actuator Specification

Item		Description
Drive System		Ball screw/ lead screw dia. 6mm, rolled C10
Backlash		Ball screw: 0.1mm or less/ Lead screw: 0.3mm or less
Frame		Material: Aluminum, white alumite treated
Dynamic allowable moment (see note)		Ma : 9.9 N m Mb : 9.9 N m Mc : 3.3 N m
Ambient operating temperature, humidity		0 to 40 °C, 85% RH or less (no condensation)
Service life	Ball screw	5,000km
	Lead screw	Horizontal specification: 10 million cycles, Vertical specification: 5 million cycles

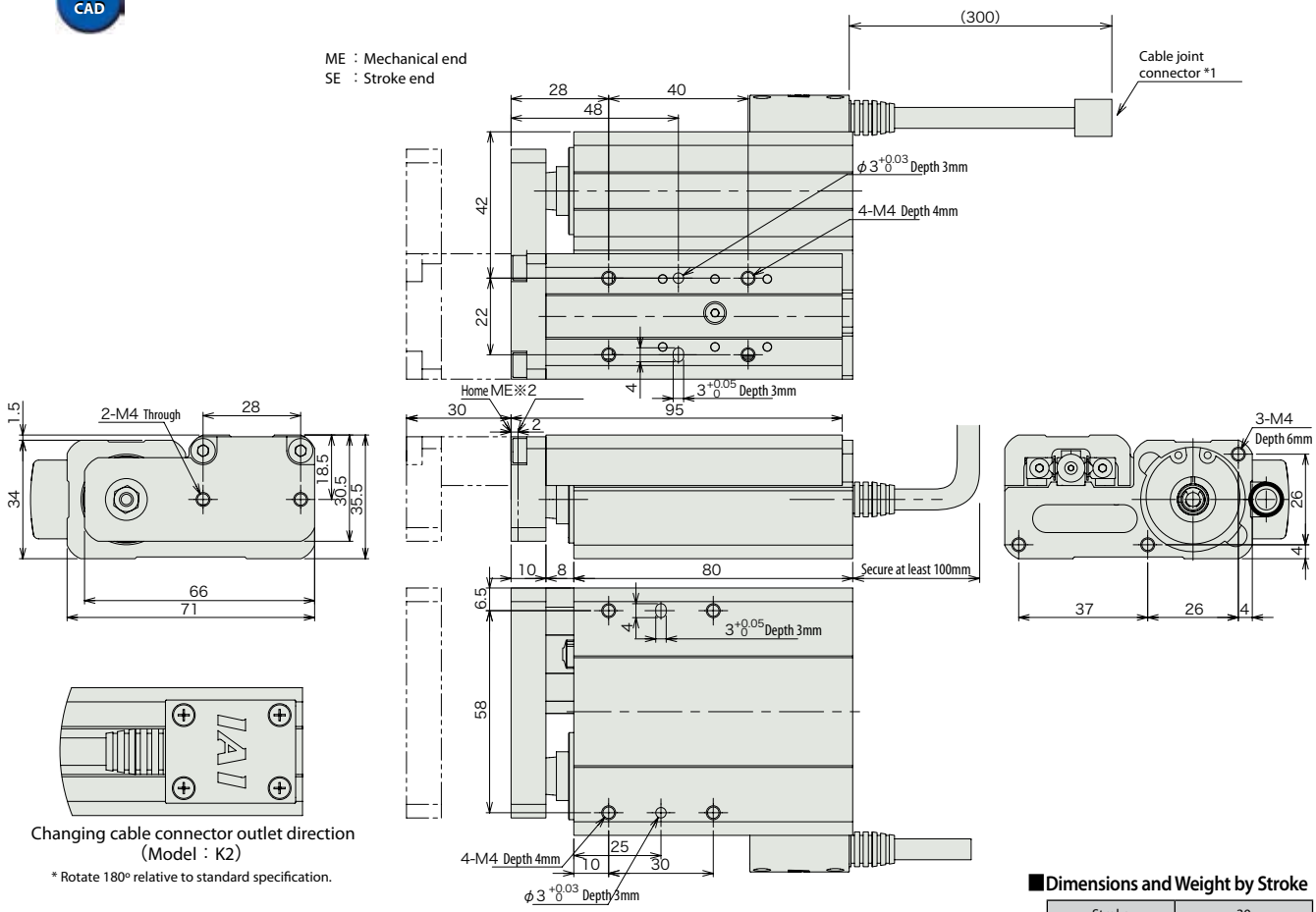
(Note) For cases when the guide service life has been set to 5,000km.

Dimensional Drawings

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

2D CAD

*1 Connect the motor and encoder cables. See page 113 for cable details.
*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.



Changing cable connector outlet direction
(Model : K2)

* Rotate 180° relative to standard specification.

Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.6

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-20I-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	See P109.	–	→P101
		ASEP-CW-20I-NP-2-0					–	
Positioner type		ACON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple Absolute unit cannot be used.	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCP3-TA3C

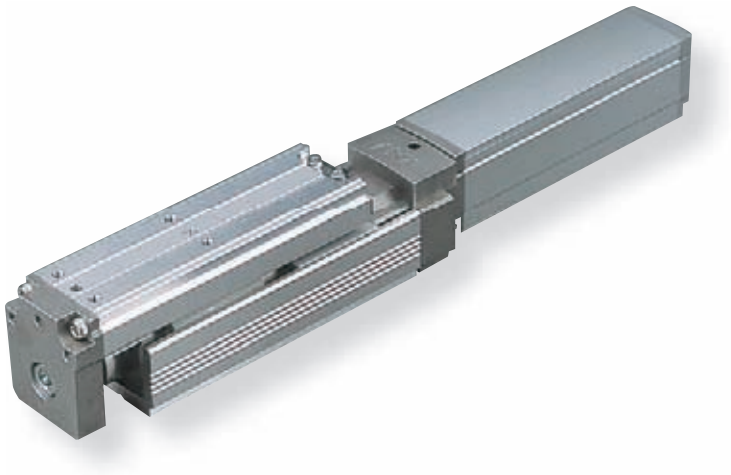
ROBO Cylinder Mini Table type Motor Unit Coupling type Actuator Width 36mm Pulse Motor Ball screw specification

■Model Description

RCP3 — TA3C — I — 20P — □ — □ — □ — □ — □ — □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□Size	6: 6mm 4: 4mm 2: 2mm	20:20mm ↕ 100:100mm (set in steps every 10mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

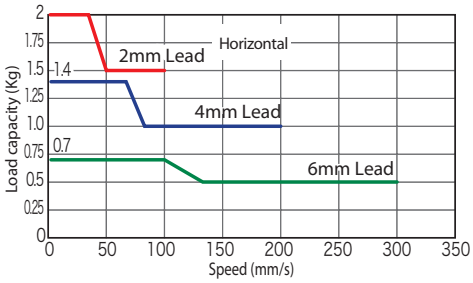


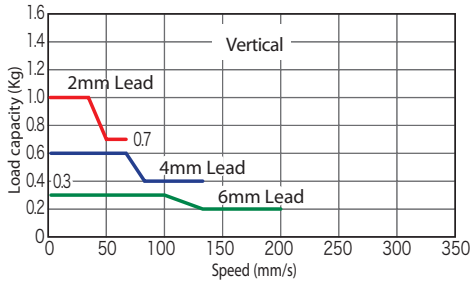
POINT Notes on selection

(1) The payload is the value when operated with acceleration of 0.3G (or 0.2G in the case of Lead 2 and vertical usage). The upper limit for acceleration is 0.3G (or 0.2G in the case of Lead 2 and vertical usage).

■ Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.





Actuator Specification Table

■Leads and Payloads

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

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (N)(Note 2)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-TA3C-I-20P-6-①-②-③-④	Ball screw	6	Up to 7	Up to 0.3	9	±0.02	20 to 100
RCP3-TA3C-I-20P-4-①-②-③-④		4	Up to 1.4	Up to 0.6	14		
RCP3-TA3C-I-20P-2-①-②-③-④		2	Up to 2	Up to 1	28		

■Stroke and Maximum Speed

Lead \ Stroke	20 to 100 (mm)
Ball screw 6	300 <200>
Ball screw 4	200 <133>
Ball screw 2	100 <67>

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Note 2) For a graph of the pushing force, see P97.

※ < > Indicates Vertical Use

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	TA3C
	Encoder type
	Incremental
	Feed screw
	Ball screw
20	–
30	–
40	–
50	–
60	–
70	–
80	–
90	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P62	–
Reversed-home specification	**NM**	–	–

Actuator Specification

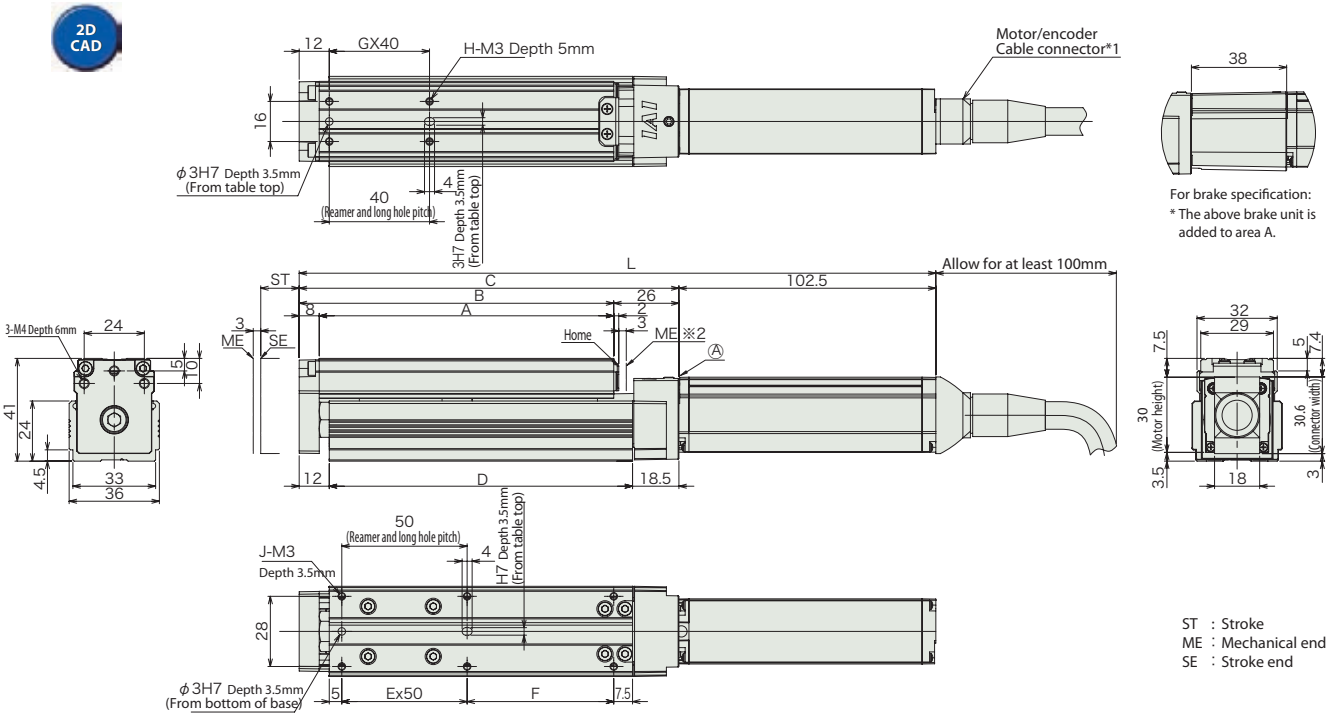
Item	Description
Drive System	Ball screw φ6mm rolled C10
Backlash	0.1mm or less
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note 3)	Ma: 3.2 N·m Mb: 4.6 N·m Mc: 5.1 N·m
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note 3) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



ST : Stroke
ME : Mechanical end
SE : Stroke end

*1 The motor-encoder cable is connected directly to the actuator motor cover. See page 113 for cable details.

*2 The slider moves to the mechanical end during home return. Pay attention to prevent contact between the slider and surrounding parts.

■Dimensions and Weight by Stroke

*The attached brake adds 0.1kg of mass.

Stroke		20	30	40	50	60	70	80	90	100
L	No brake	224	234	244	254	264	274	284	294	304
	Brake-equipped	262	272	282	292	302	312	322	332	342
A		87.5	97.5	107.5	117.5	127.5	137.5	147.5	157.5	167.5
B		95.5	105.5	115.5	125.5	135.5	145.5	155.5	165.5	175.5
C		121.5	131.5	141.5	151.5	161.5	171.5	181.5	191.5	201.5
D		91	101	111	121	131	141	151	161	171
E		1	1	1	1	2	2	2	2	2
F		28.5	38.5	48.5	58.5	18.5	28.5	38.5	48.5	58.5
G		1	1	1	1	2	2	2	2	2
H		4	4	4	4	6	6	6	6	6
I		6	6	6	6	8	8	8	8	8
Mass (kg)		0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20PI-NP-2-0	Simple controller capable of operating with the same signal as the solenoid valve Supports use of both the single solenoid and the double solenoid types Simple Absolute type makes return to home unnecessary	3 points	DC24V	See P109.	–	→P101
		PSEP-CW-20PI-NP-2-0					–	
Positioner type		PCON-□-20PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), return to home becomes the unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20PI-NP-2-0	Programmable type Capable of operating up to 2 axes Simple absolute unit (sold separately) By attaching, the return to home becomes unnecessary	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-TA4C

ROBO Cylinder Mini Table type Motor Unit Coupling type Actuator Width 40mm Pulse Motor Ball screw specification

■Model Description

RCP3 — TA4C — I — 28P — □ — □ — □ — □ — □ — □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	28P: Pulse Motor 28□Size	6 : 6mm 4 : 4mm 2 : 2mm	20:20mm ↕ 100:100mm (set in steps every 10mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

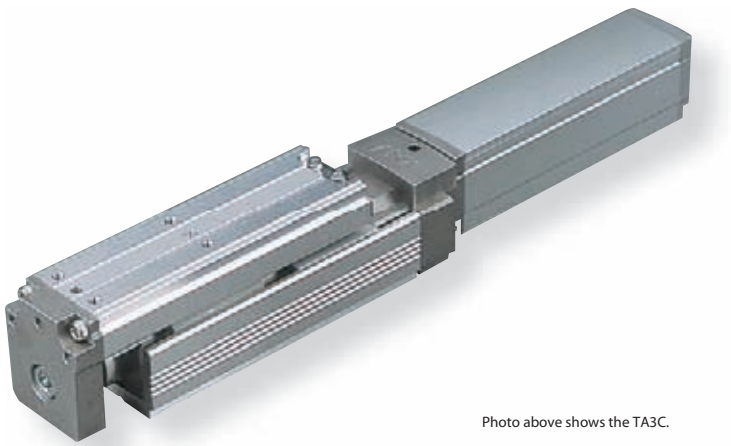
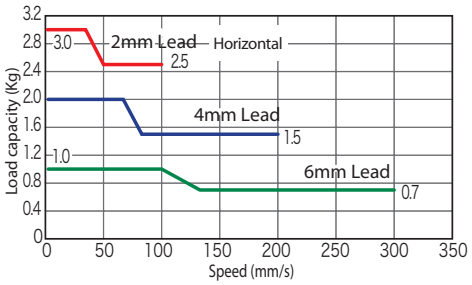
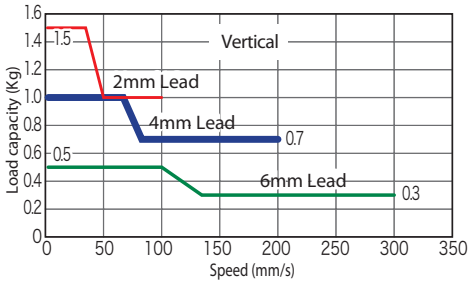


Photo above shows the TA3C.

■ Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.





POINT Notes on selection

(1) The payload is the value when operated with acceleration of 0.3G (or 0.2G in the case of Lead 2 and vertical usage). The upper limit for acceleration is 0.3G (or 0.2G in the case of Lead 2 and vertical usage).

Actuator Specification Table

■Leads and Payloads

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

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (N)(Note 2)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-TA4C-I-28P-6-①-②-③-④	Ball screw	6	Up to 1	Up to 0.5	15	±0.02	20 to 100 (every 10mm)
RCP3-TA4C-I-28P-4-①-②-③-④		4	Up to 2	Up to 1	22		
RCP3-TA4C-I-28P-2-①-②-③-④		2	Up to 3	Up to 1.5	44		

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Note 2) For a graph of the pushing force, see P97.

■Stroke and Maximum Speed

Lead \ Stroke	20 to 100 (mm)
Ball screw 6	300
Ball screw 4	200
Ball screw 2	100

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	TA4C
	Encoder type
	Incremental
	Feed screw
	Ball screw
20	–
30	–
40	–
50	–
60	–
70	–
80	–
90	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P64	–
Reversed-home specification	**NM**	–	–

Actuator Specification

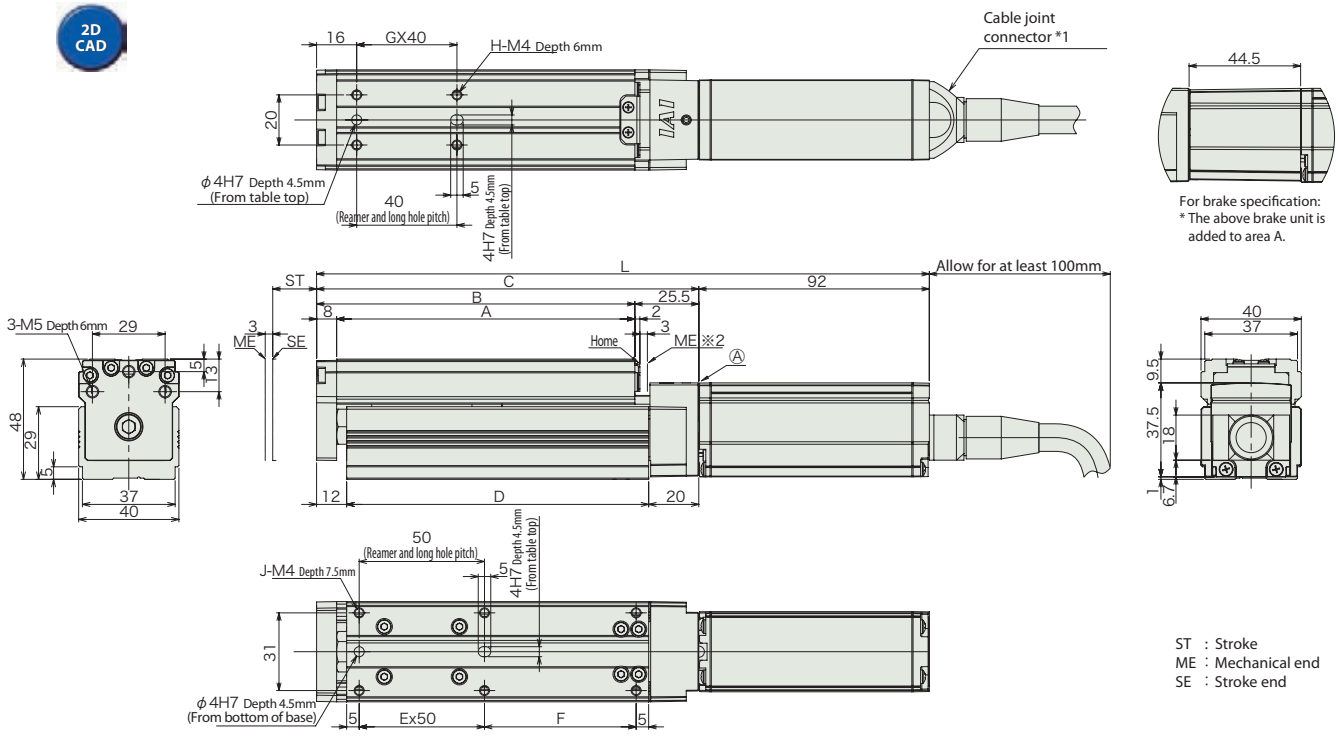
Item	Description
Drive System	Ball screw φ6mm rolled C10
Backlash	0.1mm or less
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note 3)	Ma: 4.2 N·m Mb: 6 N·m Mc: 8.2 N·m
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note 3) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



ST : Stroke
ME : Mechanical end
SE : Stroke end

*1 The motor-encoder cable is connected directly to the actuator motor cover. See page 113 for cable details.

*2 The slider moves to the mechanical end during home return. Pay attention to prevent contact between the slider and surrounding parts.

■Dimensions and Weight by Stroke

* The attached brake adds 0.2kg of mass.

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
I		6	6	6	6	8	8	8	8	8
Mass (kg)		0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9

Compatible Controllers

RCP3 Compact ROBO Cylinder Table type. Select the type according to your intended application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference Page
Solenoid valve type		PSEP-C-28PI-NP-2-0	Simple controller capable of operating with the same signal as the solenoid valve Supports use of both the single solenoid and the double solenoid types Simple Absolute type makes return to home unnecessary	3 points	DC24V	See P109	–	→P101
		PSEP-CW-28PI-NP-2-0					–	
Positioner type		PCON-□-28PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), return to home becomes the unnecessary.	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-28PI-NP-2-0	Programmable type Capable of operating up to 2 axes Simple absolute unit (sold separately) By attaching, the return to home becomes unnecessary	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCA2-TA4C

ROBO Cylinder Mini Table type Motor Unit Coupling type Actuator Width 40mm 24V servo motor Ball screw specification

■Model Description

RCA2 – TA4C – I – 10 – □ – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10w	6: 6mm 4: 4mm 2: 2mm	20:20mm ↕ 100:100mm (set steps every 10mm)	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Cable Length	Following options Refer to price table

*See page 11 for details on the model descriptions.

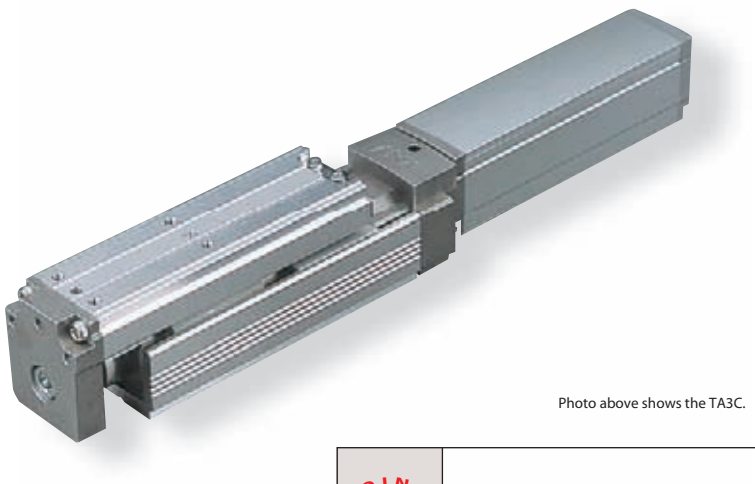


Photo above shows the TA3C.

POINT Notes on selection

(1) Value when operated with payload acceleration of 0.3G (or 0.2G in the case of lead 2, vertical). The payload is the value when operated with acceleration of 0.3G (or 0.2G in the case of Lead 2 and vertical usage).
The upper limit for acceleration is 0.3G (or 0.2G in the case of Lead 2 and vertical usage).

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TA4C-I-10-6-①-②-③-④	10	Ball screw	6	1	0.5	28	±0.02	20 to 100 (every 10mm)
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 Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	20 to 100 (every 10mm)
Ball screw 6	300
Ball screw 4	200
Ball screw 2	100

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	TA4C
	Encoder type
	Incremental
	Feed screw
	Ball screw
20	–
30	–
40	–
50	–
60	–
70	–
80	–
90	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P66	–
Reversed-home specification	**NM**	–	–

Actuator Specification

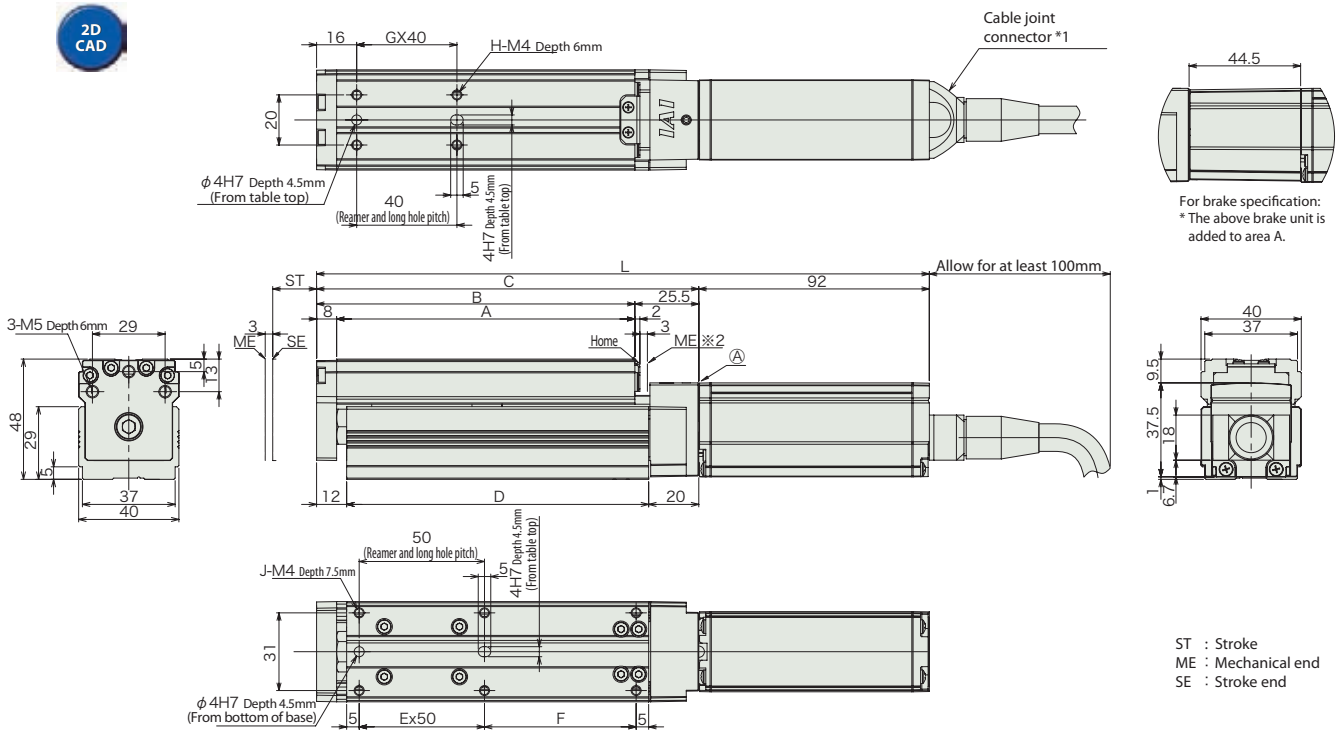
Item	Description
Drive System	Ball screw φ6mm rolled C10
Backlash	0.1mm or less
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 4.2 N·m Mb: 6 N·m Mc: 8.2 N·m
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



ST : Stroke
ME : Mechanical end
SE : Stroke end

*1 The motor-encoder cable is connected directly to the actuator motor cover. See page 113 for cable details.

*2 The slider moves to the mechanical end during home return. Pay attention to prevent contact between the slider and surrounding parts.

■Dimensions and Weight by Stroke

* The attached brake adds 0.2kg of mass.

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
I		6	6	6	6	8	8	8	8	8
Mass (kg)		0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-NP-2-0	Simple controller capable of operating with the same signal as the solenoid valve Supports use of both the single solenoid and the double solenoid types Simple Absolute type makes the return to home unnecessary	3 points	DC24V	See P109	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), return to home becomes the unnecessary	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes Simple absolute unit cannot be used	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCP3-TA3R

ROBO Cylinder Mini Table type Motor Unit Reversing type Actuator Width 72mm Pulse Motor Ball screw specification

■Model Description

RCP3 — TA3R — I — 20P — □ — □ — □ — □ — □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	20P: Pulse Motor 20□Size	6: 6mm 4: 4mm 2: 2mm	20: 20mm ↓ 100: 100mm (every 20mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

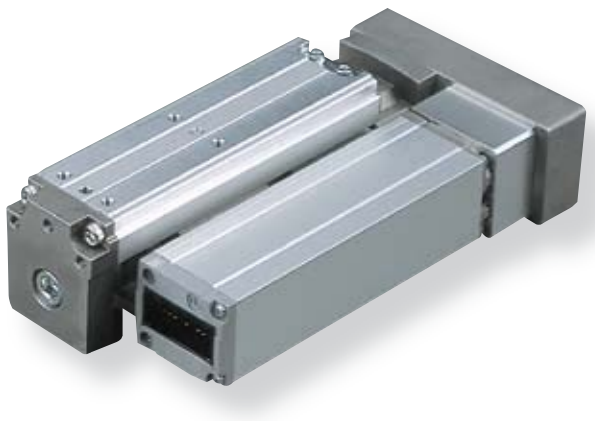


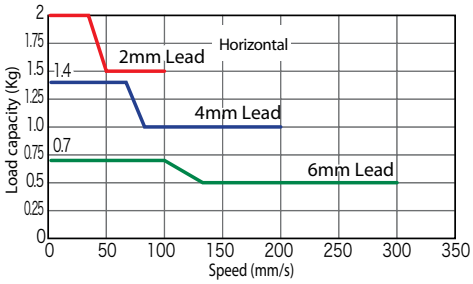
Photo above shows specification with motor reversing on left.

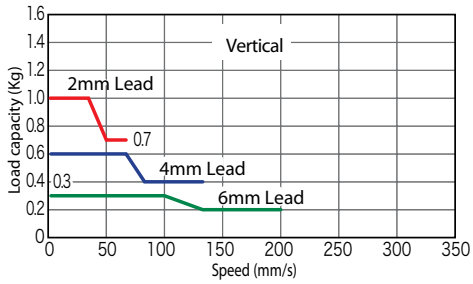
POINT Notes on selection

(1) The payload is the value when operated with acceleration of 0.3G (or 0.2G in the case of Lead 2 and vertical usage).
The upper limit for acceleration is 0.3G (or 0.2G in the case of Lead 2 and vertical usage).

■Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases. Use the chart below to confirm that the desired speed and load capacity requirements are met.





Actuator Specification Table

■Leads and Payloads

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

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (Note 2)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-TA3R-I-20P-6-①-②-③-④	Ball screw	6	Up to 0.7	Up to 0.3	9	±0.02	20 to 100 (every 10mm)
RCP3-TA3R-I-20P-4-①-②-③-④		4	Up to 1.4	Up to 0.6	14		
RCP3-TA3R-I-20P-2-①-②-③-④		2	Up to 2	Up to 1	28		

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Note 2) For a graph of the pushing force, see P97.

■Stroke and Maximum Speed

Lead \ Stroke	20 to 100 (every10mm)
Ball screw 6	300 <200>
Ball screw 4	200 <133>
Ball screw 2	100 <167>

* < > Indicates Vertical Use

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	TA3R
	Encoder type
	Incremental
	Feed screw
	Ball screw
20	–
30	–
40	–
50	–
60	–
70	–
80	–
90	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P68	–
Specification with motor reversing on left	**ML**	–	–
Specification with motor reversing on right	**MR**	–	–
Reversed-home specification	**NM**	–	–

Actuator Specification

Item	Description
Drive System	Ball screw φ6mm rolled C10
Backlash	0.1mm or less
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note 3)	Ma: 3.2 N·m Mb: 4.6 N·m Mc: 5.1 N·m
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

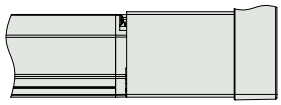
(Note 3) For case of 5,000km service life.

Dimensional Drawings

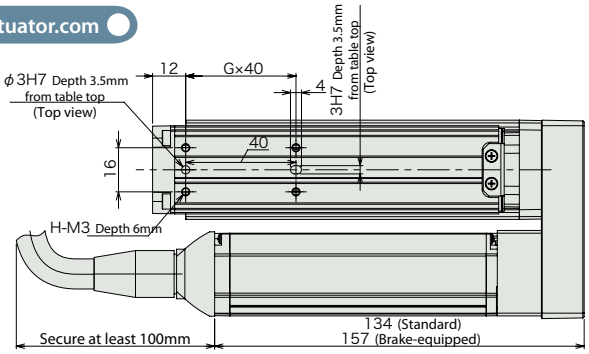
CAD drawings can be downloaded from the website. www.intelligentactuator.com

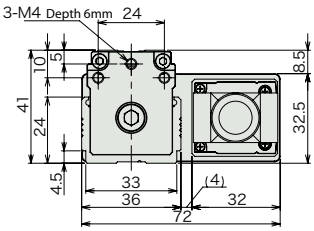
2D CAD

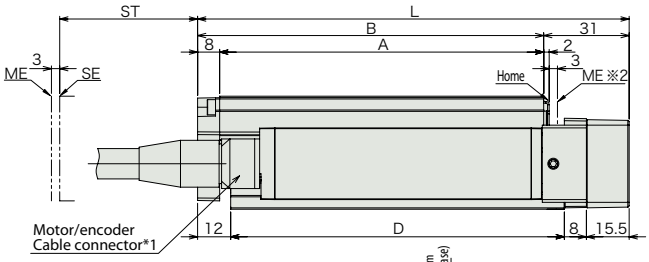
* The drawing below shows the specification with motor reversing on left.

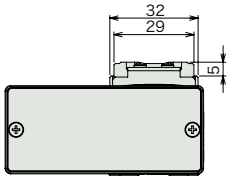


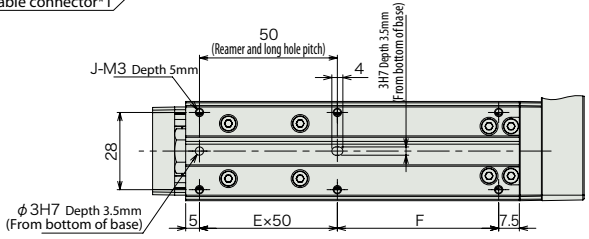
With brake:
(see drawing on the right for dimensions)











ST : Stroke
ME : Mechanical end
SE : Stroke end

*1 The motor-encoder cable is connected directly to the actuator motor cover. See page 113 for cable details.

*2 The slider moves to the mechanical end during home return. Pay attention to prevent contact between the slider and surrounding parts.

■Dimensions and Weight by Stroke

* The attached brake adds 0.1kg of mass.

Stroke	20	30	40	50	60	70	80	90	100
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5
A	87.5	97.5	107.5	117.5	127.5	137.5	147.5	157.5	167.5
B	95.5	105.5	115.5	125.5	135.5	145.5	155.5	165.5	175.5
D	91	101	111	121	131	141	151	161	171
E	1	1	1	1	2	2	2	2	2
F	28.5	38.5	48.5	58.5	18.5	28.5	38.5	48.5	58.5
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
Mass (kg)	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-20I-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	See P109	–	→P101
		PSEP-CW-20I-NP-2-0					–	
Positioner type		PCON-□-20I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-20I-NP-2-0	Programmable type Capable of operating up to 2 axes By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCP3-TA4R

ROBO Cylinder Mini Table type Motor Unit Reversing type Actuator Width 81mm Pulse Motor Ball screw specification

■Model Description

RCP3 – TA4R – I – 28P – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	28P: Pulse Motor 28□Size	6: 6mm 4: 4mm 2: 2mm	20: 20mm ~ 100: 100mm (every 20mm)	P1: PCON RPCON PSEL P3: PSEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

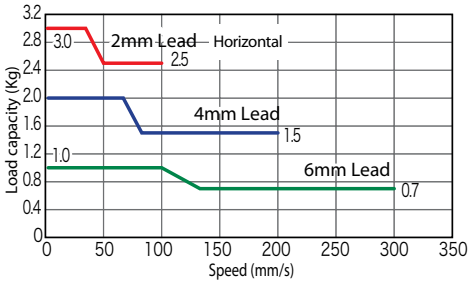
Photo above shows specification with TA3R motor reversing on left.

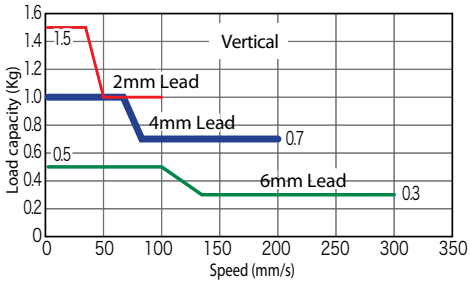
POINT Notes on selection

(1) The payload is the value when operated with acceleration of 0.3G (or 0.2G in the case of Lead 2 and vertical usage).
The upper limit for acceleration is 0.3G (or 0.2G in the case of Lead 2 and vertical usage).

■Correlation Diagrams of Speed and Load Capacity

With the RCP3 series, due to the characteristics of the pulse motor, load capacity decreases as the speed increases.Use the chart below to confirm that the desired speed and load capacity requirements are met.





Actuator Specification Table

■Leads and Payloads

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

Model	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Maximum pushing force (Note 2)	Positioning Repeatability (mm)	Stroke (mm)
RCP3-TA4R-I-28P-6-①-②-③-④	Ball screw	6	Up to 1	Up to 0.5	15	±0.02	20 to 100 (every 10mm)
RCP3-TA4R-I-28P-4-①-②-③-④		4	Up to 2	Up to 1	22		
RCP3-TA4R-I-28P-2-①-②-③-④		2	Up to 3	Up to 1.5	44		

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

(Note 2) For a graph of the pushing force, see P97.

■Stroke and Maximum Speed

Lead \ Stroke	20 to 100 (mm)
Ball screw 6	300
Ball screw 4	200
Ball screw 2	100

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	TA4R
	Encoder type
	Incremental
	Feed screw
	Ball screw
20	–
30	–
40	–
50	–
60	–
70	–
80	–
90	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P70	–
Specification with motor reversing on left	**ML**	–	–
Specification with motor reversing on right	**MR**	–	–
Reversed-home specification	**NM**	–	–

Actuator Specification

Item	Description
Drive System	Ball screw φ6mm rolled C10
Backlash	0.1mm or less
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note 3)	Ma: 4.2 N·m Mb: 6 N·m Mc: 8.2 N·m
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note 3) For case of 5,000km service life.

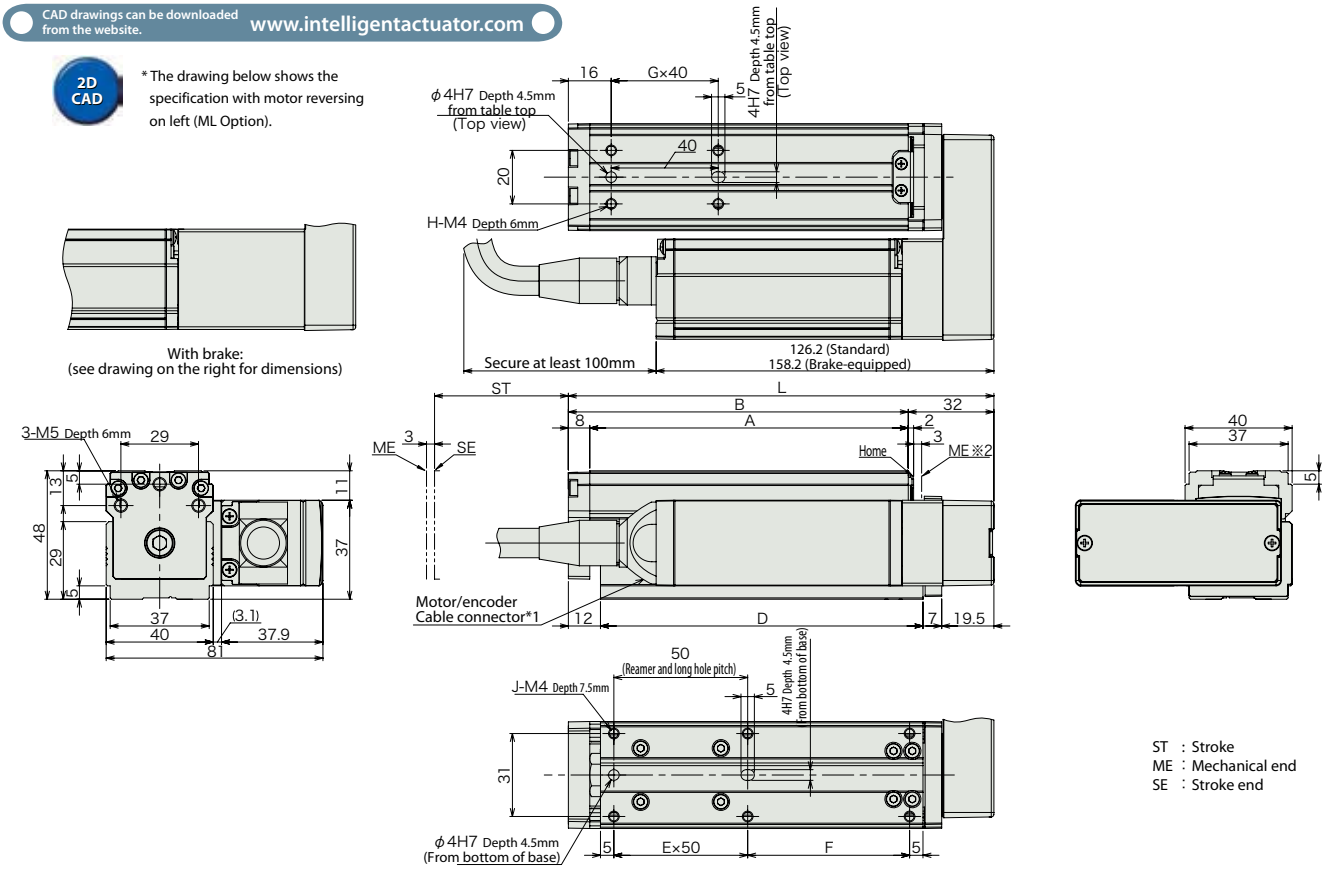
Dimensional Drawings

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

2D CAD

* The drawing below shows the specification with motor reversing on left (ML Option).

With brake:
(see drawing on the right for dimensions)



ST : Stroke
ME : Mechanical end
SE : Stroke end

*1 The motor-encoder cable is connected directly to the actuator motor cover.
See page 113 for cable details.

*2 The slider moves to the mechanical end during home return. Pay attention to prevent contact between the slider and surrounding parts.

■Dimensions and Weight by Stroke

* The attached brake adds 0.2kg of mass.

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
Mass (kg)	0.7	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0

Compatible Controllers

RCP3 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	Standard price	Reference Page
Solenoid valve type		PSEP-C-28PI-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	See P109	–	→P101
		PSEP-CW-28PI-NP-2-0					–	
Positioner type		PCON-□-28PI-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary	512 points			–	See the ROBO Cylinder general catalog.
Program type		PSEL-C-1-28P0I-NP-2-0	Programmable type Capable of operating up to 2 axes By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary	1500 points			–	

(Note 1) PCON can be used with C/CG/CY/PL/PO/SE types. Also, ROBONET can be used.

RCA2-TA4R

ROBO Cylinder Mini Table type Motor Unit Reversing type Actuator Width 81mm 24V servo motor Ball screw specification

■Model Description

RCA2 – TA4R – I – 10 – □ – □ – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification * Model number is "I" when used with simple absolute unit.	10: Servo Motor 10W	6: 6mm 4: 4mm 2: 2mm	20: 20mm ↕ 100: 100mm (every 20mm)	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	Following options Refer to price table

*See page 11 for details on the model descriptions.

Photo above shows specification with TA3R motor reversing on left.

POINT Notes on selection

(1) The payload is the value when operated with acceleration of 0.3G (or 0.2G in the case of Lead 2 and vertical usage).
The upper limit for acceleration is 0.3G (or 0.2G in the case of Lead 2 and vertical usage).

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Feed screw	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
RCA2-TA4R-I-10-6-①-②-③-④	10	Ball screw	6	1	0.5	28	±0.02	20 to 100 (set in 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 Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	20 to 100 (every 10mm)
Ball screw 6	300
Ball screw 4	200
Ball screw 2	100

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	TA4R
	Encoder type
	Incremental
	Feed screw
	Ball screw
20	–
30	–
40	–
50	–
60	–
70	–
80	–
90	–
100	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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)	–

* Robot type cable comes as standard with the RCA2 actuator.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Brake	**B**	→P72	–
Specification with motor reversing on left	**ML**	–	–
Specification with motor reversing on right	**MR**	–	–
Reversed-home specification	**NM**	–	–

Actuator Specification

Item	Description
Drive System	Ball screw φ6mm rolled C10
Backlash	0.1mm or less
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 4.2 N·m Mb: 6 N·m Mc: 8.2 N·m
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

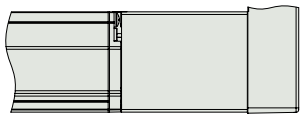
(Note) For case of 5,000km service life.

Dimensional Drawings

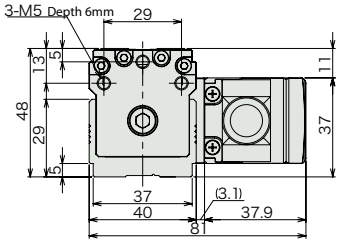
CAD drawings can be downloaded from the website. www.intelligentactuator.com

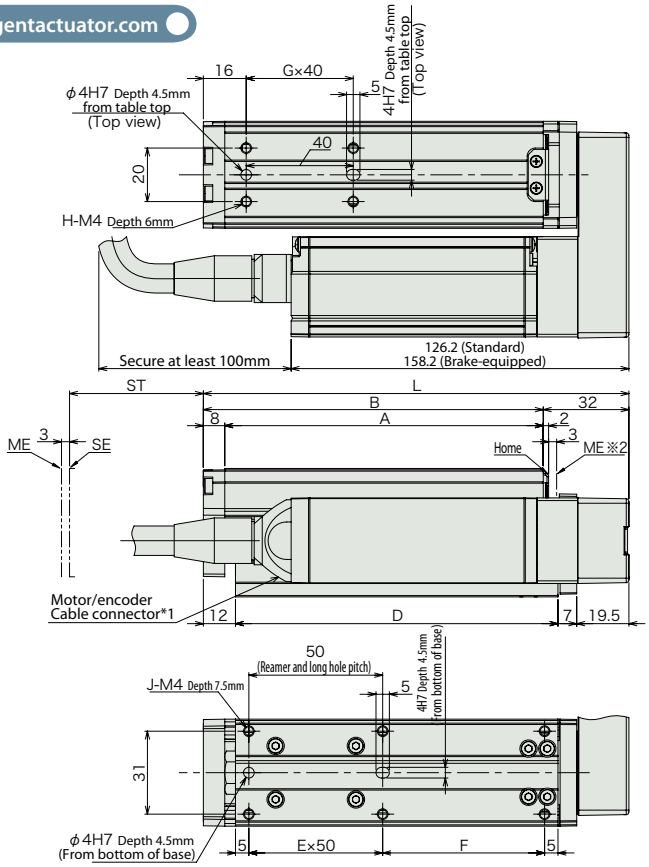
2D CAD

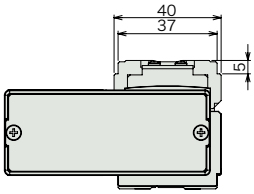
* The drawing below shows the specification with motor reversing on left (ML Option).



With brake:
(see drawing on the right for dimensions)







ST : Stroke
ME : Mechanical end
SE : Stroke end

*1 The motor-encoder cable is connected directly to the actuator motor cover. See page 113 for cable details.

*2 The slider moves to the mechanical end during home return. Pay attention to prevent contact between the slider and surrounding parts.

■Dimensions and Weight by Stroke

* The attached brake adds 0.2kg of mass.

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
Mass (kg)	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1

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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-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	See P109	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible By attaching a simple absolute unit (sold separately), the return to home becomes unnecessary	512 points			–	See the ROBO Cylinder general catalog
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-SA1L

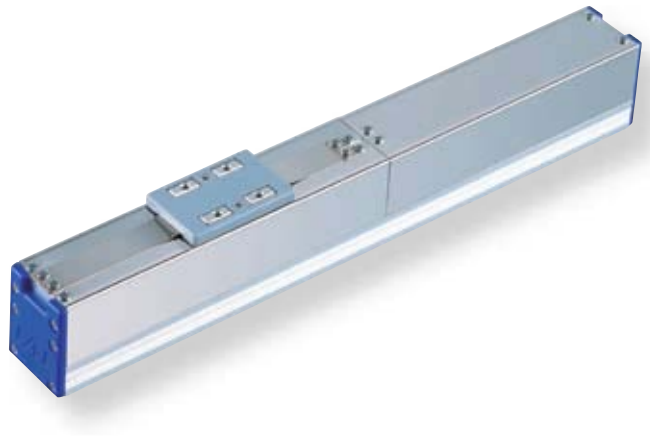
ROBO Cylinder Mini Linear Servo type Micro Slider Slim type Actuator Width 20mm Linear servo motor

■Model Description

RCL – SA1L – I – 2 – N – 40 – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
		I: Incremental specification	2: Linear servo motor 2W	N: No screw	40: 40mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



■ Relation between payload (horizontal) and acceleration

Maximum Acceleration (G)	Load Capacity (kg)	
	Continuous operation (Duty is 100%)	Duty is 70% or less
0.1	0.5	0.5
0.3		
0.5	0.42	
1	0.25	0.32
1.5	0.18	0.24
2	0.15	0.2

POINT Notes on selection

(1) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(2) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Instantaneous maximum thrust (G)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
RCL-SA1L-I-2-N-40-①-②	2	See chart above	–	2	10	2	±0.1	40 (Fixed)

Legend ① Compatible Controllers ② Cable length

■Stroke and Maximum Speed

Lead \ Stroke	40 (mm)
(no screw)	420

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	SA1L
	Encoder type
	Incremental
40	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.13 N·m Mb: 0.12 N·m Mc: 0.21 N·m
Overhung load length	50mm or less
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

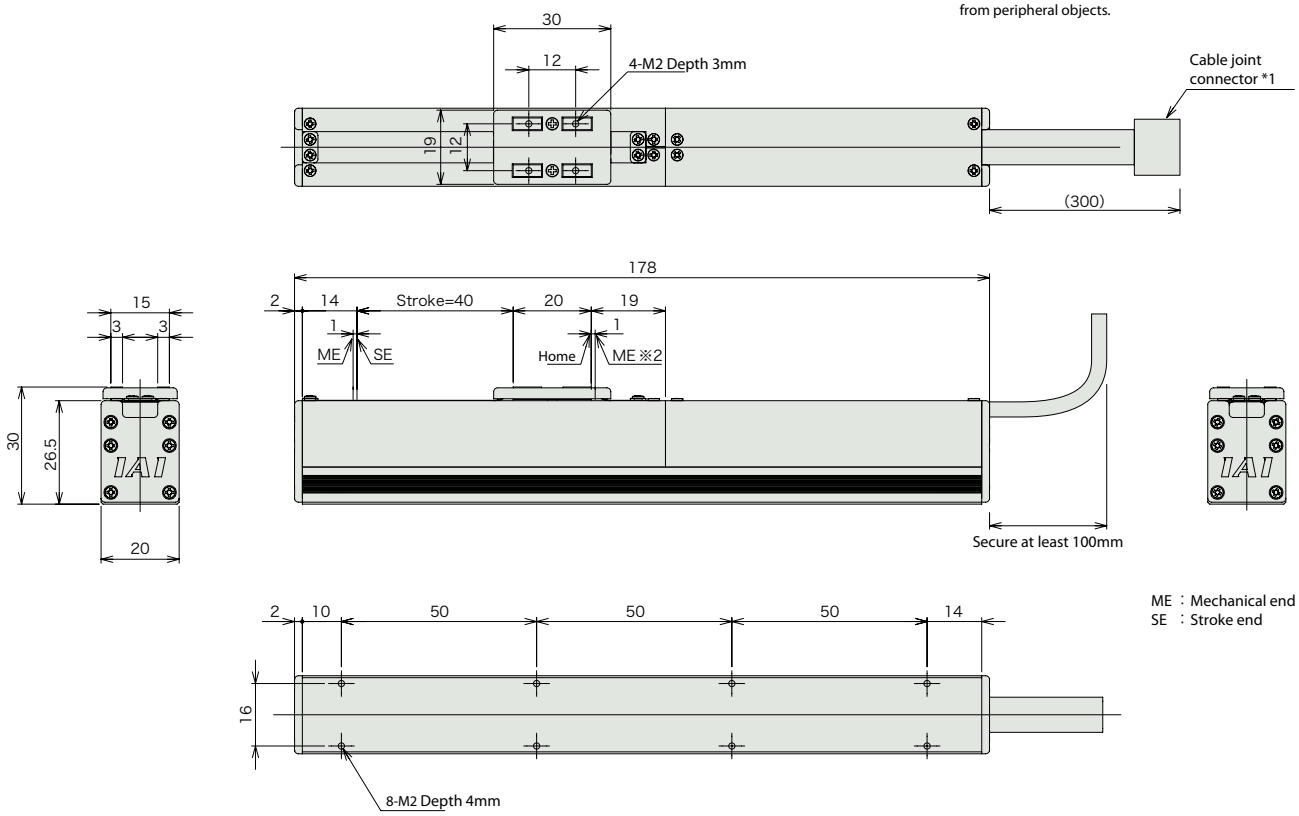
Dimensional Drawings

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

2D CAD

*1 The motor and encoder cable are attached. Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.



■Dimensions and Weight by Stroke

Stroke	40
Mass (kg)	0.28

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-2I-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 unit cannot be used with RCL series	3 points	DC24V	See P109	–	→P101
		ASEP-CW-2I-NP-2-0					–	
Positioner type		ACON-□-2I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-2I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-SA2L

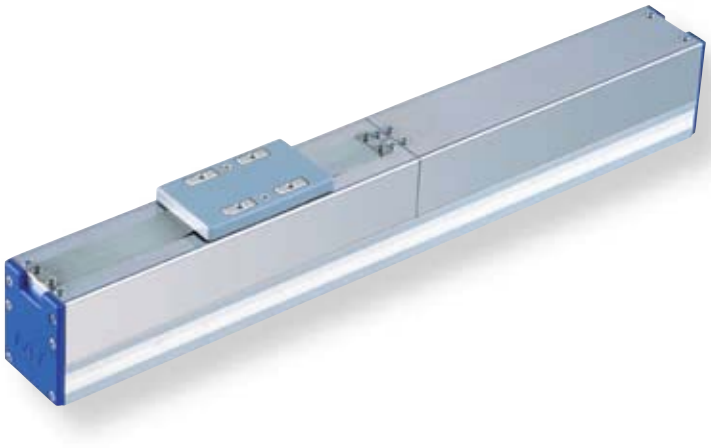
ROBO Cylinder Mini Linear Servo type Micro Slider Slim type Actuator Width 24mm Linear servo motor

■Model Description

RCL – SA2L – I – 5 – N – 48 – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
—	—	I: Incremental specification	5: Linear servo motor 5W	N: No screw	48: 48mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



■ Relation between payload (horizontal) and acceleration

Maximum Acceleration (G)	Load Capacity (kg)	
	Continuous operation (Duty is 100%)	Duty is 70% or less
0.1	1	1
0.3		
0.5	0.85	
1	0.5	0.6
1.5	0.36	0.45
2	0.3	0.36

POINT Notes on selection

(1) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(2) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Instantaneous maximum thrust (G)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
RCL-SA2L-I-5-N-48-①-②	5	See chart above	–	4	18	2	±0.1	48 (Fixed)

Legend ① Compatible Controllers ② Cable length

■Stroke and Maximum Speed

Lead \ Stroke	48 (mm)
(no screw)	460

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	SA2L
	Encoder type
	Incremental
48	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.2 N·m Mb: 0.17 N·m Mc: 0.25 N·m
Overhung load length	60mm or less
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

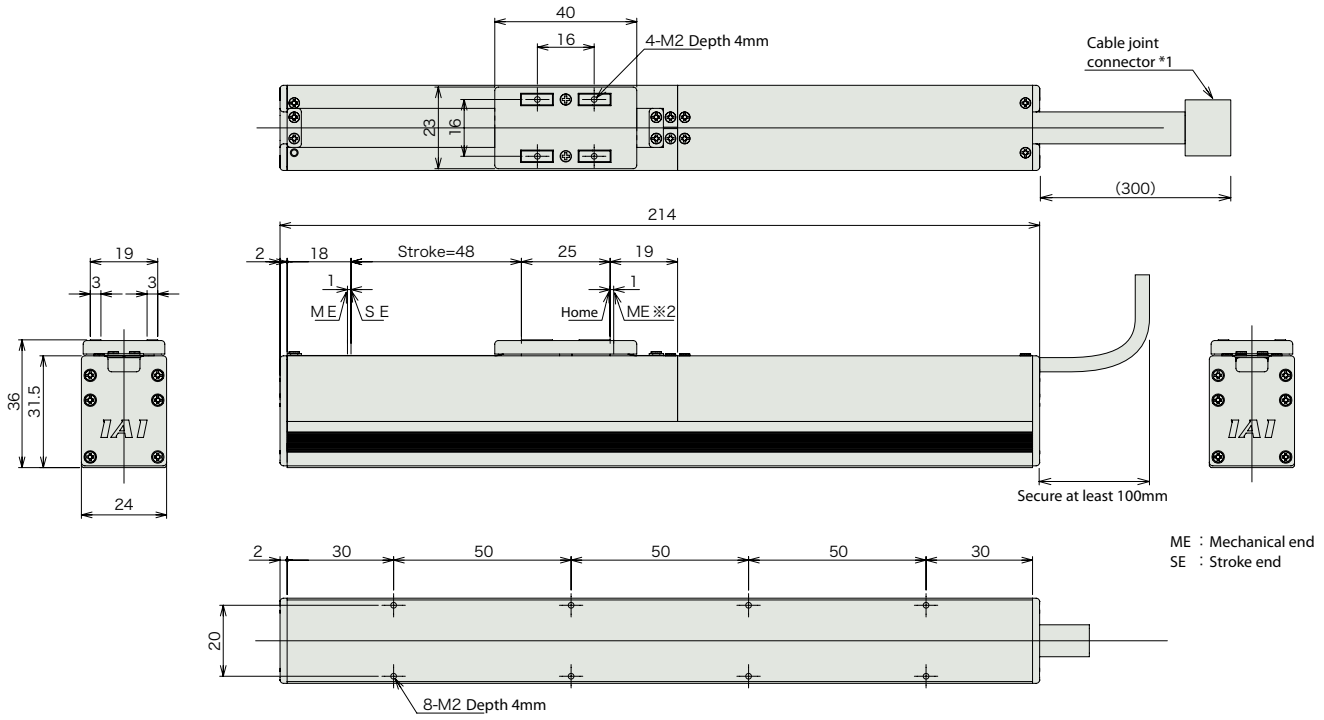
Dimensional Drawings

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

2D CAD

*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.



■Dimensions and Weight by Stroke

Stroke	48
Mass (kg)	0.45

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-5I-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 unit cannot be used with RCL series	3 points	DC24V	See P109	–	→P101
		ASEP-CW-5I-NP-2-0					–	
Positioner type		ACON-□-5I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-5I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-SA3L

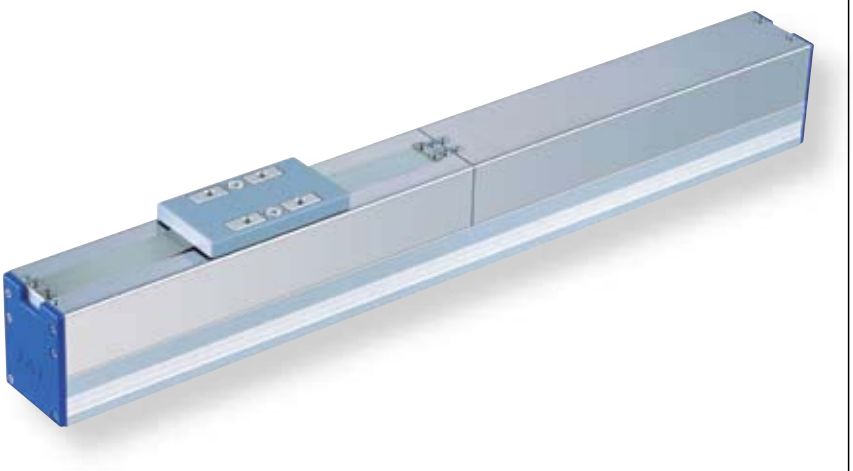
ROBO Cylinder Mini Linear Servo type Micro Slider Slim type Actuator Width 28mm Linear servo motor

■Model Description

RCL – SA3L – I – 10 – N – 64 – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
		I: Incremental specification	10: Linear servo motor 10 W	N: No screw	64: 64mm	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



■Relation between payload (horizontal) and acceleration

Maximum Acceleration (G)	Load Capacity (kg)	
	Continuous operation (Duty is 100%)	Duty is 70% or less
0.1	2	2
0.3		
0.5	1.8	
1	1	1.2
1.5	0.65	0.8
2	0.5	0.6

POINT Notes on selection

(1) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(2) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Instantaneous maximum thrust (G)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
RCL-SA3L-I-10-N-64- ① - ②	10	See chart above	–	84	30	2	±0.1	64 (Fixed)

Legend ① Compatible Controllers ② Cable length

■Stroke and Maximum Speed

Lead \ Stroke	64 (mm)
(no screw)	600

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	SA3L
	Encoder type
	Incremental
64	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 1.22 N·m Mb: 1.08 N·m Mc: 0.34 N·m
Overhung load length	Ma direction: 120mm or less, Mb and Mc directions: 80mm or less
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

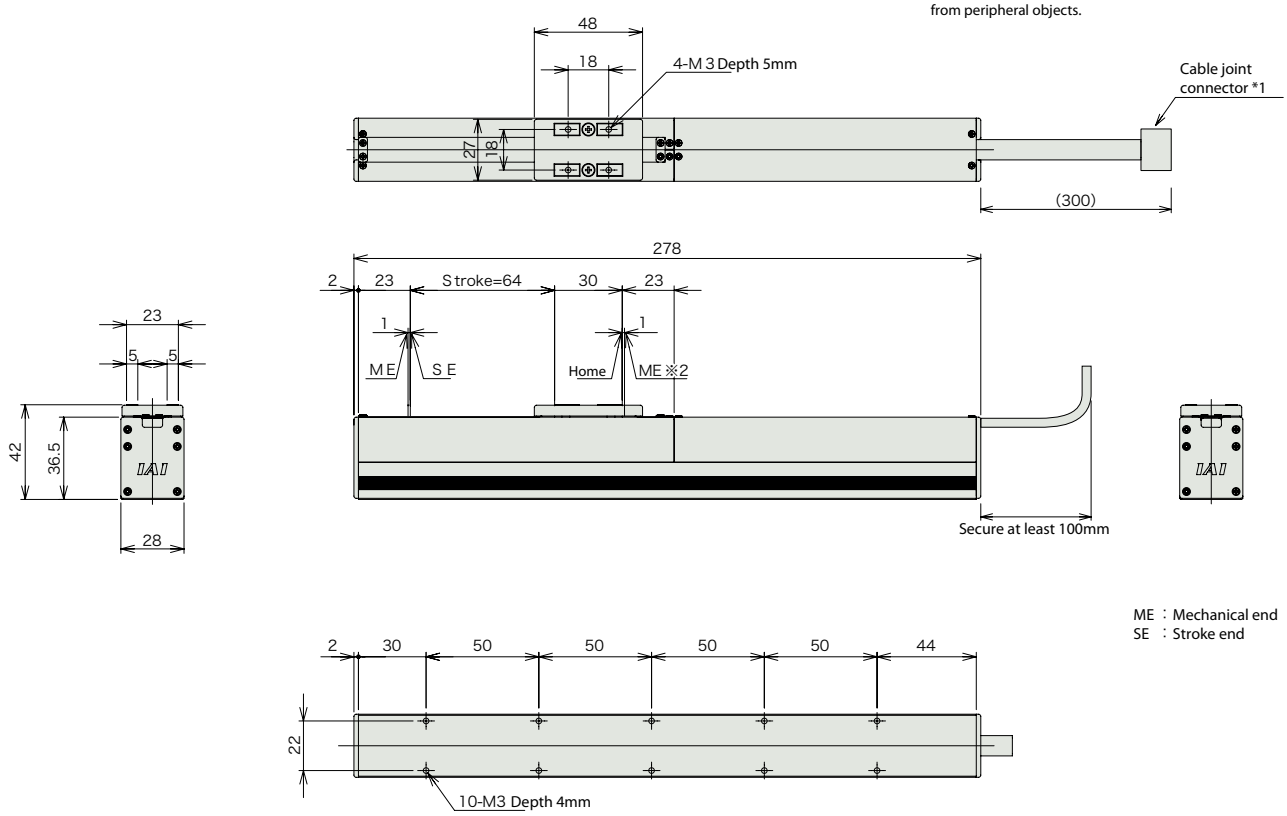
Dimensional Drawings

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

2D CAD

*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.



ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	64
Mass (kg)	0.82

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-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 unit cannot be used with RCL series	3 points	DC24V	See P109	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-SA4L

ROBO Cylinder Mini Linear Servo type Micro Slider Long Stroke type Actuator Width 40mm Linear servo motor

■Model Description

RCL – SA4L – I – 2 – N – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
		I: Incremental specification	2: Linear servo motor 2 W	N: No screw	30: 30 mm ↕ 180: 180mm (30mm Setting for each pitch)	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	NM: Reversed-home specification

*See page 11 for details on the model descriptions.

■Relation between payload (horizontal) and acceleration

Maximum Acceleration (G)	Load Capacity (kg)
	Continuous operation (Duty is 100%)
0.1	0.8
0.3	
0.5	0.5
1	0.25
1.5	0.18
2	0.14

POINT Notes on selection

(1) Please take care because this type has magnetic flux leakage.
(If magnetism is a problem, use SA1L/SA2L/SA3L)

(2) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(3) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Instantaneous maximum thrust (G)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
RCL-SA4L-I-2-N-①-②-③-④	2	See chart above	–	2.5	10	2	±0.1	30 to 180 (set in 30mm increments)

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	30 to 180 (set in 30mm increments)
(no screw)	1200

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SA4L
	Encoder type
	Incremental
30	–
60	–
90	–
120	–
150	–
180	–

(3) Cable length price chart

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Reversed-home specification	**NM**	–	–

Actuator Specification

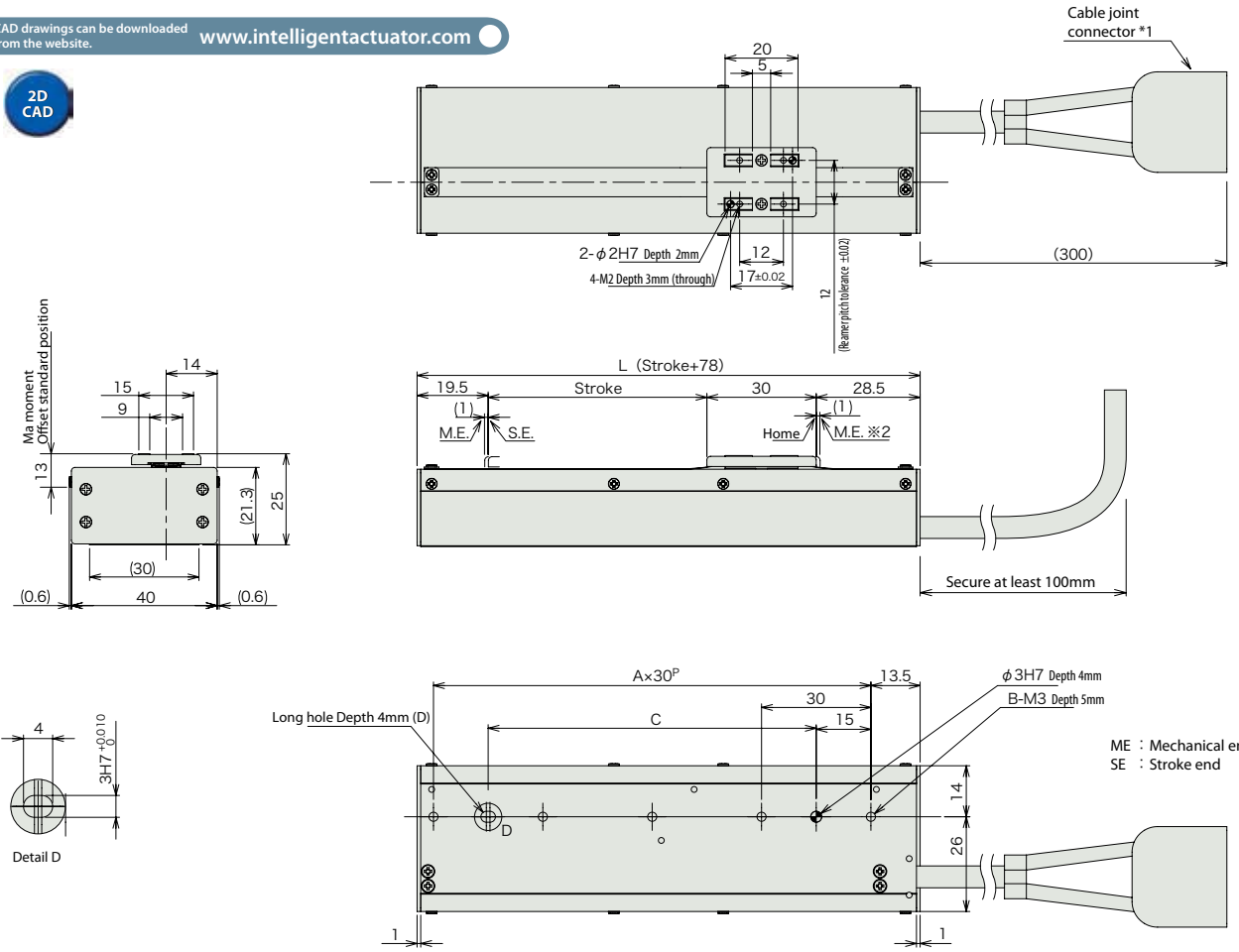
Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.2 N·m Mb: 0.17 N·m Mc: 0.25 N·m
Overhung load length	Ma direction: 60mm or less, Mb and Mc directions: 80mm or less
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.

■Dimensions and Weight by Stroke

Stroke	30	60	90	120	150	180
L	108	138	168	198	228	258
A	3	4	5	6	7	8
B	4	5	6	7	8	9
C	60	90	120	150	180	210
Mass (kg)	0.21	0.25	0.29	0.32	0.36	0.4

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-2I-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 unit cannot be used with RCL series	3 points	DC24V	See P109	–	→P101
		ASEP-CW-2I-NP-2-0					–	
Positioner type		ACON-□-2I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-2I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-SM4L

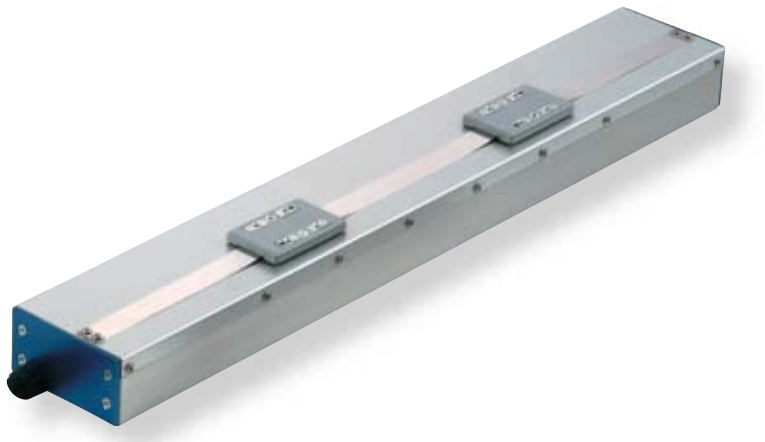
ROBO Cylinder Mini Linear Servo type Multi Slider Long Stroke type Actuator Width 40mm Linear servo motor

■Model Description

RCL – SM4L – I – 2 – N – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
—	—	I: Incremental specification	2: Linear servo motor 2W	N: No screw	30: 30 mm ↕ 120: 120mm (30mm Setting for each pitch)	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) Please take care because this type has magnetic flux leakage.
(If magnetism is a problem, use SA1L/SA2L/SA3L)

(2) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(3) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

■Relation between payload (horizontal) and acceleration

Maximum Acceleration (G)	Load Capacity (kg)
	Continuous operation (Duty is 100%)
0.1	0.8
0.3	
0.5	0.5
1	0.25
1.5	0.18
2	0.14

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Instantaneous maximum thrust (G)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
RCL-SM4L-I-2-N-①-②-③	2	See chart above	–	2.5	10	2	±0.1	30 to 120 (set in 30mm increments)

Legend ① Stroke ② Compatible Controllers ③ Cable length

■Stroke and Maximum Speed

Lead \ Stroke	30 to 120 (set in 30mm increments)
(no screw)	1200

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SM4L
	Encoder type
	Incremental
30	–
60	–
90	–
120	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

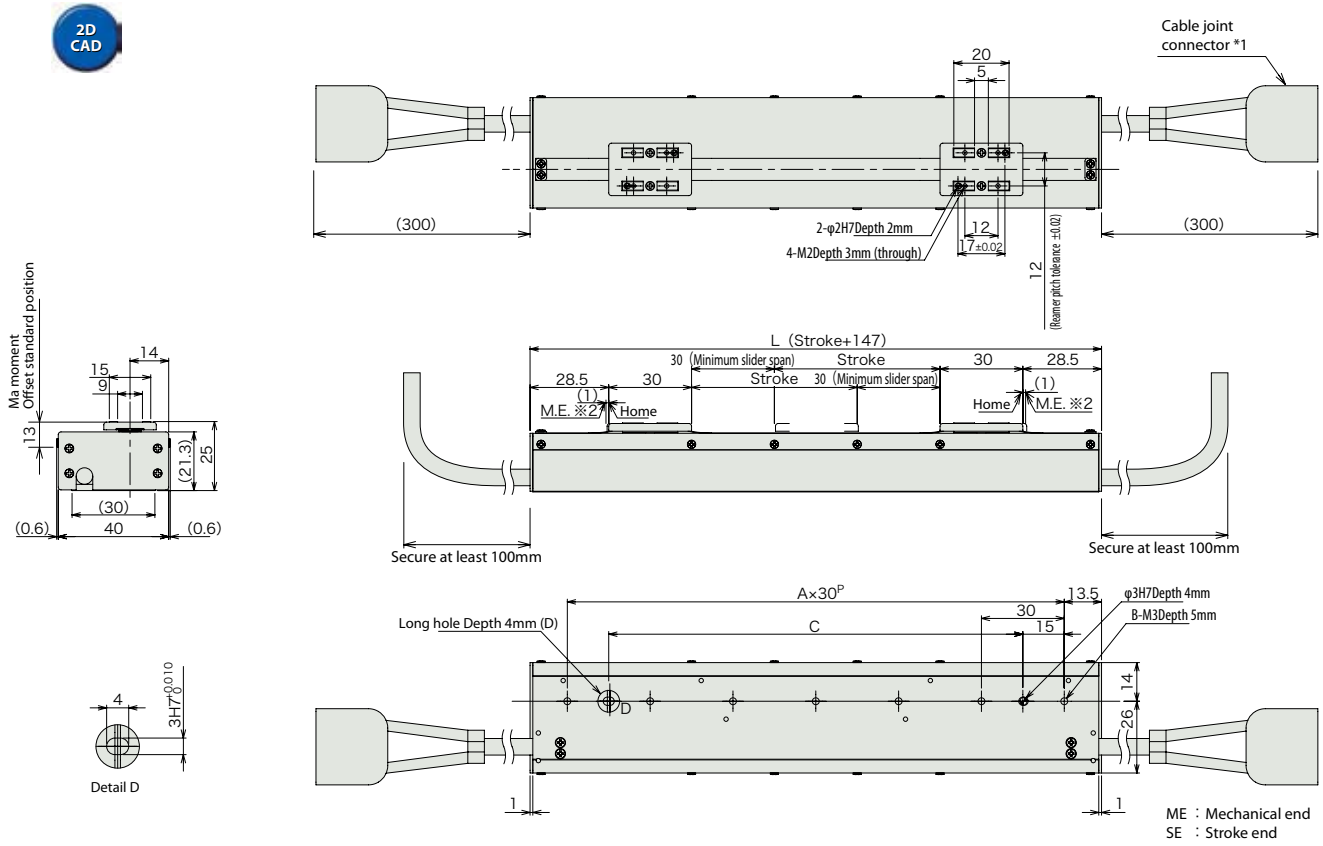
Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.2 N·m Mb: 0.17 N·m Mc: 0.25 N·m
Overhung load length	Ma direction: 60mm or less, Mb and Mc directions: 80mm or less
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.

■Dimensions and Weight by Stroke

Stroke	30	60	90	120
L	177	207	237	267
A	5	6	7	8
B	6	7	8	9
C	120	150	180	210
Mass (kg)	0.37	0.4	0.44	0.48

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-2I-NP-2-0 (Note 1)	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 unit cannot be used with RCL series	3 points	DC24V	See P109	–	→P101
		ASEP-CW -2I-NP-2-0 (Note 1)					–	
Positioner type		ACON-□-2I-NP-2-0 (Note 1) (Note 2)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-2I-NP-2-0 (Note 3)	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) Two controllers are needed when operating multi slider.
(Note 2) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.
(Note 3) If 2-axis controller is used, operation is possible with one controller even if multi slider is operated.

RCL-SA5L

ROBO Cylinder Mini Linear Servo type Multi Slider Long Stroke type Actuator Width 48mm Linear servo motor

■Model Description

RCL – SA5L – I – 5 – N – □ – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Options
RCL	SA5L	I: Incremental specification	5: Linear servo motor 5W	N: No screw	36: 36 mm ↕ 216: 216mm (36mm Setting for each pitch)	A1: ACON RACON ASEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	NM: Reversed-home specification

*See page 11 for details on the model descriptions.

POINT Notes on selection

(1) Please take care because this type has magnetic flux leakage.
(If magnetism is a problem, use SA1L/SA2L/SA3L)

(2) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(3) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

■Relation between payload (horizontal) and acceleration

Maximum Acceleration (G)	Load Capacity (kg)
	Continuous operation (Duty is 100%)
0.1	1.6
0.3	
0.5	1.0
1	0.5
1.5	0.35
2	0.25

Actuator Specification Table

■Leads and Payloads

Model	Motor output (W)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Instantaneous maximum thrust (G)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
RCL-SA5L-I-5-N-①-②-③-④	5	See chart above	–	5	18	2	±0.1	36 to 216 (set in 36mm increments)

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	36 to 216 (set in 36mm increments)
(no screw)	1400

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SA5L
	Encoder type
	Incremental
36	–
72	–
108	–
144	–
180	–
216	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

(4) Option price list (standard price)

Title	Option code	See page	Standard price
Reversed-home specification	**NM**	–	–

Actuator Specification

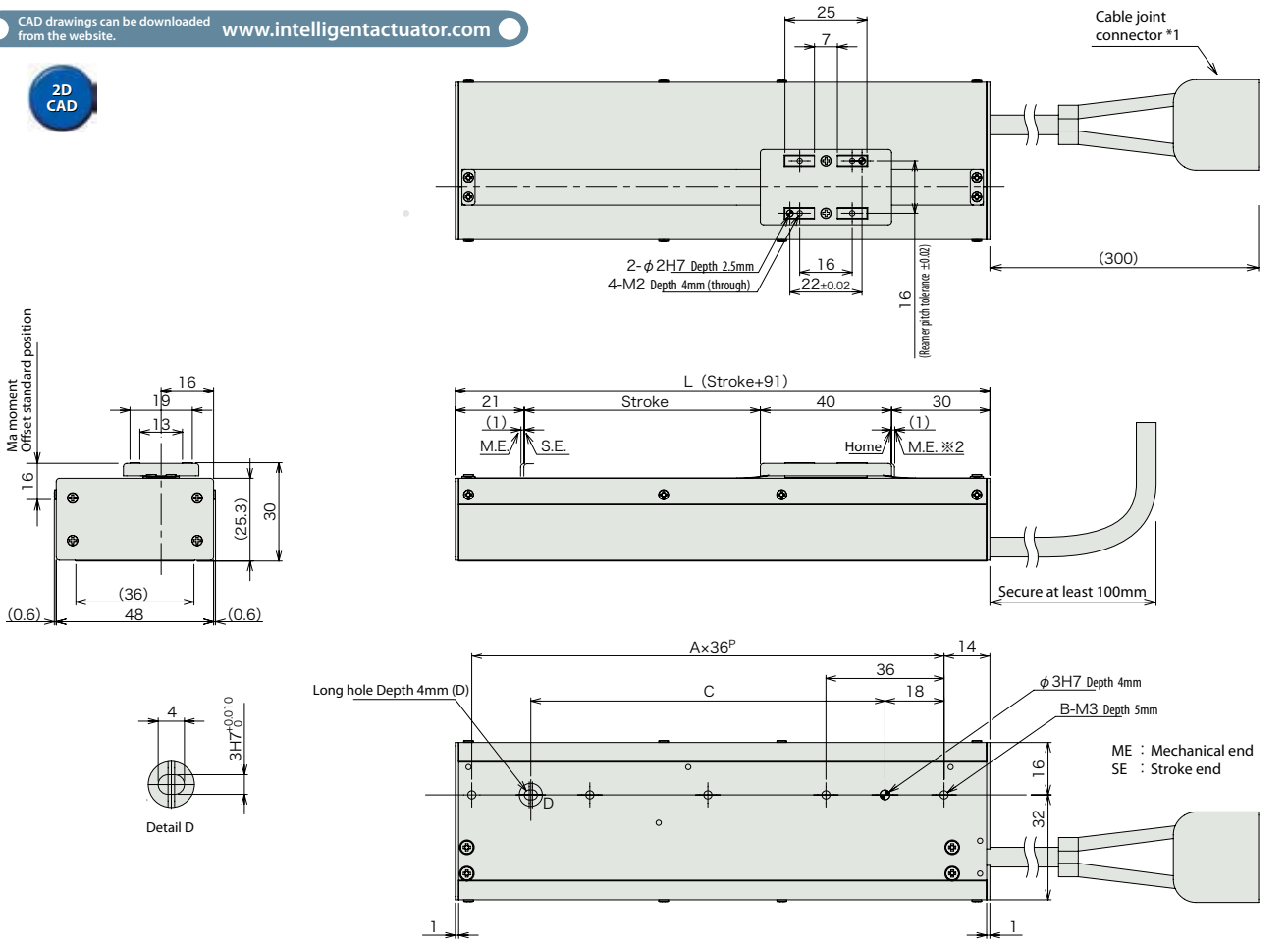
Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.49 N·m Mb: 0.41 N·m Mc: 0.72 N·m
Overhung load length	Ma direction: 80mm or less, Mb and Mc directions: 100mm or less
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (no condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.

■Dimensions and Weight by Stroke

Stroke	36	72	108	144	180	216
L	127	163	199	235	271	307
A	3	4	5	6	7	8
B	4	5	6	7	8	9
C	72	108	144	180	216	252
Mass (kg)	0.35	0.42	0.48	0.55	0.62	0.68

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-5I-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 unit cannot be used with RCL series	3 points	DC24V	See P109	–	→P101
		ASEP-CW -5I-NP-2-0					–	
Positioner type		ACON-☐-5I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-5I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-SM5L

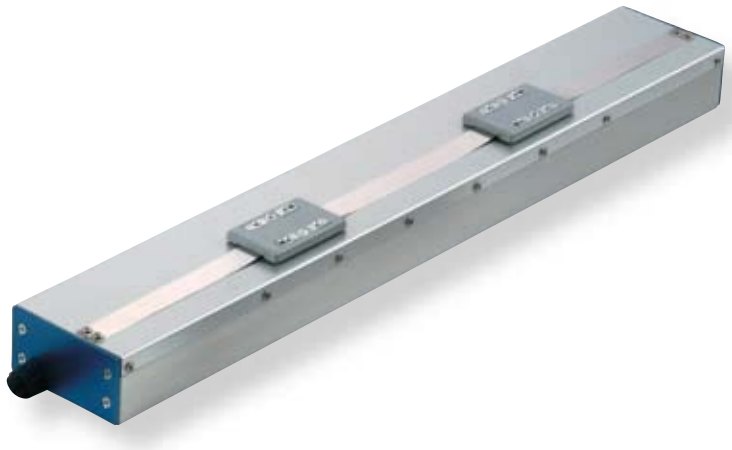
ROBO Cylinder Mini Linear Servo type Multi Slider Long Stroke type Actuator Width 48mm Linear servo motor

■Model Description

RCL – SM5L – I – 5 – N – □ – □ – □

Series	Type	Encoder type	Lead	Stroke	Compatible Controllers	Cable length	Motor type
		I: Incremental specification	S: Linear servo motor 5W	N: No screw	36: 36 mm : 144:144 mm (36mm Setting for each pitch)	A1: ACON RACON PSEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



■Relation between payload (horizontal) and acceleration)

Maximum Acceleration (G)	Load Capacity (kg)
	Continuous operation (Duty is 100%)
0.1	1.6
0.3	
0.5	1.0
1	0.5
1.5	0.35
2	0.25

POINT Notes on selection

(1) Please take care because this type has magnetic flux leakage.
(If magnetism is a problem, use SA1L/SA2L/SA3L)

(2) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(3) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

Actuator Specification Table

■Leads and Payloads

Model	Motor Output	Maximum payload		Rated thrust (N)	Instaneuous maximum thrust (N)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)					
RCL-SM5L-I-5-N-①-②-③	5	See chart above	–	5	18	2	±0.1	36 to 144 (set in 36mm increments)

Legend ① Stroke ② Compatible Controllers ③ Cable length

■Stroke and Maximum Speed

Lead \ Stroke	36 to 144 (set in 36mm increments)
(no screw)	1400

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SM5L
	Encoder type
	Incremental
36	–
72	–
108	–
144	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

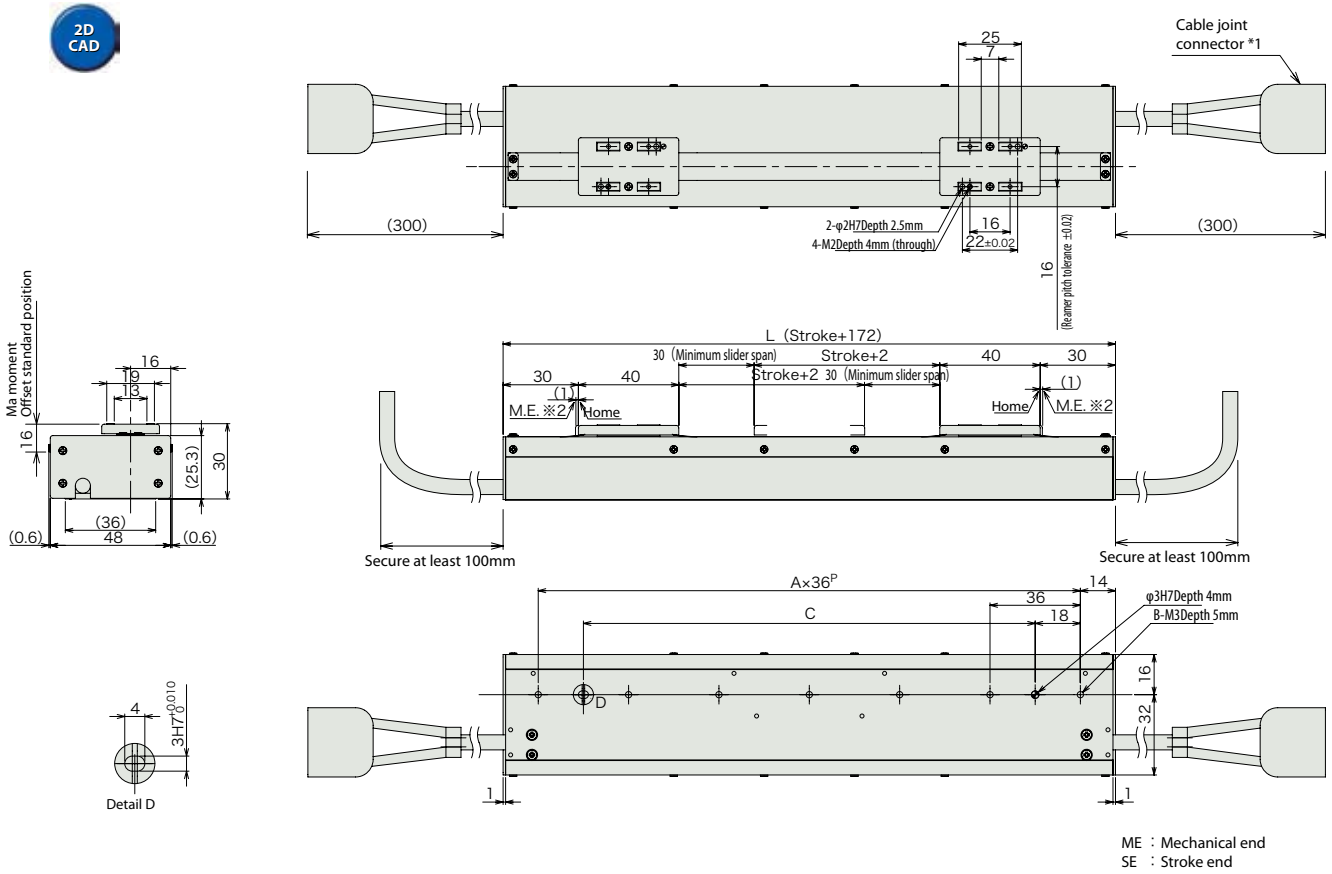
Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.49 N•m Mb: 0.41 N•m Mc: 0.72 N•m
Overhung load length	Ma direction: 80mm or less, Mb and Mc directions: 10 million times (number of round trips)
Ambient operating temperature, humidity	0 to 40 ˚C, 85% RH or less (No condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



ME : Mechanical end
SE : Stroke end

*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.

■Dimensions and Weight by Stroke

Stroke	36	72	108	144
L	208	244	280	316
A	5	6	7	8
B	6	7	8	9
C	144	180	216	252
Mass (kg)	0.62	0.69	0.75	0.82

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-5I-NP-2-0 (Note 1)	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 unit cannot be used with RCL series	3 points	DC24V	See P109.	–	→P101
		ASEP-CW-5I-NP-2-0 (Note 1)					–	
Positioner type		ACON-□-5I-NP-2-0 (Note 1) (Note 2)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-2-5I-NP-2-0 (Note 3)	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) Two controllers are needed when operating multi slider.
(Note 2) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.
(Note 3) If 2-axis controller is used, operation is possible with one controller even if multi slider is operated.

RCL-SA6L

ROBO Cylinder Mini Linear Servo type Micro Slider Long Stroke type Actuator Width 58mm Linear servo motor

■Model Description

RCL – SA6L – I – 10 – N – □ – □ – □ – □ – □

Series	Type	Encoder type	Lead	Stroke	Compatible Controllers	Cable length	Option	Motor Type
		I: Incremental specification	10: Linear servo motor 10 W	N: No screw	48: 48 mm ~ 288: 288 mm (48mm Setting for each pitch)	A1: ACON RACON PSEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation	NM: Reserved-home Specification

*See page 11 for details on the model descriptions.

■Relation between payload (horizontal) and acceleration)

Maximum Acceleration (G)	Load Capacity (kg) Continuous operation (Duty is 100%)
0.1	3.2
0.3	
0.5	2
1	1
1.5	0.65
2	0.5

POINT Notes on selection

(1) Please take care because this type has magnetic flux leakage.
(If magnetism is a problem, use SA1L/SA2L/SA3L)

(2) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time} + \text{stop time}} \times 100$ per cycle.

(3) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

Actuator Specification Table

■Leads and Payloads

Model	Motor Output	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Instaneuous maximum thrust (N)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
RCL-SA6L-I-10-N-①-②-③-④	10	See chart above	–	10	30	2	±0.1	40 to 288 (set in 48mm increments)

Legend ① Stroke ② Compatible Controllers ③ Cable length ④ Option

■Stroke and Maximum Speed

Lead \ Stroke	48 to 288 (set in 48mm increments)
(no screw)	1600

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code SA6L Encoder type Incremental
48	–
96	–
144	–
192	–
240	–
288	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

(4) Price list (by stroke)

Title	Option code	See page	Standard price
Reversed-home specification	**NM**	–	–

Actuator Specification

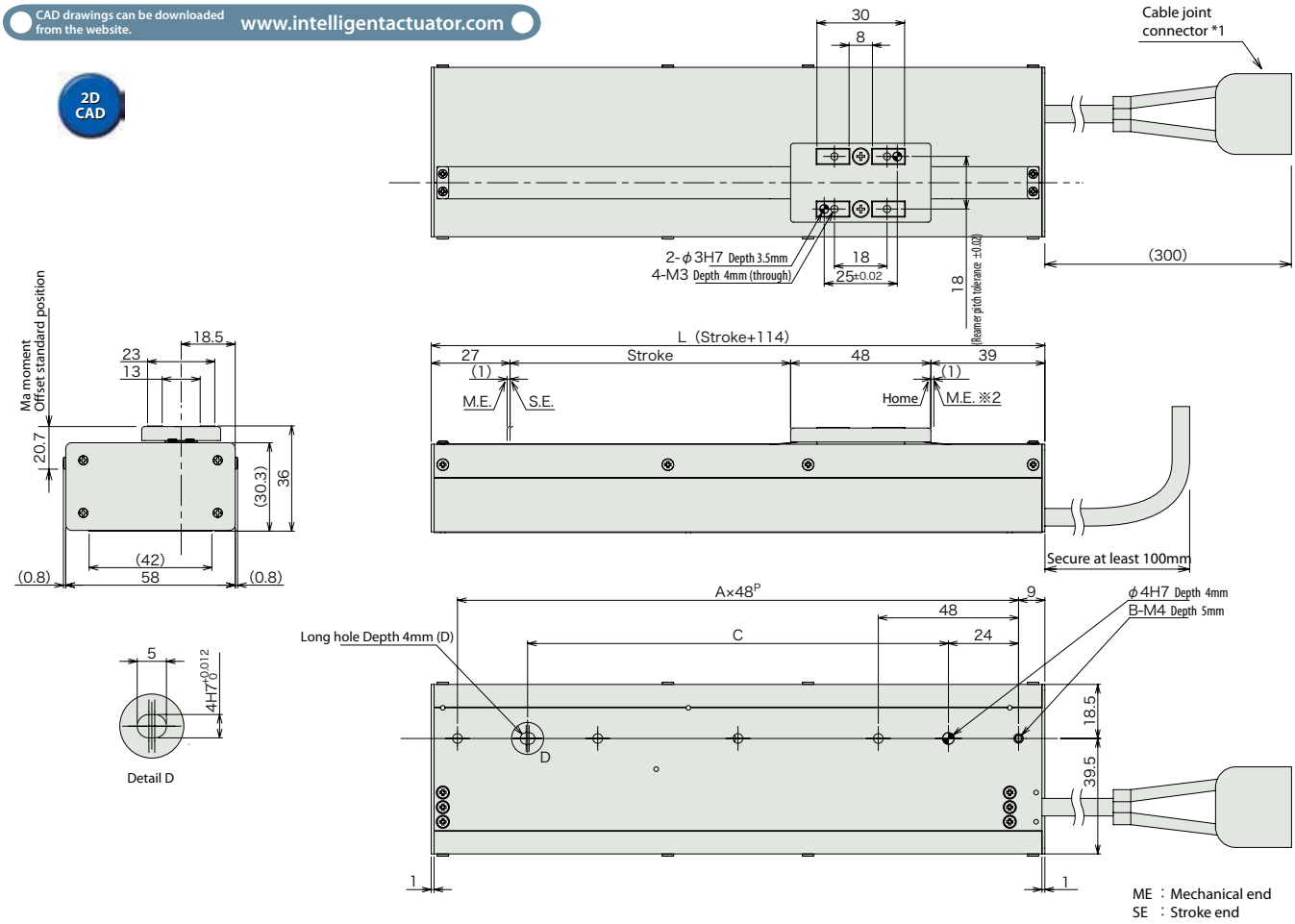
Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.87 N•m Mb: 0.75 N•m Mc: 1.22N•m
Overhung load length	Ma direction: 80mm or less, Mb and Mc directions:
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.

■Dimensions and Weight by Stroke

Stroke	48	96	144	192	240	288
L	162	210	258	306	354	402
A	3	4	5	6	7	8
B	4	5	6	7	8	9
C	96	144	192	240	288	336
Mass (kg)	0.67	0.8	0.93	1.07	1.2	1.34

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-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 unit cannot be used with RCL series	3 points	DC24V	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-SM6L

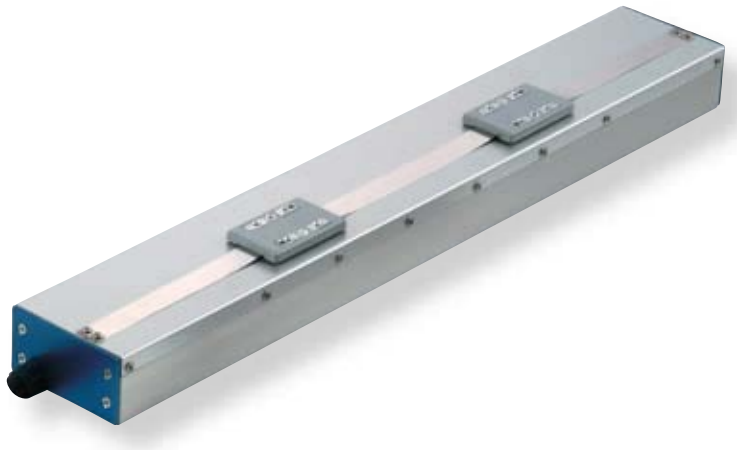
ROBO Cylinder Mini Linear Servo type Multi Slider Long Stroke type Actuator Width 58mm Linear servo motor

■Model Description

RCL – SM6L – I – 10 – N – □ – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
RCL	SM6L	I: Incremental specification	10: Linear servo motor 10W	N: No screw	48: 48mm ~ 192: 192mm (48mm Setting for each pitch)	A1: ACON RACON PSEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) Please take care because this type has magnetic flux leakage.
(If magnetism is a problem, use SA1L/SA2L/SA3L)

(2) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.

The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(3) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.

■Relation between payload (horizontal) and acceleration)

Maximum Acceleration (G)	Load Capacity (kg)
	Continuous operation (Duty is 100%)
0.1	3.2
0.3	
0.5	2
1	1
1.5	0.65
2	0.5

Actuator Specification Table

■Leads and Payloads

Model	Motor Output	Maximum payload		Rated thrust (N)	Instaneuous maximum thrust (N)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)					
RCL-SM6L-I-10-N-①-②-③	10	See chart above	–	10	30	2	±0.1	48 to 192 (set in 48mm increments)

Legend ① Stroke ② Compatible Controllers ③ Cable length

■Stroke and Maximum Speed

Lead \ Stroke	48 to 192 (set in 48mm increments)
(no screw)	1600

(Unit = mm/s)

(1) Price list (by stroke)

(1) Stroke (mm)	Type code
	SM6L
	Encoder type
	Incremental
48	–
96	–
144	–
192	–

(3) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

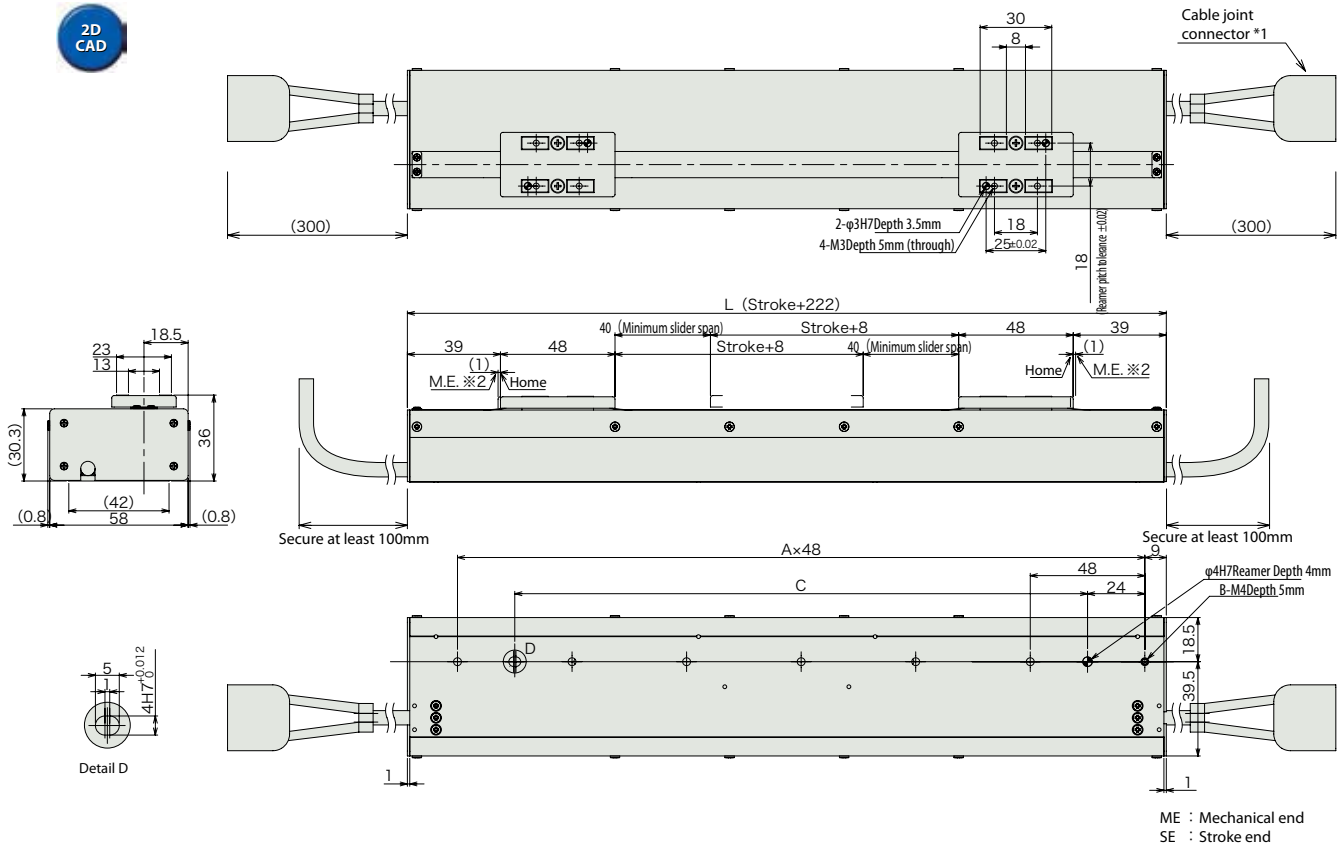
Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Dynamic allowable moment (Note)	Ma: 0.87 N•m Mb: 0.75 N•m Mc: 1.22N•m
Overhung load length	Ma direction: 80mm or less, Mb and Mc directions:
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	5,000km

(Note) For case of 5,000km service life.

Dimensional Drawings

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

2D CAD



*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.

■Dimensions and Weight by Stroke

Stroke	48	96	144	192
L	270	318	366	414
A	5	6	7	8
B	6	7	8	9
C	192	240	288	336
Mass (kg)	1.17	1.31	1.44	1.58

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-NP-2-0 (Note 1)	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 unit cannot be used with RCL series	3 points	DC24V	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0 (Note 1)					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1) (Note 2)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-2-10I-NP-2-0 (Note 3)	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) Two controllers are needed when operating multi slider.
(Note 2) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.
(Note 3) If 2-axis controller is used, operation is possible with one controller even if multi slider is operated.

RCL-RA1L

ROBO Cylinder Mini Linear Servo type Micro Cylinder Slim type Main unit diameter: 16mm Linear servo motor

■Model Description

RCL – RA1L – I – 2 – N – 25 – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
		I: Incremental specification	2: Linear servo motor 2W	N: No screw	25: 25mm	A1: ACON RACON PSEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.

■Relation between payload (horizontal) and acceleration)

Maximum Acceleration (G)	Load Capacity (kg)			
	Continuous operation (Duty is 100%)		Duty is 70% or less	
	Horizontal	Vertical	Horizontal	Vertical
0.1	0.5	0.1	0.5	0.1
0.3				
0.5	0.42			
1	0.2		0.25	
1.5	0.11	–	0.15	–
2	0.07	–	0.1	–

■Pushing force guidelines

Pushing operation is possible within the range of numeric values listed below. (N)

Electric current limit	30%	40%	50%	60%	70%	80%
Pushing force	0.75	1	1.25	1.5	1.75	2

(Note) The pushing forces listed above are for horizontal usage. If facing vertically upward, subtract 0.5N from the numeric values listed above, but if facing vertically downward, add 0.5N.

POINT Notes on selection

(1) The payload is determined by the acceleration and duty. Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(2) If operating vertically, the rod will drop down when the power is OFF, so please be careful. ROBO CylinderTable type Rotary nut lead screw specification

(3) ROBO Cylinder Table type Rotary nut lead screw specification Please receive with external guide, etc. so that side and rotating load are not added to the rod.

(4) The pushing force fluctuation increases when the current limit is low.

Actuator Specification Table

■Leads and Payloads

Model	Motor Output	Maximum payload		Rated thrust (N)	Instaneuous maximum thrust (N)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)					
RCL-RA1L-I-2-N-25-①-②	2	See chart above	See chart above	2.5	10	Horizontal 2G Vertical 1G	±0.1	25 (Fixed)

Legend ① Stroke ② Compatible Controllers

■Stroke and Maximum Speed

Lead \ Stroke	25 (mm)
(no screw)	300

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	RA1L
	Encoder type
	Incremental
25	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Pipe	Material: Nickel-plated carbon steel tube
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	10 million cycles

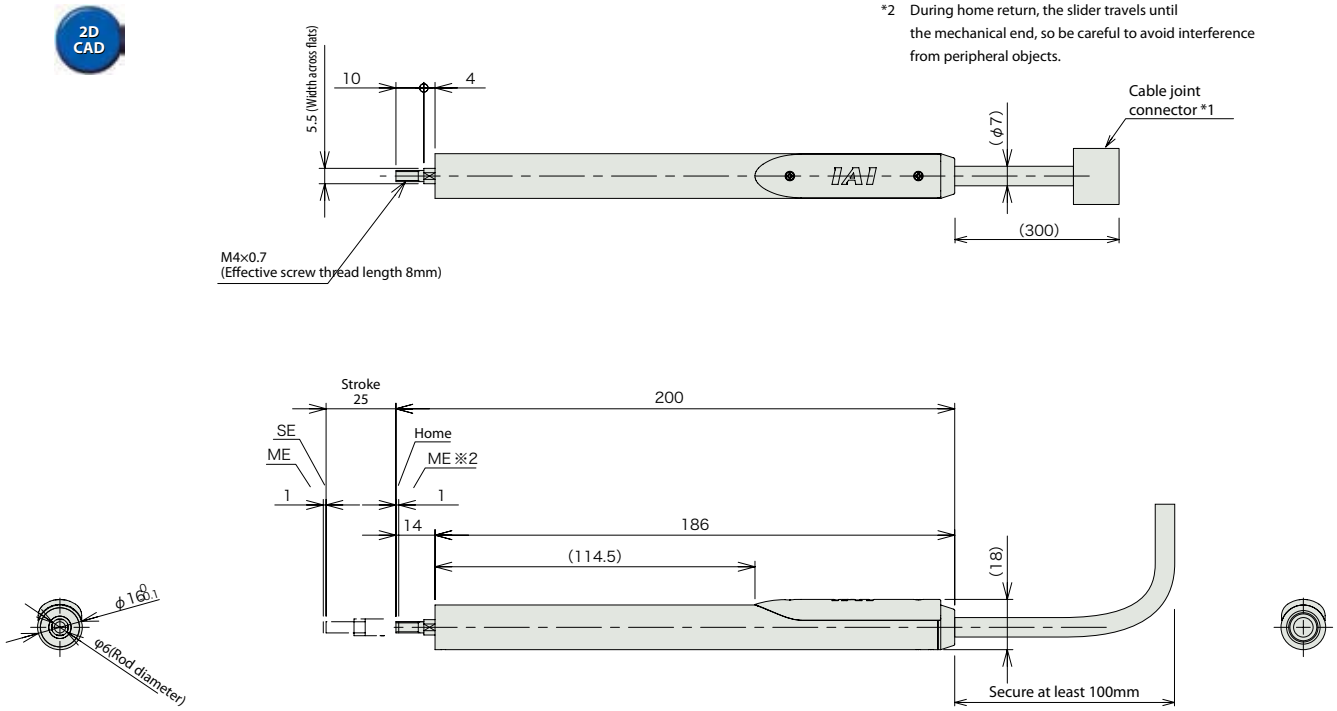
Dimensional Drawings

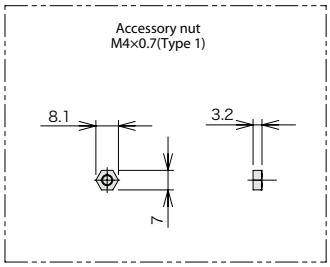
CAD drawings can be downloaded from the website. www.intelligentactuator.com

2D CAD

*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.





ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	25
Mass (kg)	0.2

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-2I-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 unit cannot be used with RCL series	3 points	DC24V	See P109.	–	→P101
		ASEP-CW-2I-NP-2-0					–	
Positioner type		ACON-□-2I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-2I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-RA2L

ROBO Cylinder Mini Linear Servo typer Micro Cylinder Slim type Main unit diameter: 20mm Linear servo motor

■Model Description

RCL – RA2L – I – 5 – N – 30 – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
		I: Incremental specification	5: Linear servo motor 5W	N: No screw	30: 30mm	A1: ACON RACON PSEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.

POINT Notes on selection

(1) The payload is determined by the acceleration and duty. Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.
(2) If operating vertically, the rod will drop down when the power is OFF, so please be careful. ROBO CylinderTable type Rotary nut lead screw specification
(3) ROBO Cylinder Table type Rotary nut lead screw specification Please receive with external guide, etc. so that side and rotating load are not added to the rod.
(4) The pushing force fluctuation increases when the current limit is low.

■Relation between payload (horizontal) and acceleration)

Maximum Acceleration (G)	Load Capacity (kg)			
	Continuous operation (Duty is 100%)		Duty is 70% or less	
	Horizontal	Vertical	Horizontal	Vertical
0.1	1	0.2	1	0.2
0.3				
0.5	0.85			
1	0.4		0.5	
1.5	0.24	–	0.3	–
2	0.15	–	0.2	–

■Pushing force guidelines

Pushing operation is possible within the range of numeric values listed below. (N)

Electric current limit	30%	40%	50%	60%	70%	80%
Pushing force	1.5	2	2.5	3	3.5	4

(Note) The pushing forces listed above are for horizontal usage. If facing vertically upward, subtract 1N from the numeric values listed above. If facing vertically downward, add 1N.

Actuator Specification Table

■Leads and Payloads

Model	Motor Output	Maximum payload		Rated thrust (N)	Instaneuous maximum thrust (N)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)					
RCL-RA2L-I-5-N-30-①-②	5	See chart above	See chart above	5	18	Horizontal 2G Vertical 1G	±0.1	30 (Fixed)

Legend ① Stroke ② Compatible Controllers

■Stroke and Maximum Speed

Lead \ Stroke	30 (mm)
(no screw)	340

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	RA2L
	Encoder type
	Incremental
30	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

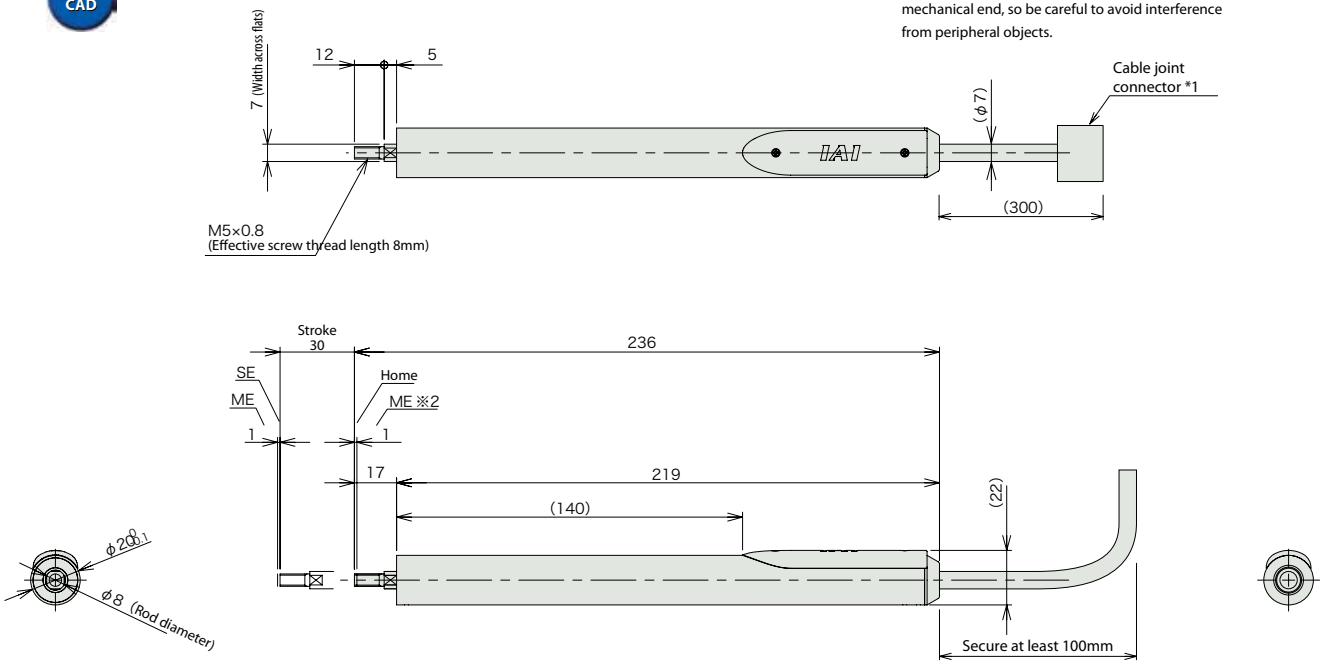
Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Pipe	Material: Nickel-plated carbon steel tube
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	10 million cycles

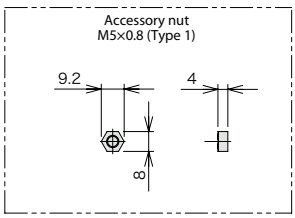
Dimensional Drawings

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

2D CAD

*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.
*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.





ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	30
Mass (kg)	0.33

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-5I-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 unit cannot be used with RCL series	3 points	DC24V	See P109.	–	→P101
		ASEP-CW-5I-NP-2-0					–	
Positioner type		ACON-□-5I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		AASEL-C-1-5I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

RCL-RA3L

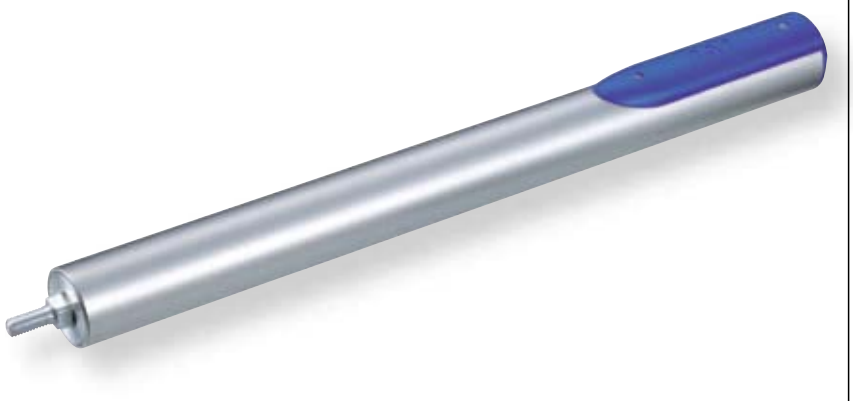
ROBO Cylinder Mini Linear Servo type Micro Cylinder Slim type Main unit diameter: 25mm Linear servo motor

■Model Description

RCL – RA3L – I – 10 – N – 40 – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length
—	—	I: Incremental specification	10: Linear servo motor 10W	N: No screw	40: 40mm	A1: ACON RACON PSEL A3: ASEP	N: None P: 1m S: 3m M: 5m X□□: Length Designation

*See page 11 for details on the model descriptions.



POINT Notes on selection

(1) The payload is determined by the acceleration and duty.
Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ ×100 per cycle.

(2) If operating vertically, the rod will drop down when the power is OFF, so please be careful.

(3) Please receive with external guide, etc. so that side and rotating load are not added to the rod.

(4) The pushing force fluctuation increases when the current limit is low.

■Relation between payload (horizontal) and acceleration)

Maximum Acceleration (G)	Load Capacity (kg)			
	Continuous operation (Duty is 100%)		Duty is 70% or less	
	Horizontal	Vertical	Horizontal	Vertical
0.1	2	0.4	2	0.4
0.3				
0.5	1.6			
1	0.78		1	
1.5	0.46	–	0.6	–
2	0.3	–	0.4	–

■Pushing force guidelines

Pushing operation is possible within the range of numeric values listed below. (N)

Electric current limit	30%	40%	50%	60%	70%	80%
Pushing force	3	4	5	6	7	8

(Note) The pushing forces listed above are for horizontal usage. If facing vertically upward, subtract 1.8N from the numeric values listed above, but if facing vertically downward, add 1.8N.

Actuator Specification Table

■Leads and Payloads

Model	Motor Output	Maximum payload		Rated thrust (N)	Instaneuous maximum thrust (N)	Maximum acceleration (G)	Positioning Repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)					
RCL-RA3L-I-10-N-40-①-②	10	See chart above	See chart above	10	30	Horizontal 2G Vertical 1G	±0.1	40 (Fixed)

Legend ① Stroke ② Compatible Controllers

■Stroke and Maximum Speed

Lead \ Stroke	40 (mm)
(no screw)	450

(Unit = mm/s)

Price list (by stroke)

Stroke (mm)	Type code
	RA3L
	Encoder type
	Incremental
40	–

(2) Cable length (price chart)

Type	Cable symbol	Standard price
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 RCL is the robot cable.
* See page 113 for maintenance cables.

Actuator Specification

Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Pipe	Material: Nickel-plated carbon steel tube
Ambient operating temperature, humidity	0 to 40 °C, 85% RH or less (No condensation)
Service life	10 million cycles

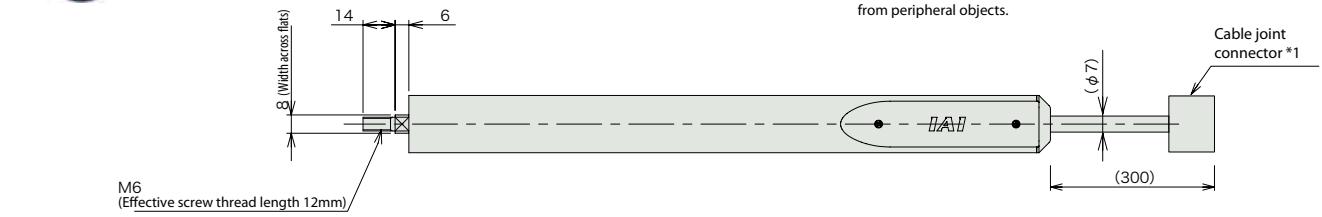
Dimensional Drawings

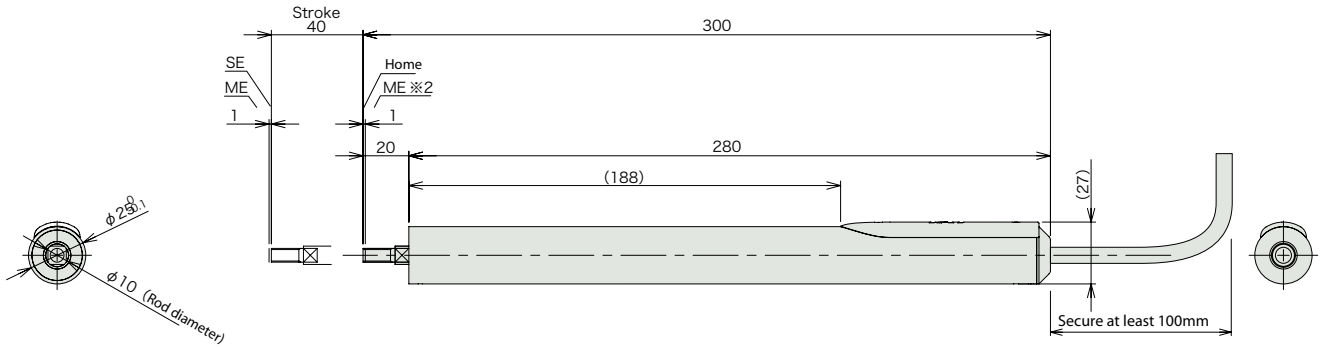
CAD drawings can be downloaded from the website. www.intelligentactuator.com

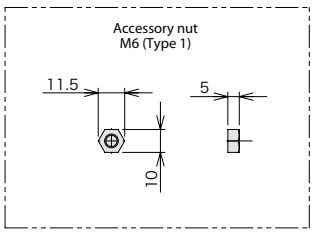
2D CAD

*1 The motor and encoder cable are attached.
Please refer to page 113 for more information.

*2 During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.







ME : Mechanical end
SE : Stroke end

■Dimensions and Weight by Stroke

Stroke	40
Mass (kg)	0.6

Compatible Controllers

RCL 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	Standard price	Reference Page
Solenoid valve type		ASEP-C-10I-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 unit cannot be used with RCL series	3 points	DC24V	See P109.	–	→P101
		ASEP-CW-10I-NP-2-0					–	
Positioner type		ACON-□-10I-NP-2-0 (Note 1)	Up to 512-points positioning possible *Simple Absolute type cannot be used with RCL series	512 points			–	See the ROBO Cylinder general catalog.
Program type		ASEL-C-1-10I-NP-2-0	Programmable type Capable of operating up to 2 axes *Simple absolute unit cannot be used with RCL series	1500 points			–	

(Note 1) ACON can be used with C/CG/CY/PL/PO/SE type. Also, ROBONET can be used.

Selection Guide (Push force and current limiting value correlation graph)

Use the following models for push-motion operation.
The push force applied in push-motion operation can be freely set by changing the current-limiting value in the controller.（***1**）
The push force setting ranges differ according to type. Use the following chart to verify.

RCL Series　Micro Cylinder

● Setting the current limiting value in push-motion operation

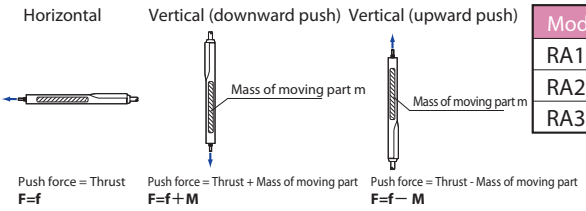
For push-motion operation, set the current limiting values that determine push force. *The push force is an approximate standard, so it will vary somewhat.
*The push time is not limited. Continuous pushing is possible.

Standard for push force　［N］

Current limiting value	30 %	40 %	50 %	60 %	70 %	80 %
RA1L	0.75	1	1.25	1.5	1.75	2
RA2L	1.5	2	2.5	3	3.5	4
RA3L	3	4	5	6	7	8

Caution
- Depending on teaching pendant version or PC software, the current limiting value can be set within 71% to 80%. Be sure to read the "Caution" section shown at the beginning of the manual.
- Movement speed during push operation is fixed at 20mm/s.

Effect by push direction



Mass of moving part

Model	Mass of moving part [N]
RA1L	0.5
RA2L	1
RA3L	1.8

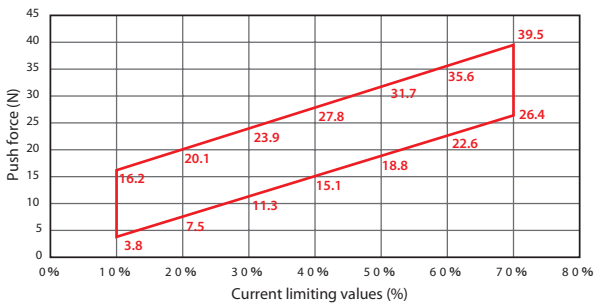
RCP3 Series　Mini Rod type

* The red line ranges are specification values.

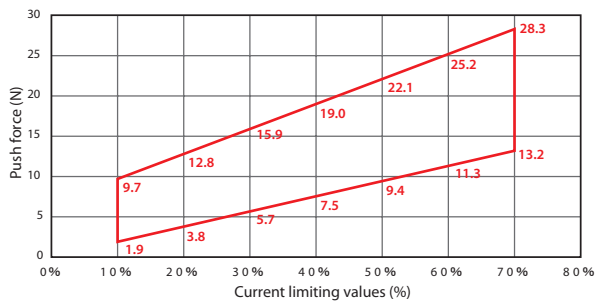
For push-motion operation, select the model with the desired push force that falls within the range of the red line in the graph below.
(The graph is extended to accommodate performance decrease in the slide screws due to wear.)

Caution
- Movement speed during push operation is fixed at 5mm/s.

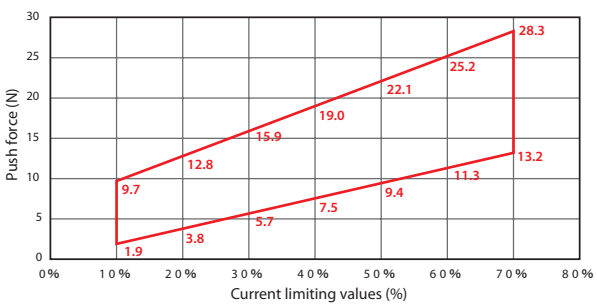
RA2AC／RA2AR　1mm Lead



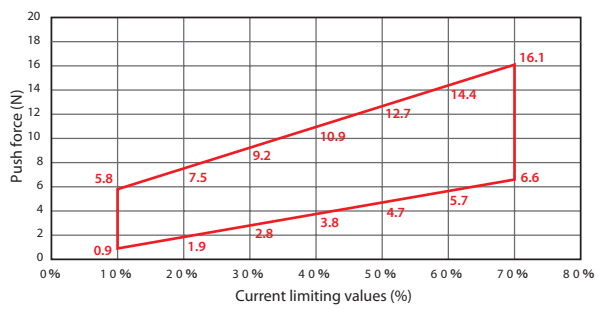
RA2BC／RA2BR　2mm Lead



RA2AC／RA2AR　2mm Lead



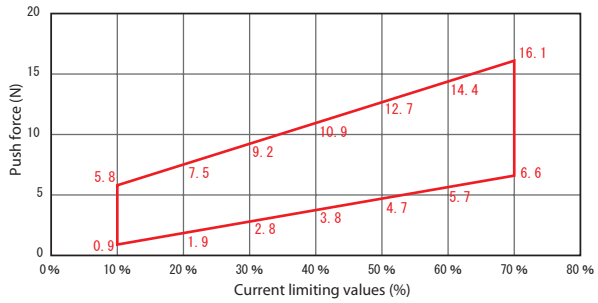
RA2BC／RA2BR　4mm Lead



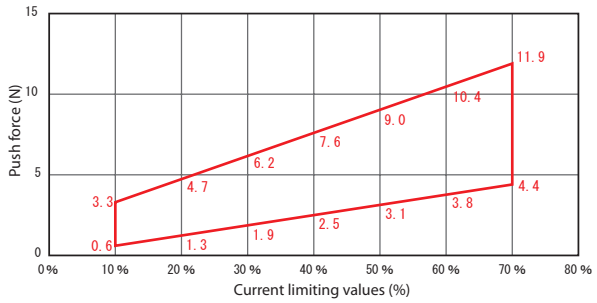
RCP3 Series Mini Rod type

* The red line ranges are specification values.

RA2AC／RA2AR 4mm Lead



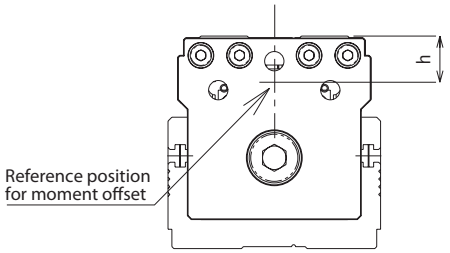
RA2BC／RA2BR 6mm Lead



RCP3 Series Mini Table type

When using the table type for a push operation, limit the pushing current to ensure that the reaction moment generated by the push force does not exceed the catalog specification rated moment (Ma, Mb) of 80%.

Refer to the figure below for the operation position for moment calculations.



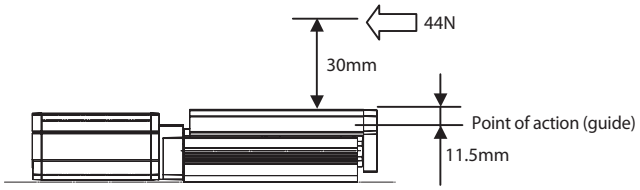
TA3C／TA3R : h＝10.5mm
TA4C／TA4C : h＝11.5mm

Caution
- Movement speed during push operation is fixed at 20mm/s.
- The push force is an approximate standard, so it will vary somewhat.

When using a slider type for a push operation, limit the pushing current to ensure that the reaction moment generated by the push force does not exceed the catalog specification **rated moment of 80%.**

Example of calculation:
When pushing at 44N at the position in the chart on the right using RCP3-TA4C (Lead 2) type:

The guide moment is Ma = (11.5+30) x 44
= 1826 (N·mm)
= 1.826 (N·m).

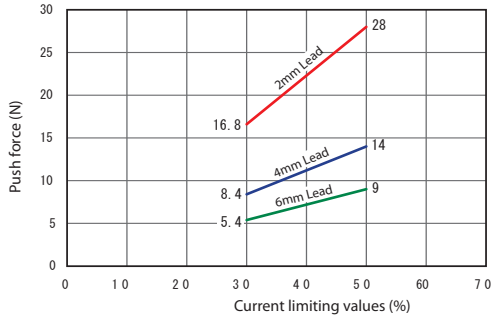


The TA4C allowable dynamic moment (Ma) is 4.2 (N·m), which means 80% is 3.36.
Therefore, a moment load greater than that actually received by the guide (1.826) can be used.

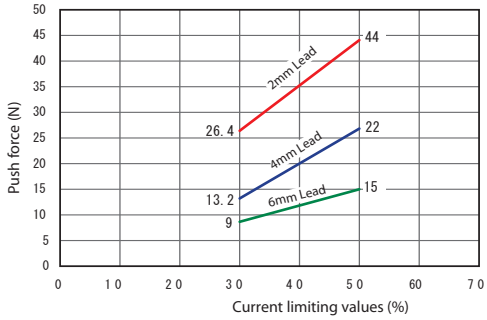
Push force and current limiting value correlation graph

Standard figures are shown in the table below. Actual figures will differ slightly.

TA3C/TA3R type



TA4C/TA4R type

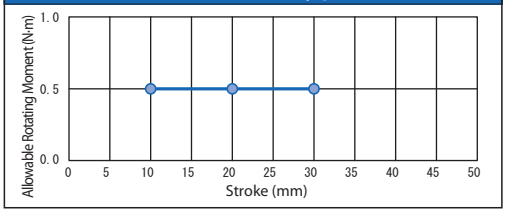


Model Selection Materials (Guide)

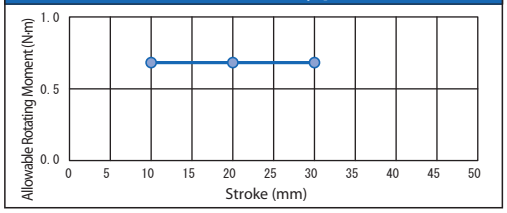
Allowable Rotating Torque

The allowable torque for each model is specified below.
When rotational torque is exerted, use within the range of values specified below. Please note that single-guide types cannot be subjected to rotational torque.

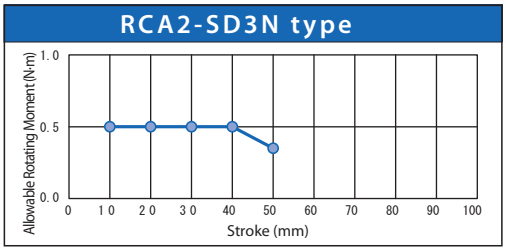
RCA2-GD3N type



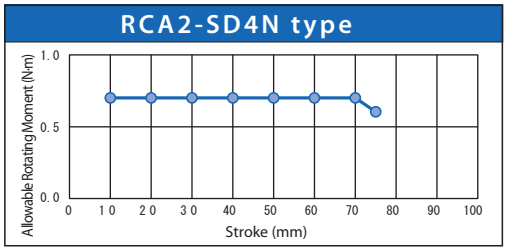
RCA2-GD4N type



RCA2-SD3N type



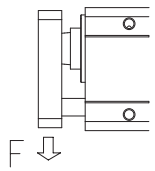
RCA2-SD4N type



Relationship Between Allowable Load at Tip & Running Service Life

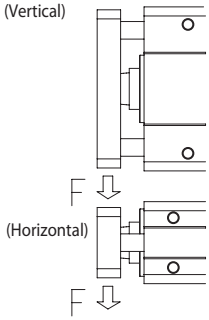
The greater the load at the guide tip, the shorter the running service life.
Select the appropriate model while considering the balance between load and service life.

■Single-guide type

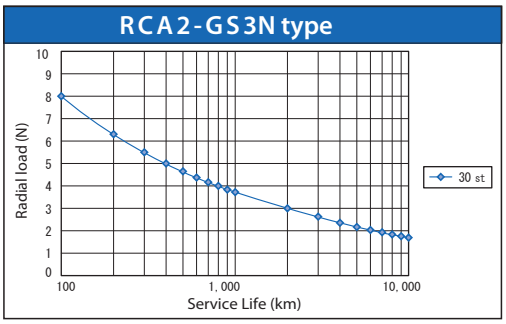


* Single-guide specifications can only be used with vertical loads.

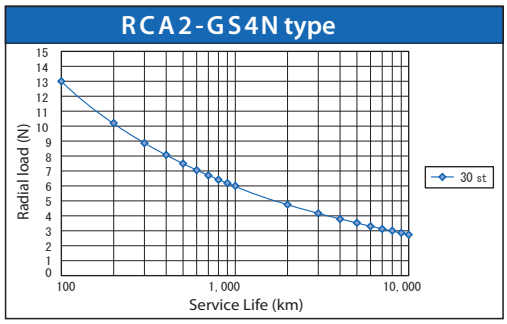
■Double-guide type



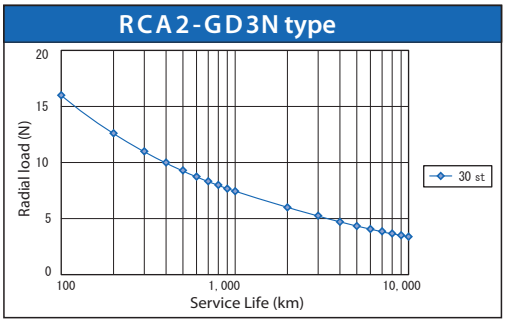
RCA2-GS3N type



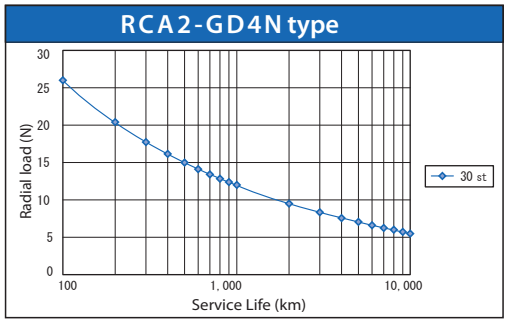
RCA2-GS4N type



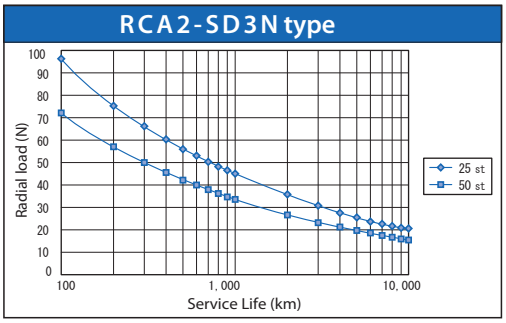
RCA2-GD3N type



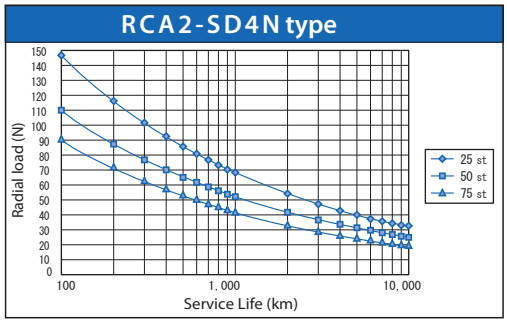
RCA2-GD4N type



RCA2-SD3N type



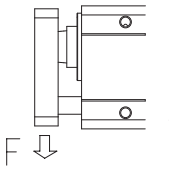
RCA2-SD4N type



Radial Load & Tip Deflection

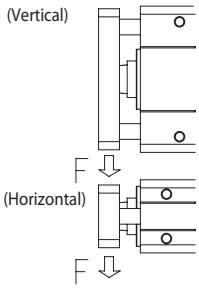
The graph below shows the correlation between the load exerted at the guide tip and the amount of deflection generated.

■Single-guide type

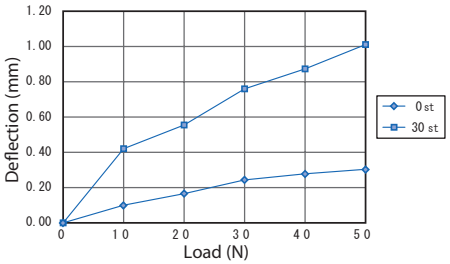


*Single-guide specifications can only be used with vertical loads.

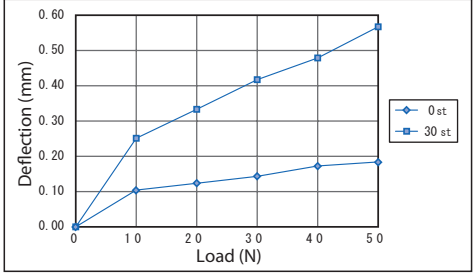
■Double-guide type



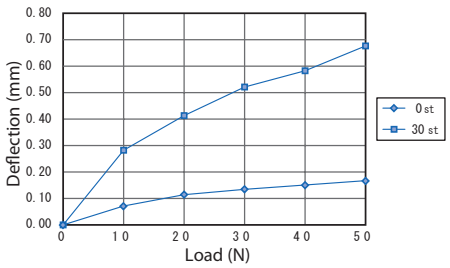
RCA2-GS3N type



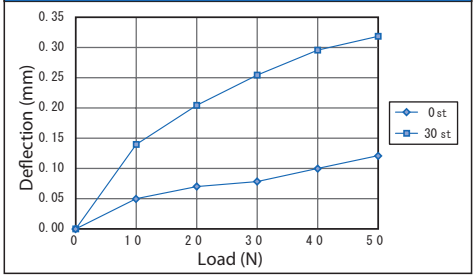
RCA2-GS4N type



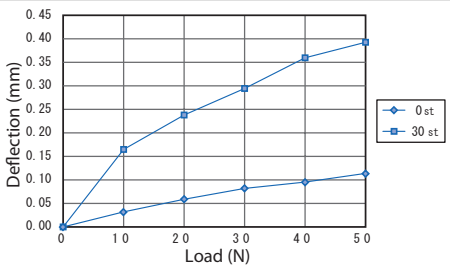
RCA2-GD3N type (Double guide <vertical> specifications)



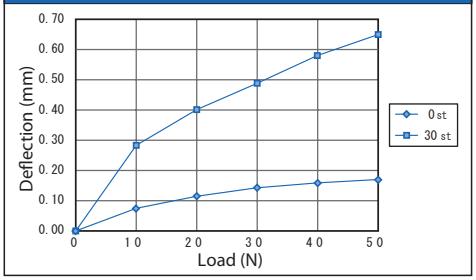
RCA2-GD4N type (Double guide <vertical> specifications)



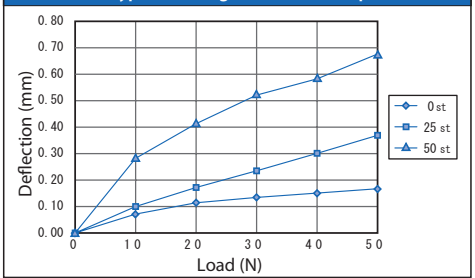
RCA2-GD3N type(Double guide<horizontal> specifications



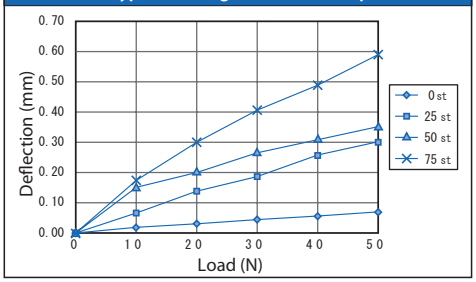
RCA2-GD4N type (Double guide <horizontal> specifications)



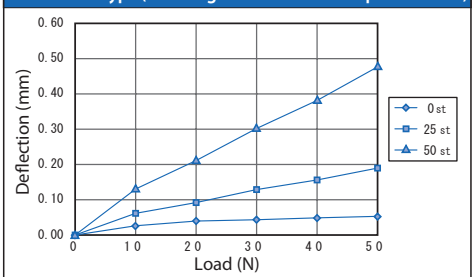
RCA2-SD3N type (Double guide <vertical> specifications)



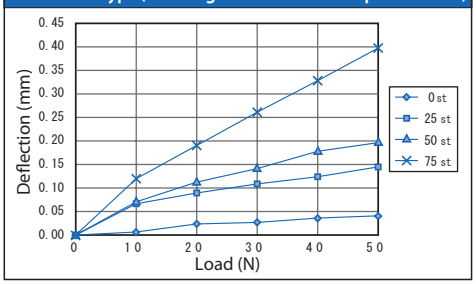
RCA2-SD4N type (Double guide <vertical> specifications)



RCA2-SD3N type (Double guide <horizontal> specifications)



RCA2-SD4N type (Double guide <horizontal> specifications)



PSEP

Model C/CW
3-position controller for RCP2/RCP3
Position Controller

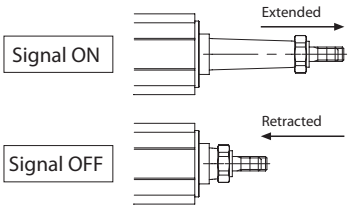
ASEP

Model C/CW
3-position controller for RCA/RCA2/RCL
Position Controller

Feature

1 Can operate with same signal as solenoid valve.

The signal that operates the actuator is the same as the signal that operates the air cylinder. Therefore, the PLC program currently in use can be used without modification even if the air cylinder is replaced by an electric-powered cylinder.
Either a single solenoid or a double solenoid may be used.



2 Establishes a dustproof type that supports IP53.

(*1) Protective structure has been configured for dust proofing. A controller can be configured external to the control panel.

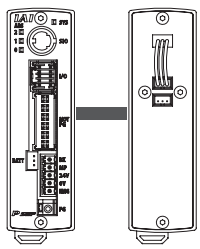
(*1) Does not include bottom surface portion.

3 Establishes Simple Absolute type capable of moving immediately after power has been turned on without returning to home.

When power is turned on or after an emergency stop is released, the simple absolute type determines its present position from the absolute battery unit and is ready to begin the next movement from that position.

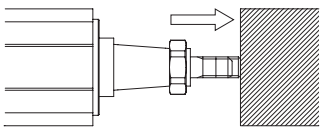
(Note 1) Incremental specifications are used for an actuator connecting a simple absolute type controller.
(Note 2) Cannot be used with the linear servo type.

If the absolute battery unit is to be installed, mount it below the SEP controller.



4 Push-motion and midway stop operations are possible.

Similar to an air cylinder, push-motion operation is possible with the motion of a rod pushing against the work piece halted. The force exerted during a push-motion operation is adjustable within a range of 20 to 70% of the maximum pushing force, and a signal is output when a preset pushing force value is achieved. Therefore the push-motion operation is suitable for use when performing such tasks as clamping the workpiece or assessing its size.



Push force can be adjusted from
20 to 70% of the maximum push force.

5 Easy data input with dedicated touch panel teaching unit.

The travel position, pushing force, etc. can be easily input using the optional touch panel teaching unit (model SEP-PT).
Using the interactive menu and direct onscreen operation, the touch panel teaching unit can be operated intuitively even without reading the user's manual.

Model list/Standard price

Series Name	PSEP				ASEP			
Type	C		CW		C		CW	
Title	Standard type		Dustproof type		Standard type		Dustproof type	
Positioning method	Incremental type	Simple Absolute type	Incremental type	Simple Absolute type	Incremental type	Simple Absolute type	Incremental type	Simple Absolute type
External View								
Description	Position controller that has been streamlined and specialized for 2-point/3-point positioning, for use with Pulse motors.		PSEP-C dustproof type equipped with IP53-equivalent protective structure		Position controller that has been streamlined and specialized for 2-point/3-point positioning, for use with servo motors.		ASEP-C dustproof type equipped with IP53-equivalent protective structure	
Positioner Number of points	2-point/ 3-point							
Standard price	–	–	–	–	–	–	–	–

* The absolute battery unit is attached to the simple absolute type (see P112).

Model

PSEP — (Series) — (Type) — (Motor type) — **I** (Encoder type) — (I/O Type) — (I/O Cable length) — **0** (Power Supply Voltage) — (For simple absolute type)

Type	
C	Standard type
CW	Dustproof type

Encoder type	
I	Incremental type

Motor type	
20P	20°□pulse motor compatible
28P	28°□pulse motor compatible
28SP	28°□pulse motor (RA3C dedicated) compatible
35P	35°□pulse motor compatible
42P	42°□pulse motor compatible
56P	56°□pulse motor compatible

I/O Type	
NP	NPN type
PN	PNP type

I/O Cable length	
0	No cable
2	2m
3	3m
5	5m

Power Supply Voltage	
0	DC24V

For simple absolute type	
ABU	Simple Absolute type
(not entered)	Incremental type

ASEP — (Series) — (Type) — (Motor type) — **I** (Encoder type) — (I/O Type) — (I/O Cable Length) — **0** (Power Supply Voltage) — (For simple absolute type)

Type	
C	Standard type
CW	Dustproof type

Encoder type	
I	Incremental type

Motor type	
2	For 2W motor
5	For 5W motor
10	For 10W motor
20	For 20W motor
20S	For 20W motor (RCA2-SA4C/ RCA-RA3□dedicated)
30	For 30W motor

I/O Type	
NP	NPN type
PN	PNP type

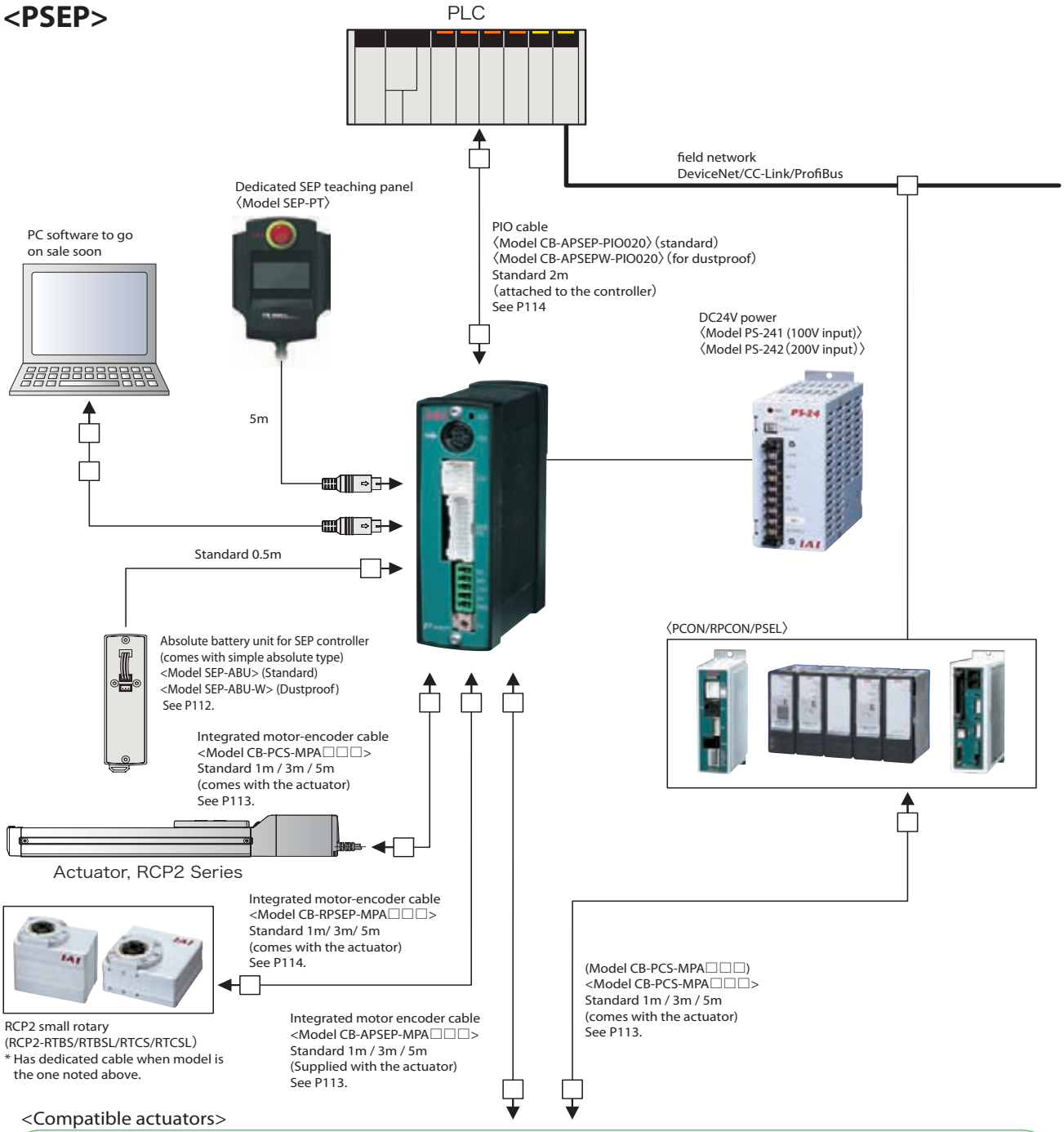
I/O Cable Length	
0	No cable
2	2m
3	3m
5	5m

Power Supply Voltage	
0	DC24V

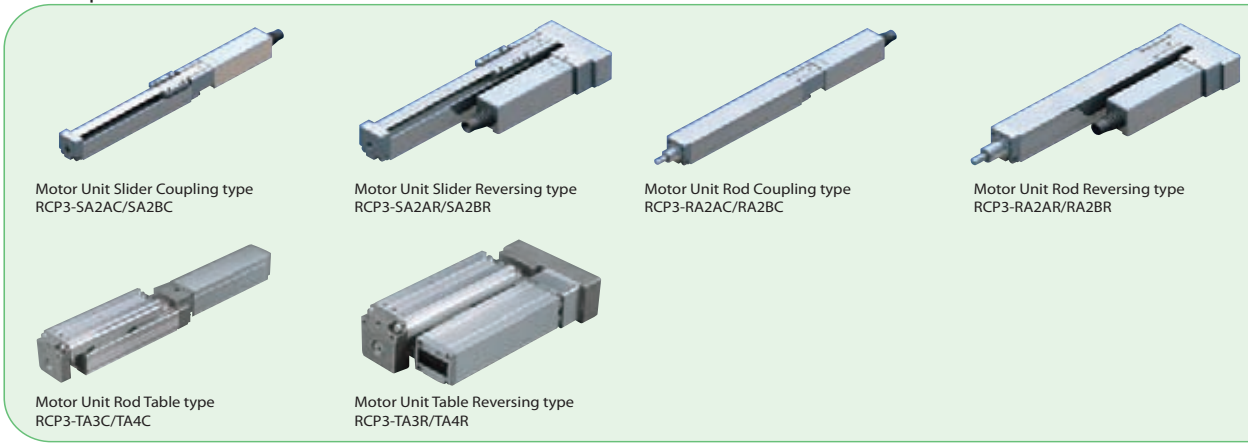
For simple absolute type	
ABU	Simple Absolute type
(not entered)	Incremental type

System configuration

<PSEP>

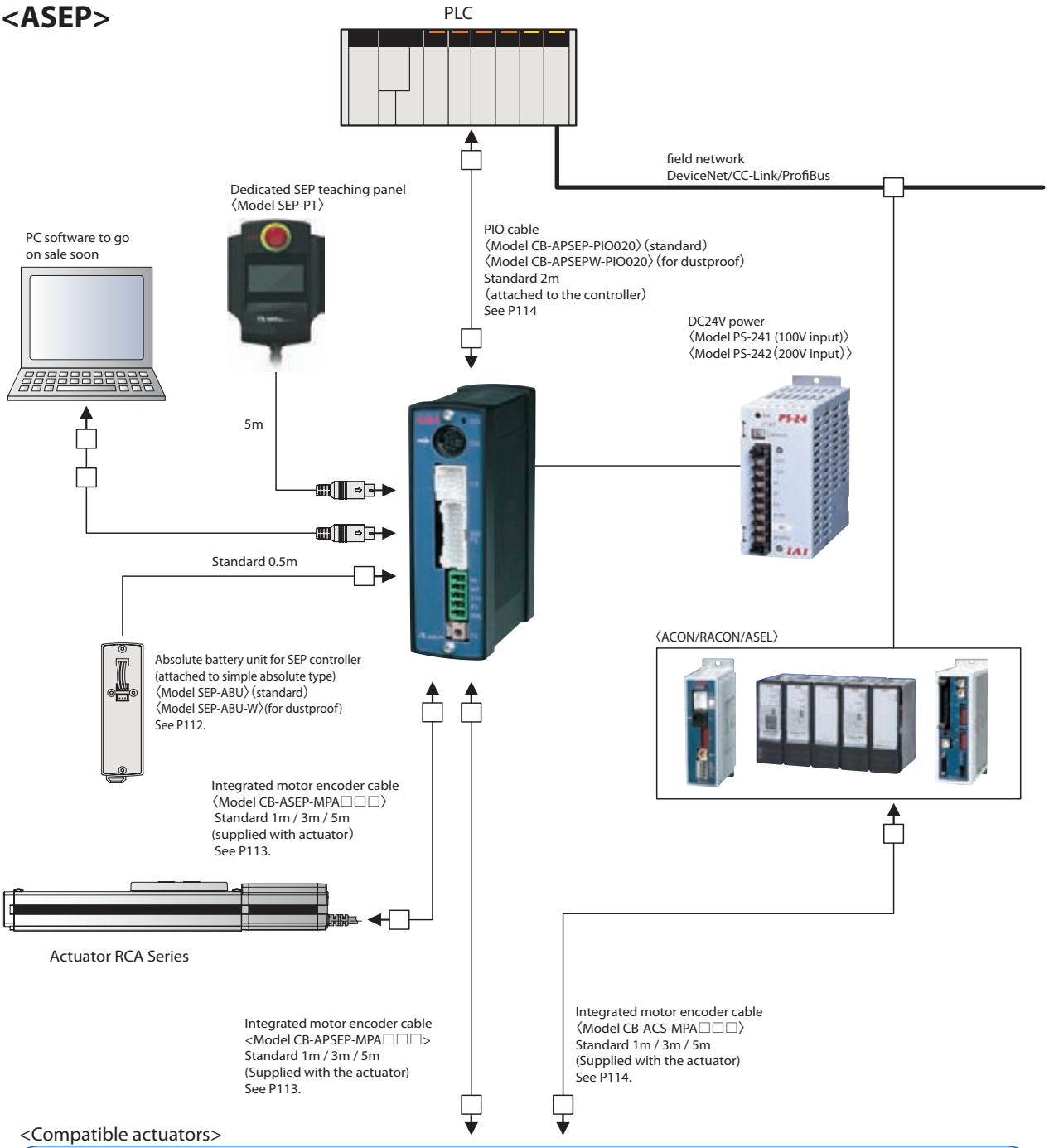


<Compatible actuators>

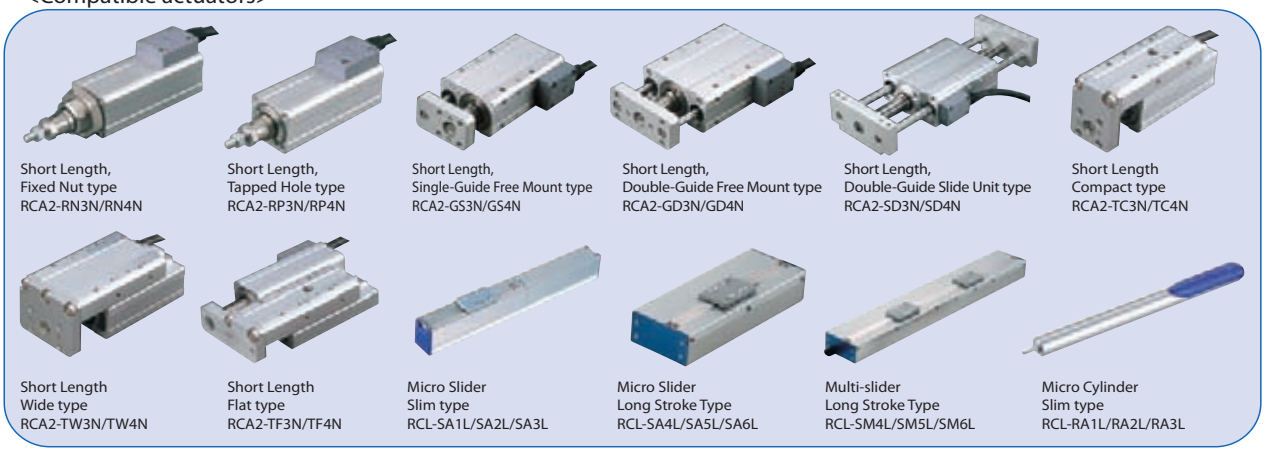


System configuration

<ASEP>



<Compatible actuators>



Explanation of movement patterns

The SEP controller is able to select and perform the following 6 movement patterns.

Also, movement patterns 0 to 2 are compatible with both the single solenoid and double solenoid signal formats.

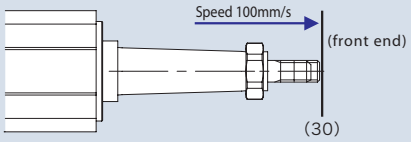
PIO pattern		0		1		2		3	4	5
PIO pattern name		Standard 2-point travel		Travel speed change		Position data Change		2-input 3-point travel	3-input 3-point travel	Continuous cycle operation
Functions		2-point travel		2-point travel		2-point travel		3-point travel	3-point travel	Continuous movement between 2 points
		Pushing operation		Pushing operation		Pushing operation		Pushing operation	Pushing operation	Pushing operation
		–		Speed change during travel		Positioning point data change		–	–	–
Supported solenoid configurations		single	double	single	double	single	double	–	–	–
Input	0	Movement signal	Movement signal 1	Movement signal	Movement signal 1	Movement signal	Movement signal 1	Movement signal 1	Retracting proximity movement signal	Continuous operation signal
	1	Pause signal	Movement signal 2	Pause signal	Movement signal 2	Pause signal	Movement signal 2	Movement signal 2	Extending proximity movement signal	Pause signal
	2	– (Reset signal)		Travel speed change signal (Reset signal)		Target position change signal (Reset signal)		– (Reset signal)	Midway travel command signal (Reset signal)	– (Reset signal)
	3	– /Servo ON signal		– /Servo ON signal		– /Servo ON signal		– /Servo ON signal	– /Servo ON signal	– /Servo ON signal
Output	0	Retracting proximity position output signal		Retracting proximity position output signal		Retracting proximity position output signal		Retracting proximity position output signal	Retracting proximity position output signal	Retracting proximity position output signal
	1	Extending proximity position output signal		Extending proximity position output signal		Extending proximity position output signal		Extending proximity position output signal	Extending proximity position output signal	Extending proximity position output signal
	2	Home return completion signal /Servo ON output signal		Home return completion signal /Servo ON output signal		Home return completion signal /Servo ON output signal		Midway position output signal	Midway position output signal	Home return completion signal /Servo ON output signal
	3	Alarm output signal /Servo ON output signal		Alarm output signal /Servo ON output signal		Alarm output signal /Servo ON output signal		Alarm output signal /Servo ON output signal	Alarm output signal /Servo ON output signal	Alarm output signal /Servo ON output signal

*For details of the signals listed above, see the Controller User's Manual. (Can be downloaded from our corporate website.)

PIO pattern 0 (Standard 2-point travel)

This is the movement pattern for movement between the 2 positions, the front and rear ends.
Front and rear end position values can be freely set. (Input in controller using optional touch panel teaching)
Two operations are possible: To move to position indicated for rod and slider, "Positioning operation"; and "Push-motion operation" to push rod to work part, etc.

Positioning operation (single solenoid)

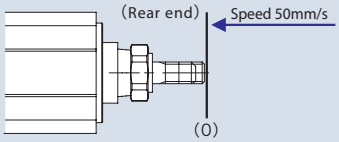


Front end position data	
Position	30
Speed	100
Push force	–
Width	–

Input signal

Input 0	ON
Input 1	–
Input 2	–
Input 3	–

Move with Input ON to extend (position value 30mm) at speed of 100mm/s.



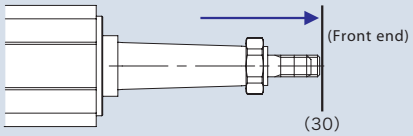
Rear end position data	
Position	0
Speed	50
Push force	–
Width	–

Input signal

Input 0	OFF
Input 1	–
Input 2	–
Input 3	–

Return with Input 0 OFF to retract (position value 0mm) at speed of 50mm/s.

Positioning operation (double solenoid)

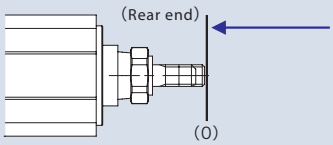


Front end position data	
Position	30
Speed	100
Push force	–
Width	–

Input signal

Input 0	OFF
Input 1	ON
Input 2	–
Input 3	–

With Input 1 ON/Input 0 OFF extend (position 30mm) at speed of 100mm/s.



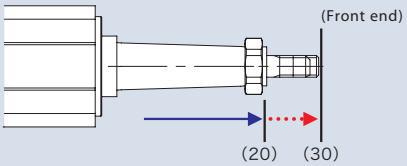
Rear end position data	
Position	0
Speed	50
Push force	–
Width	–

Input signal

Input 0	ON
Input 1	OFF
Input 2	–
Input 3	–

With Input 0 ON/ Input 1 OFF, retract at speed of 50mm/s.

Push operation (single solenoid)



Front end position data	
Position	30
Speed	100
Push force	50
Width	10

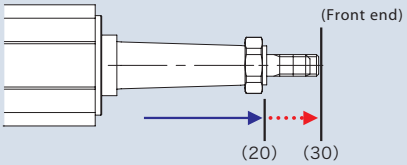
Input signal

Input 0	ON
Input 1	–
Input 2	–
Input 3	–

Start push operation with Input 0 ON and up to 20mm position at speed of 100mm/s; from 20mm position to 30mm position at low speed (5mm/s).

* Perform push operation when controller position data value is entered in push force. (Becomes positioning operation when value is not entered in push force.)

For push operation (double solenoid)



Front end position data	
Position	30
Speed	100
Push force	50
Width	10

Input signal

Input 0	OFF
Input 1	ON
Input 2	–
Input 3	–

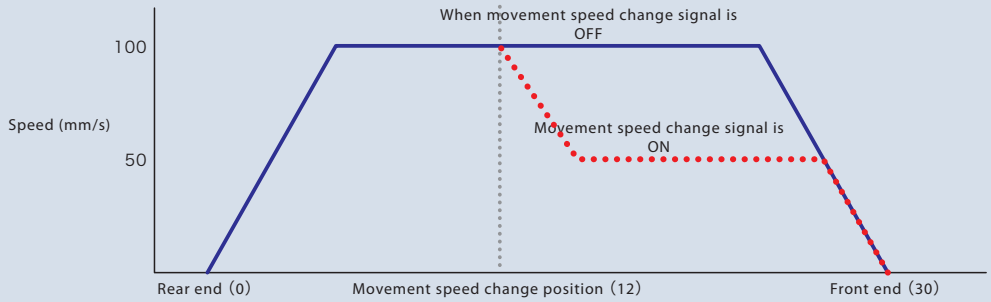
Start push operation with Input 1 ON/Input 0 OFF, and up to 20mm position at speed of 100mm/s; from 20mm position to 30mm position at low speed (5mm/s).

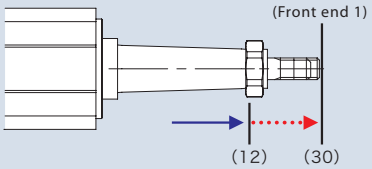
* Perform push operation when controller position data value is entered in push force. (Becomes positioning operation when value is not entered in push force.)

PIO pattern 1 (Travel speed change)

This is the PIO pattern for movement between the 2 positions, the front and rear ends.
It is possible to change movement speed in two stages. (Speed up/Speed down is possible)
To switch, designate the speed change position with the position value. The speed will change after movement past that position.

(Single solenoid)





Input signal

Input 0	ON
Input 1	–
Input 2	ON
Input 3	–

With Input 2 ON and Input 0 ON, it goes partially at set movement speed, then the speed changes after it passes through speed change position. Speed change cannot be performed when Input No. 2 is not ON.

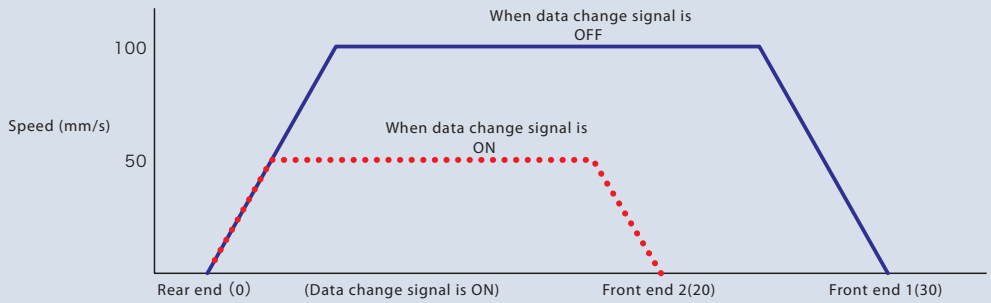
Rear end position data	
Position	0
Speed	50
Speed change position	12
Changed speed	100
Push force	–
Position band	–

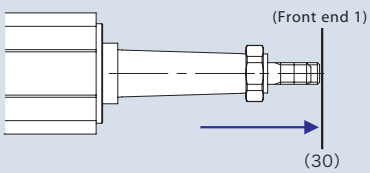
Front end position data	
Position	30
Speed	100
Speed change position	12
Changed speed	50
Push force	–
Position band	–

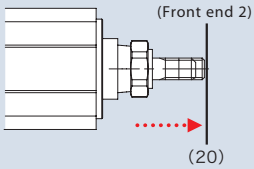
PIO pattern 2 (position data change)

This is the PIO pattern for movement between the 2 positions, the front and rear points.
Front end and rear end positions, speed, push force, and 2 types of push force positioning bands can be set.
Switch between 2 types of data with Input 2 target position change signal ON or OFF.

(Single solenoid)







Input signal

Input 0	ON
Input 1	–
Input 2	ON
Input 3	–

Perform movement with Input 2 (data change signal) OFF, Input 0 is ON, set position (30) at forward end position data 1, speed (100).
If Input 2 is ON and Input 0 is ON, movement performed with forward end position data 2 and position set at (20), and speed changed to (50).
Movement started with Input 2 OFF, and when Input 2 is ON during movement, from that time on it becomes movement position, speed change.

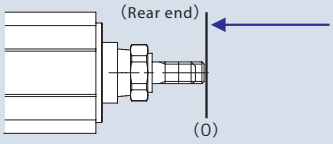
Front end position data 1	
Position	30
Speed	100
Push force	–
Positioning bands	–

Front end position data 2	
Position	20
Speed	50
Push force	–
Positioning bands	–

PIO pattern 3 (2-input 3-point travel)

This is the PIO pattern to perform movement for front end, rear end, and middle position between the three positions.
The change of movement positions are decided by a combination of two signals, Input 0 and Input 1.

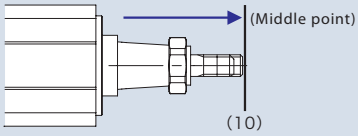
Positioning operation



Input signal

Input 0	ON
Input 1	OFF
Input 2	–
Input 3	–

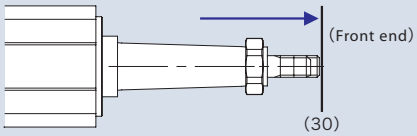
When only Input 0 is ON, move with the set speed to the rear end.



Input signal

Input 0	ON
Input 1	ON
Input 2	–
Input 3	–

When both Input 0 and 1 are ON, move with the set speed to the middle position.



Input signal

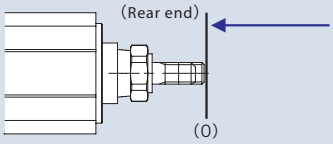
Input 0	OFF
Input 1	ON
Input 2	–
Input 3	–

When only Input 1 is ON, move with the set speed to the front end.

PIO pattern 4 (3-input 3-point travel)

This is the PIO pattern to perform movement for front end, rear end, and middle position between the three positions.
Changes in movement positions are decided by the combination of 3 signals: Input 0 (rear end movement command), Input 1 (front end movement command) and Input 2 (middle point movement command).

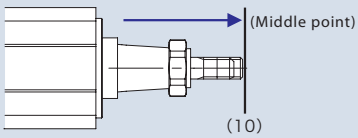
Positioning operation



Input signal

Input 0	ON
Input 1	OFF
Input 2	OFF
Input 3	–

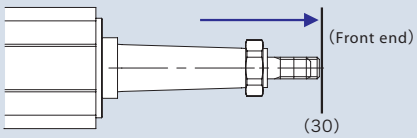
Perform movement when Input 0 is ON, and speed is set to the rear end.



Input signal

Input 0	OFF
Input 1	OFF
Input 2	ON
Input 3	–

Perform movement when Input 2 is ON, and speed is set to the middle position.



Input signal

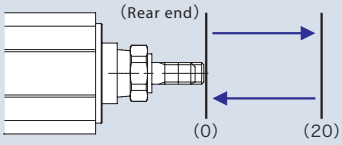
Input 0	OFF
Input 1	ON
Input 2	OFF
Input 3	–

Perform movement when Input 1 is ON, and speed is set to the front end.

PIO pattern 5 (continuous cycle operation)

This is the PIO pattern for continuous cycle operation between 2 positions.
If Input 0 (continuous operation signal) is ON, perform continuous movement between 2 set positions.
When Input 0 is OFF during operation, it stops after movement to the destination position is reached.

Positioning operation



Input signal

Input 0	ON
Input 1	–
Input 2	–
Input 3	–

Perform continuous movement if Input 0 is ON and with speed set to the front end and to the rear end.

Controller

I/O signal table

Pin No.	Cable color	PIO pattern number		0		1		2		3	4	5
		PIO pattern name		Standard 2-point travel		Travel speed change		Position data change		2-input 3-point travel	3-input 3-point travel	Continuous cycle operation
		Solenoid type		single	double	single	double	single	double	–	–	–
1	Brown	COM		24V		24V		24V		24V	24V	24V
2	Red	COM		0V		0V		0V		0V	0V	0V
3	Orange	Input	0	ST0	ST0	ST0	ST0	ST0	ST0	ST0	ST0	ASTR
4	Yellow		1	*STP	ST 1(–)	*STP	ST 1(–)	*STP	ST 1(–)	ST1	ST 1(–)	–/*STP
5	Green		2	– (RES)		SPDC (RES)		CN 1(RES)		– (RES)	– (RES)	– (RES)
6	Blue		3	–/SON		–/SON		–/SON		–/SON	–/SON	–/SON
7	Purple	Output	0	LS0/PE0		LS0/PE0		LS0/PE0		LS0/PE0	LS0/PE0	LS0/PE0
8	Gray		1	LS1/PE1		LS1/PE1		LS1/PE1		LS1/PE1	LS1/PE1	LS1/PE1
9	White		2	HEND/SV		HEND/SV		HEND/SV		HEND/SV	HEND/SV	HEND/SV
10	Black		3	*ALM/SV		*ALM/SV		*ALM/SV		*ALM/SV	*ALM/SV	*ALM/SV

*For details of the signals listed above, see the Controller User's Manual. (Can be downloaded from our corporate website.)

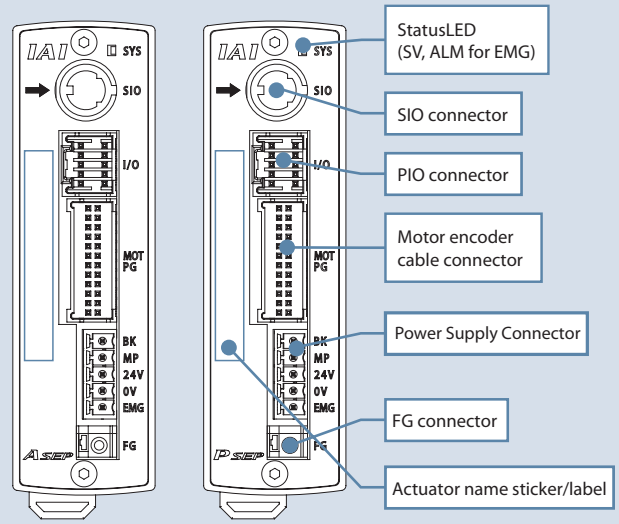
Specification Table

Item		Specifications					
Controller Type		PSEP			ASEP		
		C	CW		C	CW	
Connected Actuator		RCP2/RCP3 series actuators			RCA/RCA2/RCL series actuators		
Number of control axes		1 Axis					
Operating method		Positioner type					
Number of positions		2-point/ 3-point (4-point *2)					
Backup memory		EEPROM					
I/O connector		10-pin connector					
Number of I/O		4 input points/4 output points					
I/O power		External supply DC24V±10%					
Serial communications		RS485 1ch					
Peripheral device communication cable		CB-APSEP-PIO□□□	CB-APSEPW-PIO□□□		CB-APSEP-PIO□□□	CB-APSEPW-PIO□□□	
Position detection method		Incremental encoder (Attaching an absolute battery unit makes the simple absolute specification possible. *3)					
Motor-encoder cable	RCP2 connection-use	CB-PSEP-MPA□□□			(Connection not possible)		
	RCA connection-use	(Connection not possible)			CB–ASEP–MPA□□□		
	RCP3/RCA2 connection-use	CB-APSEP-MPA□□□					
	RCP2 small rotary connection-use	CB–RPSEP–MPA□□□			(Connection not possible)		
Input power		DC24V±10%					
Control power supply capacity		0.5A (In the case of simple absolute specifications, 0.8A)					
Motor power supply capacity		Motor size	Rated	Max. (*5)	Motor W number	Rated	Max. (*5)
		20P	0.4A	2.0A	2W	0.8A	4.6A
		28P	0.4A	2.0A	5W	1.0A	6.4A
		35P	1.2A	2.0A	10W (LSA-use)	1.3A	6.4A
		42P	1.2A	2.0A	10W (RCA/RCA2-use)	1.3A	4.4A
		56P	1.2A	2.0A	20W	1.3A	4.4A
		–	–	–	20W (20S motor-use)	1.7A	5.1A
		–	–	–	30W	1.3A	4.4A
Inrush current (*1)		Max10A					
Amount of heat generated		8.4W			9.6W		
Dielectric strength voltage		DC500V 1MΩ					
Vibration resistance		XYZ in each direction	10 to 57Hz/one-side width 0.035m (continuous), 0.075m (intermittent) 58 to 150Hz/4.9m/s², 9.8m/s²				
Ambient temperature		0 to 40°C					
Ambient humidity		85% RH or less (No condensation)					
Ambient atmosphere		Free from corrosive gases.					
Protection Class		IP20	IP5 3 (*6)		IP20	IP5 3 (*6)	
Weigh		Approx. 130g	Approx. 160g		Approx. 130g	Approx. 160g	

(*1) Inrush current flows for approximately 1 to 2ms after power is turned on. It is approximately 5 to 12 times greater than the rated current. Note that the inrush current varies according to the impedance of the power supply line.
(*2) In a position data change movement pattern, two position data points have been set for each of the extending and retracting edges.
(*3) A simple absolute type controller cannot be used with a linear servo type.
(*4) The current reaches its maximum level during the servo motor excitation phase detection performed during the initial servo ON process after the power has been turned on. (Usually: Approx. 1 to 2 seconds, max. 10 seconds.)
(*5) After the power is turned on, an excitation detection operation is performed. The current reaches its maximum level when this happens. (Usually 100ms.)
However, if the motor drive power supply is temporarily interrupted and then resumed, a current of approximately 6.0A will flow. (Approx. 1 to 2ms)
(*6) Not including the bottom surface.

Names of Each Part

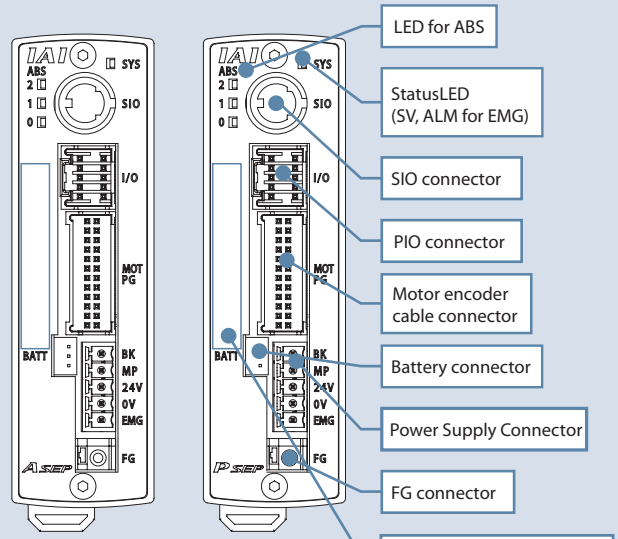
ASEP, PSEP Incremental type



ASEP
Incremental type

PSEP
Incremental type

ASEP, PSEP Simple absolute type

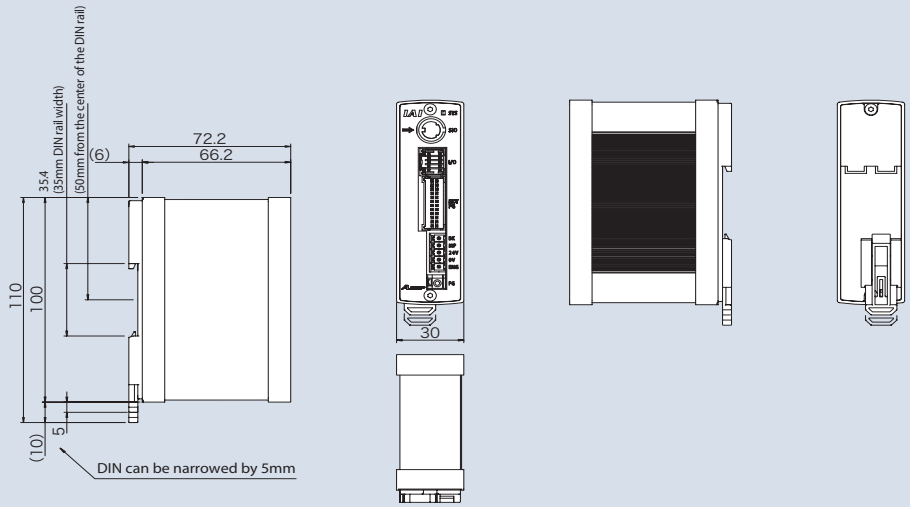


ASEP
simple absolute type

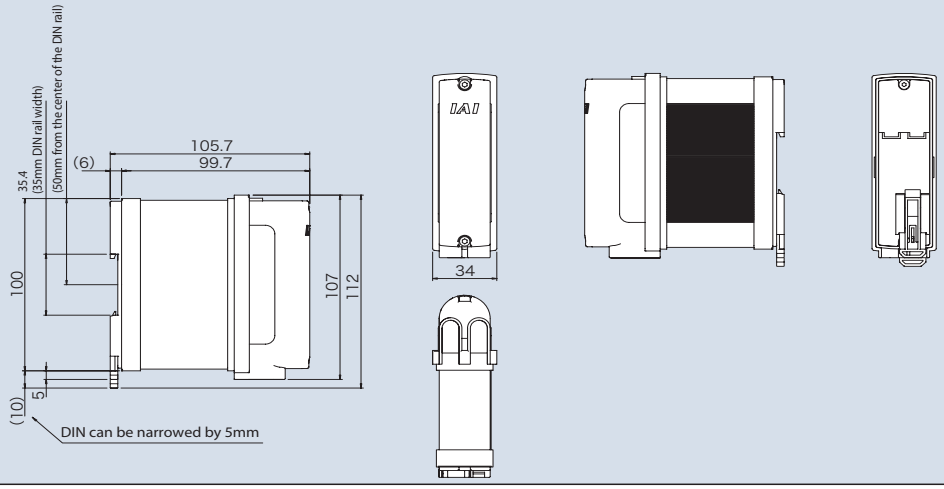
PSEP
simple absolute type

External Dimensions

Standard type



Dustproof type



PSEP/ASEP dedicated teaching panel

Features

This is a data input device with a touch panel that uses a dialogue menu screen that makes it easy to use even for first-time users. Enables operation adjustment for movements, etc. to front end, rear end, middle position, speed, push force, etc. settings and jog/inching/command position.

Model

SEP-PT (Japanese version)
SEP-PT-ENG (English version)
* After purchase, you can change the language.

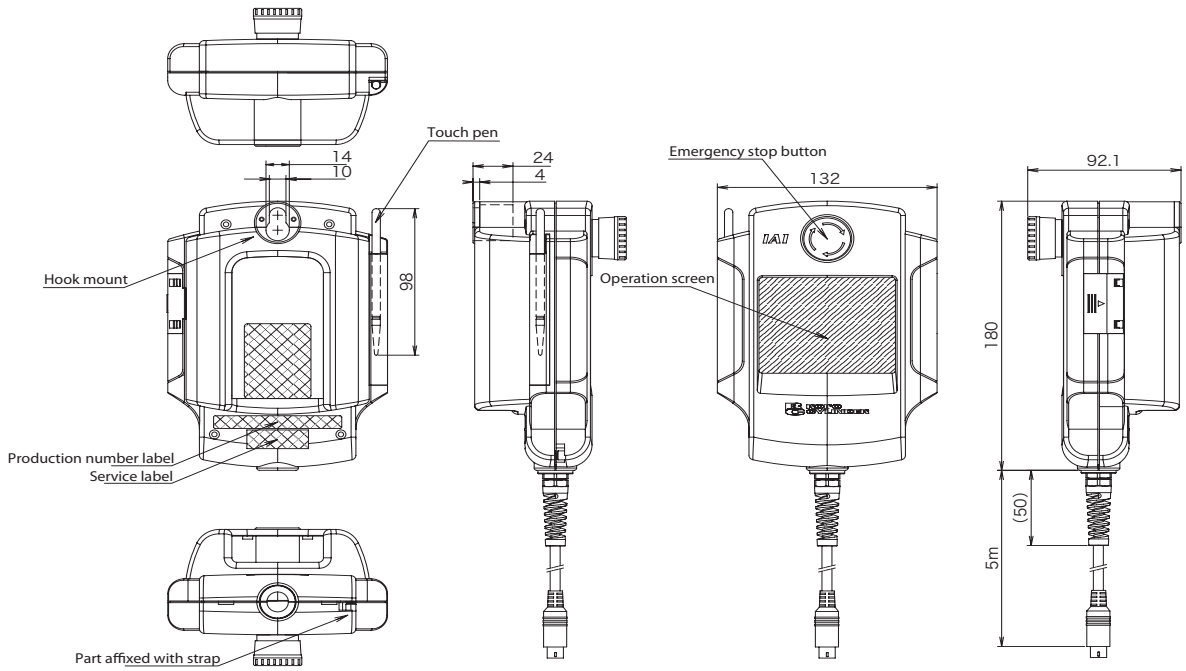
Option

・Strap Model STR-1

Specifications

Item	Description
Applicable Controllers	PSEP/ASEP
Functions	Position data input/Editing Movement function (set position movement, jog function, inching function) Output signal test Editing parameters Switch language (Japanese/English)
Display	With 3-color LED backlight
Ambient operating temperature, humidity	0 to 50°C 20 to 85%RH (but no condensation)
Environmental resistance	IP40
Weight	About 550g (5m cable included)

Name of each part/Outer dimensions



Absolute battery unit for SEP controller

Description Products that come with PSEP/ASEP Simple Absolute type.
Battery unit for backing up current position data with battery.

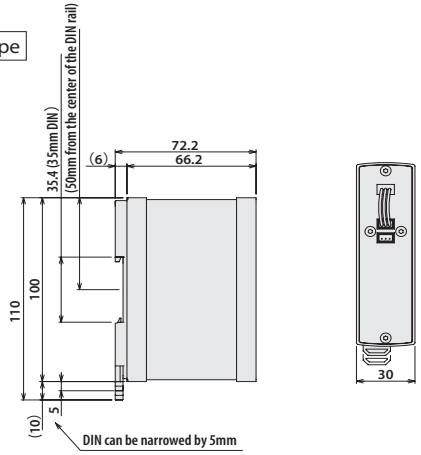
Model **SEP-ABU** (standard type)
SEP-ABU-W (dustproof type)

Specifications

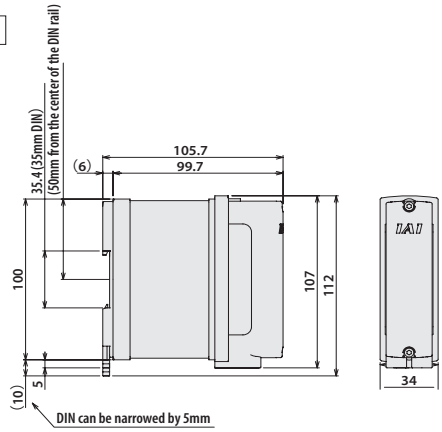
Item	Specifications			
Ambient operating temperature and humidity	0 to 40°C (about 20°C), 95% RH or below (no condensation)			
Ambient operating environment	Free from corrosive gases.			
Absolute Battery (*1)	Model: AB-7 (Ni-MH battery/life about 3 years)			
Cable (*1) for connection between the controller and the absolute battery unit	Model: CB-APSEP-AB005 (length 0.5m)			
Weight	Standard type: about 230g/dustproof type: about 260g			
Allowable encoder RPM during data retention (*2)	800rpm	400rpm	200rpm	100rpm
Position data retention time (*2)	120h	240h	360h	480h

(*1) Absolute battery unit comes with the cable for connecting between the absolute battery unit and the controller
(*2) Position data retention time changes with the allowable encoder RPMs during data retention.
(800rpm→120h, 400rpm→240h, 200rpm→360h, 100rpm→480h)

Standard type



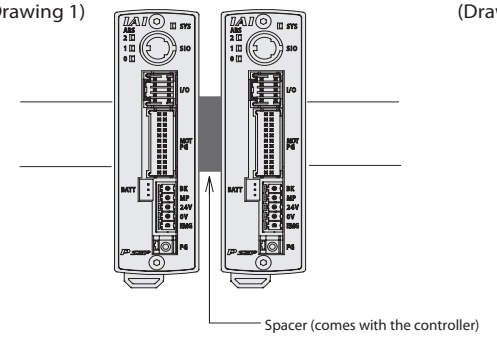
Dustproof type



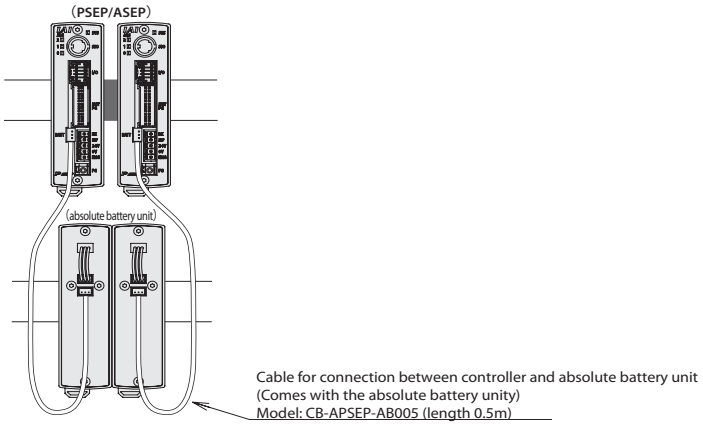
Precautions related to controllers and options:

- As a countermeasure for heat dissipation, please insert a spacer to prevent controllers from sticking together when attaching the controller to the DIN rail. (See Drawing 1.)
- Please put the absolute battery in a place under the controller when attaching the absolute battery unit and the controller. (See Drawing 2.) When you cannot place it below due to space considerations, take care to position it so that the temperature around the controller is kept at 40˚C or less.

(Drawing 1)



(Drawing 2)



- Teaching box for PCON/ACON/SCON (CON-T, RCM-E, etc.) Cannot be used in PSEP/ASEP. Please use the dedicated SEP-PT for PSEP/ASEP. Also, the PC compatible software (RCM-101-MW/USB) currently cannot be used with PSEP/ASEP.
- The SEP-PT cannot communicate with a link connection to the controller. (Please use it in direct connection to the controller.)

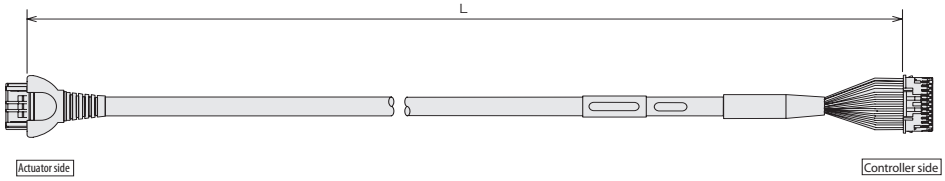
Maintenance parts

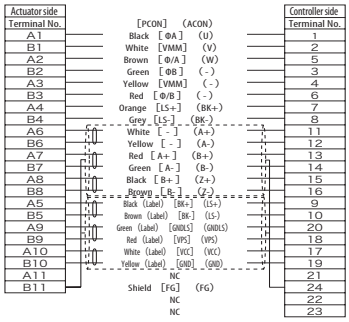
Please refer to the models listed below if a cable needs to be exchanged, etc., after your purchase.

(RCP3/RCA2) - (PSEP/ASEP) Integrated motor-encoder connection cable

Model **CB-APSEP-MPA □□□**

*□□□ indicated the cable length (L) Lengths up to 20m can be specified Example) 080=8m

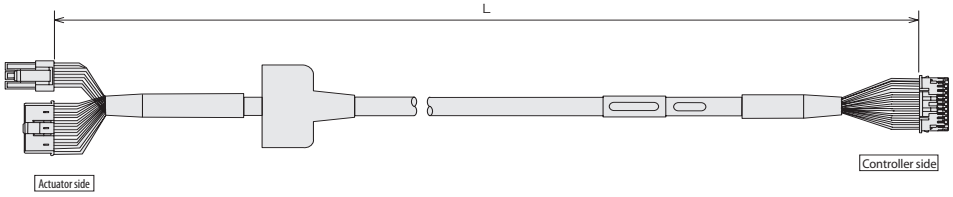


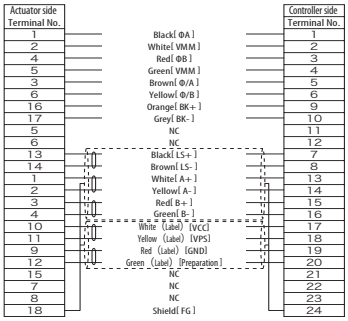


(RCP2) - (PSEP) Integrated motor-encoder connection cable

Model **CB-PSEP-MPA □□□**

*□□□ indicated the cable length (L) Lengths up to 20m can be specified Example) 080=8m

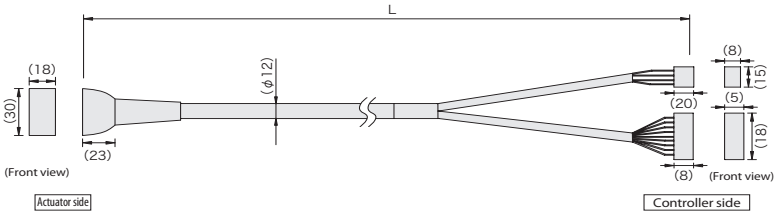


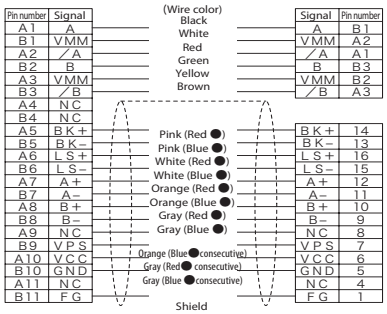


(RCP3) - (PCON/RPCON/PSEL) Integrated motor-encoder connection cable

Model **CB-PCS-MPA □□□**

*□□□ indicated the cable length (L) Lengths up to 20m can be specified Example) 080=8m

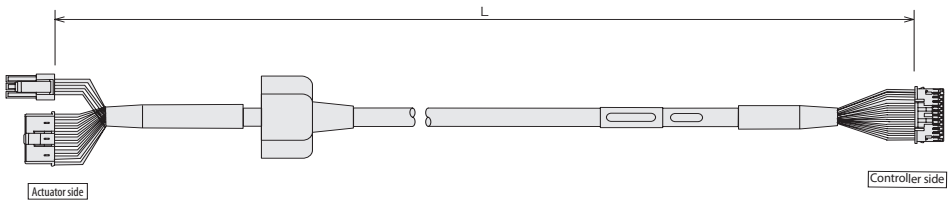


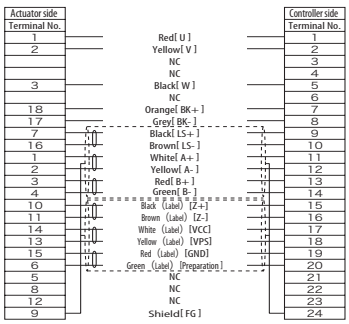


(RCA) - (ASEP) Integrated motor-encoder connection cable

Model **CB-ASEP-MPA □□□**

*□□□ indicated the cable length (L) Lengths up to 20m can be specified Example) 080=8m

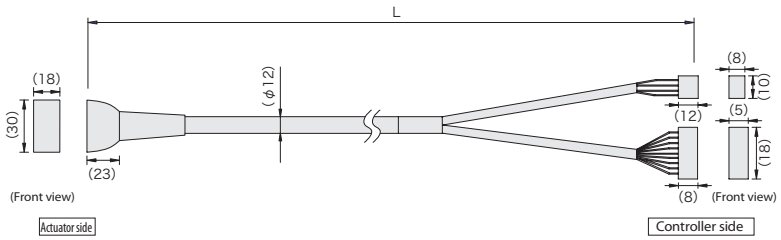




(RCA2) - (ACON/RACON/ASEL) - Integrated motor-encoder connection cable

Model **CB-ACS-MPA □□□**

*□□□ indicated the cable length (L) Lengths up to 20m can be specified Example) 080=8m

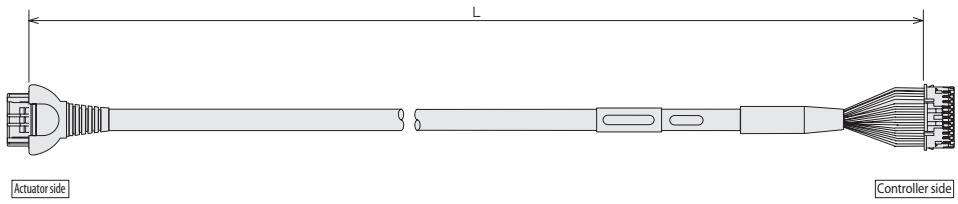


Pin number	Signal	(Wire color)	Signal	Pin number
A1	U	Red	U	1
B1	V	Yellow	V	2
A2	W	Black	W	3
B2	NC			
A3	NC			
B3	NC			
A4	BK+	Yellow (Red ●)	BK+	16
B4	BK−	Yellow (Blue ●)	BK−	15
A5	LS+	Pink (Red ●)	LS+	18
B5	LS−	Pink (Blue ●)	LS−	17
A6	A+	White (Red ●)	A+	14
B6	A−	White (Blue ●)	A−	13
A7	B+	Orange (Red ●)	B+	12
B7	B−	Orange (Blue ●)	B−	11
A8	Z+	Gray (Red ●)	Z+	10
B8	Z−	Gray (Blue ●)	Z−	9
A9	−	Orange (Red ● consecutive)	−	8
B9	／PS	Orange (Blue ● consecutive)	／PS	7
A10	VCC	Gray (Red ● consecutive)	VCC	6
B10	GND	Gray (Blue ● consecutive)	GND	5
A11	NC		NC	
B11	FG	Shield	FG	1

(RCP2 small rotary) - (PSEP) - Integrated motor-encoder connection cable

Model **CB-RPSEP-MPA □□□**

*□□□ indicated the cable length (L) Lengths up to 20m can be specified Example) 080=8m

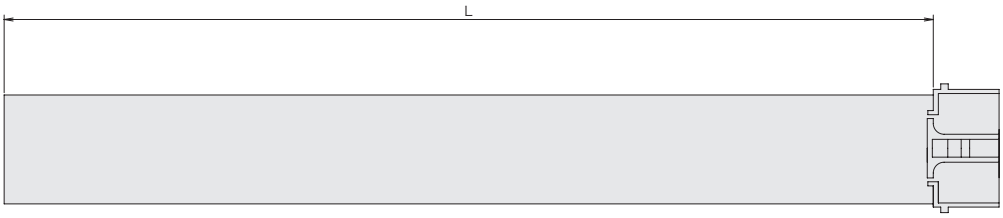


Actuator side Terminal No.		Controller side Terminal No.
A1	Black[ΦA]	1
B1	White[VMM]	2
A2	Brown[Φ/A]	5
B2	Green[ΦB]	3
A3	Yellow[VMM]	4
B3	Red[Φ/B]	6
A6	Orange[LS+]	7
B6	Grey[LS−]	8
A7	Red[A+]	13
B7	Green[A−]	14
A8	Black[B+]	15
B8	Brown[B−]	16
A4	NC	7
B4	NC	8
A5	Black (Label) [BK+]	9
B5	Brown (Label) [BK−]	10
A9	Green (Label) [GNDLs]	20
B9	Red (Label) [VPS]	18
A10	White (Label) [VCC]	17
B10	Yellow (Label) [GND]	19
A11	NC	21
B11	Shield[FG] (FG)	24
	NC	22
	NC	23

I/O cable for PSEP-C/ASEP-C

Model **CB-APSEP-PIO □□□**

*Enter the cable length (L) for □□□, up to a maximum compatible length of 10m. Example) 080=8m



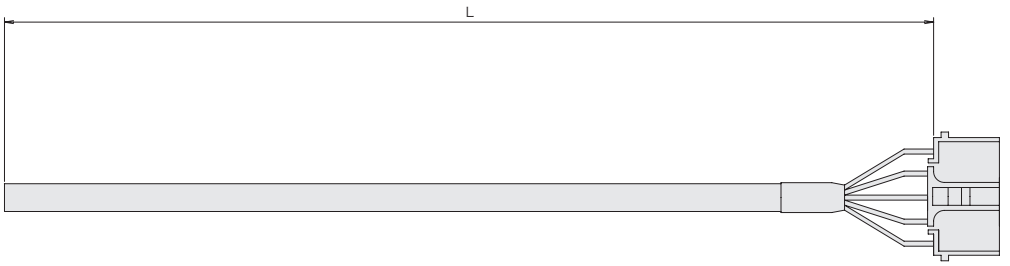
51353-1000 (MOLEX)

No.	Signal	Color	Wiring
1	24V	Brown	Flat Cable (crimped)
2	0V	Red	
3	IN0	Orange	
4	IN1	Yellow	
5	IN2	Green	
6	IN3	Blue	
7	OUT0	Purple	
8	OUT1	Grey	
9	OUT2	White	
10	OUT3	Black	

I/O cable for PSEP-CW/ASEP-CW

Model **CB-APSEPW-PIO □□□**

*Enter the cable length (L) for □□□, up to a maximum compatible length of 10m. Example) 080=8m



51353-1000 (MOLEX)

No.	Signal	Color	Wiring
1	24V	Brown	Cable (crimped)
2	0V	Brown-White	
3	IN0	Red	
4	IN1	Red-White	
5	IN2	Yellow	
6	IN3	Yellow-White	
7	OUT0	Green	
8	OUT1	Green-White	
9	OUT2	Black	
10	OUT3	Black-White	

RCP3&RCA2&RCL Series
Miniature Type
Catalogue No. 0809-E

The information contained in this catalog is subject to change without notice for the purpose of product inprovement

ISO 9001

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