

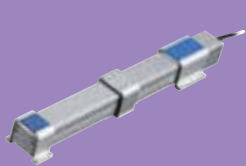
Dust-proof/Splash-proof Type



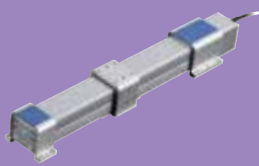
Dust-proof/Splash-proof Type

RCP4W
RCP2W

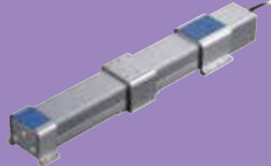
RCAW
RCS2W



RCP4W-SA5C



RCP4W-SA6C



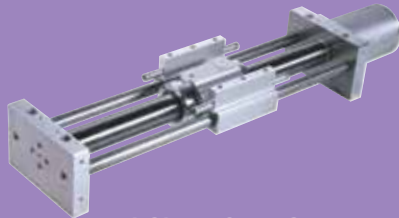
RCP4W-SA7C



RCP4W-RA6C



RCP4W-RA7C



RCP2W-SA16C



RCP2W-RA4C



RCP2W-RA6C



RCP2W-RA10C



RCAW-RA3C



RCAW/RCS2W-RA4C

IP Marking

IP

First digit

Protecting against the human body and solid objects

Second digit

Protecting against the intrusion of water

*Please contact IAI when using liquids other than water.



Dust-proof/Splash-proof Type

RCP4W series Pulse Motor Type	Slider Type	Coupled	55mm Width	RCP4W-SA5C	495
			62mm Width	RCP4W-SA6C	497
			77mm Width	RCP4W-SA7C	499
Pulse Motor Type	Rod Type		65mm Width	RCP4W-RA6C	501
			75mm Width	RCP4W-RA7C	503

RCP2W series Pulse Motor Type	Slider Type	Coupled	158mm Width	RCP2W-SA16C	505
			Rod Type	Coupled	45mm Width
	64mm Width	RCP2W-RA6C			509
	High-Thrust Type	100mm Width			RCP2W-RA10C
	Gripper Type	Mini Slider Type	42mm Width	RCP2W-GRSS	513
Mini Lever Type		42mm Width	RCP2W-GRLS	515	

RCAW series 24 Servo Motor Type	Rod Type	Coupled	ø32mm	RCAW-RA3C	517
		Built-in	ø32mm	RCAW-RA3D	
		Side-Mounted Motor	ø32mm	RCAW-RA3R	
	Rod Type	Coupled	ø37mm	RCAW-RA4C	519
		Built-in	ø37mm	RCAW-RA4D	
		Side-Mounted Motor	ø37mm	RCAW-RA4R	

RCS2W series 200V Servo Motor Type	Rod Type	Coupled	ø37mm	RCS2W-RA4C	521
		Built-in	ø37mm	RCS2W-RA4D	
		Side-Mounted Motor	ø37mm	RCS2W-RA4R	

IP Classes

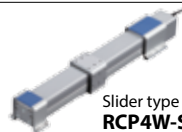
IP class	Description	Applicable IAI products
IP67	Solid objects	Fully protected against the entry of powder dust into the equipment.
	Water	Even when the equipment is submerged in water, water does not enter the equipment.
IP65	Solid objects	Fully protected against the entry of powder dust into the equipment.
	Water	The equipment receives no harmful effect even when directly hit by water jets from any direction.
IP54	Solid objects	Dust that would affect the operation of the equipment does not enter the equipment.
	Water	The equipment receives no harmful effect even when contacted by water splashes from any direction.
IP50	Solid objects	Dust that would affect the operation of the equipment does not enter the equipment.
	Water	The equipment is not protected against water.



Rod type
RCP4W-RA



Slider type
RCP2W-SA16C



Slider type
RCP4W-SA



Slider type
ISWA/ISPWA



Pulse motor rod type
RCP2W-RA4C/RA6C



SCARA robot
IX-NNW



High-thrust rod type
RCP2W-RA10C



24-V servo motor rod type
RCAW-RA3/RA4
200-V servo motor rod type
RCS2W-RA4



Small gripper (dust-proof type)
RCP2W-GR

RCP4W-SA5C

ROBO Cylinder, Splash-Proof Slider Type, Actuator Width 55mm, Pulse Motor, Coupled

Model Specification Items	RCP4W — SA5C — I — 35P — □ — □ — □	P3 — □ — □
Series	— Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options	
	I: Incremental * The Simple absolute encoder is also considered type "I".	35P: Pulse motor, 35□ size
	10: 10mm 5: 5mm	100: 100mm ? 500: 500mm (50mm pitch increments)
		P3: PCON-CA * The RCP4W can be operated only with the PCON-CA
		N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable
		See options below.

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



Technical References Appendix P.5

- POINT** Notes on selection
- (1) This actuator is designed exclusively for horizontal installation. It cannot be installed vertically. When hanging the actuator from the ceiling or mounting it on the wall, be sure to do so using an optional dedicated bracket.
 - (2) The payload varies depending on the acceleration/deceleration. The upper limit of acceleration/deceleration is 0.6 G.
 - (3) The cable joint connector is not splash-proof, so install the connector in a location where it will not come in contact with water.
 - (4) Refer to the page at right for the air tube length and air flow rate when implementing air purge.
 - (5) See page A-71 for details on push motion.

■ Payload by Acceleration/Deceleration

With the RCP4W series, the payload remains the same even when the speed is raised. However, the payload will drop if the acceleration is raised. Check on the table below.

Diagram of Acceleration/Deceleration vs. Payload [Supported at Both Ends]

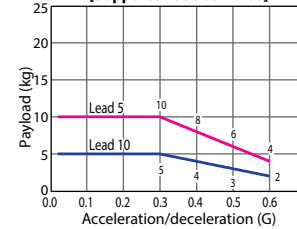
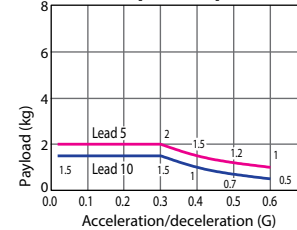


Diagram of Acceleration/Deceleration vs. Payload [Cantilever]



Actuator Specifications

■ Lead and Payload

Model number	Lead (mm)	Maximum horizontal payload (kg)		Maximum push force (N)	Positioning repeatability (mm)	Stroke (mm)
		Supported on both ends	Cantilever			
RCP4W-SA5C-I-35P-10-①-P3-②-③	10	5	1.5	66.9	±0.02	100~500 (every 50mm)
RCP4W-SA5C-I-35P-10-①-P3-②-③	5	10	2	147.9		

■ Stroke and Maximum Speed

Stroke Lead	100~500 (every 50mm)	
	10	330
5	165	

Code explanation ① Stroke ② Cable length ③ Options *See page A-71 for details on push motion. (Unit: mm/s)

① Stroke

Stroke (mm)	Standard price
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—

② Cable Length

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

* See page A-59 for cables for maintenance.

③ Options

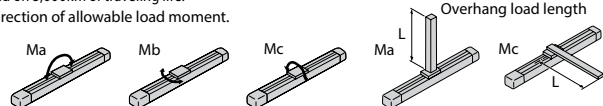
Name	Option code	See page	Standard price
Cable exit from the left side face	A1	→ A-41	—
Cable exit from the right side face	A3	→ A-41	—
Additional alumite coating	AL	→ A-42	—
Food grade grease (edible grease)	GE	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Ceiling mount (bracket mounted on the left)	HFL	→ A-51	—
Ceiling mount (bracket mounted on the right)	HFR	→ A-51	—
Wall mount sideways on the left	TFL	→ A-57	—
Wall mount sideways on the right	TFR	→ A-57	—

Actuator Specifications

Item	Description
Drive system	Ball screw ø8 mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1 mm or less
Allowable static moment	Supported on both ends: Ma: 5.9 N·m Mb: 8.4 N·m Mc: 13.7 N·m
	Cantilever: Ma: 2.9 N·m Mb: 4.2 N·m Mc: 6.8 N·m
Allowable dynamic moment (*)	Supported on both ends: Ma: 3.4 N·m Mb: 4.9 N·m Mc: 8.0 N·m
	Cantilever: Ma: 1.7 N·m Mb: 2.5 N·m Mc: 4.0 N·m
Overhang load length	Supported on both ends: 125mm or less
	Cantilever: 75mm or less
Protective structure	IP65 (with air purge)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(*) Based on 5,000km of traveling life.

Direction of allowable load moment.



Dimensional Drawings

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

For Special Orders Appendix P.15



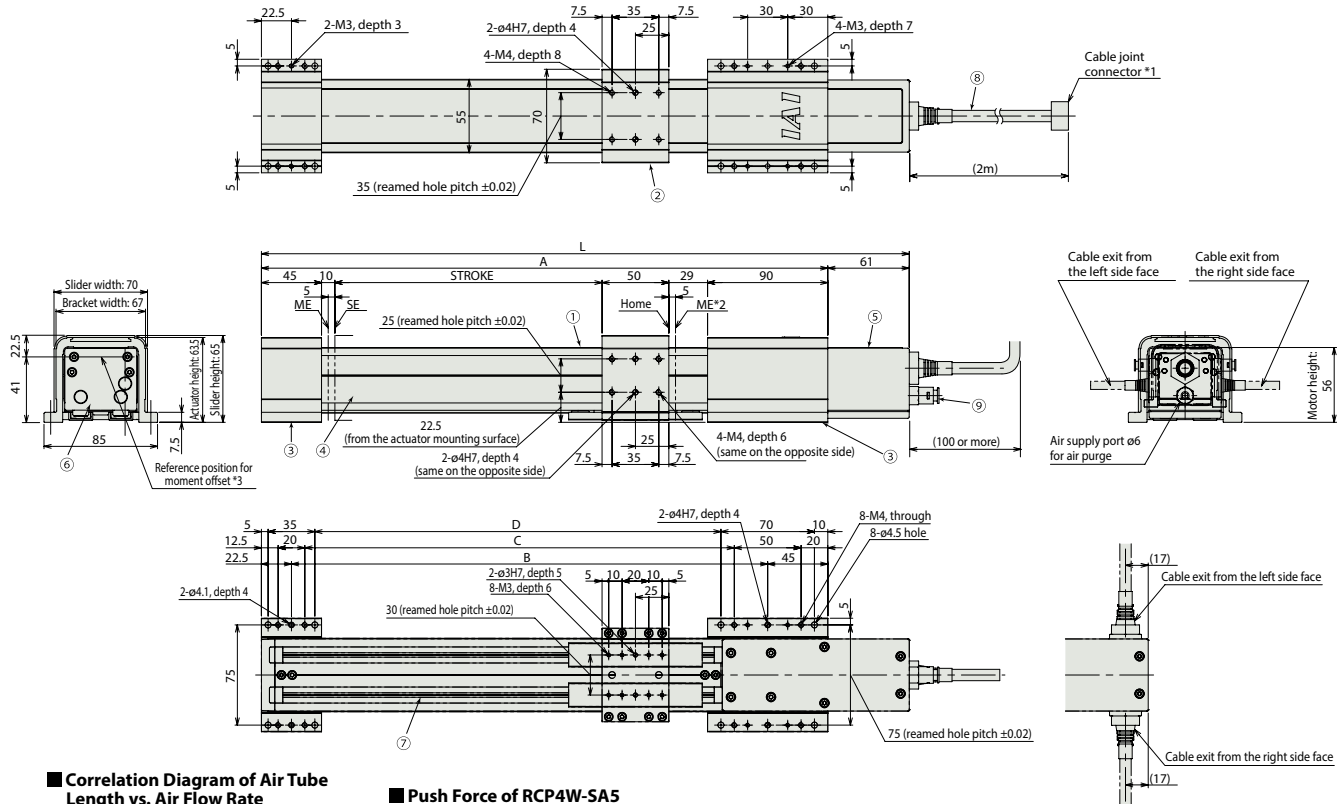
*See Page A-9 for the dimensional drawing for the ceiling mount specification. See Page A-10 for the dimensional drawing for the wall mount specification.

Materials of Main Components

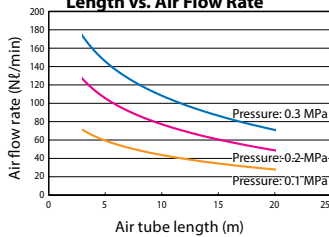
① Base	Extruded aluminum (A6063)	Surface treatment: Alumite coating
② Table	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
③ Mounting bracket (front/rear)	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
④ Side cover	Extruded aluminum (A6063)	Surface treatment: Alumite coating
⑤ Motor cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑥ Front cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑦ Seal	Urethane rubber (U)	
⑧ Actuator cable	Polyvinyl chloride (PVC)	* High flex type cable
⑨ Air purge joint	Polyphenylene sulfide (PPS)	

* Alumite coating has been removed in the machined areas of the table ② and mounting bracket ③. To add alumite coating to these areas, specify the "Additional alumite coating (code: AL)" option.

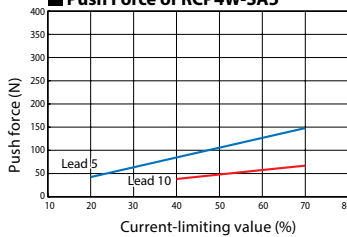
- (*1) Connect the motor-encoder integrated cable here.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- (*3) Reference position for calculating the moments.



Correlation Diagram of Air Tube Length vs. Air Flow Rate



Push Force of RCP4W-SA5



Note on Push-motion Operation

When performing push-motion operation, make sure the reactive moment generated by the push force does not exceed 80% of the dynamic allowable moment (Ma or Mb) specified in the catalog.

In push-motion operation, the travel speed is fixed at 25 mm/s.

Dimensions and Weight by Stroke

Stroke	100	150	200	250	300	350	400	450	500
L	385	435	485	535	585	635	685	735	785
A	324	374	424	474	524	574	624	674	724
B	256.5	306.5	356.5	406.5	456.5	506.5	556.5	606.5	656.5
C	221.5	271.5	321.5	371.5	421.5	471.5	521.5	571.5	621.5
D	204	254	304	354	404	454	504	554	604
Weight (kg)	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.8	4.0

- The above correlation diagram assumes an air tube of 6mm in outer diameter and 4mm in inner diameter. (A joint of 6mm in outer diameter is used on the actuator side.)
- Use the correlation diagram as a reference to determine an appropriate pressure and air tube length in such a way that the air flow rate will become 40 NL/min or more (clean dry air).

Applicable Controllers

RCP4W series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

(Note) These actuators cannot be operated with controllers other than the PCON-CA.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type		PCON-CA-35PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type		PCON-CA-35PI-□-2-0	Equipped with a high-output driver Pulse-train input type	—				
Field network type		PCON-CA-35PI-②-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				

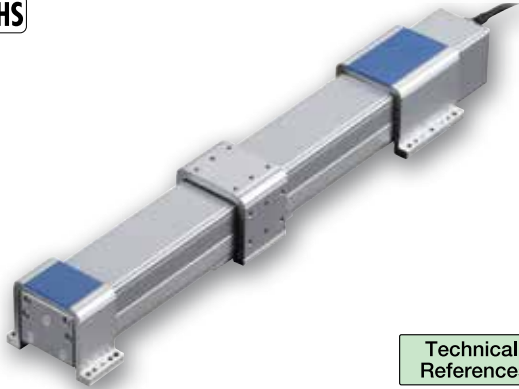
* ① indicates I/O type (NP/PN). * □ indicates N (NPN specification) or P (PNP specification) symbol * ② indicates field network specification symbol.

RCP4W-SA6C

ROBO Cylinder, Splash-Proof Slider Type, Actuator Width 62mm, Pulse Motor, Coupled

Model Specification Items	RCP4W — SA6C	I	42P	<input type="checkbox"/>	<input type="checkbox"/>	P3	<input type="checkbox"/>	<input type="checkbox"/>
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	42P: Pulse motor, 42□ size	12: 12mm 6: 6mm	100: 100mm 600: 600mm (50mm pitch increments)	P3: PCON-CA * The RCP4W can be operated only with the PCON-CA	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See options below.

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



Technical References Appendix P.5

- POINT** Notes on selection
- (1) This actuator is designed exclusively for horizontal installation. It cannot be installed vertically. When hanging the actuator from the ceiling or mounting it on the wall, be sure to do so using an optional dedicated bracket.
 - (2) The payload varies depending on the acceleration/deceleration. The upper limit of acceleration/deceleration is 0.6 G.
 - (3) The cable joint connector is not splash-proof, so install the connector in a location where it will not come in contact with water.
 - (4) Refer to the page at right for the air tube length and air flow rate when implementing air purge.
 - (5) See page A-71 for details on push motion.

■ Payload by Acceleration/Deceleration

With the RCP4W series, the payload remains the same even when the speed is raised. However, the payload will drop if the acceleration is raised. Check on the table below.

Diagram of Acceleration/Deceleration vs. Payload [Supported at Both Ends]

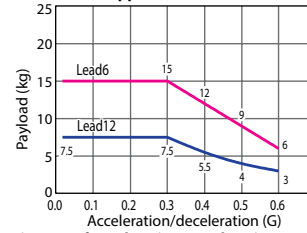
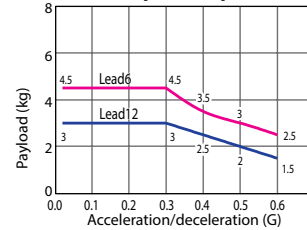


Diagram of Acceleration/Deceleration vs. Payload [Cantilever]



Actuator Specifications

■ Lead and Payload

Model number	Lead (mm)	Maximum horizontal payload (kg)		Maximum push force (N)	Positioning repeatability (mm)	Stroke (mm)
		Supported on both ends	Cantilever			
RCP4W-SA6C-I-42P-12-①-P3-②-③	12	7.5	3	82.8	±0.02	100~600 (every 50mm)
RCP4W-SA6C-I-42P-6-①-P3-②-③	6	15	4.5	179.5		

■ Stroke and Maximum Speed

Stroke / Lead	100~600 (every 50mm)	
	12	400
6	200	

Code explanation ① Stroke ② Cable length ③ Options *See page A-71 for details on push motion. (Unit: mm/s)

① Stroke

Stroke (mm)	Standard price
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—
550	—
600	—

② Cable Length

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

* See page A-59 for cables for maintenance.

③ Options

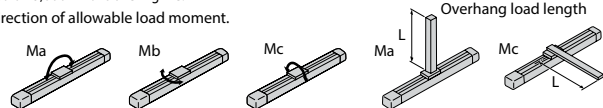
Name	Option code	See page	Standard price
Cable exit from the left side face	A1	→ A-41	—
Cable exit from the right side face	A3	→ A-41	—
Additional alumite coating	AL	→ A-42	—
Food grade grease (edible grease)	GE	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Ceiling mount (bracket mounted on the left)	HFL	→ A-51	—
Ceiling mount (bracket mounted on the right)	HFR	→ A-51	—
Wall mount sideways on the left	TFL	→ A-57	—
Wall mount sideways on the right	TFR	→ A-57	—

Actuator Specifications

Item	Description
Drive system	Ball screw ø10 mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1 mm or less
Allowable static moment	Supported on both ends
	Cantilever
Allowable dynamic moment (*)	Supported on both ends
	Cantilever
Overhang load length	Supported on both ends
	Cantilever
Protective structure	IP65 (with air purge)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(*) Based on 5,000km of traveling life.

Direction of allowable load moment.



Dimensional Drawings

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

For Special Orders Appendix P.15

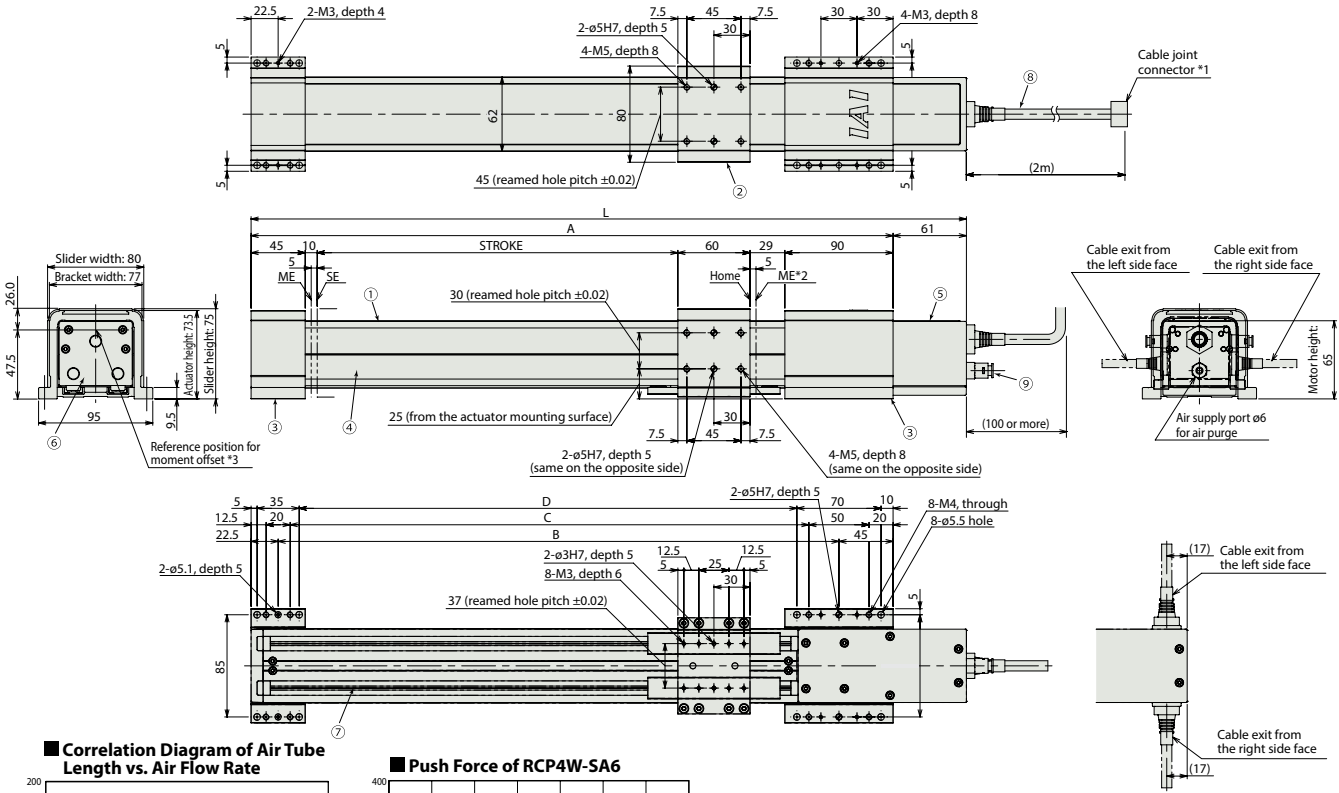


*See Page A-9 for the dimensional drawing for the ceiling mount specification. See Page A-10 for the dimensional drawing for the wall mount specification.

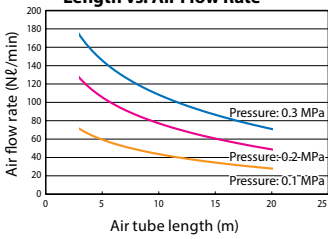
Materials of Main Components

① Base	Extruded aluminum (A6063)	Surface treatment: Alumite coating
② Table	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
③ Mounting bracket (front/rear)	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
④ Side cover	Extruded aluminum (A6063)	Surface treatment: Alumite coating
⑤ Motor cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑥ Front cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑦ Seal	Urethane rubber (U)	
⑧ Actuator cable	Polyvinyl chloride (PVC)	* High flex type cable
⑨ Air purge joint	Polyphenylene sulfide (PPS)	

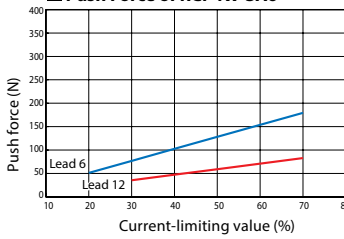
* Alumite coating has been removed in the machined areas of the table ② and mounting bracket ③. To add alumite coating to these areas, specify the "Additional alumite coating (code: AL)" option.



Correlation Diagram of Air Tube Length vs. Air Flow Rate



Push Force of RCP4W-SA6



Note on Push-motion Operation

When performing push-motion operation, make sure the reactive moment generated by the push force does not exceed 80% of the dynamic allowable moment (Ma or Mb) specified in the catalog.

In push-motion operation, the travel speed is fixed at 20 mm/s.

Dimensions and Weight by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600
L	395	445	495	545	595	645	695	745	795	845	895
A	334	384	434	484	534	584	634	684	734	784	834
B	266.5	316.5	366.5	416.5	466.5	516.5	566.5	616.5	666.5	716.5	766.5
C	231.5	281.5	331.5	381.5	431.5	481.5	531.5	581.5	631.5	681.5	731.5
D	214	264	314	364	414	464	514	564	614	664	714
Weight (kg)	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.5	5.8	6.0

- The above correlation diagram assumes an air tube of 6mm in outer diameter and 4mm in inner diameter. (A joint of 6mm in outer diameter is used on the actuator side.)
- Use the correlation diagram as a reference to determine an appropriate pressure and air tube length in such a way that the air flow rate will become 40 NL/min or more (clean dry air).

Applicable Controllers

RCP4W series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

(Note) These actuators cannot be operated with controllers other than the PCON-CA.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type		PCON-CA-42PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input type	—				
Field network type		PCON-CA-42PI-①-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				

* ① indicates I/O type (NP/PN). * □ indicates N (NPN specification) or P (PNP specification) symbol * ① indicates field network specification symbol.

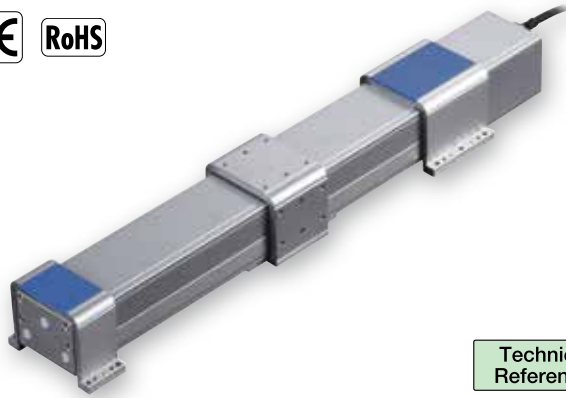
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

RCP4W-SA7C

ROBO Cylinder, Splash-Proof Slider Type, Actuator Width 77mm, Pulse Motor, Coupled

Model Specification Items	RCP4W — SA7C	I	56P	<input type="checkbox"/>	<input type="checkbox"/>	P3	<input type="checkbox"/>	<input type="checkbox"/>
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	56P: Pulse motor, 56□ size	16: 16mm 8: 8mm	100: 100mm ? 700: 700mm (50mm pitch increments)	P3: PCON-CA * The RCP4W can be operated only with the PCON-CA	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See options below.

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



Technical References Appendix P.5

- POINT** Notes on selection
- (1) This actuator is designed exclusively for horizontal installation. It cannot be installed vertically. When hanging the actuator from the ceiling or mounting it on the wall, be sure to do so using an optional dedicated bracket.
 - (2) The payload varies depending on the acceleration/deceleration. The upper limit of acceleration/deceleration is 0.6 G.
 - (3) The cable joint connector is not splash-proof, so install the connector in a location where it will not come in contact with water.
 - (4) Refer to the page at right for the air tube length and air flow rate when implementing air purge.
 - (5) See page A-71 for details on push motion.

■ Payload by Acceleration/Deceleration

With the RCP4W series, the payload remains the same even when the speed is raised. However, the payload will drop if the acceleration is raised. Check on the table below.

Diagram of Acceleration/Deceleration vs. Payload [Supported at Both Ends]

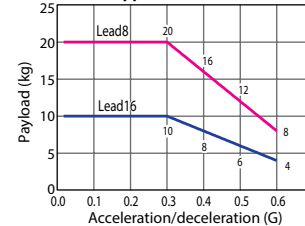
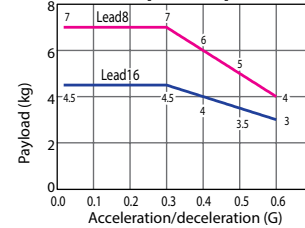


Diagram of Acceleration/Deceleration vs. Payload [Cantilever]



Actuator Specifications

■ Lead and Payload

Model number	Lead (mm)	Maximum horizontal payload (kg)		Maximum push force (N)	Positioning repeatability (mm)	Stroke (mm)
		Supported on both ends	Cantilever			
RCP4W-SA7C-I-56P-16-①-P3-②-③	16	10	4.5	161.9	±0.02	100~700 (every 50mm)
RCP4W-SA7C-I-56P-8-①-P3-②-③	8	20	7	337.9		

■ Stroke and Maximum Speed

Stroke / Lead	100~700 (every 50mm)	
	16	530
8	265	

Code explanation ① Stroke ② Cable length ③ Options *See page A-71 for details on push motion. (Unit: mm/s)

① Stroke

Stroke (mm)	Standard price
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—
550	—
600	—
650	—
700	—

② Cable Length

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

* See page A-59 for cables for maintenance.

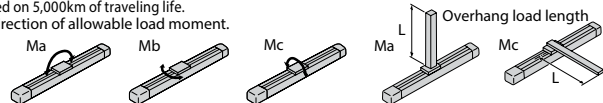
③ Options

Name	Option code	See page	Standard price
Cable exit from the left side face	A1	→ A-41	—
Cable exit from the right side face	A3	→ A-41	—
Additional alumite coating	AL	→ A-42	—
Food grade grease (edible grease)	GE	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Ceiling mount (bracket mounted on the left)	HFL	→ A-51	—
Ceiling mount (bracket mounted on the right)	HFR	→ A-51	—
Wall mount sideways on the left	TFL	→ A-57	—
Wall mount sideways on the right	TFR	→ A-57	—

Actuator Specifications

Item	Description
Drive system	Ball screw ø12 mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1 mm or less
Allowable static moment	Supported on both ends
	Cantilever
Allowable dynamic moment (*)	Supported on both ends
	Cantilever
Overhang load length	Supported on both ends
	Cantilever
Protective structure	IP65 (with air purge)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(*) Based on 5,000km of traveling life. Direction of allowable load moment.



- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

Dimensional Drawings

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

For Special Orders Appendix P.15



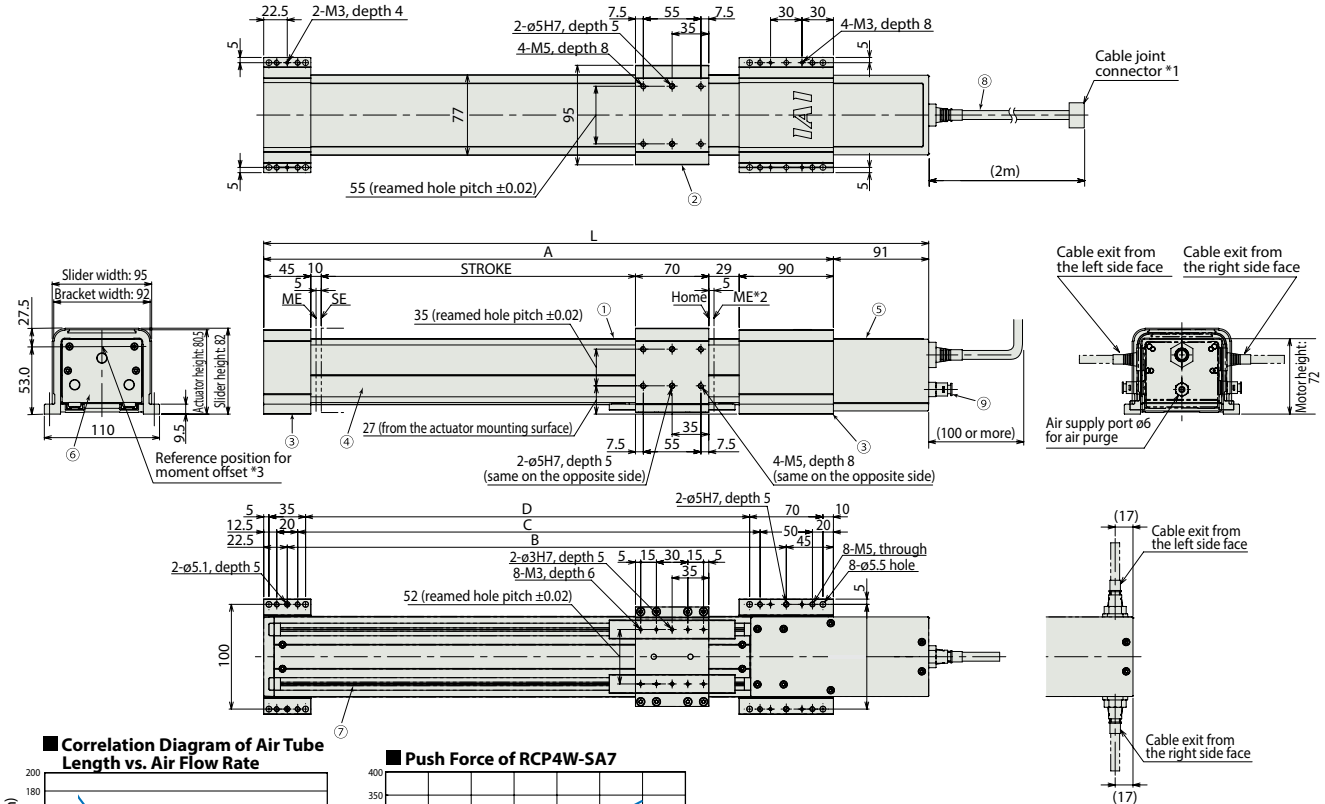
*See Page A-9 for the dimensional drawing for the ceiling mount specification. See Page A-10 for the dimensional drawing for the wall mount specification.

Materials of Main Components

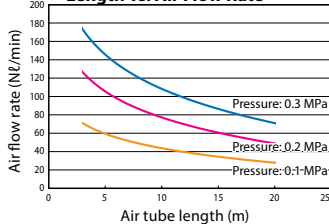
① Base	Extruded aluminum (A6063)	Surface treatment: Alumite coating
② Table	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
③ Mounting bracket (front/rear)	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
④ Side cover	Extruded aluminum (A6063)	Surface treatment: Alumite coating
⑤ Motor cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑥ Front cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑦ Seal	Urethane rubber (U)	
⑧ Actuator cable	Polyvinyl chloride (PVC)	* High flex type cable
⑨ Air purge joint	Polyphenylene sulfide (PPS)	

- (*1) Connect the motor-encoder integrated cable here.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- (*3) Reference position for calculating the moments.

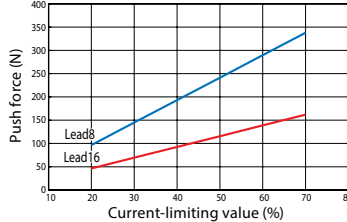
* Alumite coating has been removed in the machined areas of the table ② and mounting bracket ③. To add alumite coating to these areas, specify the "Additional alumite coating (code: AL)" option.



Correlation Diagram of Air Tube Length vs. Air Flow Rate



Push Force of RCP4W-SA7



Note on Push-motion Operation

When performing push-motion operation, make sure the reactive moment generated by the push force does not exceed 80% of the dynamic allowable moment (Ma or Mb) specified in the catalog.

In push-motion operation, the travel speed is fixed at 20 mm/s.

- The above correlation diagram assumes an air tube of 6mm in outer diameter and 4mm in inner diameter. (A joint of 6mm in outer diameter is used on the actuator side.)
- Use the correlation diagram as a reference to determine an appropriate pressure and air tube length in such a way that the air flow rate will become 40 NL/min or more (clean dry air).

Dimensions and Weight by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
L	435	485	535	585	635	685	735	785	835	885	935	985	1035
A	344	394	444	494	544	594	644	694	744	794	844	894	944
B	276.5	326.5	376.5	426.5	476.5	526.5	576.5	626.5	676.5	726.5	776.5	826.5	876.5
C	241.5	291.5	341.5	391.5	441.5	491.5	541.5	591.5	641.5	691.5	741.5	791.5	841.5
D	224	274	324	374	424	474	524	574	624	674	724	774	824
Weight (kg)	5.9	6.2	6.5	6.8	7.1	7.4	7.6	7.9	8.2	8.5	8.8	9.0	9.3

Applicable Controllers

RCP4W series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

(Note) These actuators cannot be operated with controllers other than the PCON-CA.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type		PCON-CA-56PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type		PCON-CA-56PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input type	—				
Field network type		PCON-CA-56PI-①-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				

* ① indicates I/O type (NP/PN). * □ indicates N (NPN specification) or P (PNP specification) symbol * ① indicates field network specification symbol.

RCP4W-RA6C

ROBO Cylinder, Splash-Proof Rod Type, Actuator Width 65mm, 24V Pulse Motor

Model Specification Items	RCP4W — RA6C	I	42P	<input type="checkbox"/>	<input type="checkbox"/>	P3	<input type="checkbox"/>	<input type="checkbox"/>
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental	42P: Pulse motor, size 42 □ 42SP: High-thrust pulse motor, size 42 □	12: 12mm 6: 6mm 3: 3mm	50: 50mm 400: 400mm (50mm pitch increments)	P3: PCON-CA	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below. * If the high-thrust pulse motor is selected, the actuator comes standard with option B (Brake).

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

Built-in Guide Mechanism



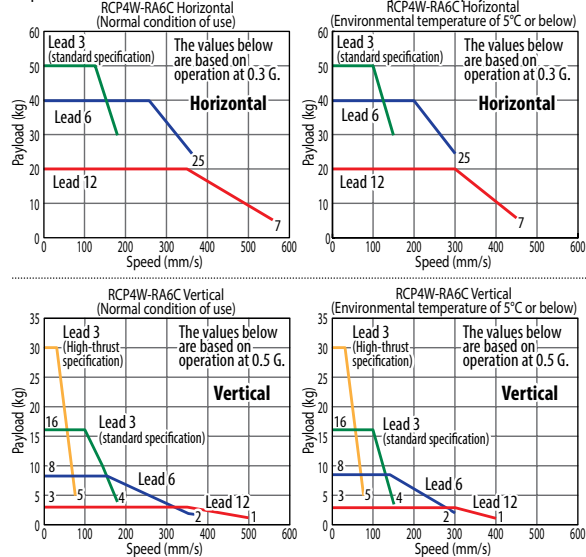
Technical References Appendix P.5



- The maximum payload is the value when operated horizontally and vertically at 0.3G and 0.5G, respectively. Note that raising the acceleration causes the payload to drop. (Refer to page A-108 for the maximum payload by acceleration.)
- The horizontal payload is calculated by assuming that an external guide is also used.
- The high-thrust specification is designed exclusively for vertical operation. It comes standard with a brake.

Speed vs. Load Capacity

Due to its pulse motor characteristics, the RCP4 series provides lower payload at higher speed. Check the tables below to see if the desired speed and payload can be achieved.



Actuator Specifications

Lead and Payload

Model number	Lead (mm)	Maximum payload (kg)		Maximum push force (N)	Positioning repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)			
Standard specification RCP4W-RA6C-I-42P-12-①-P3-②-③	12	20	3	93	±0.02	50 to 400 (Every 50mm)
RCP4W-RA6C-I-42P-6-①-P3-②-③	6	40	8	185		
RCP4W-RA6C-I-42P-3-①-P3-②-③	3	50	16	370		
High-thrust specification RCP4W-RA6C-I-42SP-3-①-P3-②-③-B	3	—	30	590		

Code explanation ① Stroke ② Cable length ③ Options

Stroke and Maximum Speed (Unit: mm/s)

Stroke	Maximum Speed	
	50 (mm)	100 ~ 400 (Every 50mm)
Lead 12	500 [450 <400>]	560 <500> [450 <400>]
Lead 6	360 [300]	
Lead 3	180 [150]	
Lead 3	<70> [<70>]	

*The values in <> apply when the actuator is used vertically.
*The values in [] apply when the actuator is used at an environmental temperature of 5°C or below.

① Stroke

Stroke (mm)	Standard price	
	Standard specification	High-thrust specification
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—

② Cable Length

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

* See page A-59 for cables for maintenance.

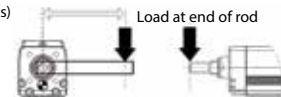
③ Options

Name	Option code		Standard price
Cable exit from the left side face	A1	→ A-41	—
Cable exit from the right side face	A3	→ A-41	—
Cable exit from the top face	AT	→ A-41	—
Brake	B	→ A-42	—
With flange	FL	→ A-45	—
With foot bracket	FT	→ A-48	—
Non-motor side specification	NM	→ A-52	—

Actuator Specifications

Item	Description
Drive method	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Rod	ø22 stainless steel pipe
Rod non-rotation accuracy	±0.1 degrees
Allowable load/allowable torque at end of rod	Refer to the page on the right.
Load offset distance at end of rod	100mm or less
Protective structure	IP67
Ambient operating temperature/ humidity	0 to 40°C, 85% RH or less (Non-condensing)

Offset distance at end of rod (100mm or less)



Dimensional Drawings

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

For Special Orders Appendix P.15

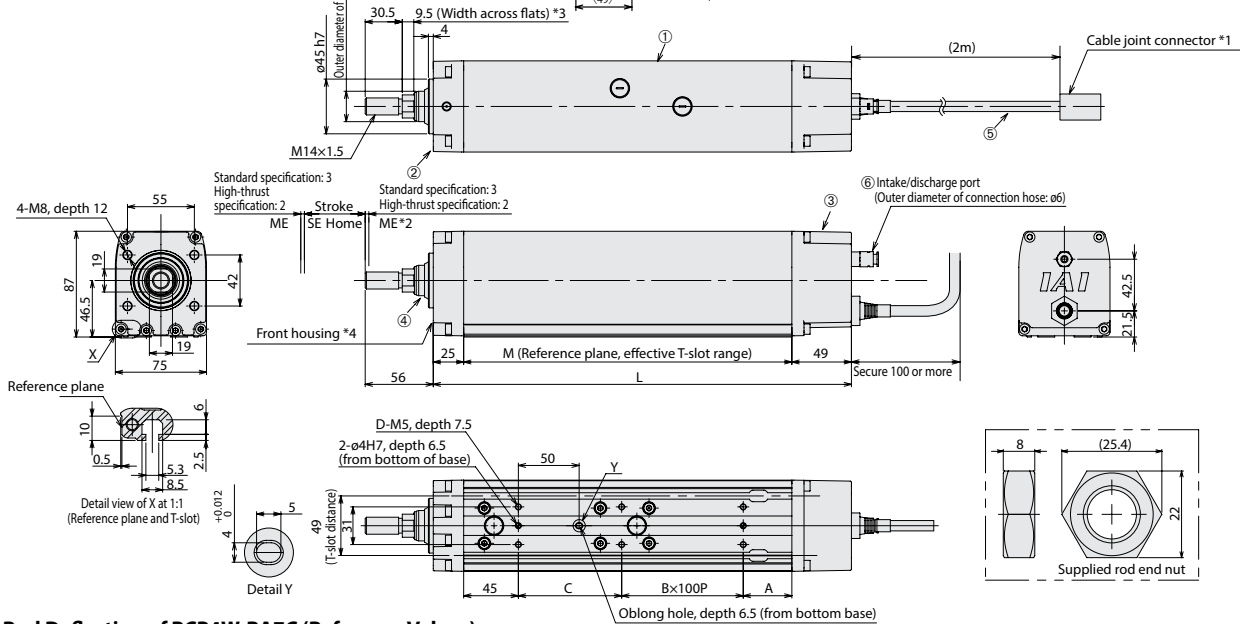
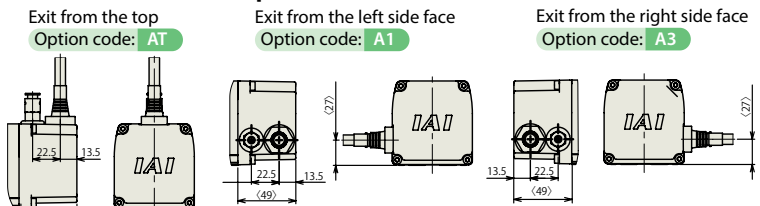


- *1 Connect the motor-encoder integrated cable here.
- *2 The rod moves to the ME during home return, so pay attention to possible contact with surrounding structures and objects.
- *3 The orientation of the bolt varies from one product to another.
- *4 When installing the actuator using the front housing or flange, make sure the actuator does not receive any external force.

Materials of Key Components

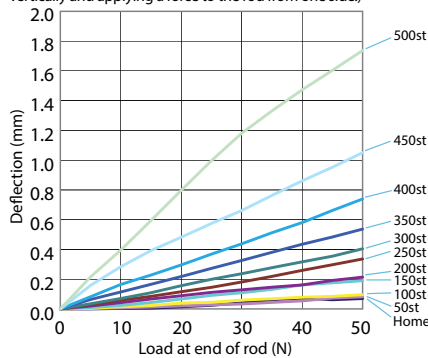
① Frame	Aluminum extrusion material (A6063SS-T5 or equivalent) with white alumite coating
② Front bracket	Aluminum die-cast
③ Rear cover	Aluminum die-cast
④ Rod	Stainless steel pipe (SUS304 or equivalent), polished + hard chrome plated
⑤ Actuator cable	Polyvinyl chloride (PVC)
⑥ Intake/exhaust port	Polyphenylene sulfide (PPS)

<Cable Exit Direction Option>



Rod Deflection of RCP4W-RA7C (Reference Values)

(The graph below plots deflection as measured by installing the actuator vertically and applying a force to the rod from one side.)



Dimensions and Weight by Stroke

Stroke		50	100	150	200	250	300	350	400	450	500
L	Without brake	344	394	444	494	544	594	644	694	744	794
	With brake (*)	399	449	499	549	599	649	699	749	799	849
A	Without brake	40	40	40	40	40	40	40	40	40	40
	With brake (*)	95	95	95	95	95	95	95	95	95	95
B		1	1	2	2	3	3	4	4	5	5
C		85	135	85	135	85	135	85	135	85	135
D		6	6	8	8	10	10	12	12	14	14
M	Without brake	270	320	370	420	470	520	570	620	670	720
	With brake	325	375	425	475	525	575	625	675	725	775
Allowable static load at end of rod (N)		112.7	91.5	76.7	65.7	57.2	50.4	44.8	40.2	36.2	32.7
Allowable dynamic load at end of rod (N)		49.0	37.4	29.9	24.5	20.4	17.1	14.5	12.3	10.3	8.6
Allowable static torque at end of rod (N-m)		11.4	9.3	7.9	6.8	6.0	5.4	4.9	4.5	4.1	3.8
Allowable dynamic torque at end of rod (N-m)		3.9	3.1	2.5	2.1	1.8	1.5	1.3	1.1	1.0	0.8
Weight (kg)	Without brake	5.6	6.1	6.6	7.2	7.7	8.2	8.7	9.2	9.7	10.2
	With brake	6.4	6.9	7.4	7.9	8.4	9.0	9.5	10.0	10.5	11.0

(*) The dimensions of the high-thrust specification include the brake.

Applicable Controller

RCP4W series actuators can be operated with the controller indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input Power	Power supply capacity	Standard price	Reference page
Positioner type		PCON-CA-56PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	-	Refer to P607
Pulse-train type		PCON-CA-56PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	-				
Field network type		PCON-CA-56PI-②-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Positioner type		PCON-CFA-56SPI-①-2-0	High-thrust specification Positioner type based on PIO control	512 points	DC24V	Refer to P618	-	Refer to P607
Pulse-train type		PCON-CFA-56SPI-PL□-2-0	High-thrust specification Pulse-train input type	-				
Field network type		PCON-CFA-56SPI-②-0-0	High-thrust specification Supporting 7 major field networks	768 points				

* ① indicates I/O type (NP/PN). * □ indicates N (NPN specification) or P (PNP specification) symbol * ② indicates field network specification symbol.

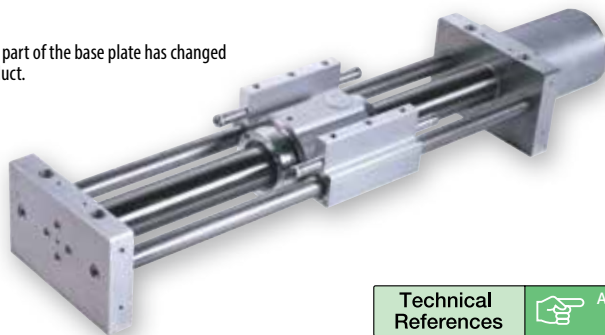
RCP2W-SA16C

ROBO Cylinder, Water-Proof Slider Type, Actuator Width 158mm, Pulse Motor, Coupled

Model Specification Items	RCP2W — SA16C — I — 86P — <input type="checkbox"/> — <input type="checkbox"/> — P4 — <input type="checkbox"/> — <input type="checkbox"/>
Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options	I: Incremental 86P: Pulse motor, 56□ High Output 8 : 8mm 4 : 4mm 50: 50mm 600: 600mm (50mm pitch increments) P4: PCON-CFA N: None P: 1m S: 3m M: 5m X□□: Custom Length R□□: Robot cable CO : With cover NM: Non-motor end

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

* Please note that a part of the base plate has changed on the actual product.

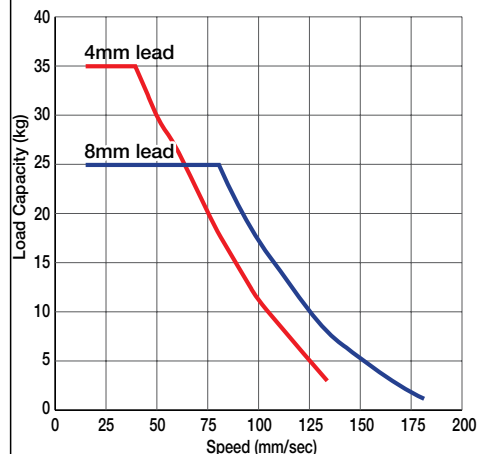


Technical References Appendix P.5

- POINT** Notes on selection
- (1) The actuator is limited to being installed horizontally. Please note that it cannot be horizontally wall mounted, vertically mounted, or ceiling mounted. (The same goes for storage.)
 - (2) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
 - (3) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
 - (4) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit for the acceleration.
 - (5) Push motion operation is not supported by this actuator.
 - (6) The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.

Speed vs. Load Capacity

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



Actuator Specifications

Lead and Payload

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

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2W-SA16C-I-86P-8-①-P4-②-③	8	~25	Not Allowed	50~600 (every 50mm)
RCP2W-SA16C-I-86P-4-①-P4-②-③	4	~35		

Stroke and Maximum Speed

Lead	Stroke	50~600 (every 50mm)
	8	180
4	133	

Code explanation ① Stroke ② Cable length ③ Options *Push motion operation is not supported by this actuator. (Unit: mm/s)

① Stroke

① Stroke (mm)	Standard price	
	Without cover	With cover
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—

③ Options

Name	Option code	See page	Standard price
With cover	CO	→ A-43	—
Non-motor end specification	NM	→ A-52	—

② Cable Length

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

* See page A-59 for cables for maintenance.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø12mm, rolled C10
Positioning repeatability	±0.08mm
Lost Motion	0.7mm or less
Guide	ø20 Non-lubricated linear sliding guide
Allowable static load moment	20.0N·m
Allowable overhang	Ma direction 200mm or less
Protective structure	IP67
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

Note

A dynamic moment isn't applicable for the SA16C for structural reasons. When an object is to be mounted on the slider, please fix it in a manner so that no moment load is applied in the direction Mb or Mc, and so that the load is distributed evenly.

Dimensional Drawings

CAD drawings can be downloaded from the website.

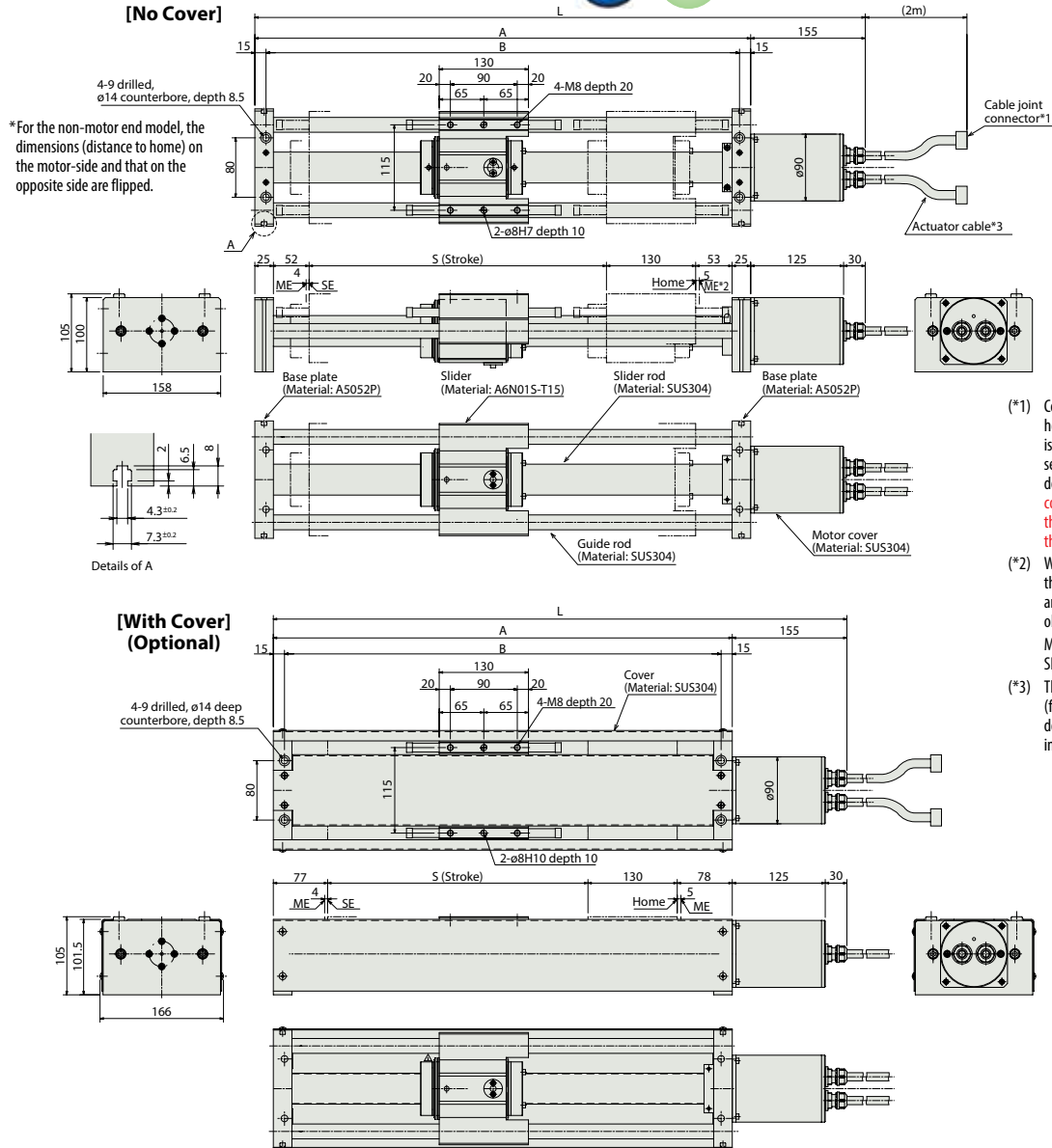
www.intelligentactuator.com



For Special Orders



Appendix P.15



- (*1) Connect the motor and encoder cables here. Please note that the motor cable is the same as the one in the RCP2 series, but that the encoder cable is a dedicated type. *The cable joint connector is not splash-proof; therefore, please secure it in a place that is not prone to water spills.
- (*2) When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end
SE: Stroke end
- (*3) The actuator cable is not a robot cable (flex resistant cable); therefore, please don't use it for movable parts such as in a cable track.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	490	540	590	640	690	740	790	840	890	940	990	1040
A	335	385	435	485	535	585	635	685	735	785	835	885
B	305	355	405	455	505	555	605	655	705	755	805	855
S	50	100	150	200	250	300	350	400	450	500	550	600
Weight without cover (kg)	9	9.4	9.9	10.4	10.9	11.3	11.8	12.3	12.7	13.2	13.7	15.1
Weight with cover (kg)	10.5	11.1	11.8	12.5	13.2	13.8	14.6	15.3	15.9	16.6	17.3	18.9

Applicable Controllers

The controller for the RCP2W-SA16C type is a dedicated controller.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner Type		PCON-CFA-86PI-①-2-0	Positioning is possible for up to 512 points	512 points	DC24V	6A max.	—	→ P607

*① indicates I/O type.

Note: • Please note that the encoder cable is a dedicated CFA-type cable. (See page A-59.)
• Note that a simple absolute unit cannot be used.

RCP2W-RA4C

ROBO Cylinder, Splash-Proof Rod Type, Actuator Width 45mm, Pulse Motor, Coupled

Model Specification Items	RCP2W — RA4C	I	42P	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental *The Simple absolute encoder is also considered type "I".	42P: Pulse motor, 42□ size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50: 50mm ? 300: 300mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA MSEP PMEC/PSEP	N: None P: 1m S: 3m M: 5m X□: Custom Length R□: Robot cable	B : Brake FL : With flange FT : With foot bracket NM : Non-motor end

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



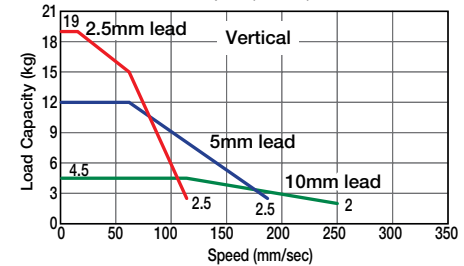
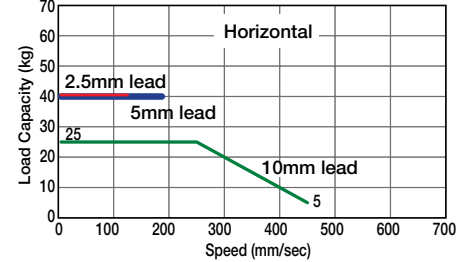
Technical References Appendix P.5



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph on the above right to see if your desired speed and load capacity are supported.
- The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit for the acceleration.
- The horizontal payload is calculated by assuming that an external guide is also used.
- The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.
- See page A-71 for details on push motion.

Speed vs. Load Capacity

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



Actuator Specifications

Lead and Payload

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

Stroke and Maximum Speed

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2W-RA4C-I-42P-10-①-②-③-④	10	~25	~4.5	150	50~300 (every 50mm)
RCP2W-RA4C-I-42P-5-①-②-③-④	5	40	~12	284	
RCP2W-RA4C-I-42P-2.5-①-②-③-④	2.5	40	~19	358	

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

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

① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—

③ Cable Length

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

* See page A-59 for cables for maintenance.

④ Options

Name	Option code	See page	Standard price
With cover	B	→ A-42	—
With flange	FL	→ A-45	—
With foot bracket	FT	→ A-48	—
Non-motor end specification	NM	→ A-52	—

Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod diameter	ø22mm
Rod non-rotational accuracy	±1.5 degrees
Protective structure	IP65
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

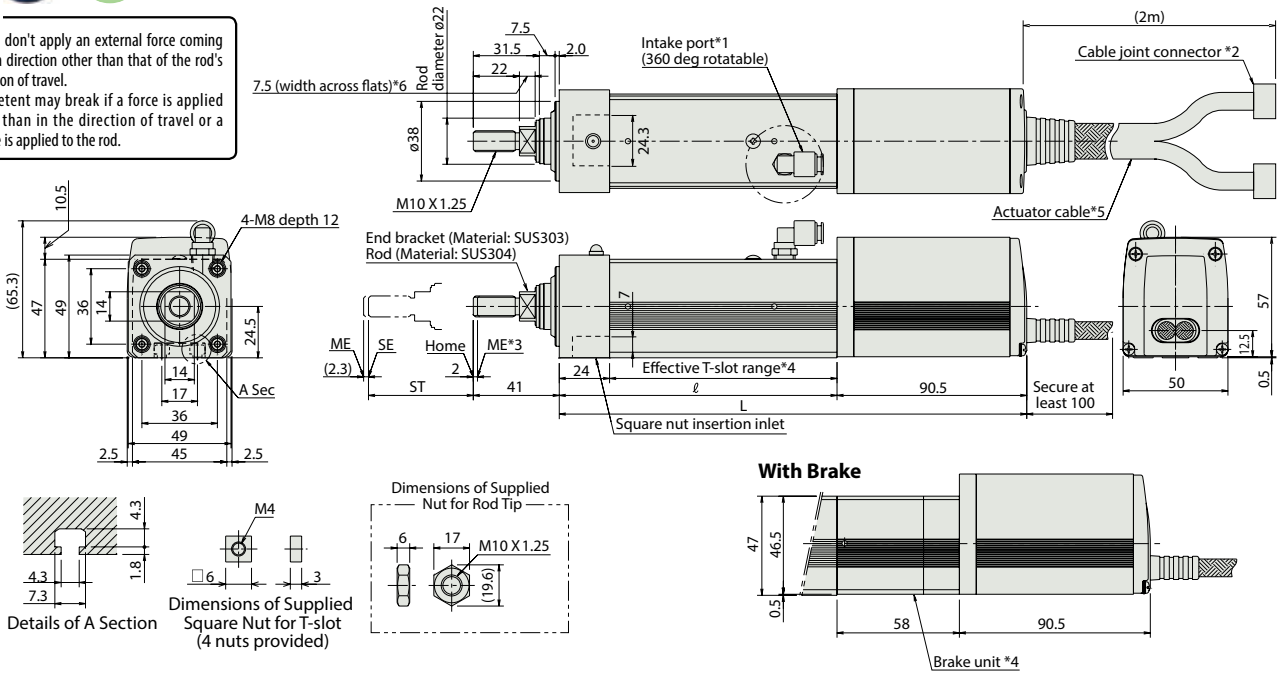
Dimensional Drawings

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

For Special Orders Appendix P.15



Note
Please don't apply an external force coming from a direction other than that of the rod's direction of travel.
The detent may break if a force is applied other than in the direction of travel or a torque is applied to the rod.



- (*1) Intake/exhaust port is the air exhaust tube in the main body. Insert OD ø6 mm tube and use it extended to a place that is not prone to water spills or intake.
- (*2) Connect the motor and encoder cables here. See page A-59 for details on cables.
The cable joint connector is not splash-proof; therefore, please secure it in a place that is not prone to water spills.
- (*3) When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical End
SE: Stroke end
The dimensions enclosed in "()" are reference dimensions.
- (*4) Please note that there is no T-slot in the bottom of brake unit.
- (*5) The actuator cable is not a robot cable (flex resistant cable); therefore, please don't use it for movable parts such as cable track.
- (*6) The orientation of the bolt varies depending on the product.

* Adding a brake increases overall length by 58mm and its weight by 0.4kg.

■ Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300
ℓ	132.5	182.5	232.5	282.5	332.5	382.5
L	223	273	323	373	423	473
Weight (kg)	1.9	2.1	2.2	2.5	2.9	3.1

② Applicable Controllers

RCP2W series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	DC24V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve			Refer to P555	—	→ P547
Solenoid valve multi-axis type PIO specification	MSEP-C-③-④-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	Refer to P572		—	→ P563	
Solenoid valve multi-axis type Network specification	MSEP-C-③-④-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected		Refer to P618		—	→ P607	
Positioner type High-output specification	PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control				512 points	—	—
Pulse-train type High-output specification	PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)			—	—	
Field network type High-output specification	PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points	Refer to P628		—	→ P623	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)		Refer to P671	—	—
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support				—	—
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	Refer to P671		—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	Refer to P671	—	→ P665	

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

RCP2W-RA6C

ROBO Cylinder, Splash-Proof Rod Type, Actuator Width 64mm, Pulse Motor, Coupled

Model Specification Items	RCP2W — RA6C	I	56P	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental *The Simple absolute encoder is also considered type "I".	56P: Pulse motor, 56□ size	16: 16mm 8 : 8mm 4 : 4mm	50: 50mm ? 300: 300mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA MSEP PMEC/PSEP	N: None P: 1m S: 3m M: 5m X□□: Custom Length R□□: Robot cable	B : Brake FL : With flange FT : With foot bracket NM : Non-motor end

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



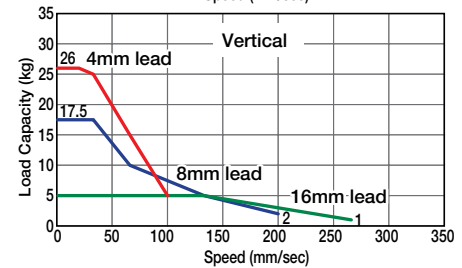
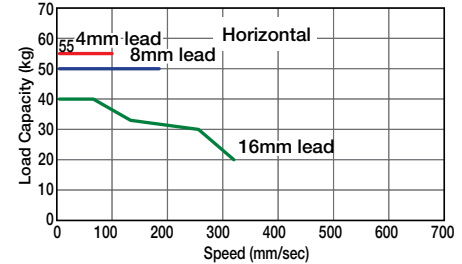
Technical References Appendix P.5



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph on the above right to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.2G. 0.2G is the upper limit for the acceleration.
- (4) The horizontal payload is calculated by assuming that an external guide is also used.
- (5) The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.
- (6) See page A-71 for details on push motion.

Speed vs. Load Capacity

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



Actuator Specifications

Lead and Payload

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

Stroke and Maximum Speed

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N) (Note 2)	Stroke (mm)	Stroke and Maximum Speed	
		Horizontal (kg)	Vertical (kg)			Stroke Lead	50~300 (every 50mm)
RCP2W-RA6C-I-56P-16-①-②-③-④	16	~40	~5	240	50~300 (every 50mm)	16	320 <265>
RCP2W-RA6C-I-56P-8-①-②-③-④	8	50	~17.5	470		8	200
RCP2W-RA6C-I-56P-4-①-②-③-④	4	55	~26	800		4	100

Code explanation ① Stroke ② Applicable controller ③ Cable length ④ Options *See page A-71 for details on push motion. *The values enclosed in < > apply to vertical settings. (Unit: mm/sec)

① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—

③ Cable Length

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

* See page A-59 for cables for maintenance.

④ Options

Name	Option code	See page	Standard price
With cover	B	→ A-42	—
With flange	FL	→ A-45	—
With foot bracket	FT	→ A-48	—
Non-motor end specification	NM	→ A-52	—

Actuator Specifications

Item	Description
Drive System	Ball screw, ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod diameter	ø30mm
Rod non-rotational accuracy	±1.0 degrees
Protective structure	IP65
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

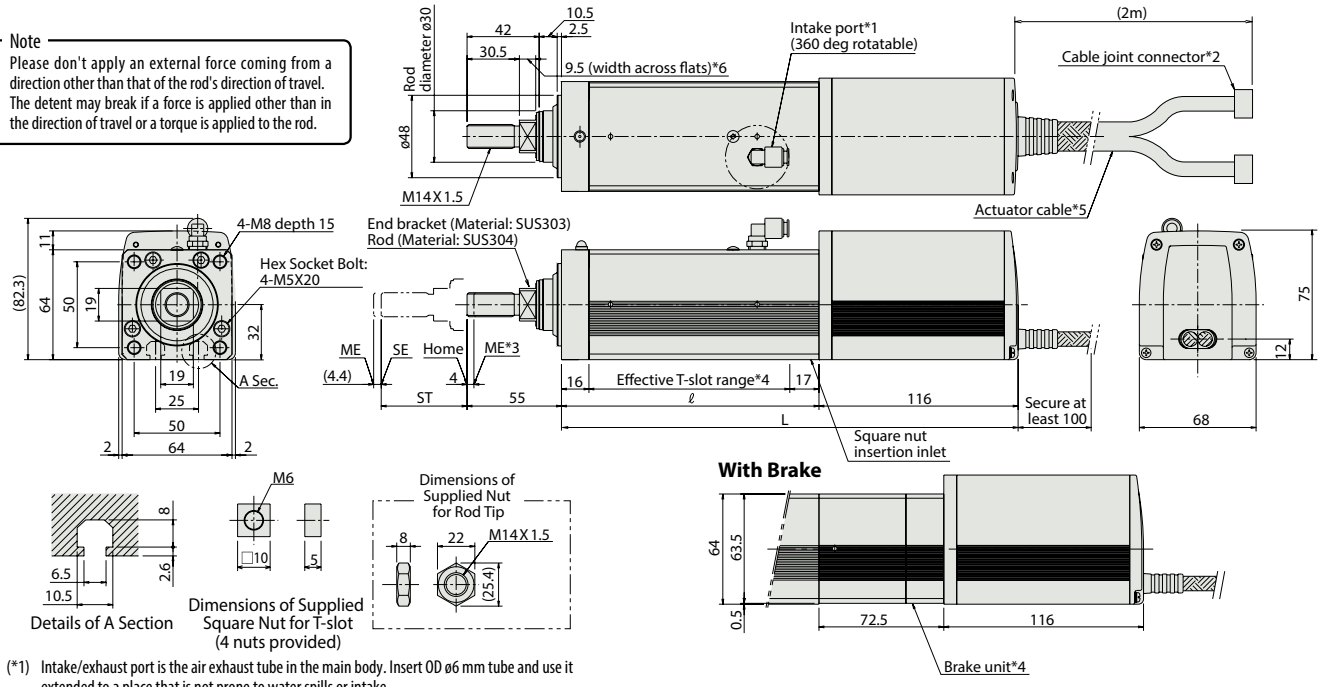
Dimensional Drawings

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

For Special Orders Appendix P.15



Note
Please don't apply an external force coming from a direction other than that of the rod's direction of travel. The detent may break if a force is applied other than in the direction of travel or a torque is applied to the rod.



- (*1) Intake/exhaust port is the air exhaust tube in the main body. Insert OD ø6 mm tube and use it extended to a place that is not prone to water spills or intake.
- (*2) Connect the motor and encoder cables here. See page A-59 for details on cables.
The cable joint connector is not splash-proof; therefore, please secure it in a place that is not prone to water spills.
- (*3) When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical End
SE: Stroke end
The dimensions enclosed in "()" are reference dimensions.
- (*4) Please note that there is no T-slot in the bottom of brake unit.
- (*5) The actuator cable is not a robot cable (flex resistant cable); therefore, please don't use it for movable parts such as cable track.
- (*6) The orientation of the bolt varies depending on the product.

*Adding a brake increases overall length by 72.5mm and its weight by 0.9kg.

■ Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300
ℓ	1350	200	250	300	350	400
L	266	316	366	416	466	516
Weight (kg)	3.5	4.0	4.5	5.0	5.5	6.0

② Applicable Controllers

RCP2W series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page									
Solenoid Valve Type		PMEC-C-56PI-①-2-②	Easy-to-use controller, even for beginners	3 points	DC24V	Refer to P541	—	→ P537									
		PSEP-C-56PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547									
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points				DC24V	Refer to P572	—	→ P563						
		MSEP-C-③-④-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected								→ P563						
Positioner type High-output specification		PCON-CA-56PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points							DC24V	Refer to P618	—	→ P607			
Pulse-train type High-output specification		PCON-CA-56PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)													
Field network type High-output specification		PCON-CA-56PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points													
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-①-2-0	Pulse train input type with differential line driver support	(—)										DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-①-2-0	Pulse train input type with open collector support														
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated Serial Communication	64 points													DC24V
Program Control Type		PSEL-CS-1-56PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points													

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

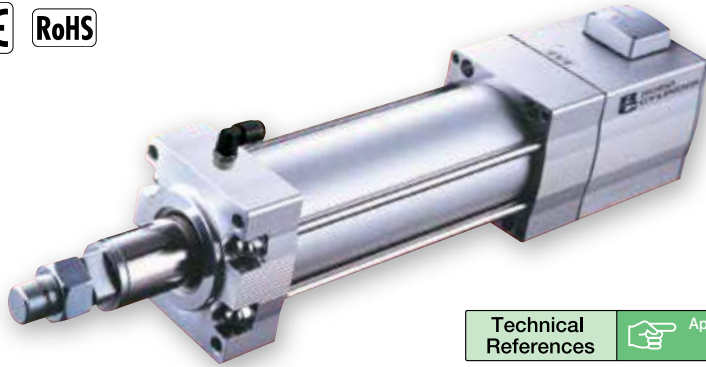
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

RCP2W-RA10C

ROBO Cylinder, High-Thrust Dust-Proof Rod Type, Actuator Width 100mm, Pulse Motor, Coupled

Model Specification Items	RCP2W — RA10C — I — 86P	—	—	—	—	—	P4	—	—	—	
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options			
		I: Incremental Type	86P: Pulse motor, 86□ size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50: 50mm 300: 300mm (50mm pitch increments)	P4: PCON-CFA	N: None P: 1m S: 3m M: 5m X□□: Custom Length R□□: Robot cable	A1~A3: Connector Cable Cable outlet direction changed B: Brake FL: With flange FT: With foot bracket			

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



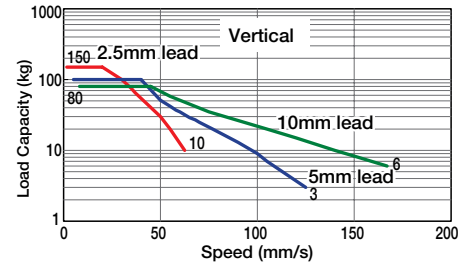
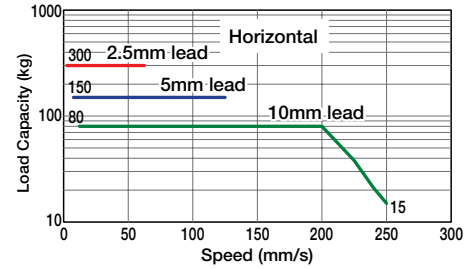
Technical References Appendix P.5



- Minimum speed is set for each lead. (Lead 10: 10mm/s, Lead 5: 5mm/s, Lead 2.5: 1mm/s) Please note that vibration etc. may occur when operated at the minimum speed.
- Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check the Speed vs. Load Capacity on the right hand graph to see if your desired speed and load capacity are supported.
- The load capacity is based on operation at lead 10: 0.04G, lead 5: 0.02G and lead 2.5: 0.01G. These values are the upper limits for the acceleration. Also, this is when the load capacity is attached to the external guide. The rotation stopper may break if an external force coming from a direction other than that of rod's direction of travel is applied.
- The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.
- See page A-71 for details on push motion.

Speed vs. Load Capacity

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



Actuator Specifications

Lead and Payload

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

Stroke and Maximum Speed

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N) (Note 2)	Stroke (mm)	Stroke and Maximum Speed	
		Horizontal (kg)	Vertical (kg)			Stroke Lead	50~300 (every 50mm)
RCP2W-RA10C-I-86P-10-①-P4-②-③	10	~80	~80	1500	50~300 (every 50mm)	10	250 <167>
RCP2W-RA10C-I-86P-5-①-P4-②-③	5	150	~100	3000		5	125
RCP2W-RA10C-I-86P-2.5-①-P4-②-③	2.5	300	~150	6000		2.5	63

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

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

① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—

② Cable Length

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

* See page A-59 for cables for maintenance.

③ Options

Name	Option code	See page	Standard price
Connector cable outlet direction changed	A1~A3	→ A-41	—
Brake	B	→ A-42	—
With flange	FL	→ A-46	—
With foot bracket	FT	→ A-48	—

Actuator Specifications

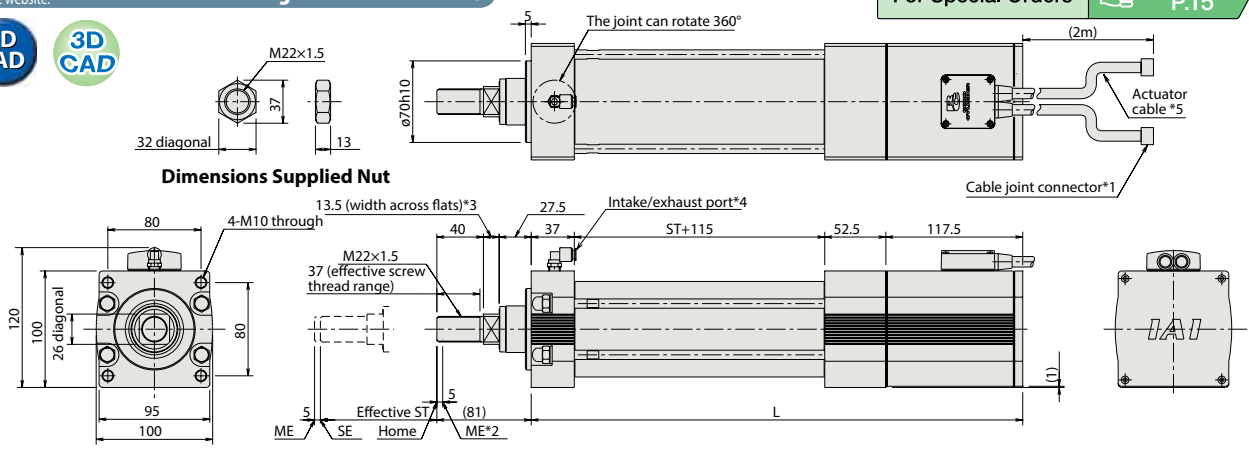
Item	Description
Drive System	Ball screw, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod diameter	ø40mm
Rod non-rotational accuracy	±1.0 degrees
Protective structure	IP54
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

Dimensional Drawings

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

For Special Orders Appendix P.15

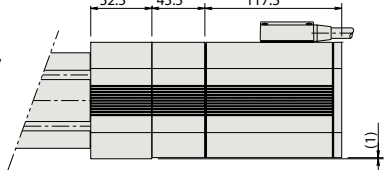


* Please note that reversed home position is unavailable for the RA10C type for structural reasons.

- (*1) Connect the motor and encoder cables here. Please note that motor cable is the same as the one in the RCP2 series, but that the encoder cable is a dedicated type. See page A-59 for details on cables. **The cable joint connector is not splash-proof; therefore, please secure it in a place that is not prone to water spills.**
- (*2) When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end
SE: Stroke end
The dimensions enclosed in "()" are reference dimensions.
- (*3) The direction of bolt will vary depending on the product.
- (*4) Intake/exhaust port is the air exhaust tube in the main body. Insert OD $\phi 6$ mm tube and use it extended to a place that is not prone to water spills or intake.
- (*5) The actuator cable is not a robot cable (flex resistant cable); therefore, please don't use it for movable parts such as cable track.

* Compared to the standard model, the brake-equipped model is longer by 45.5mm and heavier by 1.5kg.

Dimensions of the Brake Section



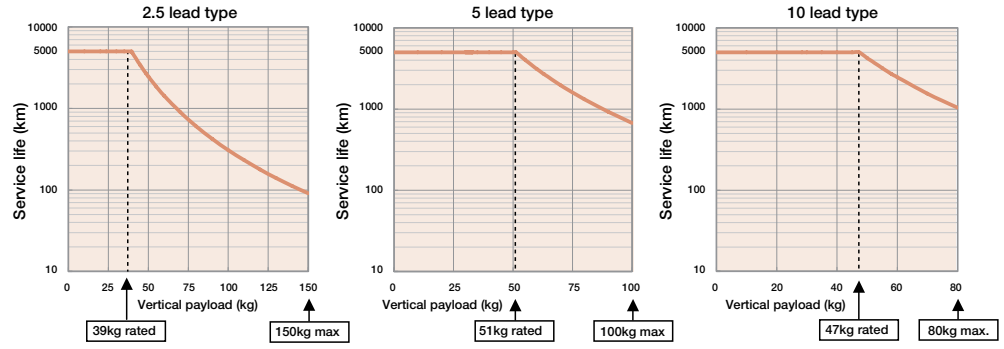
Dimensions and Weights by Stroke

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

Vertical Payload and Service Life

The service life of a rod-type ROBO Cylinder is 5,000km. However, since the RCP2W-RA10C has a larger maximum thrust compared to other types, its service life will largely depend on the load capacity and pushing force used. Therefore, when selecting your product using the Speed vs. Load Capacity, or Pushing Force vs. Current Limit graphs, check the service life using the Load Capacity vs. Load Capacity, and Pushing Force vs. Load Capacity graphs.

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



Applicable Controllers

The controller for the RCP2W-RA10C type is a dedicated controller.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner Type		PCON-CFA-86PI-①-2-0	Positioning is possible for up to 512 points	512 points	DC24V	6A max.	—	→ P607

* ① indicates I/O type.

Note: • Please note that the encoder cable is a dedicated CFA-type cable. (See page A-59.)
• Note that a simple absolute unit cannot be used.

RCP2W-GRSS

ROBO Cylinder, 2-Finger Gripper, Mini Slider Type, Actuator Width 42mm, Pulse Motor

Model Specification Items	RCP2W — GRSS — I — 20P — 30 — 8 —	Applicable controller	Cable length	Options
	Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke —	P1: PCON-PL/PO/SE PSEL P3: PCON-CA MSEP PMEC/PSEP	N: None P: 1m S: 3m M: 5m X□□: Custom Length	NM: Non-motor end FB : Flange bracket SB : Shaft bracket

I: Incremental
*The Simple absolute encoder is also considered type "I".
20P: Pulse motor, 20□ size
30: 1/30 deceleration ratio
8: 8mm (4mm per side)

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

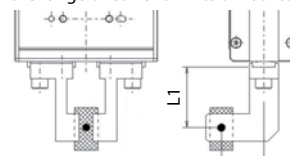


Technical References Appendix P.5

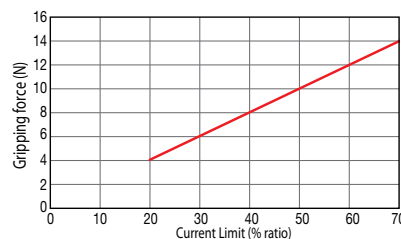
- POINT** Notes on selection
- The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
 - The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
 - The rated acceleration while moving is 0.3G.
 - Please note that the product has no splash-proof function.

Gripping Force Adjustment

The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



- * Operate with the L1 distance up to 40mm.
- * The gripping force value in the graph below is when both L1 and L2 are at 0 mm. (For gripping force reference per L1 distance, see page A-87.) The gripping force value is the sum of gripping forces of both fingers.



- * The gripping force graph above shows the number of references. Please allow margins up to ± 15%.
- * Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

Actuator Specifications

Lead and Payload

Model number	Deceleration Ratio	Maximum Gripping Force (N)	Stroke (mm)
RCP2W-GRSS-I-20P-30-8-①-②-③	30	14 (7 per side)	8 (4 per side)

Code explanation ① Applicable controller ② Cable length ③ Options

Stroke and Maximum Speed

Deceleration ratio	Stroke	8 (mm)
	30	78

(Unit: mm/s)

Stroke

Stroke (mm)	Standard price
8	—

② Cable Length

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

- * The standard cable is the motor-encoder integrated robot cable.
- * See page A-59 for cables for maintenance.

③ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—
Flange bracket	FB	→ A-43	—
Shaft bracket	SB	→ A-55	—

Actuator Specifications

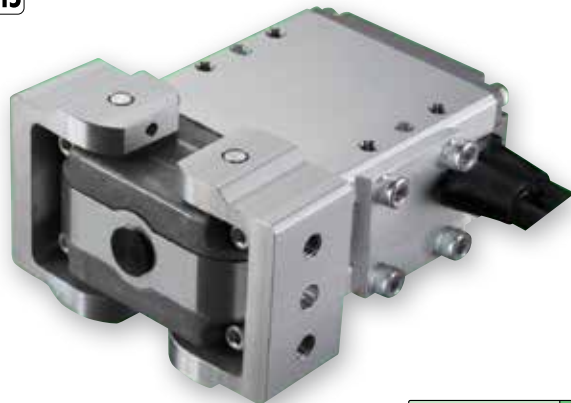
Item	Description
Drive System	Worm gear + helical gear + helical rack
Positioning repeatability	±0.01mm
Backlash	0.2mm or less per side (constantly pressed out by a spring)
Lost motion	0.05mm or less per side
Guide	Linear guide
Allowable static load moment	Ma: 0.5 N·m, Mb: 0.5 N·m, Mc: 1.5 N·m
Weight	0.2kg
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

RCP2W-GRLS

ROBO Cylinder, 2-Finger Gripper, Mini Lever Type, Actuator Width 42mm, Pulse Motor,

Model Specification Items	RCP2W — GRLS — I — 20P — 30 — 180 —			
	Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — Applicable controller — Cable length — Options	I: Incremental * The Simple absolute encoder is also considered type "I".	20P: Pulse motor, 20□ size	30: 1/30 deceleration ratio
		P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom Length	NM: Non-motor end FB: Flange bracket SB: Shaft bracket

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

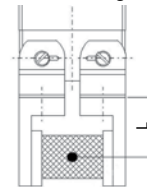


Technical References Appendix P.5

- POINT**
Notes on selection
- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
 - (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
 - (3) The rated acceleration while moving is 0.3G.
 - (4) Please note that the product has no splash-proof function.

Gripping Force Adjustment

The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* The gripping force of the graph below is measured on the top face of the lever. The actual gripping force drops in inverse proportion to the distance from the opening/closing fulcrum. Calculate the effective gripping force using the formula below.

$$\text{Effective gripping force (GRLS)} = F \times 15.5 / (L + 15.5)$$

* In the graph below, the gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows the number of references. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5 degrees/s.

Actuator Specifications

Lead and Payload

Model number	Deceleration Ratio	Maximum Gripping Force (N)	Stroke (degrees)
RCP2W-GRLS-I-20P-30-180-①-②-③	30	6.4 (3.2 per side)	180 (90 per side)

Code explanation ① Applicable controller ② Cable length ③ Options

Stroke and Maximum Speed

Deceleration ratio	Stroke	180 (degrees)
	30	600

(Unit: degree/s)

Stroke

Stroke (degrees)	Standard price
180	—

② Cable Length

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

* The standard cable is the motor-encoder integrated robot cable.
* See page A-59 for cables for maintenance.

③ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—
Flange bracket	FB	→ A-43	—
Shaft bracket	SB	→ A-55	—

Actuator Specifications

Item	Description
Drive System	worm gear + helical gear
Positioning repeatability	±0.01mm
Backlash	1 degree or less per side (constantly pressed out by a spring)
Lost motion	0.1 deg (per side) or less
Guide	—
Allowable static load moment	—
Weight	0.2kg
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

RCAW-RA3C/RA3D/RA3R

Robo Cylinder, Splash-Proof Rod Type, ø32mm Diameter, 24V Servo Motor, Coupled/Built-In/Side-Mounted Motor Specification

Model Specification Items	RCAW — <input type="checkbox"/> — I — 20 — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	RA3C: Coupled type	I: Incremental	20: 20W Servo motor	10: 10mm	50: 50mm	A1: ACON	N: None	See Options below.		
	RA3D: Built-in	* The Simple absolute encoder is also considered type "I".	5: 5mm	200: 200mm (50mm pitch increments)	A3: AMEC	P: 1m				
	RA3R: Side-mounted motor		2.5: 2.5mm		A5EP	S: 3m				
						MSEP	M: 5m			
							X□□: Custom Length			
							R□□: Robot Cable			

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



Power-saving



Technical References Appendix P.5

* Please note that the bellows shape has some change from the photo above.



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operating the standard and power-saving models at 0.3G (0.2G for 2.5mm lead model). These values are the upper limits for the acceleration.
- (3) Please use external guide combination for horizontal load capacity; the value is for when no external force coming from a direction other than that of rod's direction of travel is applied.
- (4) The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.
- (5) See page A-71 for details on push motion.

Actuator Specifications

Lead and Payload

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCAW-①-I-20-10-②-③-④-⑤	20	10	4	1.5	36.2	50~200 (every 50mm)
RCAW-①-I-20-5-②-③-④-⑤		5	9	3	72.4	
RCAW-①-I-20-2.5-②-③-④-⑤		2.5	18	6.5	144.8	

Stroke and Maximum Speed

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

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

(Unit: mm/s)

Encoder / ② Stroke

② Stroke (mm)	Standard price		
	RA3C	RA3D	RA3R
50	—	—	—
100	—	—	—
150	—	—	—
200	—	—	—

④ Cable Length

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

* See page A-59 for cables for maintenance.

⑤ Options

Name	Option code	See page	Standard price
Brake (*1)	B	→ A-42	—
Flange bracket	FL	→ A-45	—
Foot bracket (front)	FT	→ A-49	—
Home sensor (*2)	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Knuckle joint	NJ	→ A-53	—
Non-motor end specification (*2)	NM	→ A-52	—
Clevis bracket (*3)	QR	→ A-53	—
Rear mounting plate (*3)	RP	→ A-54	—
Trunnion bracket (front) (*4)	TRF	→ A-57	—
Trunnion bracket (rear) (*4)	TRR	→ A-58	—

(*1) No brake option for RA3D.
 (*2) The home sensor (HS) cannot be used on the Non-motor end models (NM).
 (*3) Clevis bracket and rear mounting plate only available for RA3R.
 (*4) Trunnion bracket (rear) only available for RA3C/RA3D.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Rod diameter	ø16mm
Non-rotating accuracy of rod	±1.0 deg
Protection structure	IP54
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

Dimensional Drawings

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

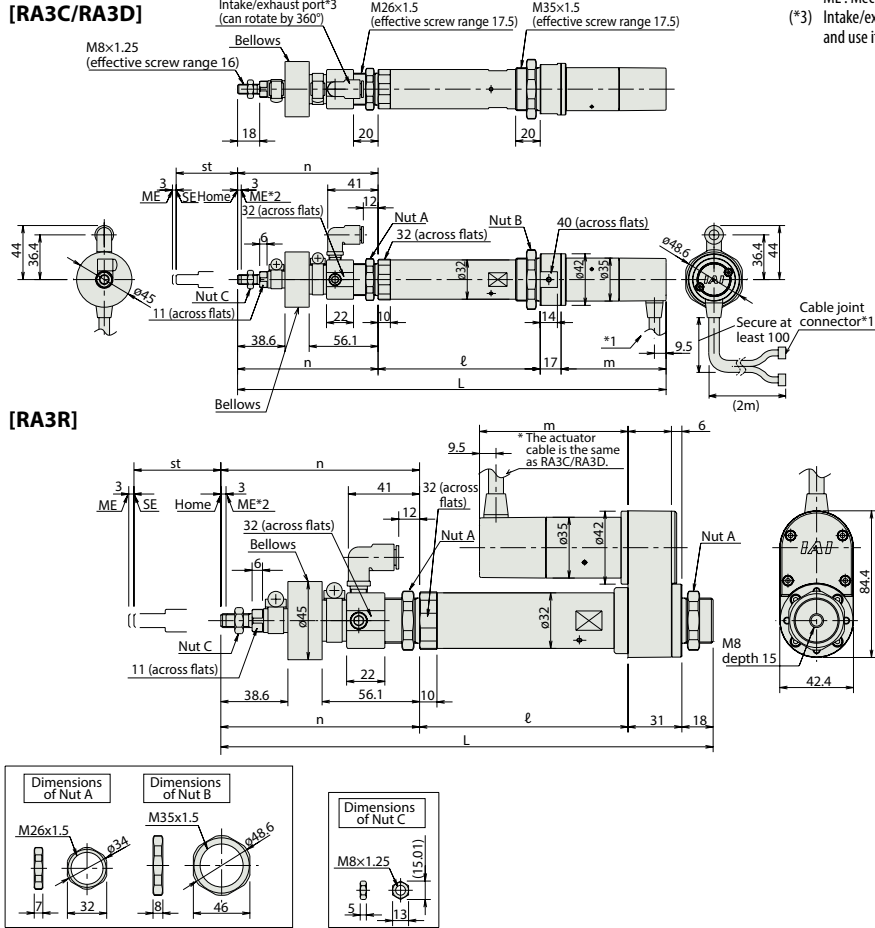


(Note) No 3D CAD data for RA3D type.

For Special Orders Appendix P.15

- (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
ME : Mechanical end SE : Stroke end
- (*3) Intake/exhaust port is the air exhaust tube in the main body. Insert Ø10 mm tube and use it extended to a place that is not prone to water spills or intake.

Note
Please don't apply an external force coming from a direction other than that of the rod's direction of travel.
The detent may break if a force is applied other than in the direction of travel or a torque is applied to the rod.



Dimensions and Weight by Stroke

RCAW-RA3C/RA3D/RA3R (without brake)

Stroke	50	100	150	200	
L	RA3C	348.9	408.9	468.9	528.9
	RA3D	329.9	389.9	449.9	509.9
	RA3R	283.4	343.4	403.4	463.4
ℓ	RA3C	132	182	232	282
	RA3D	132	182	232	282
	RA3R	120	170	220	270
m	RA3C	85.5			
	RA3D	66.5			
	RA3R	85.5			
n	RA3C	114.4	124.4	134.4	144.4
	RA3D	114.4	124.4	134.4	144.4
	RA3R	114.4	124.4	134.4	144.4
Weight (kg)	RA3C	1.0	1.1	1.2	1.3
	RA3D	1.0	1.1	1.2	1.3
	RA3R	1.1	1.2	1.3	1.4

RCAW-RA3C/RA3D/RA3R (with brake)

Stroke	50	100	150	200	
L	RA3C	387.9	447.9	507.9	567.9
	RA3D	No brake-equipped model.			
	RA3R	283.4	343.4	403.4	463.4
ℓ	RA3C	132	182	232	282
	RA3D	No brake-equipped model.			
	RA3R	120	170	220	270
m	RA3C	124.5			
	RA3D	No brake-equipped model.			
	RA3R	124.5			
n	RA3C	114.4	124.4	134.4	144.4
	RA3D	No brake-equipped model.			
	RA3R	114.4	124.4	134.4	144.4
Weight (kg)	RA3C	1.2	1.3	1.4	1.5
	RA3D	1.2	1.3	1.4	1.5
	RA3R	1.3	1.4	1.5	1.6

Applicable Controllers

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

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20SI①-①-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20SI①-①-2-0	Simple controller operable with the same signal as a solenoid valve					
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.7A rated 5.1A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20SI①-①-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-20SI①-①-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI①-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20SI①-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P675
Program Control Type		ASEL-CS-1-20SI①-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P675

* This is for the single-axis ASEL.
 * ① indicates I/O type (NP/PN).
 * Enter the code "LA" in ① when the power-saving specification is specified.
 * ③ indicates number of axes (1 to 8).
 * ④ indicates field network specification symbol.

RCAW-RA4C/RA4D/RA4R

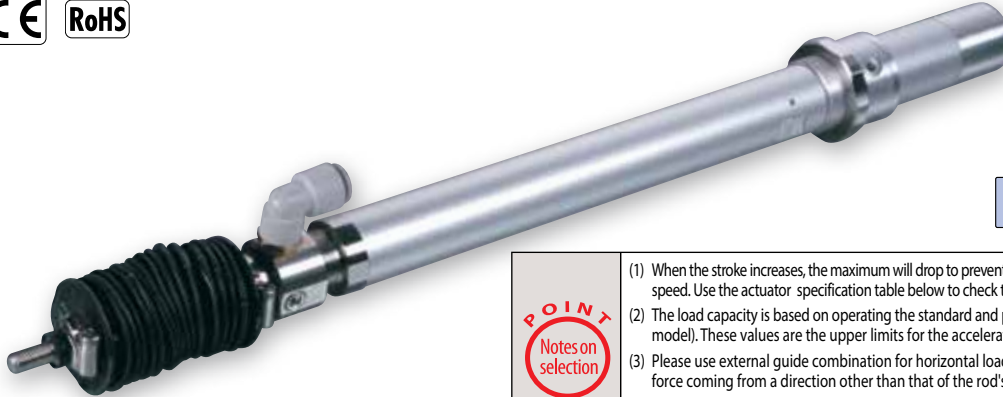
Robo Cylinder, Splash-Proof Rod Type, ø37mm Diameter, 24V Servo Motor, Coupled/Built-In/Side-Mounted Motor Specification

Model Specification Items	RCAW Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	RA4C: Coupled type	I: Incremental	20: 20W Servo motor	12: 12mm	50: 50mm	A1: ACON ASEL	N: None P: 1m S: 3m M: 5m	See Options below.	
	RA4D: Built-in	A: Absolute	30: 30W Servo motor	6: 6mm	300: 300mm (50mm pitch increments)	A3: AMEC ASEP MSEP	X□□: Custom Length R□□: Robot Cable		
	RA4R: Side-mounted motor	* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.							

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



Power-saving



Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operating the standard and power-saving models at 0.3G (0.2G for 3mm-lead model). These values are the upper limits for the acceleration.
- (3) Please use external guide combination for horizontal load capacity; the value is for when no external force coming from a direction other than that of the rod's direction of travel is applied.
- (4) The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.
- (5) See page A-71 for details on push motion.

*Please note that the bellows shape has some change from the photo above.

Actuator Specifications

Lead and Payload

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

Stroke and Maximum Speed

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

(Unit: mm/s)

Code explanation ① Type ② Encoder ③ Stroke ④ Applicable controller ⑤ Cable Length ⑥ Options *See page A-71 for details on push motion.

② Encoder / ③ Stroke

③ Stroke (mm)	Standard price							
	RA4C/RA4D				RA4R			
	② Encoder Type		② Encoder Type		② Encoder Type		② Encoder Type	
	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute
	Motor power output		Motor power output		Motor power output		Motor power output	
	20W	30W	20W	30W	20W	30W	20W	30W
50	—	—	—	—	—	—	—	—
100	—	—	—	—	—	—	—	—
150	—	—	—	—	—	—	—	—
200	—	—	—	—	—	—	—	—
250	—	—	—	—	—	—	—	—
300	—	—	—	—	—	—	—	—

⑤ Cable Length

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

* See page A-59 for cables for maintenance.

⑥ Options

Name	Option code	See page	Standard price
Brake (*1)	B	→ A-42	—
Flange bracket	FL	→ A-45	—
Foot bracket (front)	FT	→ A-49	—
Home sensor (*2)	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Knuckle joint	NJ	→ A-53	—
Non-motor end specification (*2)	NM	→ A-52	—
Clevis bracket (*3)	QR	→ A-53	—
Rear mounting plate (*3)	RP	→ A-54	—
Trunnion bracket (front) (*4)	TRF	→ A-57	—
Trunnion bracket (rear) (*4)	TRR	→ A-58	—

(*1) No brake option for RA4D.
 (*2) The home sensor (HS) cannot be used on the Non-motor end models (NM).
 (*3) Clevis bracket and rear mounting plate only available for RA4R.
 (*4) Trunnion bracket (rear) only available for RA4C/RA4D.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Rod diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Protection structure	IP54
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

Dimensional Drawings

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

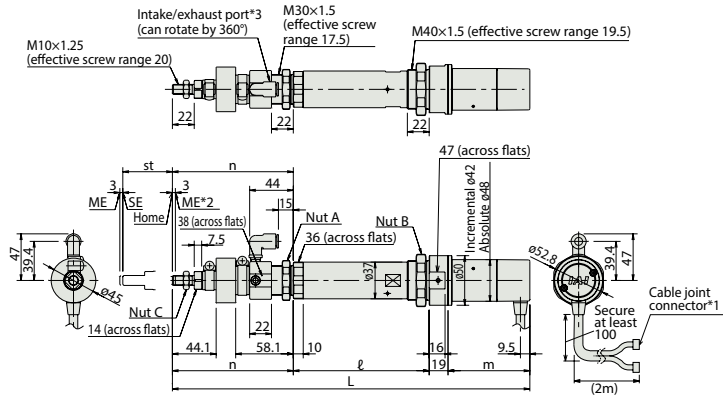


(Note) No 3D CAD data for RA4D type.

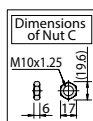
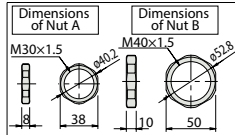
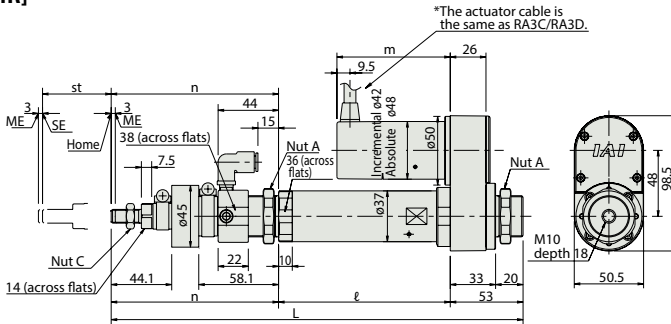
- (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
ME : Mechanical end SE : Stroke end
- (*3) Intake/exhaust port is the air exhaust tube in the main body. Insert OD $\phi 10$ mm tube and use it extended to a place that is not prone to water spills or intake.

For Special Orders Appendix P.15

[RA4C/RA4D]



[RA4R]



Note: Please don't apply an external force coming from a direction other than that of the rod's direction of travel. The detent may break if a force is applied other than in the direction of travel or a torque is applied to the rod.

Dimensions and Weight by Stroke
RCAW-RA4C/RA4D/RA4R (without brake)

Stroke	Stroke									
	50	100	150	200	250	300				
L	RA4C	20W	Incremental	345.4	405.4	465.4	525.4	586.4	647.4	
			Absolute	358.4	418.4	478.4	538.4	599.4	660.4	
		30W	Incremental	360.4	420.4	480.4	540.4	601.4	662.4	
			Absolute	373.4	433.4	493.4	553.4	614.4	675.4	
		RA4D	20W	Incremental	323.4	383.4	443.4	503.4	564.4	625.4
				Absolute	336.4	396.4	456.4	516.4	577.4	638.4
	30W		Incremental	338.4	398.4	458.4	518.4	579.4	640.4	
			Absolute	351.4	411.4	471.4	531.4	592.4	653.4	
	RA4R		20W	Incremental	299.9	359.9	419.9	479.9	540.9	601.9
				Absolute	299.9	359.9	419.9	479.9	540.9	601.9
	l	RA4C	20W	Incremental	137	187	237	287	337	387
				Absolute Common	137	187	237	287	337	387
RA4D			20W	Incremental	137	187	237	287	337	387
				Absolute Common	137	187	237	287	337	387
RA4R			20W	Incremental	125	175	225	275	325	375
				Absolute Common	125	175	225	275	325	375
m		RA4C	20W	Incremental					67.5	
			Absolute						80.5	
			30W	Incremental					82.5	
		RA4D	20W	Incremental					95.5	
			Absolute						45.5	
			30W	Incremental					58.5	
RA4R	20W	Incremental					60.5			
	Absolute						73.5			
	30W	Incremental					67.5			
n	RA4C	20W	Incremental	121.9	131.9	141.9	151.9	162.9	173.9	
		Absolute Common	121.9	131.9	141.9	151.9	162.9	173.9		
		30W	Incremental	121.9	131.9	141.9	151.9	162.9	173.9	
	RA4D	20W	Incremental	121.9	131.9	141.9	151.9	162.9	173.9	
		Absolute Common	121.9	131.9	141.9	151.9	162.9	173.9		
		30W	Incremental	121.9	131.9	141.9	151.9	162.9	173.9	
Weight (Kg)	RA4C	20W/30W	1.4	1.5	1.7	1.8	2.0	2.1		
	RA4D	20W/30W	1.3	1.5	1.6	1.8	1.9	2.1		
	RA4R	20W/30W	1.5	1.7	1.8	2.0	2.1	2.3		

* Adding a brake increases the RA4C type's overall length by 43mm. Adding a brake also increases the RA4R type's motor portion length by 43mm. However, the overall length does not change because the type is a Side-Mounted type. No brake setting for the RA4D type. Also the weight increases by 0.2kg for all types.

Applicable Controllers

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

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I-①-②-2-1 AMEC-C-30I-①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I-①-②-2-0 ASEP-C-30I-①-②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-④-⑤-⑥-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 20W 1.3A rated 4.4A max. 30W 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-④-⑤-⑥-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I-①-②-2-0 ACON-C-30I-①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 20W 1.3A rated 2.5A max. 30W 1.3A rated 2.2A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-20I-①-②-2-0 ACON-CG-30I-①-②-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-①-②-2-0 ACON-PL-30I-①-②-2-0	Pulse train input type with differential line driver support	—	DC24V	(Power-saving) 20W 1.3A rated 2.5A max. 30W 1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I-①-②-2-0 ACON-PO-30I-①-②-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I-①-N-0-0 ACON-SE-30I-①-N-0-0	Dedicated Serial Communication	64 points	DC24V	—	—	→ P675
Program Control Type		ASEL-CS-1-20I-①-②-2-0 ASEL-CS-1-30I-①-②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	—	—	→ P675

* This is for the single-axis ASEL.
* ① indicates I/O type (NP/PN).

* ① indicates encoder type (I: incremental, A: absolute)
* ④ indicates number of axes (1 to 8).

* Enter the code "LA" in ① when the power-saving option is specified.
* ⑤ indicates field network specification symbol.

RCS2W-RA4C/RA4D/RA4R

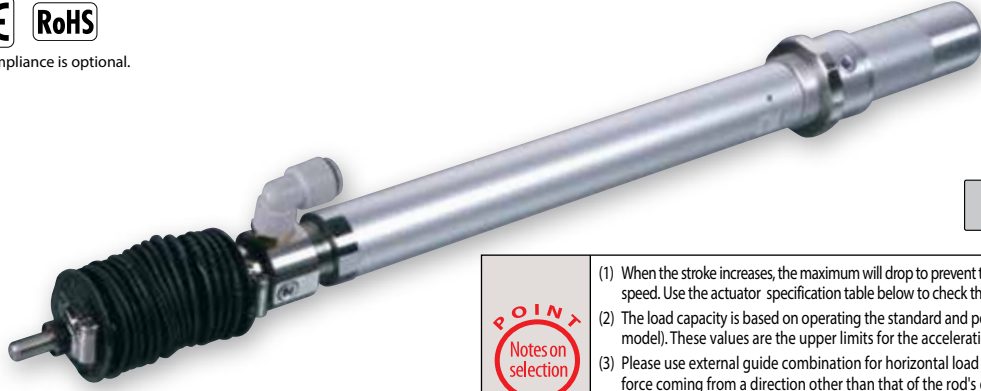
Robo Cylinder, Splash-Proof Rod Type, ø37mm Diameter, 200V Servo Motor, Coupled/Built-In/Side-Mounted Motor Specification

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	RA4C: Coupled type	I: Incremental	20: 20W Servo motor	12: 12mm	50: 50mm	T1: XSEL-J/K T2: SCON	N: None P: 1m S: 3m M: 5m	See Options below.	
	RA4D: Built-in	A: Absolute	30: 30W Servo motor	6: 6mm	300: 300mm (50mm pitch increments)	MSCON SSEL XSAL-P/Q XSAL-R/S	X□□: Custom Length R□□: Robot Cable		
	RA4R: Side-mounted motor			3: 3mm					

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



*CE compliance is optional.



Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operating the standard and power-saving models at 0.3G (0.2G for 3mm-lead model). These values are the upper limits for the acceleration.
- (3) Please use external guide combination for horizontal load capacity; the value is for when no external force coming from a direction other than that of the rod's direction of travel is applied.
- (4) The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.
- (5) See page A-71 for details on push motion.

*Please note that the bellows shape has some change from the photo above.

Actuator Specifications

Lead and Payload

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2W-①-②-20-12-③-④-⑤-⑥	20	12	3.0	1.0	18.9	50~300 (every 50mm)
RCS2W-①-②-20-6-③-④-⑤-⑥		6	6.0	2.0	37.7	
RCS2W-①-②-20-3-③-④-⑤-⑥		3	12.0	4.0	75.4	
RCS2W-①-②-30-12-③-④-⑤-⑥	30	12	4.0	1.5	28.3	
RCS2W-①-②-30-6-③-④-⑤-⑥		6	9.0	3.0	56.6	
RCS2W-①-②-30-3-③-④-⑤-⑥		3	18.0	6.5	113.1	

Stroke and Maximum Speed

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

(Unit: mm/s)

Code explanation ① Type ② Encoder ③ Stroke ④ Applicable controller ⑤ Cable Length ⑥ Options *See page A-71 for details on push motion.

② Encoder & ③ Stroke

③ Stroke (mm)	Standard price							
	RA4C/RA4D				RA4R			
	② Encoder Type		② Encoder Type		② Encoder Type		② Encoder Type	
	Incremental		Absolute		Incremental		Absolute	
	Motor power output	Motor power output	Motor power output	Motor power output	Motor power output	Motor power output	Motor power output	
	20W	30W	20W	30W	20W	30W	20W	30W
50	—	—	—	—	—	—	—	—
100	—	—	—	—	—	—	—	—
150	—	—	—	—	—	—	—	—
200	—	—	—	—	—	—	—	—
250	—	—	—	—	—	—	—	—
300	—	—	—	—	—	—	—	—

⑤ Cable Length

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

* See page A-59 for cables for maintenance.

⑥ Options

Name	Option code	See page	Standard price
Brake (*1)	B	→ A-42	—
CE compliance	CE	→ A-42	—
Flange bracket	FL	→ A-45	—
Foot bracket (front)	FT	→ A-49	—
Home sensor (*2)	HS	→ A-50	—
Knuckle joint	NJ	→ A-53	—
Non-motor end specification (*2)	NM	→ A-52	—
Clevis bracket (*3)	QR	→ A-53	—
Rear mounting plate (*3)	RP	→ A-54	—
Trunnion bracket (front) (*4)	TRF	→ A-57	—
Trunnion bracket (rear) (*4)	TRR	→ A-58	—

(*1) No brake option for RA4D.
 (*2) The home sensor (HS) cannot be used on the Non-motor end models (NM).
 (*3) Clevis bracket and rear mounting plate only available for RA4R.
 (*4) Trunnion bracket (rear) only available for RA4C/RA4D.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Rod diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Protection structure	IP54
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com



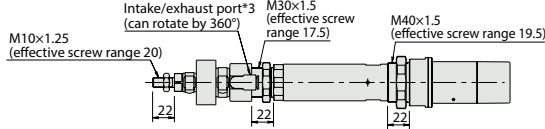
(Note) No 3D CAD data for RA4D type.

For Special Orders

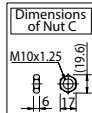
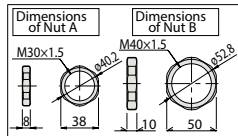
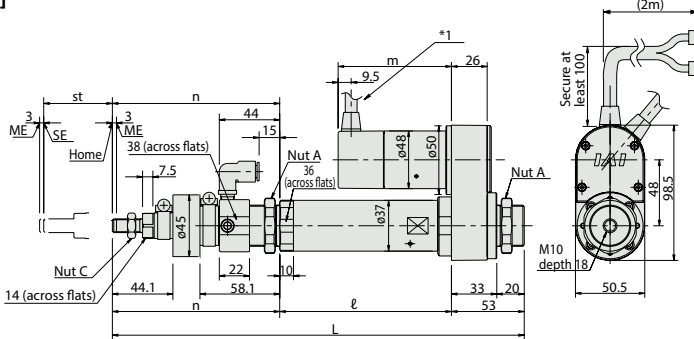
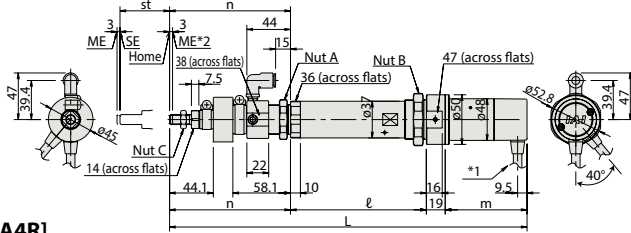
Appendix P.15

- (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
ME: Mechanical end SE: Stroke end
- (*3) Intake/exhaust port is the air exhaust tube in the main body. Insert OD $\phi 10$ mm tube and use it extended to a place that is not prone to water spills or intake.

[RA4C/RA4D]



[RA4R]



Note:
Please don't apply an external force coming from a direction other than that of the rod's direction of travel. The detent may break if a force is applied other than in the direction of travel or a torque is applied to the rod.

Dimensions and Weight by Stroke

RCS2W-RA4C/RA4D/RA4R (without brake)

Stroke		50	100	150	200	250	300		
L	RA4C	20W	358.4	418.4	478.4	538.4	599.4	660.4	
		30W	373.4	433.4	493.4	553.4	614.4	675.4	
	RA4D	20W	336.4	396.4	456.4	516.4	577.4	638.4	
		30W	351.4	411.4	471.4	531.4	592.4	653.4	
	RA4R	20W	299.9	359.9	419.9	479.9	540.9	601.9	
		30W	299.9	359.9	419.9	479.9	540.9	601.9	
l	RA4C	20W	137	187	237	287	337	387	
		30W	137	187	237	287	337	387	
	RA4D	20W	137	187	237	287	337	387	
		30W	137	187	237	287	337	387	
	RA4R	20W	125	175	225	275	325	375	
		30W	125	175	225	275	325	375	
m	RA4C	20W	80.5						
		30W	95.5						
	RA4D	20W	58.5						
		30W	73.5						
	RA4R	20W	80.5						
		30W	95.5						
n	RA4C	20W	121.9	131.9	141.9	151.9	162.9	173.9	
		30W	121.9	131.9	141.9	151.9	162.9	173.9	
	RA4D	20W	121.9	131.9	141.9	151.9	162.9	173.9	
		30W	121.9	131.9	141.9	151.9	162.9	173.9	
	RA4R	20W	121.9	131.9	141.9	151.9	162.9	173.9	
		30W	121.9	131.9	141.9	151.9	162.9	173.9	
Weight (Kg)	RA4C	20W/30W	1.4	1.5	1.7	1.8	2.0	2.1	
	RA4D	20W/30W	1.3	1.5	1.6	1.8	2.0	2.1	
	RA4R	20W/30W	1.5	1.7	1.8	2.0	2.1	2.3	

RCS2W-RA4C/RA4D/RA4R (with brake)

Stroke		50	100	150	200	250	300		
L	RA4C	20W	401.4	461.4	521.4	581.4	642.4	703.4	
		30W	416.4	476.4	536.4	596.4	657.4	718.4	
	RA4D	No brake-equipped model							
		30W	No brake-equipped model						
	RA4R	20W	299.9	359.9	419.9	479.9	540.9	601.9	
		30W	299.9	359.9	419.9	479.9	540.9	601.9	
l	RA4C	20W	137	187	237	287	337	387	
		30W	137	187	237	287	337	387	
	RA4D	No brake-equipped model							
		30W	No brake-equipped model						
	RA4R	20W	125	175	225	275	325	375	
		30W	125	175	225	275	325	375	
m	RA4C	20W	123.5						
		30W	138.5						
	RA4D	No brake-equipped model							
		30W	No brake-equipped model						
	RA4R	20W	123.5						
		30W	138.5						
n	RA4C	20W	121.9	131.9	141.9	151.9	162.9	173.9	
		30W	121.9	131.9	141.9	151.9	162.9	173.9	
	RA4D	No brake-equipped model							
		30W	No brake-equipped model						
	RA4R	20W	121.9	131.9	141.9	151.9	162.9	173.9	
		30W	121.9	131.9	141.9	151.9	162.9	173.9	
Weight (Kg)	RA4C	20W/30W	1.6	1.7	1.9	2.0	2.2	2.3	
	RA4D	20W/30W							
	RA4R	20W/30W	1.7	1.9	2.0	2.2	2.3	2.5	

Applicable Controllers

RCS2W-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-20①-NP-2-② SCON-CA-30D①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC	126 VA max. * Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points				
Field network type			Movement by numerical specification is supported.	768 points				
Pulse-train input control type			Dedicated pulse-train input type	(—)				
Positioner multi-axis, network type		MSCON-C-1-20①-V-0-② MSCON-C-1-30D①-V-0-②	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	—	→ P655	
Program control type, 1 to 2 axes		SSEL-CS-1-20①-NP-2-② SSEL-CS-1-30D①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points	—	—	→ P685	
Program control type, 1 to 8 axes		XSEL-③-1-20①-N1-EEE-2-④ XSEL-③-1-30D①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected	—	—	→ P695	

* This is for the single-axis MSCON, SSEL, and XSEL.
 * ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).
 * ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).

* ③ indicates the encoder type (I: Incremental / A: Absolute).
 * ④ indicates the XSEL type (J / K / P / Q / R / S).
 * ⑤ indicates field network specification symbol.

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/ Arm/ Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor