



# 24 VDC Pulse Motor

## RCP2

with dedicated controllers  
PCON and PSEL

<b>RCP2 series</b>	Coupling type	Aluminum base	Width 52mm	RCP2-SA5C	21
			Width 58mm	RCP2-SA6C	23
			Width 73mm	RCP2-SA7C	25
		Iron base	Width 60mm	RCP2-SS7C	27
			Width 80mm	RCP2-SS8C	29
	Motor reversing type	Aluminum base	Width 80mm	RCP2-HS8C	31
			Width 52mm	RCP2-SA5R	33
			Width 58mm	RCP2-SA6R	35
		Iron base	Width 73mm	RCP2-SA7R	37
			Width 60mm	RCP2-SS7R	39
Slider	High-speed type	Width 80mm	RCP2-SS8R	41	
		Width 80mm	RCP2-HS8R	43	
	Belt type	Width 58mm	RCP2-BA6/BA6U	45	
			Width 68mm	RCP2-BA7/BA7U	47
<b>RCP2 series</b>	Standard type	Coupling type	Width 25mm	RCP2-RA2C	105
			Width 35mm	RCP2-RA3C	107
			Width 45mm	RCP2-RA4C	109
			Width 64mm	RCP2-RA6C	111
			Width 100mm	RCP2-RA10C	113
	Single-guide type	Coupling type	Width 45mm	RCP2-RGS4C	115
			Width 64mm	RCP2-RGS6C	117
	Double-guide type	Coupling type	Width 35mm	RCP2-RGD3C	119
			Width 45mm	RCP2-RGD4C	121
			Width 64mm	RCP2-RGD6C	123
<b>RCP2 series</b>	2-finger gripper type	Lever type	Width 60mm	RCP2-GRS	205
			Width 74mm	RCP2-GRM	207
	3-finger gripper type	Slide type	Width 62mm	RCP2-GR3LS	209
			Width 80mm	RCP2-GR3LM	211
			Width 62mm	RCP2-GR3SS	213
			Width 80mm	RCP2-GR3SM	215
<b>RCP2 series</b>	Vertical type		RCP2-RTBL	219	
		Flat type	RCP2-RTCL	221	
<b>RCP2CR series</b>	Coupling type	Aluminum base	Width 52mm	RCP2CR-SA5C	231
			Width 58mm	RCP2CR-SA6C	233
			Width 73mm	RCP2CR-SA7C	235
		Iron base	Width 60mm	RCP2CR-SS7C	237
			Width 80mm	RCP2CR-SS8C	239
	High-speed type	Width 80mm	RCP2CR-HS8C	241	
<b>RCP2W series</b>	Slider type	Coupling type	Width 160mm	RCP2W-SA16C	271
			Width 45mm	RCP2W-RA4C	273
	Rod type	Coupling type	Width 64mm	RCP2W-RA6C	275
			High-thrust type	Width 100mm	RCP2W-RA10C

Controller - Integrated Type  
Slider Type  
Rod Type  
Arm / Flat Type  
Gripper / Rotary Type  
Cleanroom Type  
Splash Proof Type  
Controller

40 mm  
52 mm  
58 mm  
60 mm  
68 mm  
73 mm  
80 mm



Pulse Motor  
20w  
30w  
60w  
100w  
150w

19(20) 103(104) 203(204)  
229(230) 269(270)

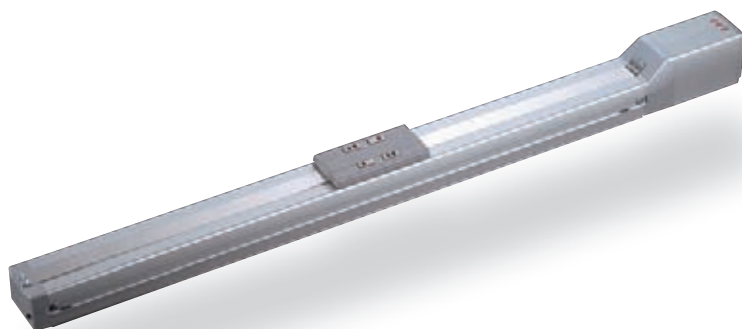
RCP2 ROBO Cylinder

# RCP2-SA5C

ROBO Cylinder, Slider Type, Actuator Width 52mm, Pulse Motor, Straight

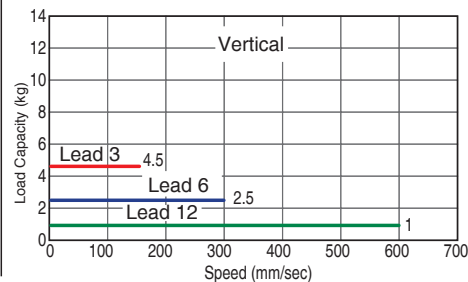
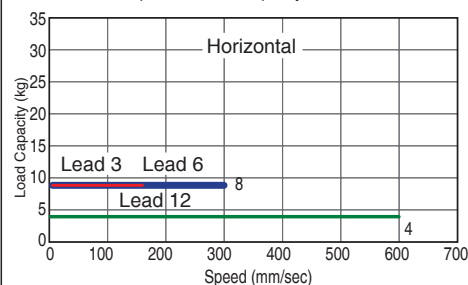
Model Specification Items	<b>RCP2</b>	<b>SA5C</b>	<b>I</b>	<b>42P</b>			<b>P1</b>		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental specification	42P: Pulse motor 42□ size	12: 12mm 6: 6mm 3: 3mm	50: 50mm 500: 500mm (Set in 50-mm steps)	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	BE : Brake (wire taken out from end) BL : Brake (wire taken out from left) BR : Brake (wire taken out from right) NM : Reversed-home specification SR : Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SA5C-I-42P-12-①-P1-②-③	12	4	1	50 ~ 500 (Set in 50-mm steps)
RCP2-SA5C-I-42P-6-①-P1-②-③	6	8	2.5	
RCP2-SA5C-I-42P-3-①-P1-②-③	3	8	4.5	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 500 (Set in 50-mm steps)
12	600
6	300
3	150

(Unit: mm/s)

### Options

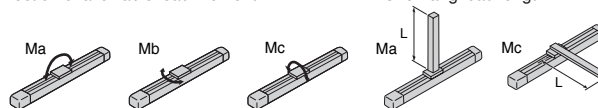
Name	Model	Page
Brake (Cable exiting the end)	BE	P381
Brake (Cable exiting the left)	BL	P381
Brake (Cable exiting the right)	BR	P381
Reversed-home specification	NM	P385
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Base	Material: Aluminum with special alumite treatment
Allowable load moment	Ma : 4.9N • m Mb : 6.8N • m Mc : 11.7N • m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

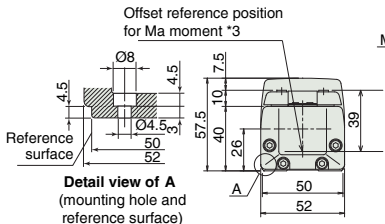
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



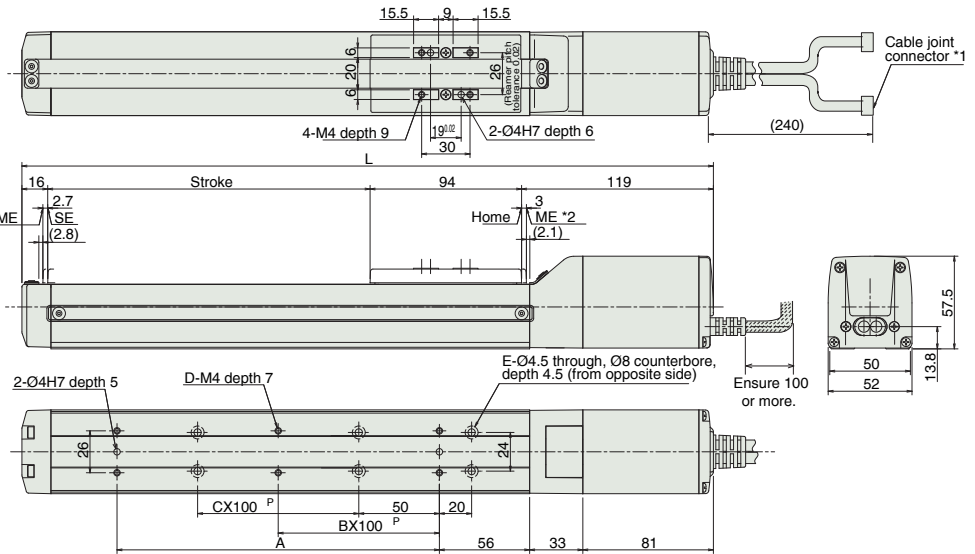
\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

\*3 Reference position for calculating Ma moment

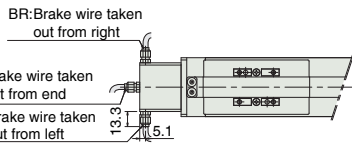


Detail view of A (mounting hole and reference surface)

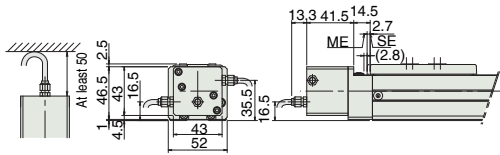
- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
- \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end
- SE: Stroke end
- The dimensions in ( ) are reference values.



Brake dimensions



\* Model with brake have their overall length extended by 43 mm (or 56.3 mm if the wire is taken out from the end) and weight increased by 0.6 kg.



Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	279	329	379	429	479	529	579	629	679	729
A	73	100	100	200	200	300	300	400	400	500
B	0	0	0	1	1	2	2	3	3	4
C	0	0	1	1	2	2	3	3	4	4
D	4	4	4	6	6	8	8	10	10	12
E	4	4	6	6	8	8	10	10	12	12
Weight (kg)	1.5	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.5

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controler - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-SA6C

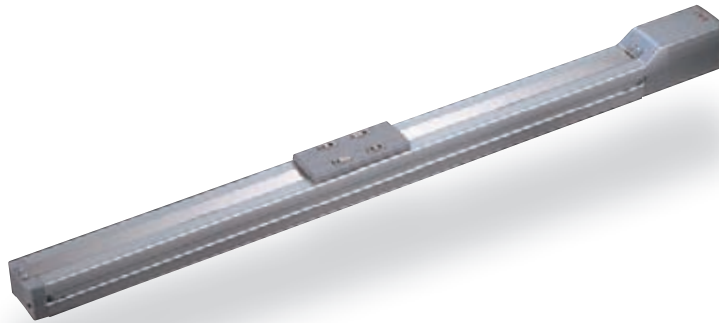
ROBO Cylinder, Slider Type, Actuator Width 58mm, Pulse Motor, Straight

Model Specification Items **RCP2** - **SA6C** - **I** - **42P** -    -    - **P1** -    -   

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

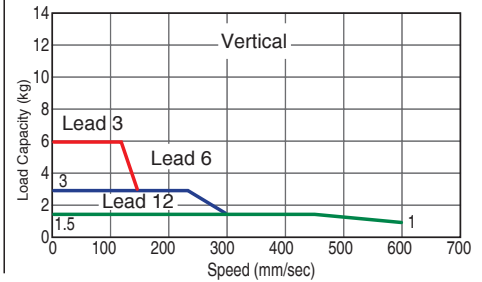
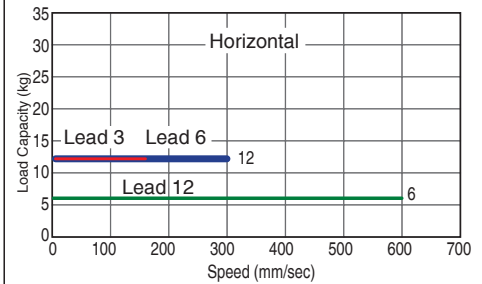
I: Incremental specification 42□ size    42P: Pulse motor    12: 12mm    6: 6mm    3: 3mm    50:50mm    ?    600:600mm (Set in 50-mm steps)    P1 : PCON    PSEL    N : No cable    P : 1m    S : 3m    M : 5m    X□ : Specified length    R□ : Robot cable    BE : Brake (wire taken out from end)    BL : Brake (wire taken out from left)    BR : Brake (wire taken out from right)    NM : Reversed-home specification    SR : Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SA6C-I-42P-12-①-P1-②-③	12	6	1.5	50 ~ 600 (Set in 50-mm steps)
RCP2-SA6C-I-42P-6-①-P1-②-③	6	12	3	
RCP2-SA6C-I-42P-3-①-P1-②-③	3	12	6	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 550 (Set in 50-mm steps)	600 (mm)
	12	600
6	300	270
3	150	135

(Unit: mm/s)

### Options

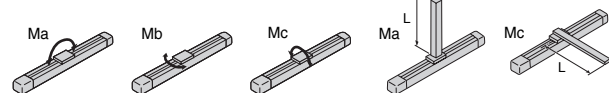
Name	Model	Page
Brake (Cable exiting the end)	BE	P381
Brake (Cable exiting the left)	BL	P381
Brake (Cable exiting the right)	BR	P381
Reversed-home specification	NM	P385
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Base	Material: Aluminum with special alumite treatment
Allowable load moment	Ma : 8.9N • m Mb : 12.7N • m Mc : 18.6N • m
Overhang load length	Ma direction: 220mm or less, Mb/Mc directions: 220mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w



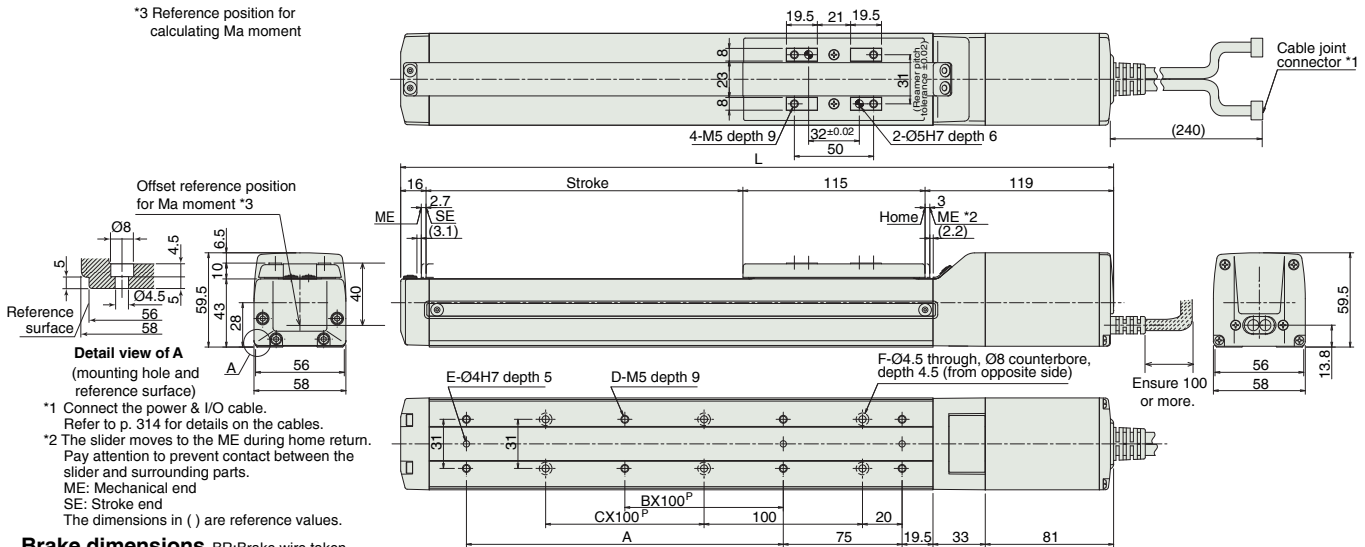
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

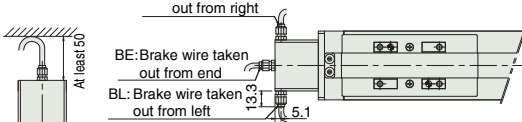
\*3 Reference position for calculating Ma moment



- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.

Brake dimensions

BR: Brake wire taken out from right



\* Model with brake have their overall length extended by 43 mm (or 56.3 mm if the wire is taken out from the end) and weight increased by 0.6 kg.

■ Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	300	350	400	450	500	550	600	650	700	750	800	850
A	0	100	100	200	200	300	300	400	400	500	500	600
B	0	0	0	1	1	2	2	3	3	4	4	5
C	0	0	1	1	2	2	3	3	4	4	5	5
D	4	6	6	8	8	10	10	12	12	14	14	16
E	2	3	3	3	3	3	3	3	3	3	3	3
F	4	4	6	6	8	8	10	10	12	12	14	14
Weight (kg)	1.8	2.0	2.1	2.2	2.4	2.5	2.7	2.8	2.9	3.1	3.2	3.4

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controler - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

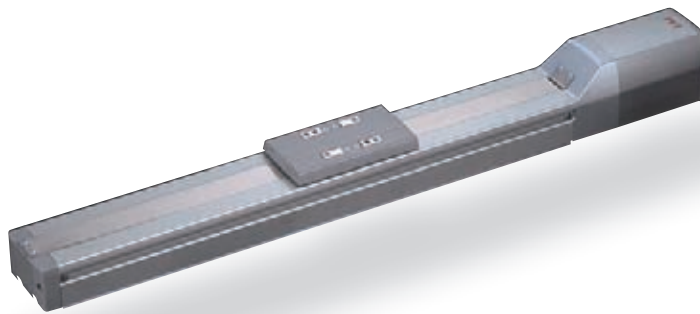
# RCP2-SA7C

ROBO Cylinder, Slider Type, Actuator Width 73mm, Pulse Motor, Straight

Model Specification Items **RCP2** - **SA7C** - **I** - **56P** - **P1**

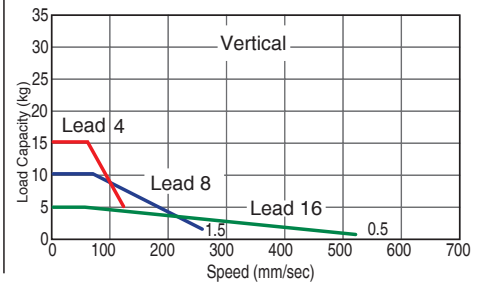
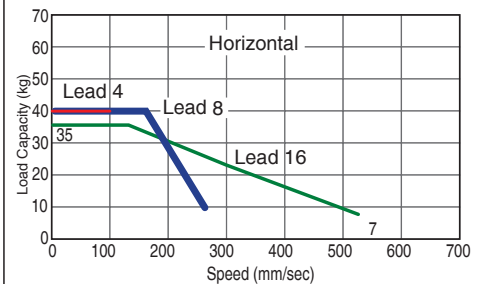
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	56P: Pulse motor	56□ size		16: 16mm 8: 8mm 4: 4mm	100: 100mm 800: 800mm (Set in 100-mm steps)	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□ : Specified length R□ : Robot cable	BE : Brake (wire taken out from end) BL : Brake (wire taken out from left) BR : Brake (wire taken out from right) NM : Reversed-home specification SR : Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 4 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SA7C-I-56P-16-①-P1-②-③	16	~35	~5	100 ~ 800 (Set in 100-mm steps)
RCP2-SA7C-I-56P-8-①-P1-②-③	8	~40	~10	
RCP2-SA7C-I-56P-4-①-P1-②-③	4	40	~15	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	100 ~ 700	800
	(Set in 100-mm steps)	
16	533	480
8	266	240
4	133	120

(Unit: mm/s)

### Options

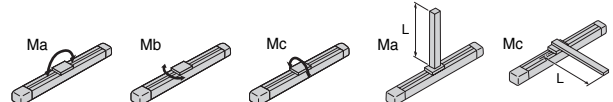
Name	Model	Page
Brake (Cable exiting the end)	BE	P381
Brake (Cable exiting the left)	BL	P381
Brake (Cable exiting the right)	BR	P381
Reversed-home specification	NM	P385
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Base	Material: Aluminum with special alumite treatment
Allowable load moment	Ma : 13.9N • m Mb : 19.9N • m Mc : 38.3N • m
Overhang load length	Ma direction: 230mm or less, Mb/Mc directions: 230mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

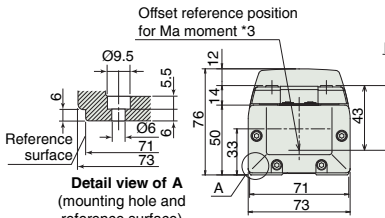
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



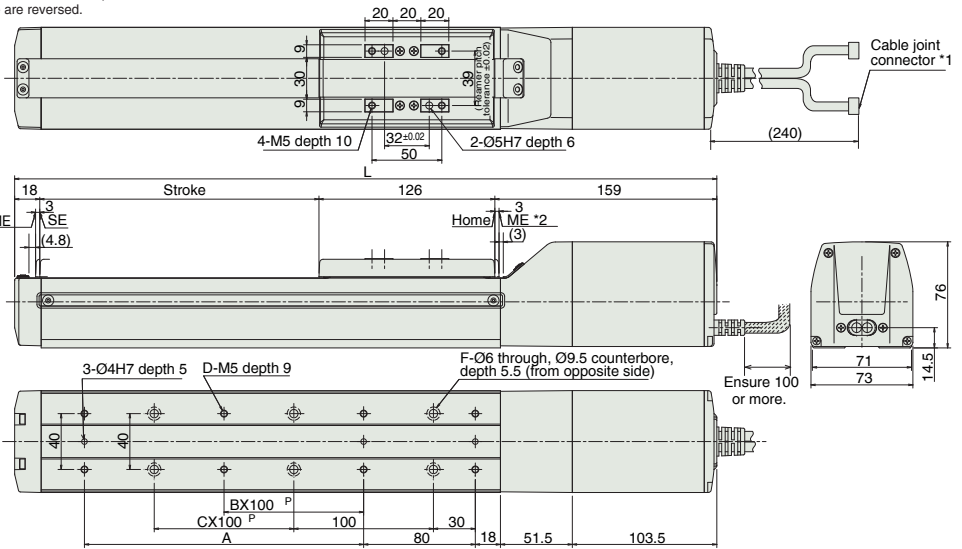
\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

\*3 Reference position for calculating Ma moment



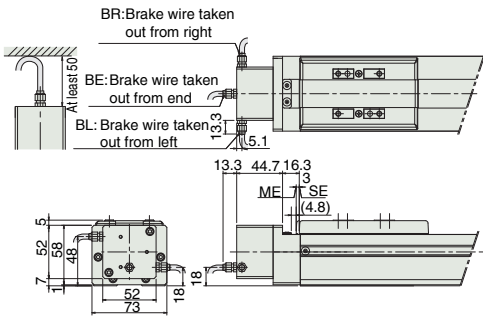
Detail view of A (mounting hole and reference surface)

- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
- \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts. ME: Mechanical end SE: Stroke end The dimensions in ( ) are reference values.



Brake dimensions

\* Models with brake have their overall length extended by 43 mm (or 56.3 mm if the wire is taken out from the end) and weight increased by 0.6 kg.



Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800
L	403	503	603	703	803	903	1003	1103
A	100	200	300	400	500	600	700	800
B	0	1	2	3	4	5	6	7
C	0	1	2	3	4	5	6	7
D	6	8	10	12	14	16	18	20
F	4	6	8	10	12	14	16	18
Weight (kg)	3.3	3.8	4.2	4.7	5.1	5.6	6.0	6.5

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-SS7C

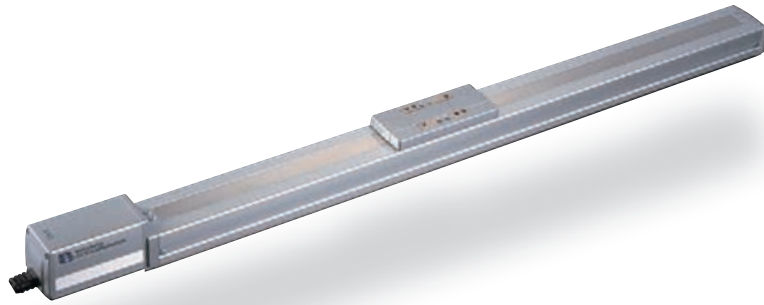
ROBO Cylinder, Slider Type, Actuator Width 60mm, Pulse Motor, Straight, Iron Base Type

Model Specification Items **RCP2** - **SS7C** - **I** - **42P** -    -    - **P1** -    -   

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

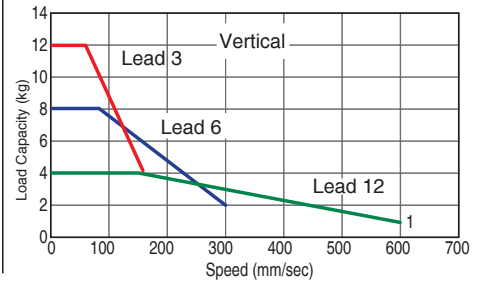
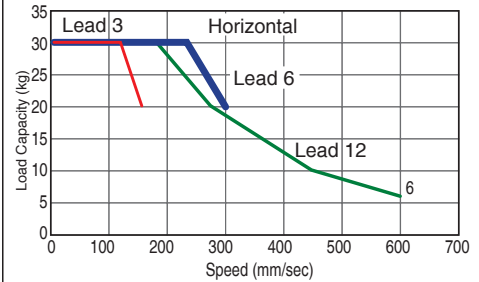
I: Incremental 42P:Pulse motor 12: 12mm 100:100mm P1: PCON N :No cable B :Brake  
 specification 42□ size 6: 6mm ? 600:600mm PSEL S :1m NM :Reversed-home specification  
 M :3m SR :Slider roller specification  
 X□: Specified length R□: Robot cable

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS7C-I-42P-12-①-P1-②-③	12	~30	~4	100 ~ 600 (Set in 100-mm steps)
RCP2-SS7C-I-42P-6-①-P1-②-③	6	~30	~8	
RCP2-SS7C-I-42P-3-①-P1-②-③	3	~30	~12	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	100 ~ 500 (Set in 100-mm steps)		600 (mm)
	12	600	
6	300		230
3	150		115

(Unit: mm/s)

### Options

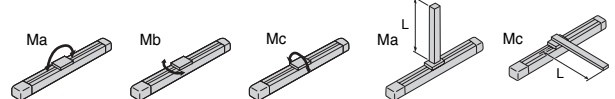
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Base	Material: Special alloy steel
Allowable load moment	Ma : 14.7N • m Mb : 14.7N • m Mc : 33.3N • m
Overhang load length	Ma direction: 300mm or less, Mb/Mc directions: 300mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

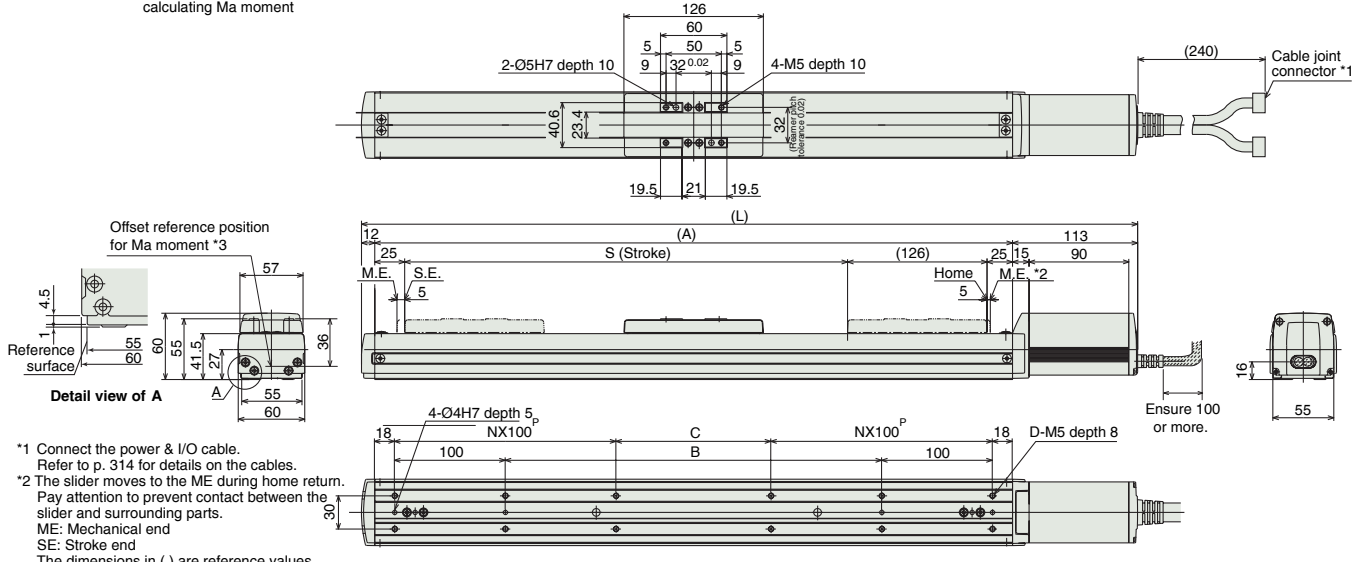
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

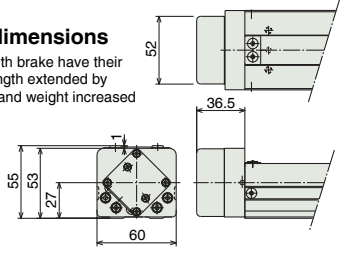
\*3 Reference position for calculating Ma moment



- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
- \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts. ME: Mechanical end SE: Stroke end
- The dimensions in ( ) are reference values.

Brake dimensions

\* Models with brake have their overall length extended by 24.5 mm and weight increased by 0.3 kg.



\* The brake wire is guided inside the actuator and connected to the motor cable.

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600
L	401	501	601	701	801	901
A	276	376	476	576	676	776
B	40	140	240	340	440	540
C	40	140	40	140	40	140
D	8	8	12	12	16	16
N	1	1	2	2	3	3
Weight (kg)	3.4	4.0	4.7	5.4	6.1	6.7

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Clearroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w



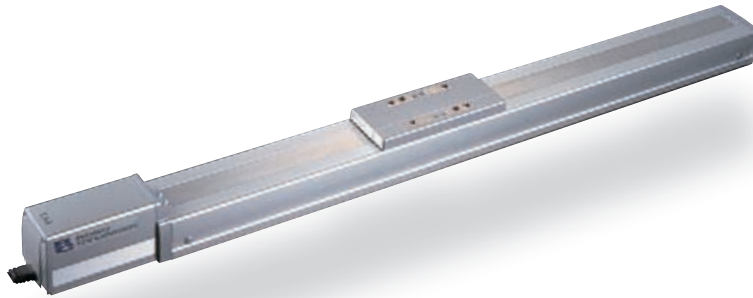
RCP2 ROBO Cylinder

# RCP2-SS8C

ROBO Cylinder, Slider Type, Actuator Width 80mm, Pulse Motor, Straight, Iron Base Type

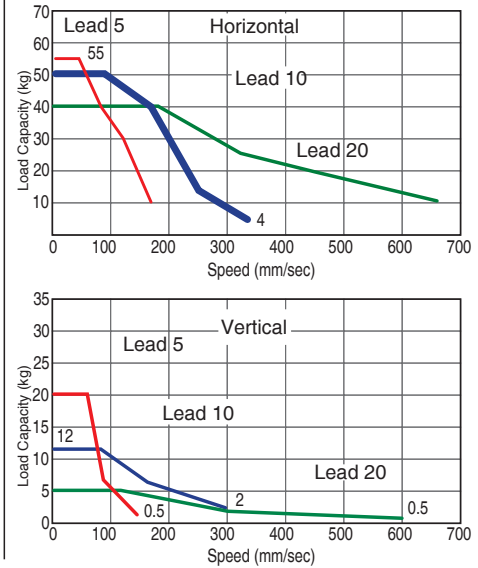
Model Specification Items	<b>RCP2</b>	<b>SS8C</b>	<b>I</b>	<b>56P</b>			<b>P1</b>		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental specification	56P: Pulse motor 56□ size	20: 20mm 10: 10mm 5: 5mm	100: 100mm ?	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□ : Specified length R□ : Robot cable	B : Brake NM : Reversed-home specification SR : Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 5 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS8C-I-56P-20-①-P1-②-③	20	~40	~5	100 ~ 1000 (Set in 100-mm steps)
RCP2-SS8C-I-56P-10-①-P1-②-③	10	~50	~12	
RCP2-SS8C-I-56P-5-①-P1-②-③	5	~55	~20	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke	100 ~ 800 (Set in 100-mm steps)			900 (mm)	1000 (mm)
	Lead	100 ~ 200	200 ~ 300		
20	5	666	<600>	625	515
	10	333	<300>	310	255
5	5	165	<150>	155	125
	10	82	<75>	77	62

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

### Options

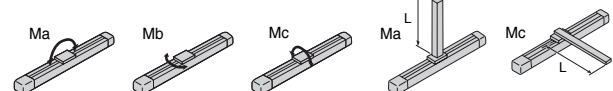
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Base	Material: Special alloy steel
Allowable load moment	Ma : 36.3N·m Mb : 36.3N·m Mc : 77.4N·m
Overhang load length	Ma direction: 450mm or less, Mb/Mc directions: 450mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

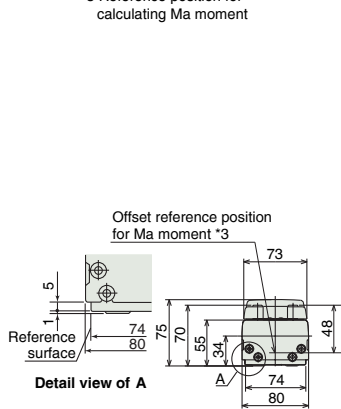
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

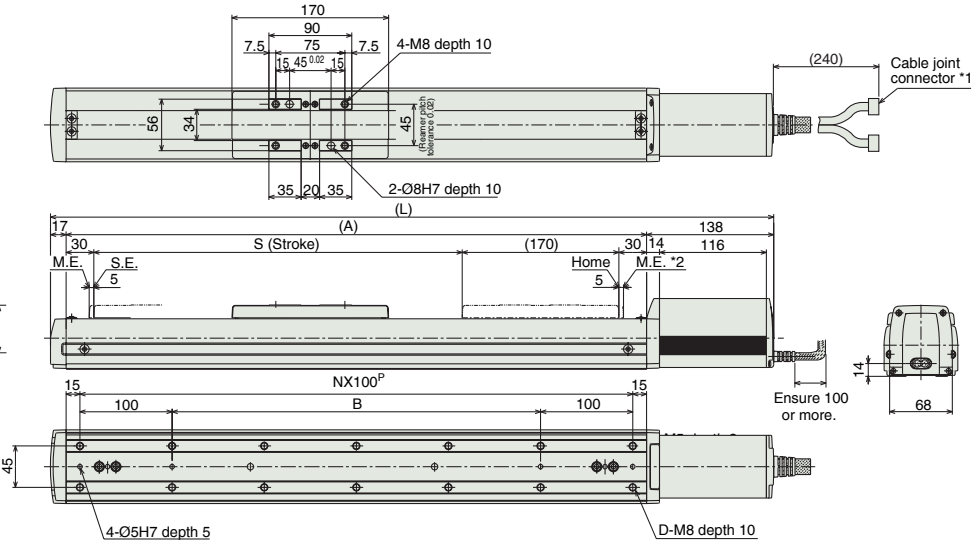


\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

\*3 Reference position for calculating Ma moment

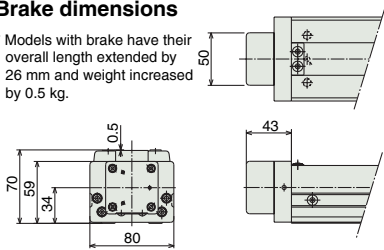


- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts. ME: Mechanical end SE: Stroke end
- The dimensions in ( ) are reference values.



Brake dimensions

\* Models with brake have their overall length extended by 26 mm and weight increased by 0.5 kg.



\* The brake wire is guided inside the actuator and connected to the motor cable.

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800	900	1000
L	485	585	685	785	885	985	1085	1185	1285	1385
A	330	430	530	630	730	830	930	1030	1130	1230
B	100	200	300	400	500	600	700	800	900	1000
D	8	10	12	14	16	18	20	22	24	26
N	3	4	5	6	7	8	9	10	11	12
Weight (kg)	7.1	8.1	9.2	10.2	11.3	12.3	13.4	14.5	15.5	16.6

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-HS8C

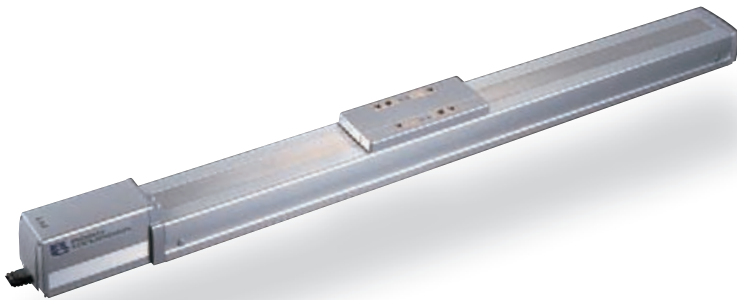
ROBO Cylinder, High-Speed Slider Type, Actuator Width 80mm, Pulse Motor Straight, Iron Base Type

Model Specification Items **RCP2** - **HS8C** - **I** - **86P** -   -   - **P2** -   -  

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

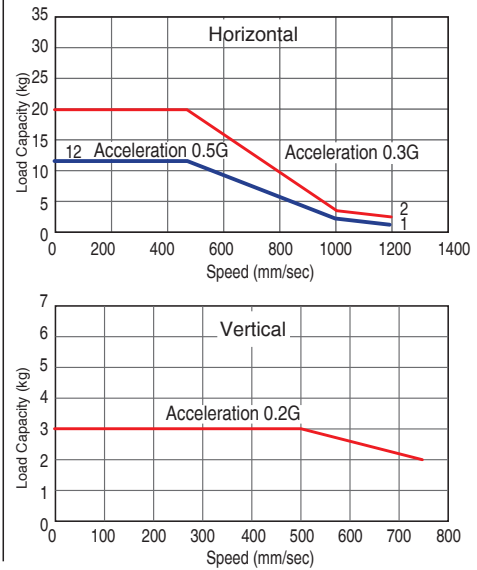
I: Incremental specification 86□ size    86P: Pulse motor    30: 30mm    100: 100mm    1000: 1000mm (Set in 100-mm steps)    P2: PCON-CF    RCP2-CF    N : No cable    B : Brake    P : 1m    S : 3m    M : 5m    X□□ : Specified length    R□□ : Robot cable    NM : Reversed-home specification    SR : Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the actuator is operated vertically). The maximum acceleration is 0.5 G in horizontal application and 0.2 G in vertical application.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

#### Stroke and Maximum Speed

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-HS8C-I-86P-30-①-P2-②-③	30	~20	~3	100 ~ 1000 (Set in 100-mm steps)

Stroke / Lead	100 ~ 800 (Set in 100-mm steps)	900 (mm)	1000 (mm)
	30	1200 <750>	1000 <750>

Explanation of numbers ① Stroke ② Cable length ③ Options

(Unit: mm/s)

### Options

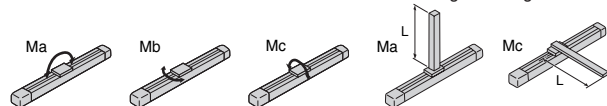
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Base	Material: Special alloy steel
Allowable load moment	Ma : 36.3N • m Mb : 36.3N • m Mc : 77.4N • m
Overhang load length	Ma direction: 450mm or less, Mb/Mc directions: 450mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

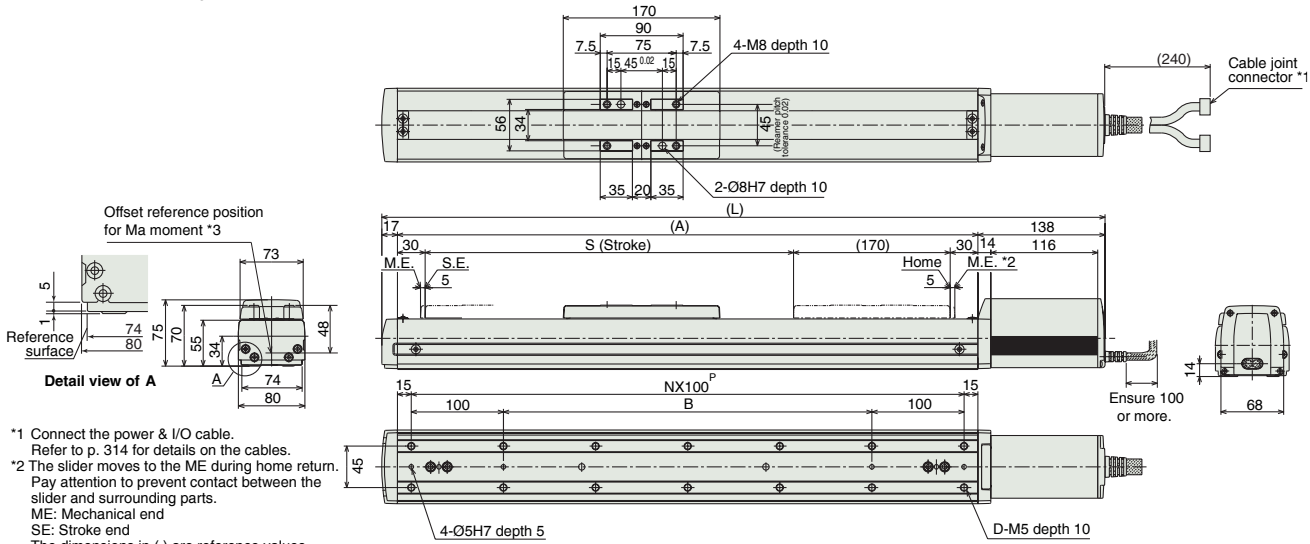
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

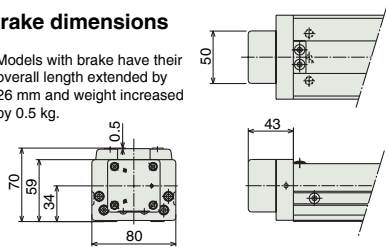
\*3 Reference position for calculating Ma moment



- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
- \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts. ME: Mechanical end SE: Stroke end The dimensions in ( ) are reference values.

Brake dimensions

\* Models with brake have their overall length extended by 26 mm and weight increased by 0.5 kg.



\* The brake wire is guided inside the actuator and connected to the motor cable.

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800	900	1000
L	485	585	685	785	885	985	1085	1185	1285	1385
A	330	430	530	630	730	830	930	1030	1130	1230
B	100	200	300	400	500	600	700	800	900	1000
D	8	10	12	14	16	18	20	22	24	26
N	3	4	5	6	7	8	9	10	11	12
Weight (kg)	7.5	8.5	9.6	10.6	11.7	12.7	13.8	14.8	15.9	17.0

Controller

Applicable Controllers

Contact IAI for the HS8C compatible controller.

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller

- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

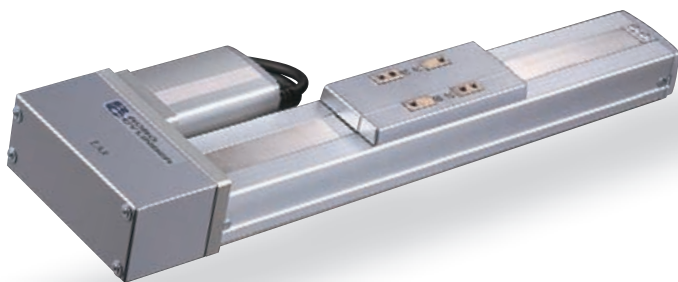
# RCP2-SA5R

ROBO Cylinder, Slider Type, Actuator Width 52mm, Pulse Motor, Motor Reversing

Model Specification Items **RCP2-SA5R-I-42P** - [ ] - [ ] - **P1** - [ ] - [ ]

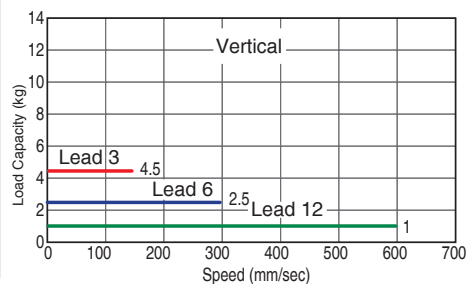
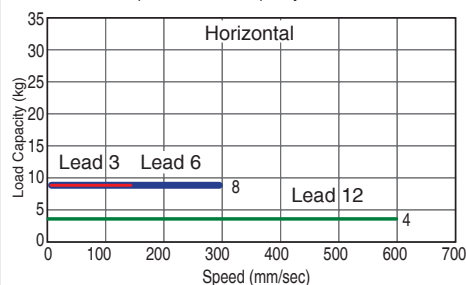
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	42P: Pulse motor 42□ size			12: 12mm 6: 6mm 3: 3mm	50: 50mm 500: 500mm (Set in 100-mm steps)	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□: Specified length R□: Robot cable	B: Brake NM: Reversed-home specification R: Opposite motor reversing direction SR: Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SA5R-I-42P-12-①-P1-②-③	12	4	1	50 ~ 500 (Set in 50-mm steps)
RCP2-SA5R-I-42P-6-①-P1-②-③	6	8	2.5	
RCP2-SA5R-I-42P-3-①-P1-②-③	3	8	4.5	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 500 (Set in 50-mm steps)
	12
6	300
3	150

(Unit: mm/s)

### Options

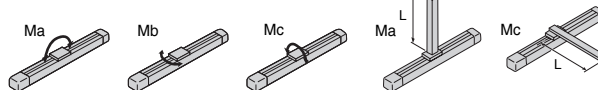
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Inverse motor-reversing direction	R	P387
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Allowable load moment	Ma: 4.9N·m Mb: 6.8N·m Mc: 11.7N·m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

Controller - Integrated Type

Slider Type

Rod Type

Arm / Flat Type

Gripper / Rotary Type

Cleanroom Type

Splash Proof Type

Controller



Dimensions

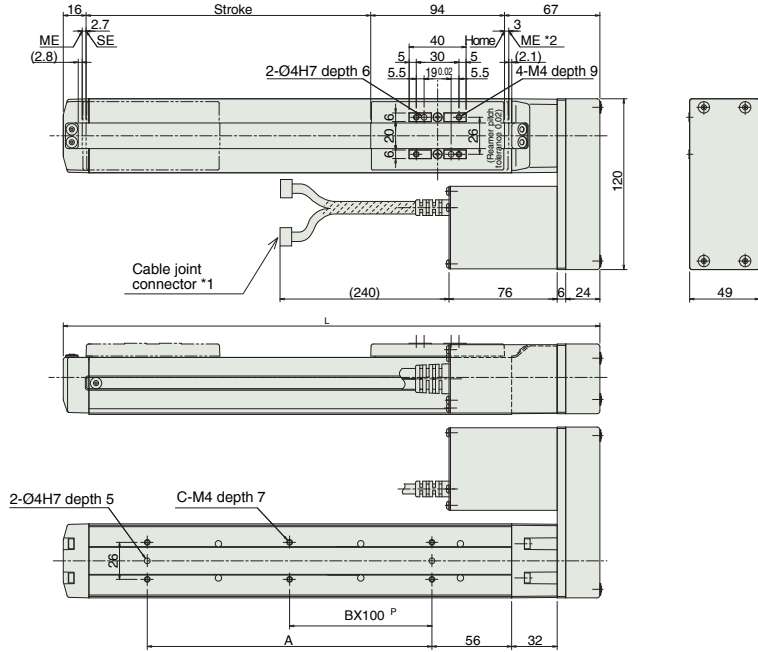
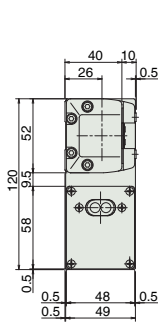
You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.

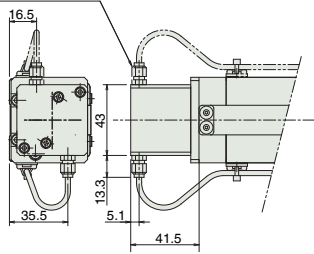
\*The offset reference position for Ma moment is the same as that of the SA5 type. (Refer to p. 22)



Brake dimensions

\* Models with brake have their overall length extended by 40 mm and weight increased by 0.4 kg.

Reversing direction: Opposite



\* If taken out from a side face, the brake wire must come out from the motor reversing side.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	227	277	327	377	427	477	527	577	627	677
A	73	100	100	200	200	300	300	400	400	500
B	0	0	0	1	1	2	2	3	3	4
C	4	4	4	6	6	8	8	10	10	12
Weight (kg)	2.0	2.1	2.2	2.3	2.4	2.6	2.7	2.8	2.9	3.0

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

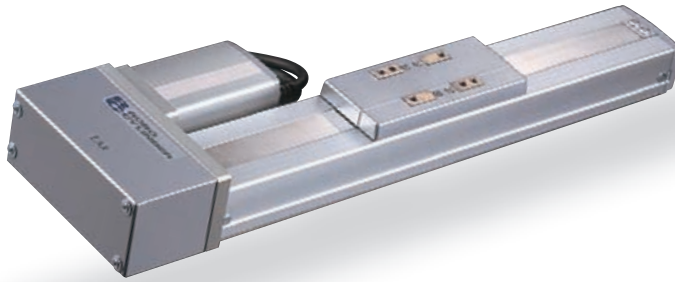
# RCP2-SA6R

ROBO Cylinder, Slider Type, Actuator Width 58mm, Pulse Motor, Motor Reversing

Model Specification Items **RCP2** - **SA6R** - **I** - **42P** - **P1**

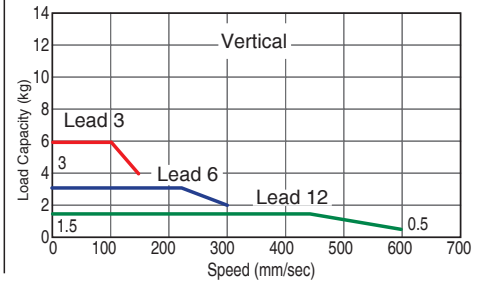
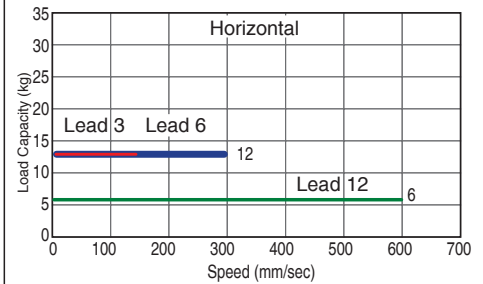
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	42P: Pulse motor	42□ size	12: 12mm 6: 6mm 3: 3mm	50: 50mm 600: 600mm (Set in 100-mm steps)	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□□: Specified length R□□: Robot cable	B: Brake NM: Reversed-home specification R: Opposite motor reversing direction SR: Slider roller specification	

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SA6R-I-42P-12-①-P1-②-③	12	6	~1.5	50 ~ 600 (Set in 50-mm steps)
RCP2-SA6R-I-42P-6-①-P1-②-③	6	12	~3	
RCP2-SA6R-I-42P-3-①-P1-②-③	3	12	~6	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 550 (Set in 50-mm steps)		600 (mm)
	12	600	540
6	300	270	
3	150	135	

(Unit: mm/s)

### Options

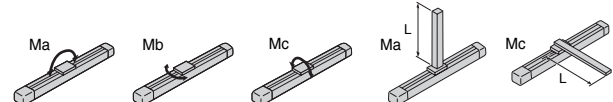
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Inverse motor-reversing direction	R	P387
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Allowable load moment	Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m
Overhang load length	Ma direction: 220mm or less, Mb/Mc directions: 220mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

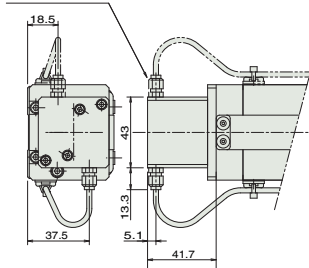
- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.

\*The offset reference position for Ma moment is the same as that of the SA6 type. (Refer to p. 24)

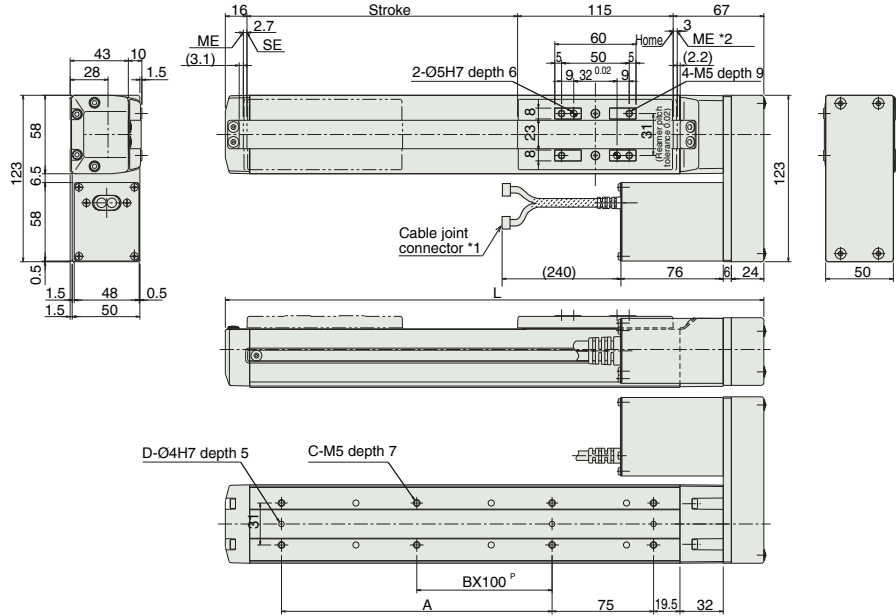
Brake dimensions

\* Models with brake have their overall length extended by 40 mm and weight increased by 0.4 kg.

Reversing direction: Opposite



\* If taken out from a side face, the brake wire must come out from the motor reversing side.



■ Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	248	298	348	398	448	498	548	598	648	698	748	798
A	0	100	100	200	200	300	300	400	400	500	500	600
B	0	0	0	1	1	2	2	3	3	4	4	5
C	4	6	6	8	8	10	10	12	12	14	14	16
D	2	3	3	3	3	3	3	3	3	3	3	3
Weight (kg)	2.3	2.5	2.6	2.7	2.9	3.0	3.2	3.3	3.4	3.6	3.7	3.9

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

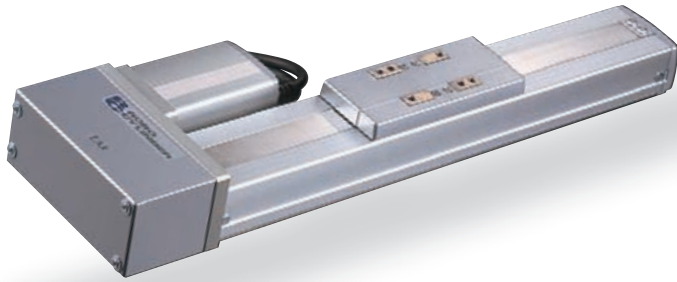
# RCP2-SA7R

ROBO Cylinder, Slider Type, Actuator Width 73mm, Pulse Motor, Motor Reversing

Model Specification Items **RCP2** - **SA7R** - **I** - **56P** -    -    - **P1** -    -   

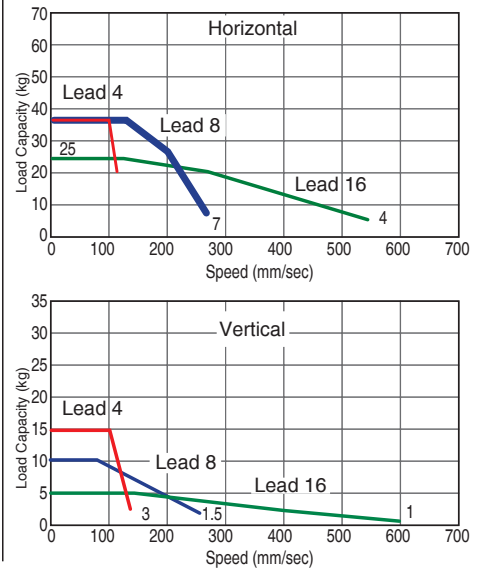
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	56P: Pulse motor 56□ size	16: 16mm 8: 8mm 4: 4mm	100: 100mm 800: 800mm (Set in 100-mm steps)	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□□: Specified length R□□: Robot cable	B: Brake NM: Reversed-home specification R: Opposite motor reversing direction SR: Slider roller specification		

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 4 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SA7R-I-56P-16-①-P1-②-③	16	~25	~5	100 ~ 800 (Set in 100-mm steps)
RCP2-SA7R-I-56P-8-①-P1-②-③	8	~35	~10	
RCP2-SA7R-I-56P-4-①-P1-②-③	4	~35	~15	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	100 ~ 700 (Set in 100-mm steps)	800 (mm)
	12	533 <400>
6	266	240
3	133	120

(Unit: mm/s)

### Options

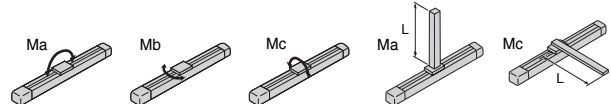
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Inverse motor-reversing direction	R	P387
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Allowable load moment	Ma: 13.9N • m Mb: 19.9N • m Mc: 38.3N • m
Overhang load length	Ma direction: 230mm or less, Mb/Mc directions: 230mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

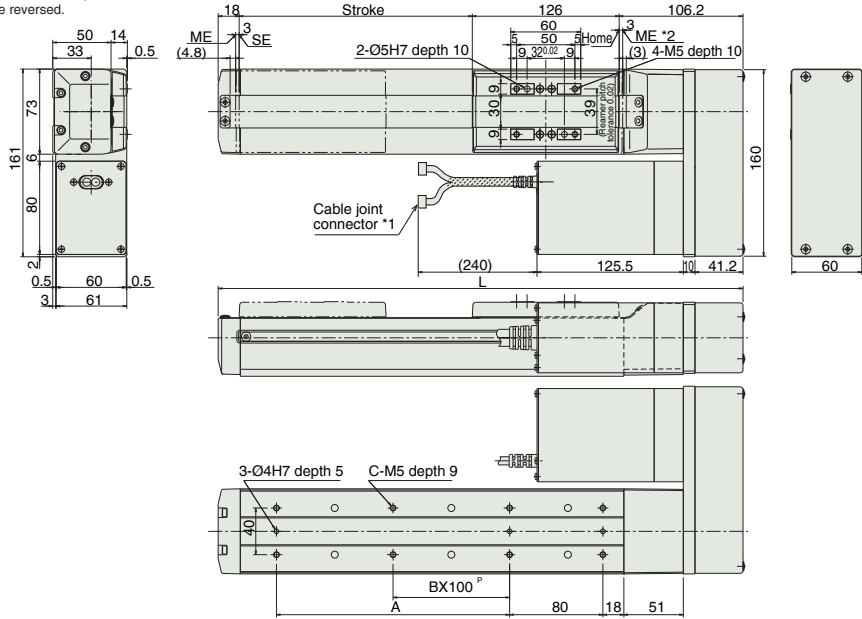
150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.



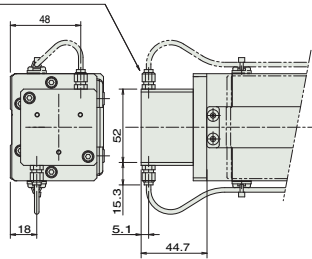
- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.

\*The offset reference position for Ma moment is the same as that of the SA7 type. (Refer to p. 26)

Brake dimensions

\* Models with brake have their overall length extended by 43 mm and weight increased by 0.6 kg.

Reversing direction: Opposite



\* If taken out from a side face, the brake wire must come out from the motor reversing side.

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800
L	350.2	450.2	550.2	350.2	750.2	850.2	950.2	1050.2
A	100	200	300	400	500	600	700	800
B	0	1	2	3	4	5	6	7
C	8	8	10	12	14	16	18	20
Weight (kg)	4.7	5.2	5.6	6.1	6.5	7.0	7.4	7.9

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w



# RCP2 ROBO Cylinder

## RCP2-SS7R

ROBO Cylinder, Slider Type, Actuator Width 60mm, Pulse Motor, Motor Reversing Iron Base Type

Model Specification Items **RCP2** - **SS7R** - **I** - **42P** -  -  - **P1** -  -

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental 42P: Pulse motor specification 42□size

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

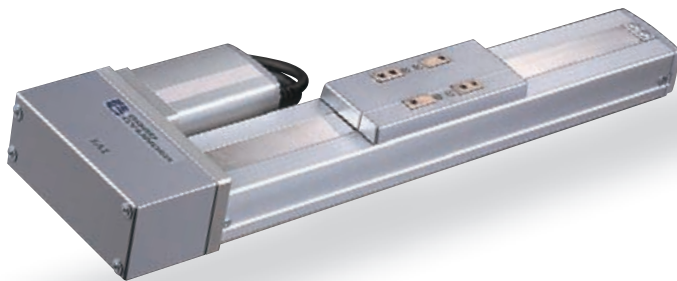
100:100mm 600:600mm (Set in 100-mm steps)

P1: PCON PSEL

N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable

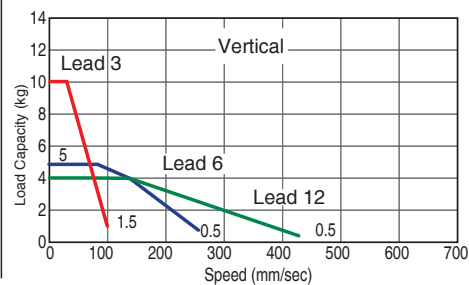
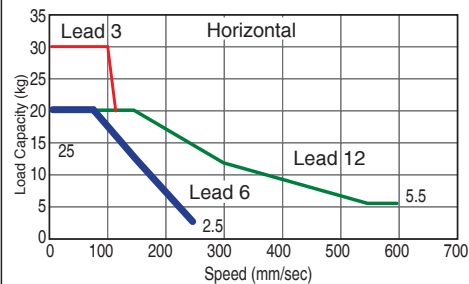
B : Brake NM : Reversed-home specification R : Opposite motor reversing direction SR : Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS7R-I-42P-12-①-P1-②-③	12	~20	~4	100 ~ 600 (Set in 100-mm steps)
RCP2-SS7R-I-42P-6-①-P1-②-③	6	~20	~5	
RCP2-SS7R-I-42P-3-①-P1-②-③	3	~30	~10	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Lead	Stroke (mm)	
	100 ~ 500 (Set in 100-mm steps)	600 (mm)
12	600 <440>	470 <400>
6	250	230
3	105	105

(Unit: mm/s)

### Options

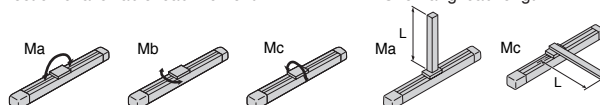
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Inverse motor-reversing direction	R	P387
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Base	Material: Special alloy steel
Allowable load moment	Ma : 14.7N • m Mb : 14.7N • m Mc : 33.3N • m
Overhang load length	Ma direction: 300mm or less, Mb/Mc directions: 300mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

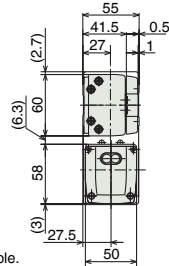
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

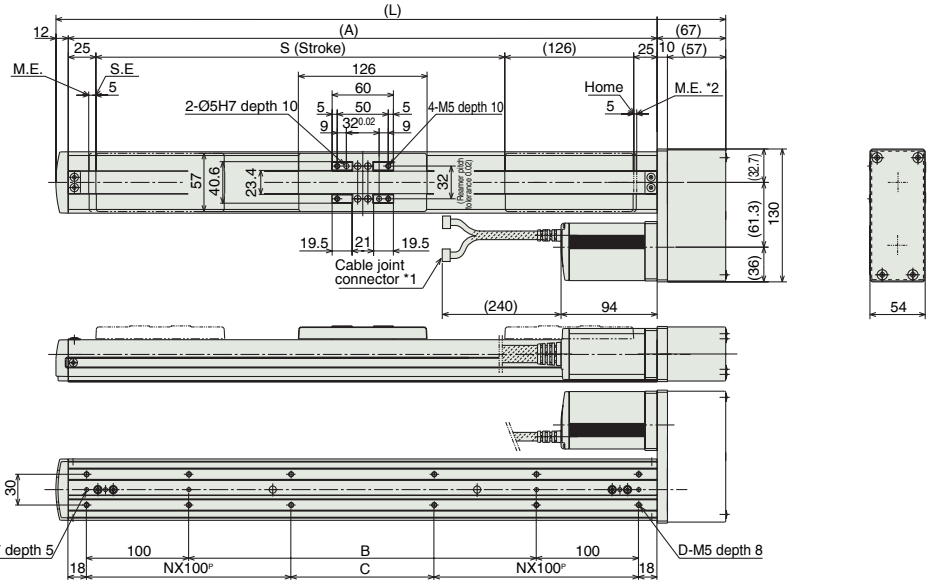


\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

- \* The reference surface is same as that of the SS7C type. (Refer to p. 28)
- \* The offset reference position for Ma moment is the same as that of the SS7C type. (Refer to p. 28)

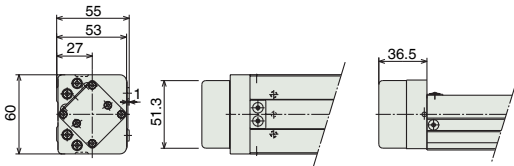


- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.



Brake dimensions

\* Models with brake have their overall length extended by 24.5 mm and weight increased by 0.3 kg.



\* The brake wire is guided inside the actuator and connected to the motor cable.

■ Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600
L	355	455	555	655	755	855
A	276	376	476	576	676	776
B	40	140	240	340	440	540
C	40	140	40	140	40	140
D	8	8	12	12	16	16
N	1	1	2	2	3	3
Weight (kg)	4.1	4.7	5.4	6.1	6.7	7.4

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points		→P335	

RCP2 ROBO Cylinder

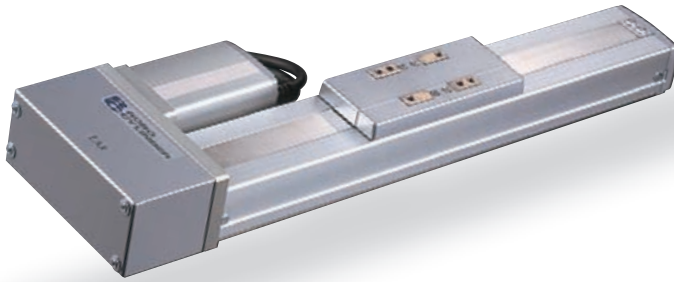
# RCP2-SS8R

ROBO Cylinder, Slider Type, Actuator Width 80mm, Pulse Motor, Motor Reversing Iron Base Type

Model Specification Items

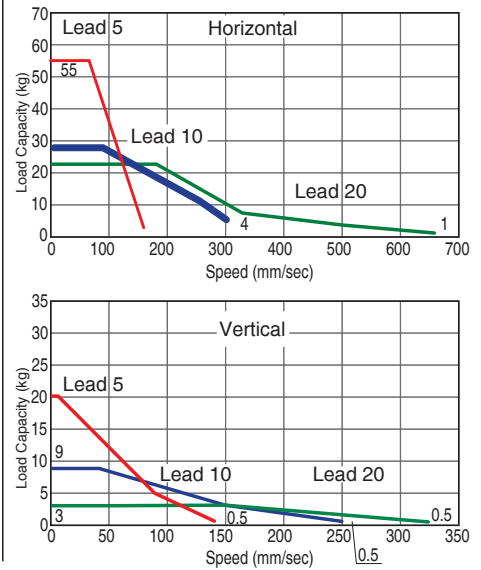
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCP2	SS8R	I	56P	20: 20mm 10: 10mm 5: 5mm	100:100mm ?	P1	N : No cable P : 1m S : 3m M : 5m X□ : Specified length R□ : Robot cable	B : Brake NM : Reversed-home specification R : Opposite motor reversing direction SR : Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 5 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS8R-I-56P-20-①-P1-②-③	20	~23	~3	100 ~ 1000 (Set in 100-mm steps)
RCP2-SS8R-I-56P-10-①-P1-②-③	10	~28	~9	
RCP2-SS8R-I-56P-5-①-P1-②-③	5	~55	~20	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke / Lead	100 ~ 800	900	1000
	(Set in 100-mm steps)	(mm)	(mm)
12	600 <333>	600 <333>	515 <333>
6	300 <250>	300 <250>	225
3	160 <140>	155 <140>	125

(Unit: mm/s)

### Options

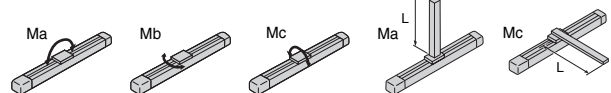
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Inverse motor-reversing direction	R	P387
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Base	Material: Special alloy steel
Allowable load moment	Ma : 36.3N • m Mb : 36.3N • m Mc : 77.4N • m
Overhang load length	Ma direction: 450mm or less, Mb/Mc directions: 450mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

Controller - Integrated Type

Slider Type

Rod Type

Arm / Flat Type

Gripper / Rotary Type

Cleanroom Type

Splash Proof Type

Controller

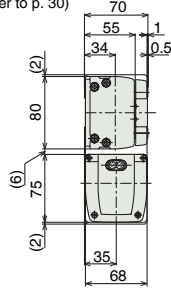
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

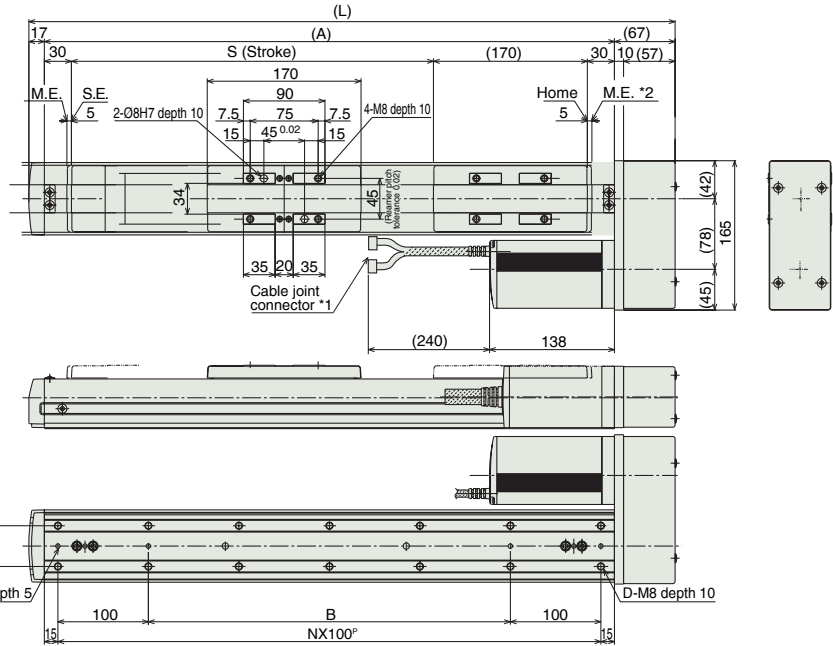


\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

- \* The reference surface is same as that of the SS8C type. (Refer to p. 30)
- \* The offset reference position for Ma moment is the same as that of the SS8C type. (Refer to p. 30)

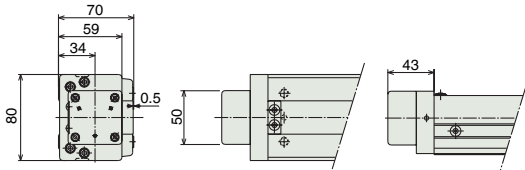


- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.



Brake dimensions

- \* Models with brake have their overall length extended by 26 mm and weight increased by 0.5 kg.



\* The brake wire is guided inside the actuator and connected to the motor cable.

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800	900	1000
L	414	514	614	714	814	914	1014	1114	1214	1314
A	330	430	530	630	730	830	930	1030	1130	1230
B	100	200	300	400	500	600	700	800	900	1000
D	8	10	12	14	16	18	20	22	24	26
N	3	4	5	6	7	8	9	10	11	12
Weight (kg)	7.9	9.0	10	11.1	12.1	13.2	14.3	15.3	16.4	17.4

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points		→P335	

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

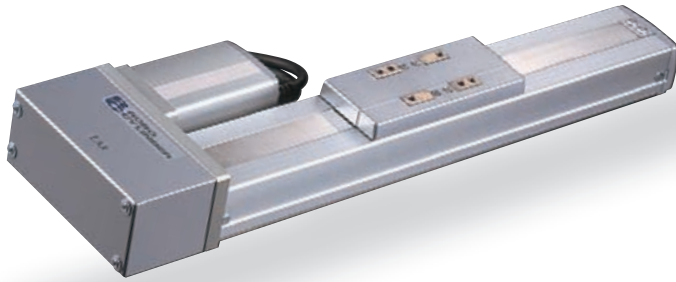
# RCP2-HS8R

ROBO Cylinder, High-Speed Slider Type, Actuator Width 80mm, Pulse Motor Motor Reversing, Straight, Iron Base Type

Model Specification Items

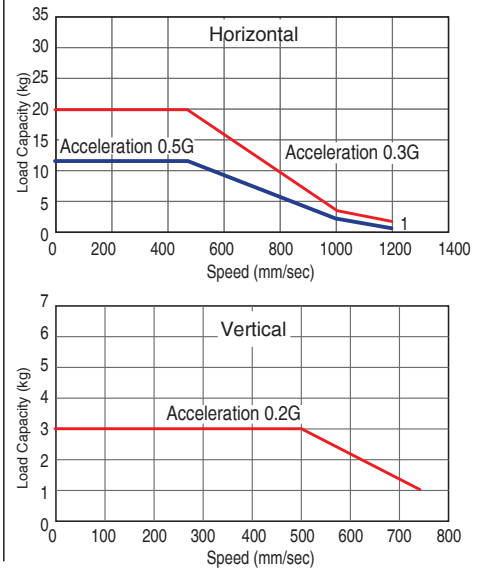
<b>RCP2</b>	<b>HS8R</b>	<b>I</b>	<b>86P</b>			<b>P2</b>		
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental specification 86□ size	86P:Pulse motor	30: 30mm	100:100mm ? 1000:1000mm (Set in 100-mm steps)	P2 :PCON-CF RCP2-CF	N :No cable P :1m S :3m M :5m X□: Specified length R□: Robot cable	B :Brake NM :Reversed-home specification SR :Slider roller specification

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the actuator is operated vertically). The maximum acceleration is 0.5 G in horizontal application and 0.2 G in vertical application.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

#### Stroke and Maximum Speed

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-HS8R-I-86P-30-①-P1-②-③	30	~20	~3	100 ~1000 (Set in 100-mm steps)

Stroke / Lead	100 ~ 800 (Set in 100-mm steps)	900 (mm)	1000 (mm)
	30	1200 <750>	1000 <750>

Explanation of numbers ① Stroke ② Cable length ③ Options

(Unit: mm/s)

### Options

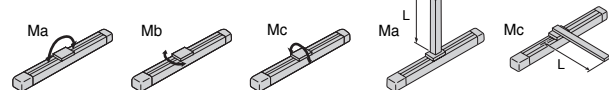
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Slide roller specification	SR	P388

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Base	Material: Special alloy steel
Allowable load moment	Ma : 36.3N • m Mb : 36.3N • m Mc : 77.4N • m
Overhang load length	Ma direction: 450mm or less, Mb/Mc directions: 450mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w



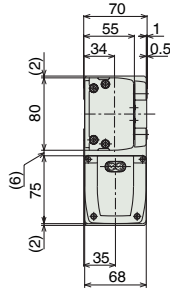
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

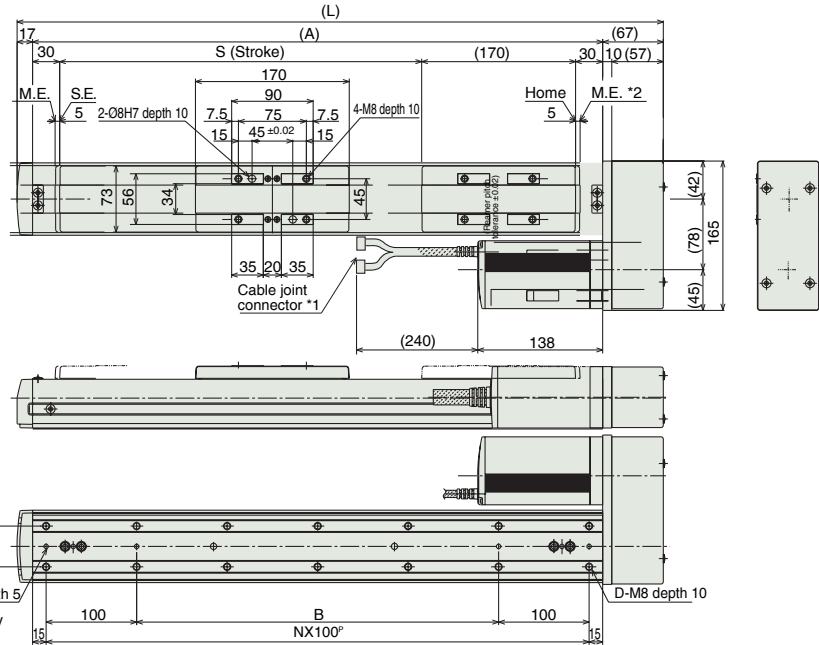


\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

- \* The reference surface is same as that of the HS8C type. (Refer to p. 32)
- \* The offset reference position for Ma moment is the same as that of the HS8C type. (Refer to p. 32)

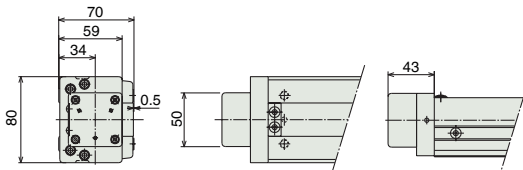


- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.



Brake dimensions

\* Models with brake have their overall length extended by 26 mm and weight increased by 0.5 kg.



\* The brake wire is guided inside the actuator and connected to the motor cable.

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800	900	1000
L	414	514	614	714	814	914	1014	1114	1214	1314
A	330	430	530	630	730	830	930	1030	1130	1230
B	100	200	300	400	500	600	700	800	900	1000
D	8	10	12	14	16	18	20	22	24	26
N	3	4	5	6	7	8	9	10	11	12
Weight (kg)	7.9	9.0	10	11.1	12.1	13.2	14.3	15.3	16.4	17.4

Controller - Integrated Type

Slider Type

Rod Type

Arm / Flat Type

Gripper / Rotary Type

Cleanroom Type

Splash Proof Type

Controller

40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

Controller

Applicable Controllers

Contact IAI for the HS8R compatible controller.

RCP2 ROBO Cylinder

# RCP2-BA6/BA6U

ROBO Cylinder, Belt Type, Actuator Width 58mm, Pulse Motor, Motor at Top/Bottom

Model Specification Items **RCP2** -  - **I** - **42P** - **54** -  - **P1** -  -

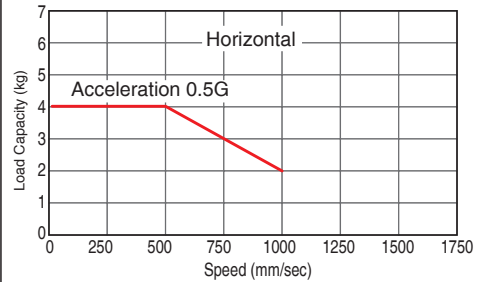
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
BA6 : Belt type with motor at top	I : Incremental specification	42P : P pulse motor	54 : 54mm	50 : 50mm	50 : 50mm	P1 : PCON PSEL	N : No cable P : 1m S : 3m M : 5m X <input type="checkbox"/> : Specified length R <input type="checkbox"/> : Robot cable	NM : Reversed-home specification

\* Refer to p. 31 of the front matter for details on the model specification items.



Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



(The actuator cannot be operated vertically.)



- (1) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- (2) The load capacity is based on operation at an acceleration of 0.5 G. This is the maximum acceleration.

Actuator Specifications

Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Motor installation direction	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP2-BA6-I-42P-54-①-P1-②-③	Top	Approx. 54mm	~4	Not possible	500 ~ 1000 (Set in 50-mm steps)
RCP2-BA6U-I-42P-54-①-P1-②-③	Bottom				

Explanation of numbers ① Stroke ② Cable length ③ Options

Stroke and Maximum Speed

Stroke / Lead	50 ~ 1000 (Set in 50-mm steps)
Approx. 54mm	1000

(Unit: mm/s)

Options

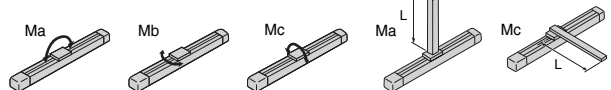
Name	Model	Page
Reversed-home specification	NM	P385

Actuator Specifications

Item	Description
Drive method	Timing belt
Positioning repeatability	±0.1mm
Backlash	0.1mm or less
Base	Material: Aluminum with special alumite treatment
Allowable load moment	Ma : 8.9N • m Mb : 12.7N • m Mc : 18.6N • m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

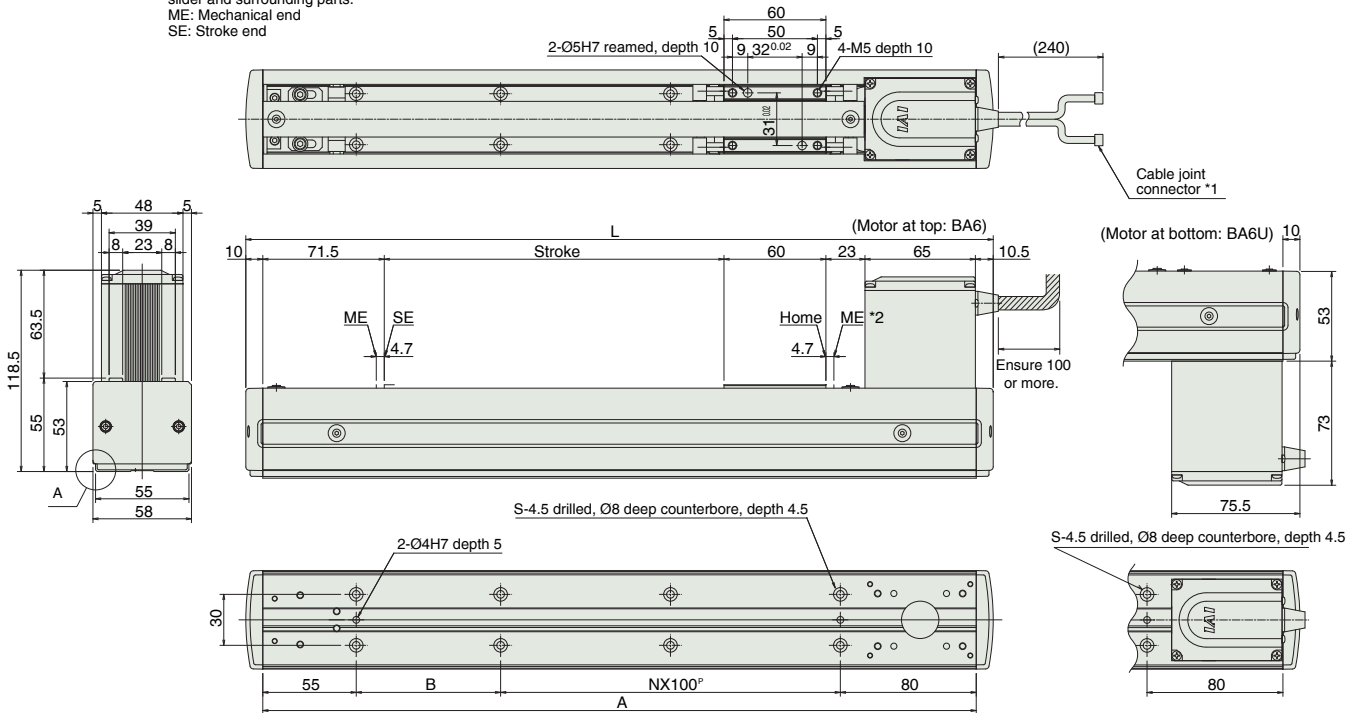
150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end



Dimensions and Weight by Stroke

Stroke	500	550	600	650	700	750	800	850	900	950	1000
L	740	790	840	890	940	990	1040	1090	1140	1190	1240
A	720	770	820	870	920	970	1020	1070	1120	1170	1220
B	85	35	85	35	85	35	85	35	85	35	85
D	5	6	6	7	7	8	8	9	9	10	10
N	14	16	16	18	18	20	20	22	22	24	24
Weight (kg)	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4.1

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

# RCP2 ROBO Cylinder

## RCP2-BA7/BA7U

ROBO Cylinder, Belt Type, Actuator Width 68mm, Pulse Motor, Motor at Top/Bottom

Model Specification Items **RCP2** -  - **I** - **42P** - **54** -  - **P1** -  -

Series Type Encoder type Motor type Lead Stroke Applicable controller Cable length Options

BA7 :Belt type with motor at top I: Incremental 42P: P ulse motor 54: 54mm 600:600mm P1 : PCON N :No cable NM :Reversed-home specification  
 BA7U :Belt type with motor at bottom specification 42□size PSEL S :3m M :5m X□□ :Specified length R□□ :Robot cable

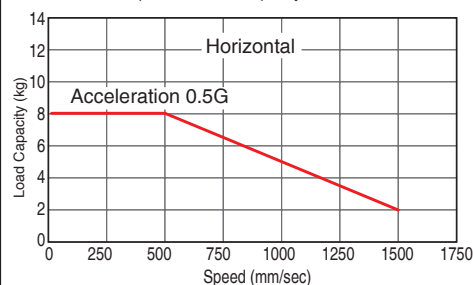
1200:1200mm (Set in 50-mm steps)

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



(The actuator cannot be operated vertically.)



- (1) The RCP2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
- (2) The load capacity is based on operation at an acceleration of 0.5 G. This is the maximum acceleration.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Motor installation direction	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP2-BA7-I-42P-54-①-P1-②-③	Top	Approx. 54mm	~8	Not possible	600 ~ 1200 (Set in 50-mm steps)
RCP2-BA7U-I-42P-54-①-P1-②-③	Bottom				

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke and Maximum Speed

Stroke	600 ~ 1200 (Set in 50-mm steps)
Lead	
Approx. 54mm	1500

(Unit: mm/s)

### Options

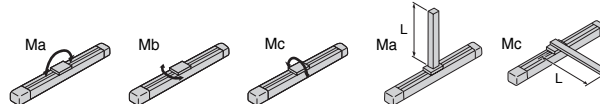
Name	Model	Page
Reversed-home specification	NM	P385

### Actuator Specifications

Item	Description
Drive method	Timing belt
Positioning repeatability	±0.1mm
Backlash	0.1mm or less
Base	Material: Aluminum with special alumite treatment
Allowable load moment	Ma : 13.8N • m Mb : 19.7N • m Mc : 29.0N • m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



40 mm

52 mm

58 mm

60 mm

68 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

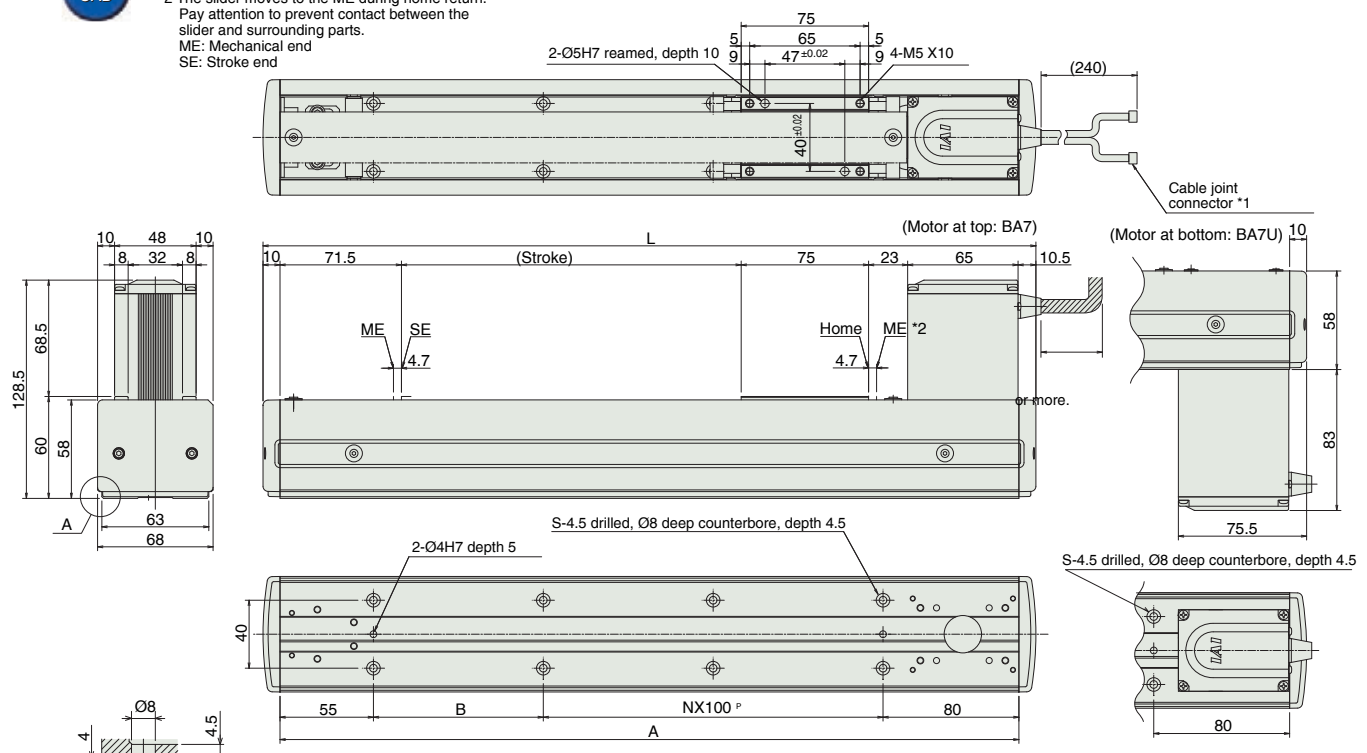
150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



- \*1 Connect the power & I/O cable. Refer to p. 314 for details on the cables.
  - \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical end  
SE: Stroke end



Dimensions and Weight by Stroke

Stroke	600	650	700	750	800	850	800	850	900	950	1000	950	1000
L	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455
A	835	885	935	985	1035	1085	1135	1185	1235	1285	1335	1385	1435
B	100	50	100	05	100	50	100	50	100	50	100	50	100
D	6	7	7	8	8	9	9	10	10	11	11	12	12
N	16	18	18	20	20	22	22	24	24	26	26	28	28
Weight (kg)	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controler - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 68 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-RA2C

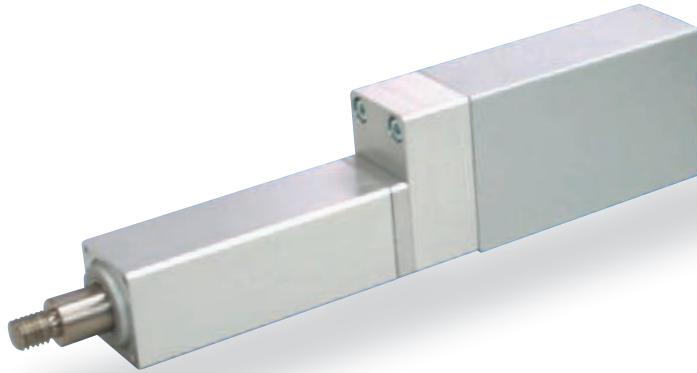
ROBO Cylinder, Rod Type, Actuator Width 25mm, Pulse Motor, Straight

**Model Specification Items** **RCP2** - **RA2C** - **I** - **20P** -    -    - **P1** -    -   

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options  
 I: Incremental 20P: Pulse motor specification 20□ size     1: 1mm     25: 25mm     P1: PCON     N : No cable     FL: Flange  
 PSEL     S : 1m     FT: Foot bracket  
 M : 3m     X□: Specified length  
 R□: Robot cable

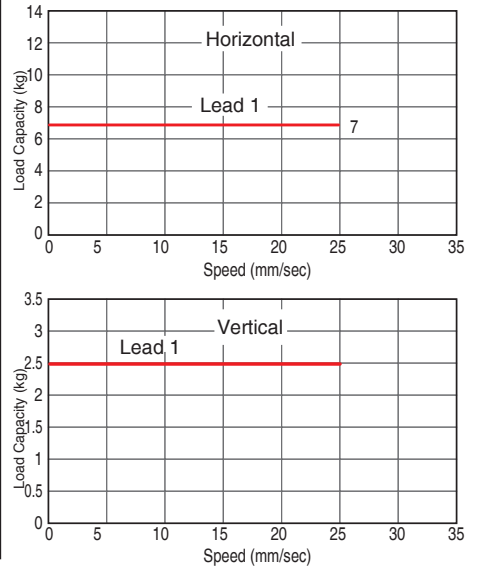
100: 100mm (Set in 25-mm steps)

\* Refer to p. 31 of the front matter for details on the model specification items.



**Correlation Diagram of Speed and Load Capacity**

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- (1) With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- (2) The load capacity is based on operation at an acceleration of 0.05 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. Take note that if the rod receives an external force from any direction other than the moving direction of the rod, the detent may be damaged.

**Actuator Specifications**

**Lead and Load Capacity**

Model	Lead (mm)	Maximum load capacity		Maximum push force (N) (Note 1)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA2C-I-20P-1-①-P1-②-③	1	7	2.5	100	25 ~ 100 (Set in 25-mm steps)

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 1) Refer to p. 408 for the graph of push force.

**Stroke and Maximum Speed**

Stroke / Lead	25 ~ 100 (Set in 25-mm steps)
1	25

(Unit: mm/s)

**Options**

Name	Model	Page
Flange	FL	P382
Foot bracket	FT	P384

**Actuator Specifications**

Item	Description
Drive method	Ball screw Ø6mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø12mm
Rod non-rotation accuracy	±2.1°
Ambient operating temperature, humidity	0-40°C, 85% RH or below (non-condensing)

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w



Dimensions

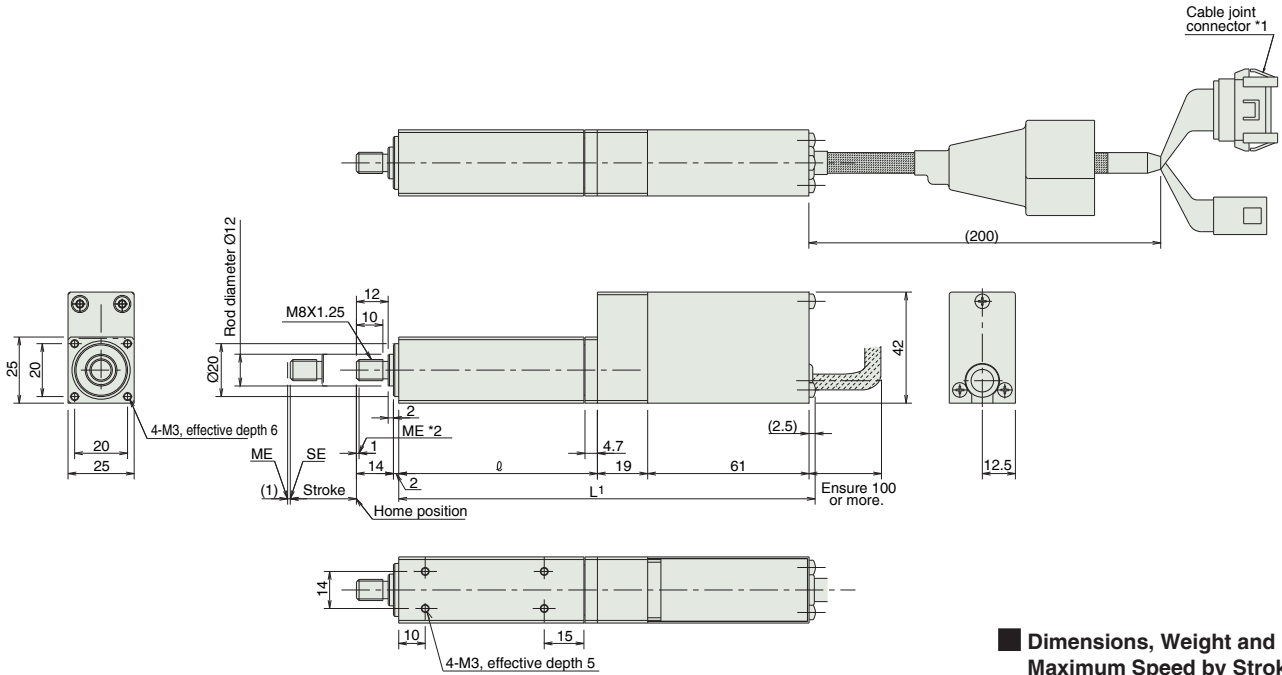
You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* Due to structural limitations, the RA2C is not available in the reversed-home specification.

\*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.  
 \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
 ME: Mechanical end  
 SE: Stroke end

Note  
 Do not apply an external force on the rod in any direction other than the moving direction of the rod. If the rod receives an external force from the right-angle direction or rotating direction, the detent may be damaged.



■ Dimensions, Weight and Maximum Speed by Stroke

Stroke	25	50	75	100
ℓ	75	100	125	150
L	157.5	182.5	207.5	232.5
Weight (kg)	0.4	0.5	0.6	0.7

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-20PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-20PI-NP-2-0					
Solenoid valve type		PCON-CY-20PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-20PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-20PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-20PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-20PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**RCP2** ROBO Cylinder

# RCP2-RA3C

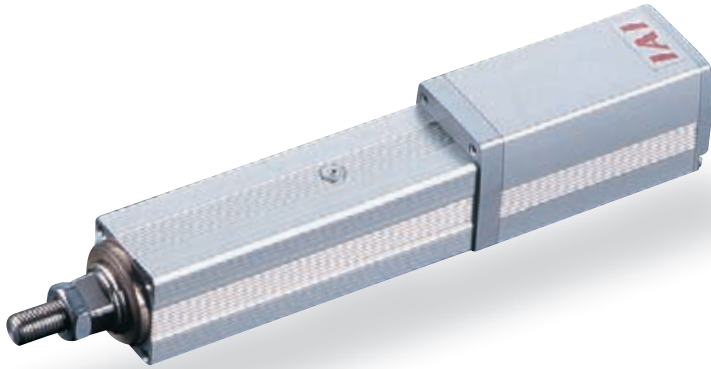
ROBO Cylinder, Rod Type, Actuator Width 35mm, Pulse Motor, Straight

Model Specification Items **RCP2 - RA3C - I - 28P** -  -  - **P1** -  -

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	28P: Pulse motor	28□ size		5: 5mm 2.5: 2.5mm	50: 50mm ?	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□: Specified length R□: Robot cable	FL: Flange FT: Foot bracket NM: Reversed-home specification

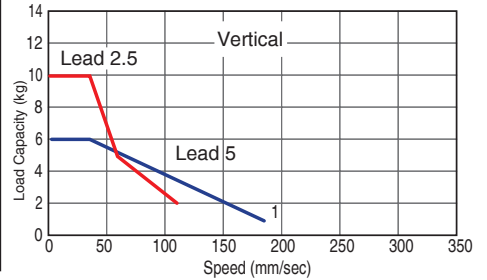
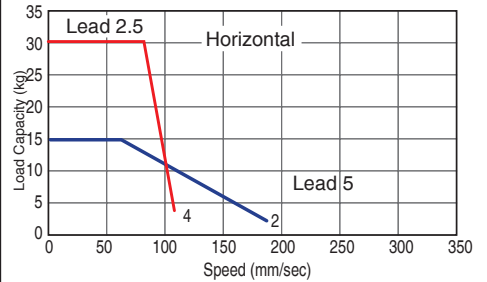
200: 200mm (Set in 50-mm steps)

\* Refer to p. 31 of the front matter for details on the model specification items.



Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. Take note that if the rod receives an external force from any direction other than the moving direction of the rod, the detent may be damaged.

Actuator Specifications

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

**Stroke and Maximum Speed**

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA3C-I-28P-5-①-P1-②-③	5	~15	~6	73.5	50 ~ 200 (Set in 50-mm steps)
RCP2-RA3C-I-28P-2.5-①-P1-②-③	2.5	~30	~10	156.8	

Lead	Stroke	
	50 ~ 200 (Set in 50-mm steps)	
5	187	
2.5	114	

(Unit: mm/s)

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

Options

Name	Model	Page
Flange	FL	P382
Foot bracket	FT	P384
Reversed-home specification	NM	P385

Actuator Specifications

Item	Description
Drive method	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø22mm
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

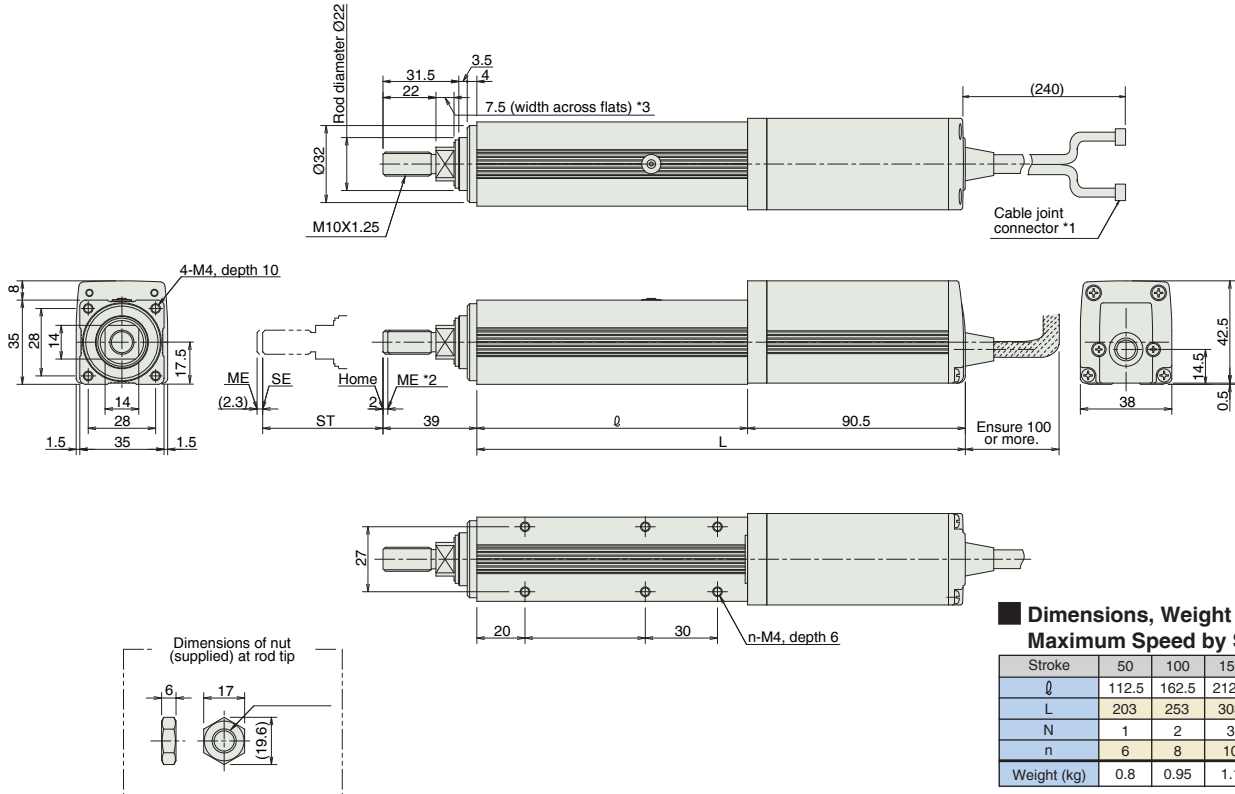
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



**Note**  
Do not apply an external force on the rod in any direction other than the moving direction of the rod. If the rod receives an external force from the right-angle direction or rotating direction, the detent may be damaged.

\*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.  
\*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end  
\*3 The orientation of the across flats surface varies depending on the product.



**Dimensions, Weight and Maximum Speed by Stroke**

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-28SPI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-28SPI-NP-2-0					
Solenoid valve type		PCON-CY-28SPI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-28SPI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-28SPI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-28SPI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-28SPI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

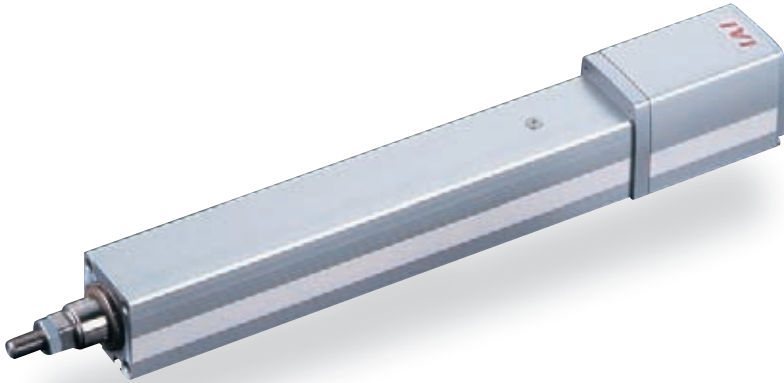
# RCP2-RA4C

ROBO Cylinder, Rod Type, Actuator Width 45mm, Pulse Motor, Straight

Model Specification Items **RCP2** - **RA4C** - **I** - **42P** -  -  - **P1** -  -

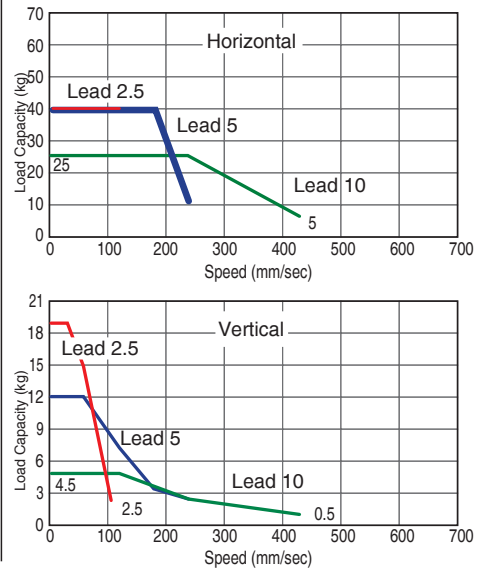
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental	42P: Pulse motor	10: 10mm	50: 50mm	5: 5mm	?	P1: PCON	N : No cable	B : Brake
specification 42□ size		2.5: 2.5mm			300: 300mm (Set in 50-mm steps)	PSEL	P : 1m	FL : Flange
							S : 3m	FT : Foot bracket
							M : 5m	NM : Reversed-home specification
							X□□ : Specified length	
							R□□ : Robot cable	

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. Take note that if the rod receives an external force from any direction other than the moving direction of the rod, the detent may be damaged.

### Actuator Specifications

Lead and Load Capacity (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Stroke and Maximum Speed

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA4C-I-42P-10-①-P1-②-③	10	~25	~4.5	150	50 ~ 300 (Set in 50-mm steps)
RCP2-RA4C-I-42P-5-①-P1-②-③	5	~40	~12	284	
RCP2-RA4C-I-42P-2.5-①-P1-②-③	2.5	40	~19	358	

Lead	Stroke		
	50 ~ 200 (Set in 50-mm steps)	250 (mm)	300 (mm)
10	458	458	350
5	250	237	175
2.5	125 <114>	118 <114>	87

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

### Options

Name	Model	Page
Brake	B	P381
Flange	FL	P382
Foot bracket	FT	P384
Reversed-home specification	NM	P385

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø22mm
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

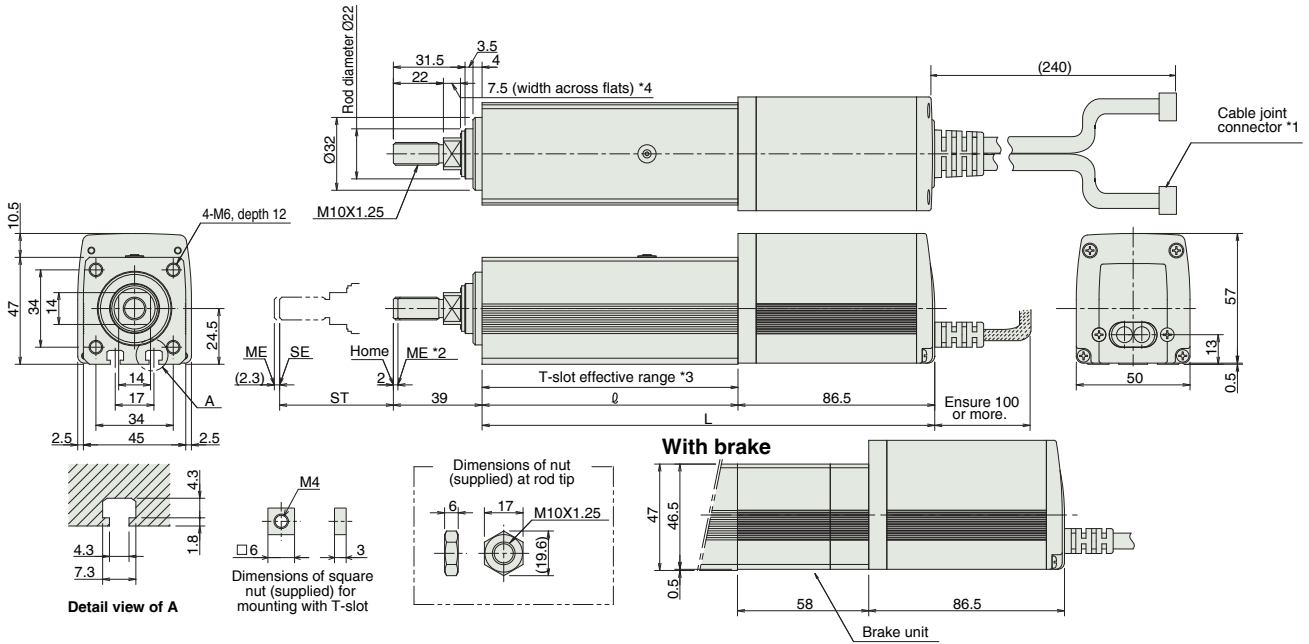
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



**Note**  
Do not apply an external force on the rod in any direction other than the moving direction of the rod. If the rod receives an external force from the right-angle direction or rotating direction, the detent may be damaged.

- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
- \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end
- \*3 The bottom face of the brake unit has no T-slots.
- \*4 The orientation of the across flats surface varies depending on the product.



\* Models of the brake specification have their overall length extended by 58 mm and weight increased by 0.4 kg compared to the standard specification.

**Dimensions, Weight and Maximum Speed by Stroke**

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

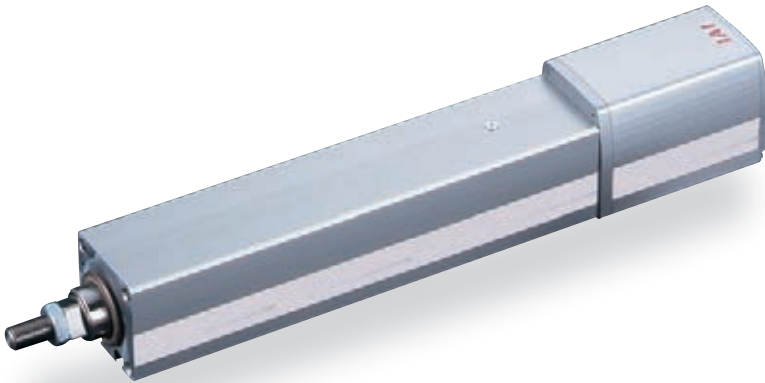
# RCP2-RA6C

ROBO Cylinder, Rod Type, Actuator Width 64mm, Pulse Motor, Straight

Model Specification Items **RCP2** - **RA6C** - **I** - **56P** -  -  - **P1** -  -

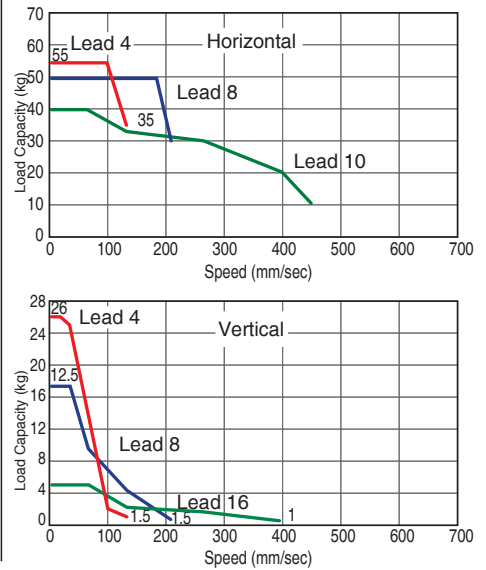
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental	56P: Pulse motor	16: 16mm	50: 50mm	P1: PCON	N : No cable	B : Brake		
specification 56□ size		8: 8mm	?	PSEL	P : 1m	FL : Flange		
		4: 4mm	300: 300mm (Set in 50-mm steps)		S : 3m	FT : Foot bracket		
					M : 5m	NM : Reversed-home specification		
					X□□ : Specified length			
					R□□ : Robot cable			

\* Refer to p. 31 of the front matter for details on the model specification items.



Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. Take note that if the rod receives an external force from any direction other than the moving direction of the rod, the detent may be damaged.

Actuator Specifications

Lead and Load Capacity (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Stroke and Maximum Speed

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA6C-I-56P-16-①-P1-②-③	16	~40	~5	240	50 ~ 300 (Set in 50-mm steps)
RCP2-RA6C-I-56P-8-①-P1-②-③	8	~50	~17.5	470	
RCP2-RA6C-I-56P-4-①-P1-②-③	4	~55	~26	800	

Stroke / Lead	50 ~ 300 (Set in 50-mm steps)
	16
8	210
4	130

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

Options

Name	Model	Page
Brake	B	P381
Flange	FL	P382
Foot bracket	FT	P384
Reversed-home specification	NM	P385

Actuator Specifications

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø30mm
Rod non-rotation accuracy	±1.0°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)



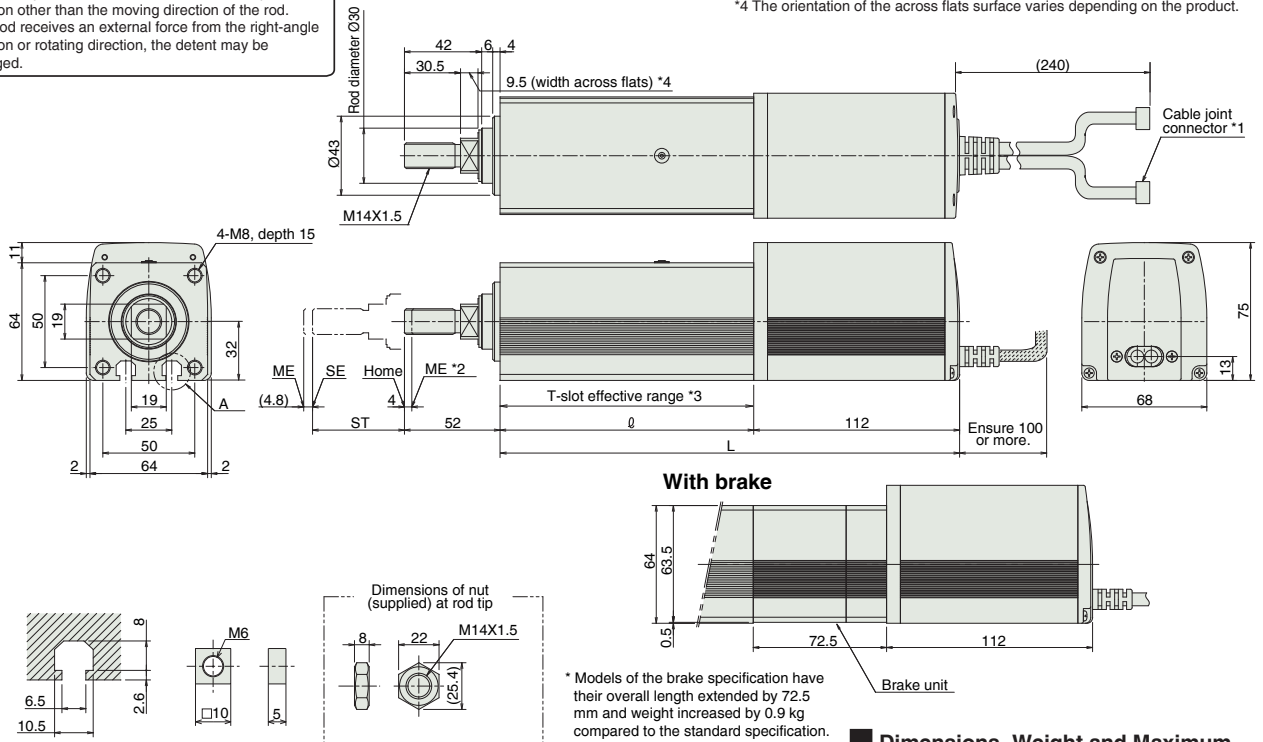
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



**Note**  
Do not apply an external force on the rod in any direction other than the moving direction of the rod. If the rod receives an external force from the right-angle direction or rotating direction, the detent may be damaged.

- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
- \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end
- \*3 The bottom face of the brake unit has no T-slots.
- \*4 The orientation of the across flats surface varies depending on the product.



**Dimensions, Weight and Maximum Speed by Stroke**

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**RCP2** ROBO Cylinder

# RCP2-RA10C

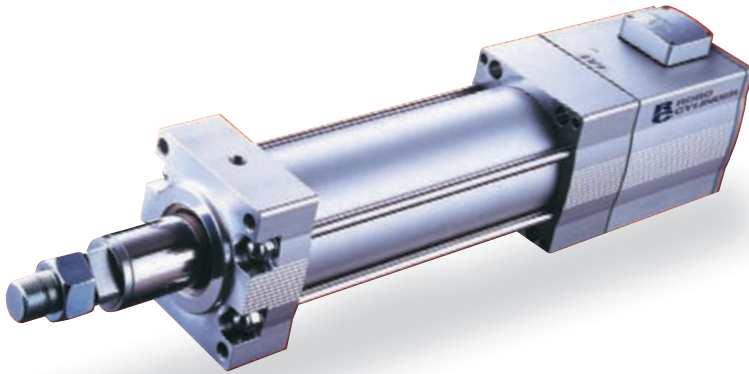
ROBO Cylinder, High-Thrust Rod Type, Actuator Width 100mm, Pulse Motor, Straight

Model Specification Items **RCP2-RA10C-I-86P** - [ ] - [ ] - **P1** - [ ] - [ ]

Series: I, Type: RA10C, Encoder type: I, Motor type: 86P, Lead: 10, Stroke: 50, Applicable controller: P1, Cable length: [ ], Options: [ ]

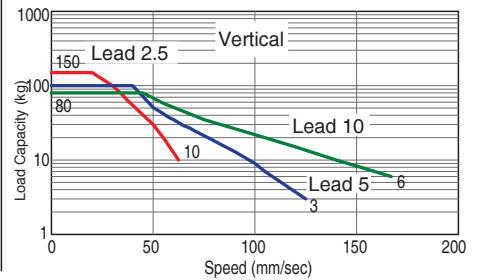
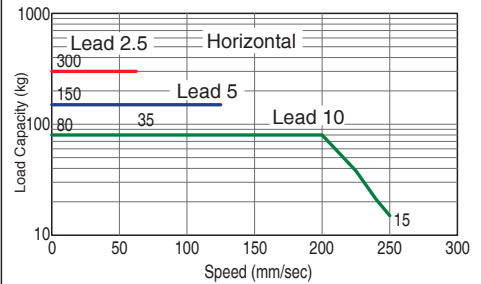
I: Incremental specification 86□ size, 86P: Pulse motor, 10: 10mm, 5: 5mm, 2.5: 2.5mm, 50: 50mm, 300: 300mm (Set in 50-mm steps), P2: PCON-CF, N: No cable, P: 1m, S: 3m, M: 5m, X□: Specified length, R□: Robot cable, B: Brake, FL: Flange, FT: Foot bracket

\* Refer to p. 31 of the front matter for details on the model specification items.



**Correlation Diagram of Speed and Load Capacity**

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - The load capacity is based on operation at an acceleration of 0.04 G (lead 10), 0.02 G (lead 5) or 0.01 G (lead 2.5). These are the maximum accelerations for the respective lead specifications. Take note that if the rod receives an external force from any direction other than the moving direction of the rod, the detent may be damaged.

**Actuator Specifications**

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA10C-I-86P-10-①-P2-②-③	10	~80	~80	1500	50 ~ 300 (Set in 50-mm steps)
RCP2-RA10C-I-86P-5-①-P2-②-③	5	150	~100	3000	
RCP2-RA10C-I-86P-2.5-①-P2-②-③	2.5	300	~150	6000	

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

**Stroke and Maximum Speed**

Stroke	50 ~ 300 (Set in 50-mm steps)
10	250<167>
5	125
2.5	63

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

**Options**

Name	Model	Page
Cable outlet direction	A1~A3	P381
Brake	B	P381
Flange	FL	P382
Foot bracket	FT	P384

**Actuator Specifications**

Item	Description
Drive method	Ball screw rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø40mm
Rod non-rotation accuracy	±1.0°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

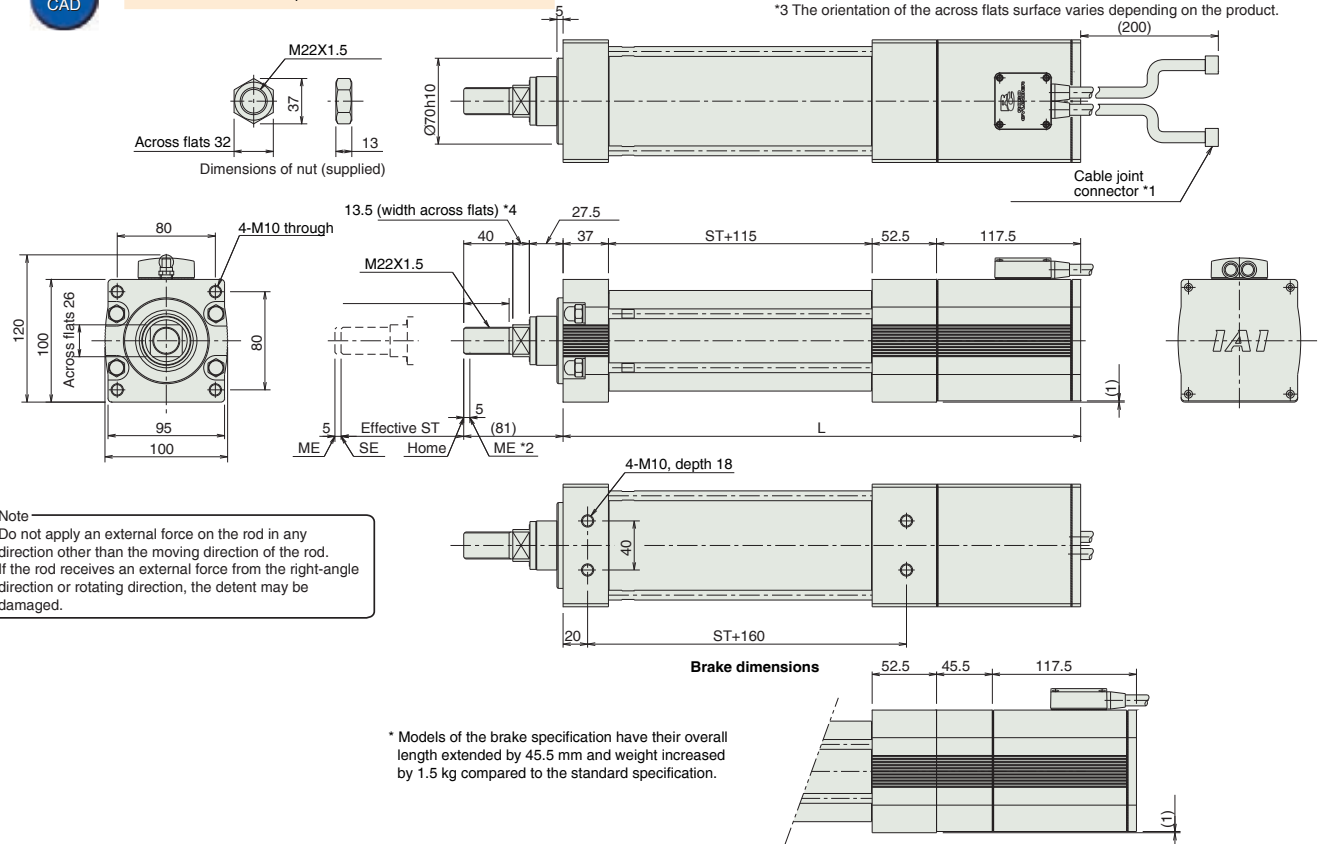
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* Due to structural limitations, the RA10C type is not available in the reversed-home specification.

- \*1 Connect the motor/encoder cables. Take note that while the motor cable is the same as that of the RCP2 series, the encoder cable is different.
- \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.
- ME: Mechanical end  
SE: Stroke end
- \*3 The orientation of the across flats surface varies depending on the product.



**Note**  
Do not apply an external force on the rod in any direction other than the moving direction of the rod. If the rod receives an external force from the right-angle direction or rotating direction, the detent may be damaged.

\* Models of the brake specification have their overall length extended by 45.5 mm and weight increased by 1.5 kg compared to the standard specification.

Maximum Speed 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

Controller

Applicable Controllers

Contact IAI for the RCP2-RA10C compatible controller.

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-RGS4C

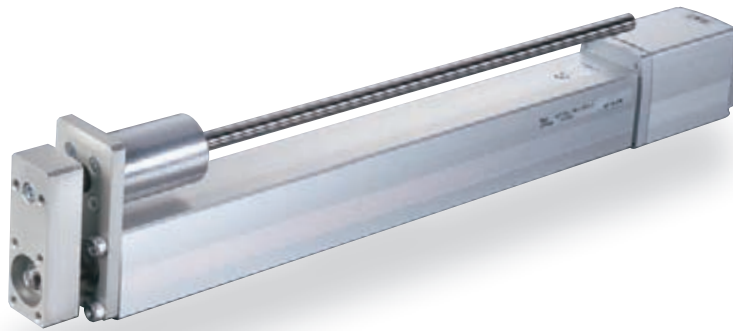
ROBO Cylinder, Rod Type with Single Guide, Actuator Width 45mm, Pulse Motor, Straight

Model Specification Items **RCP2-RGS4C-I-42P** - [ ] - [ ] - **P1** - [ ] - [ ]

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental	42P: Pulse motor	10: 10mm	50: 50mm	P1: PCON	N: No cable	B: Brake		
specification 42□□size	5: 5mm	2.5: 2.5mm	?	PSEL	P: 1m	FT: Foot bracket		
					S: 3m	NM: Reversed-home specification		
					M: 5m			
					X□□: Specified length			
					R□□: Robot cable			

300: 300mm (Set in 50-mm steps)

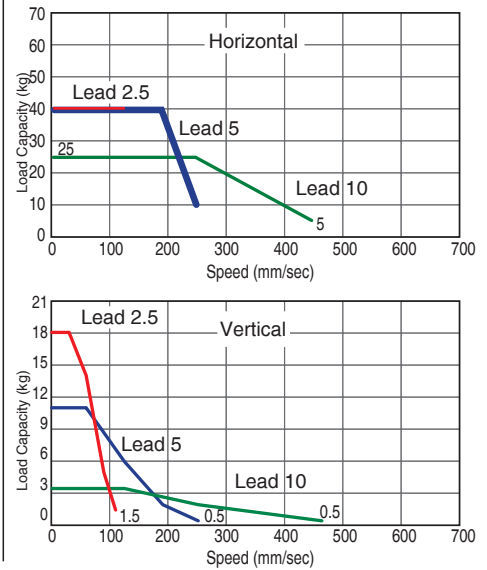
\* Refer to p. 31 of the front matter for details on the model specification items.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. The horizontal load capacity assumes use of an external guide alone. Refer to Technical Reference (p. 413) for the weight that can be supported with the supplied guide alone.

**Correlation Diagram of Speed and Load Capacity**

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



**Actuator Specifications**

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGS4C-I-42P-10-①-P1-②-③	10	~25	~3.5	150	50 ~ 300 (Set in 50-mm steps)
RCP2-RGS4C-I-42P-5-①-P1-②-③	5	~40	~11	284	
RCP2-RGS4C-I-42P-2.5-①-P1-②-③	2.5	40	~18	358	

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

**Stroke and Maximum Speed**

Stroke / Lead	50 ~ 200	250	300
	(Set in 50-mm steps)	(mm)	(mm)
10	458	458	350
5	250	237	175
2.5	125 <114>	118 <114>	87

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

**Options**

Name	Model	Page
Brake	B	P381
Foot bracket	FT	P384
Reversed-home specification	NM	P385

**Actuator Specifications**

Item	Description
Drive method	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Guide	Single guide, guide rod diameter Ø10mm, ball bush type
Rod diameter	Ø22mm
Rod non-rotation accuracy	±0.05°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

25 mm

32 mm

35 mm

37 mm

45 mm

55 mm

64 mm

75 mm

100 mm

Pulse Motor

20w

30w

60w

100w

150w

Dimensions

You can download CAD drawings from our website.

www.robocylinder.de



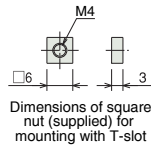
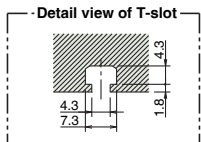
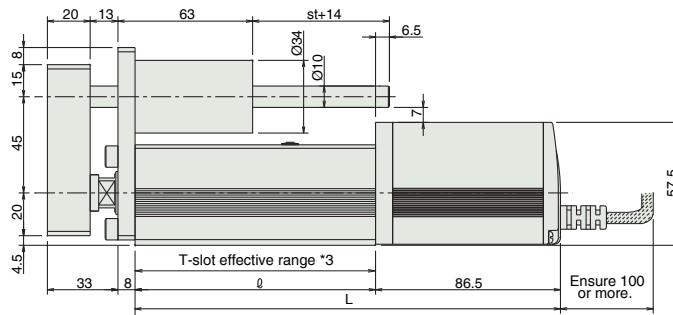
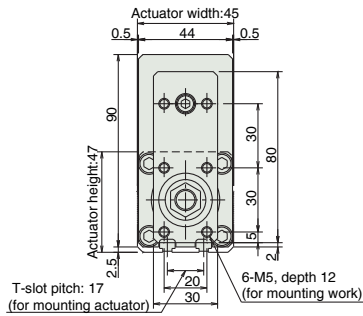
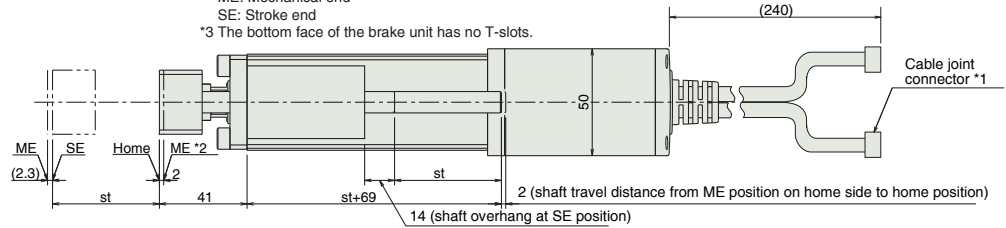
\*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.

\*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.

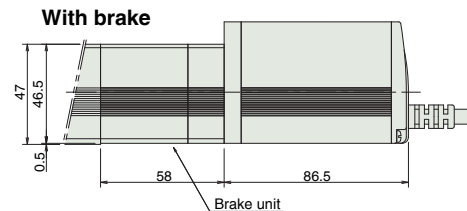
ME: Mechanical end

SE: Stroke end

\*3 The bottom face of the brake unit has no T-slots.



Dimensions of square nut (supplied for mounting with T-slot)  
\* Models of the brake specification have their overall length extended by 58 mm and weight increased by 0.4 kg compared to the standard specification.



Dimensions, Weight and Maximum Speed by Stroke

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

RCP2 ROBO Cylinder

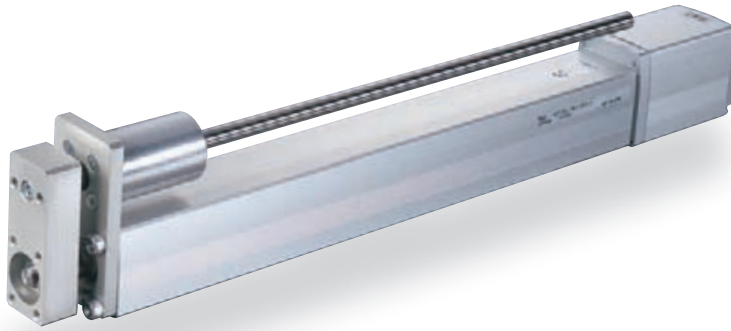
# RCP2-RGS6C

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

Model Specification Items **RCP2 - RGS6C - I - 56P** - [ ] - [ ] - **P1** - [ ] - [ ]

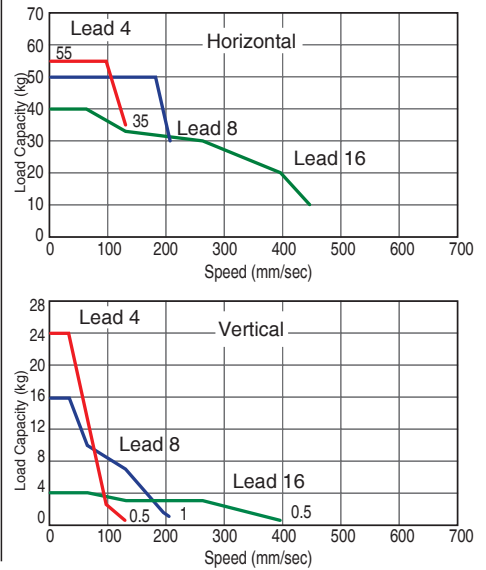
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification 56□size	56P: Pulse motor	16: 16mm 8: 8mm 4: 4mm	50: 50mm ?	300: 300mm (Set in 50-mm steps)	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	B : Brake FT : Foot bracket NM : Reversed-home specification	

\* Refer to p. 31 of the front matter for details on the model specification items.



Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. The horizontal load capacity assumes use of an external guide. Refer to Technical Reference (p. 413) for the weight that can be supported with the supplied guide alone.

Actuator Specifications

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGS6C-I-56P-16-①-P1-②-③	16	~40	~4	240	50 ~ 300 (Set in 50-mm steps)
RCP2-RGS6C-I-56P-8-①-P1-②-③	8	~50	~16	470	
RCP2-RGS6C-I-56P-4-①-P1-②-③	4	~55	~24	800	

**Stroke and Maximum Speed**

Stroke	50 ~ 300 (Set in 50-mm steps)
16	450<400>
8	210
4	130

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

Options

Name	Model	Page
Brake	B	P381
Foot bracket	FT	P384
Reversed-home specification	NM	P385

Actuator Specifications

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Guide	Single guide, guide rod diameter Ø12mm, ball bush type
Rod diameter	Ø30mm
Rod non-rotation accuracy	±0.05°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)



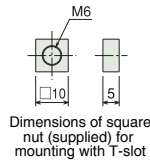
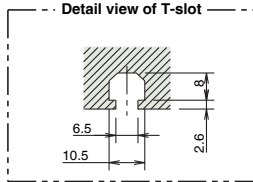
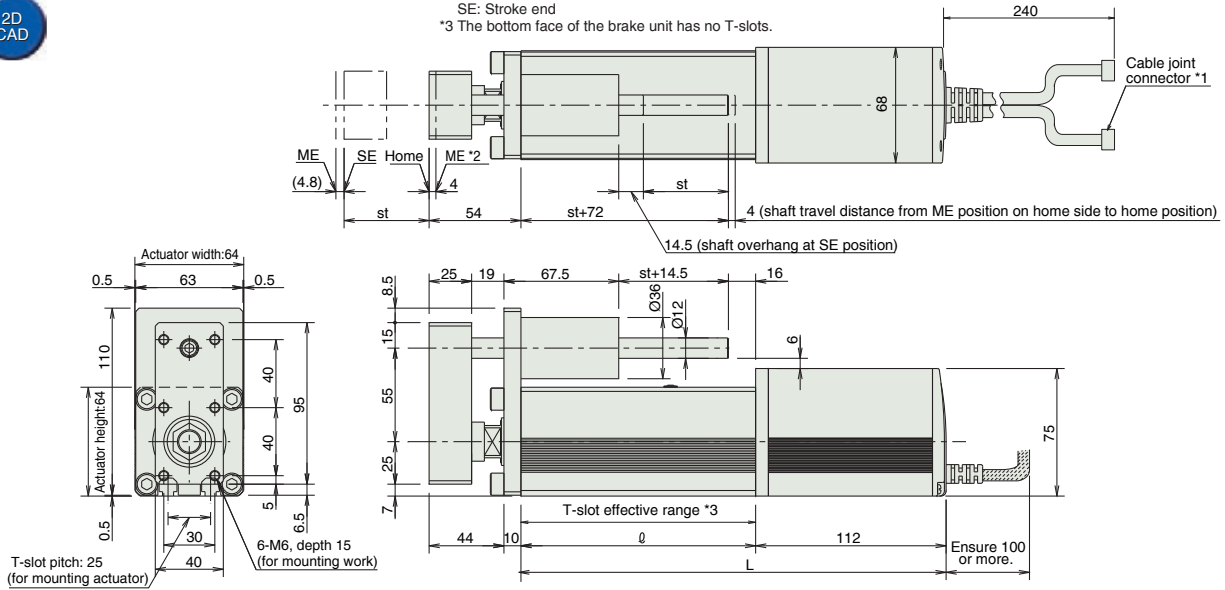
Dimensions

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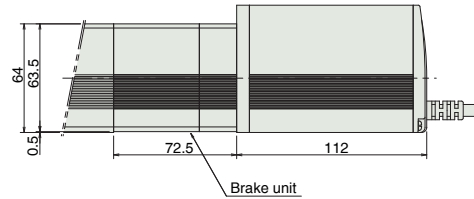


- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
- \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end
- \*3 The bottom face of the brake unit has no T-slots.



\* Models of the brake specification have their overall length extended by 72.5 mm and weight increased by 0.9 kg compared to the standard specification.

With brake



Dimensions, Weight and Maximum Speed by Stroke

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

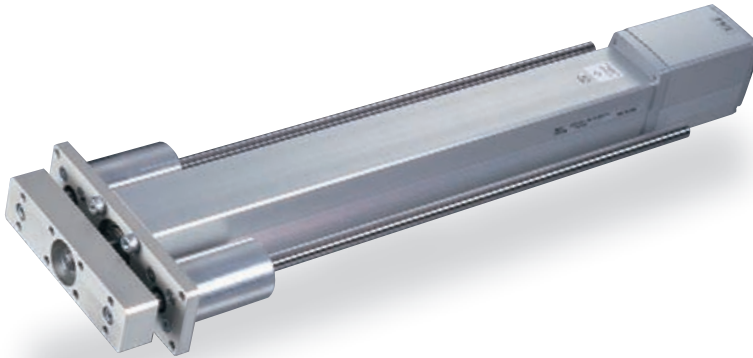
# RCP2-RGD3C

ROBO Cylinder, Rod Type with Double Guides, Actuator Width 35mm, Pulse Motor, Straight

Model Specification Items **RCP2-RGD3C-I-28P**

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	56P: Pulse motor	5: 5mm	2.5: 2.5mm	50: 50mm	?	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□: Specified length R□: Robot cable	FT: Foot bracket NM: Reversed-home specification

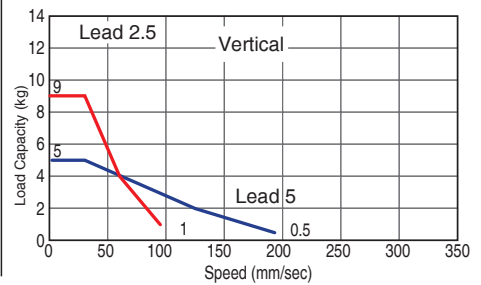
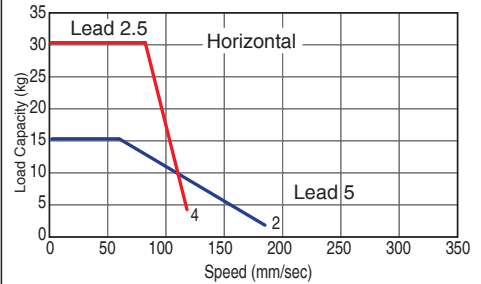
\* Refer to p. 31 of the front matter for details on the model specification items.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. The horizontal load capacity assumes use of an external guide. Refer to Technical Reference (p. 413) for the weight that can be supported with the supplied guide alone.

### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGD3C-I-28P-5-①-P1-②-③	5	~15	~5	73.5	50 ~ 200 (Set in 50-mm steps)
RCP2-RGD3C-I-28P-2.5-①-P1-②-③	2.5	~30	~9	156.8	

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

#### Stroke and Maximum Speed

Stroke	50 ~ 200 (Set in 50-mm steps)
5	187
2.5	114<93>

(Unit: mm/s)

### Options

Name	Model	Page
Foot bracket	FT	P384
Reversed-home specification	NM	P385

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Guide	Double guide, guide rod diameter Ø10mm, ball bush type
Rod diameter	Ø22mm
Rod non-rotation accuracy	±0.05°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

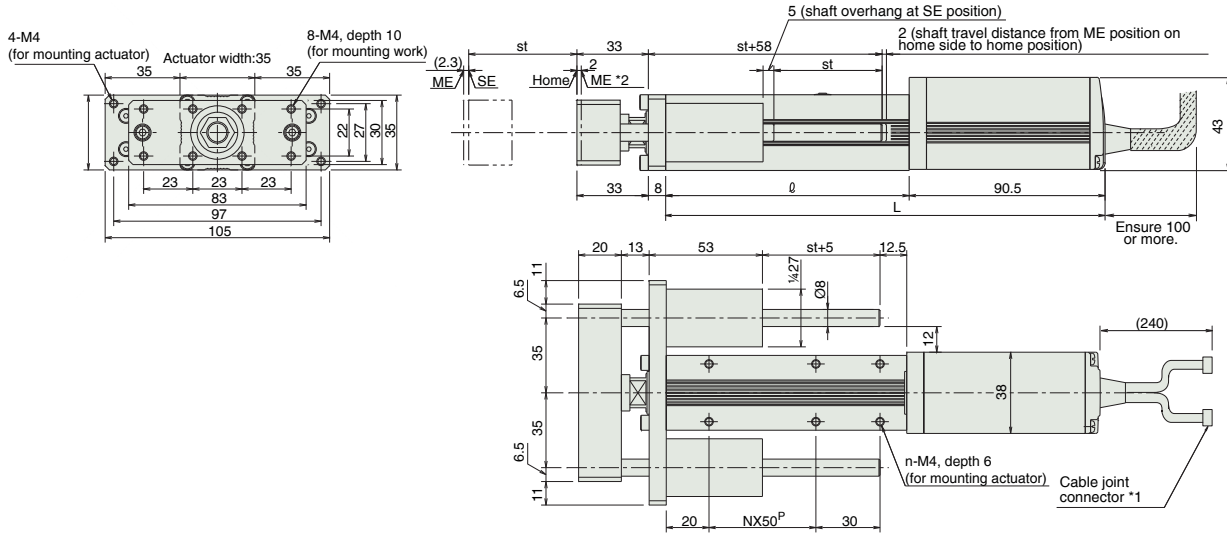
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- 150w
- Pulse Motor
- 20w
- 30w
- 60w
- 100w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
  - \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.
- ME: Mechanical end  
SE: Stroke end



Dimensions, Weight and Maximum Speed by Stroke

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-28PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-28PI-NP-2-0					
Solenoid valve type		PCON-CY-28PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-28PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-28PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-28PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-28PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controler - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

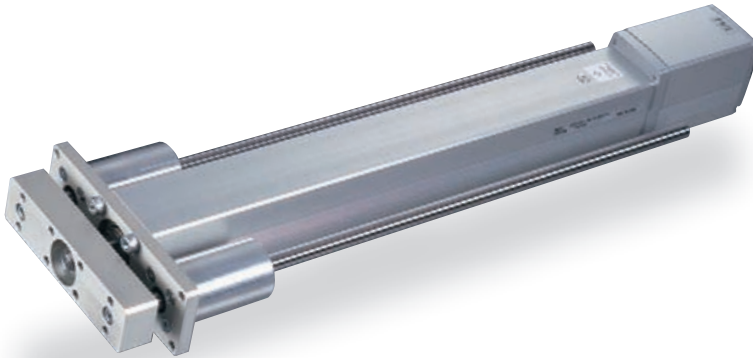
# RCP2-RGD4C

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

Model Specification Items **RCP2-RGD4C-I-42P** -  -  - **P1** -  -

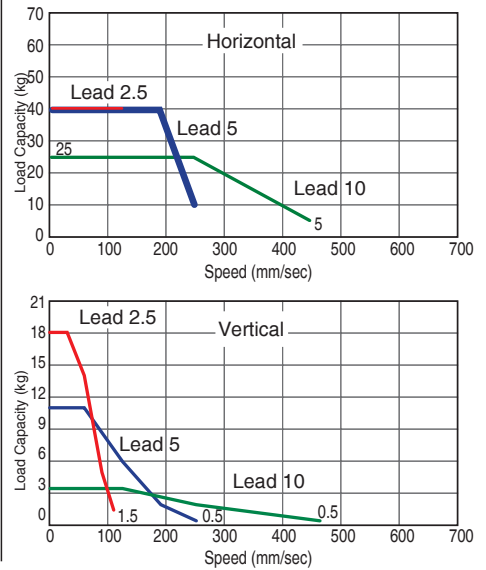
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification 42□□ size	42P: Pulse motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 300: 300mm (Set in 50-mm steps)	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	B : Brake FT : Foot bracket NM : Reversed-home specification		

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. The horizontal load capacity assumes use of an external guide. Refer to Technical Reference (p. 413) for the weight that can be supported with the supplied guide alone.

### Actuator Specifications

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGD4C-I-42P-10-①-P1-②-③	10	~25	~3.5	150	50 ~ 300 (Set in 50-mm steps)
RCP2-RGD4C-I-42P-5-①-P1-②-③	5	~40	~11	284	
RCP2-RGD4C-I-42P-2.5-①-P1-②-③	2.5	40	~18	358	

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

**Stroke and Maximum Speed**

Stroke	50 ~ 200 (Set in 50-mm steps)			250 (mm)	300 (mm)
	Lead	50 ~ 200	250		
10		458	458	350	
5		250	237	175	
2.5		125 <114>	118 <114>	87	

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

### Options

Name	Model	Page
Brake	B	P381
Foot bracket	FT	P384
Reversed-home specification	NM	P385

### Actuator Specifications

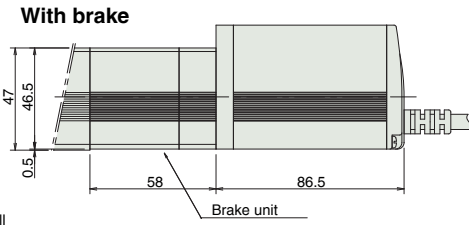
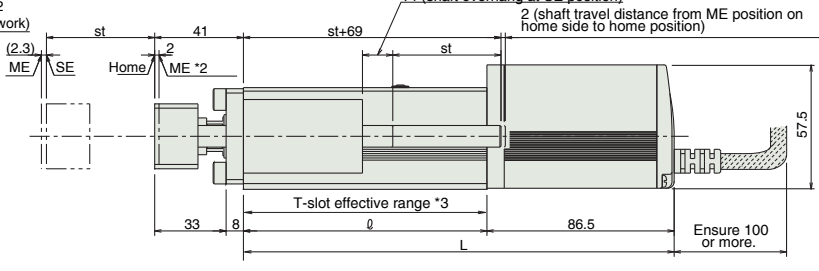
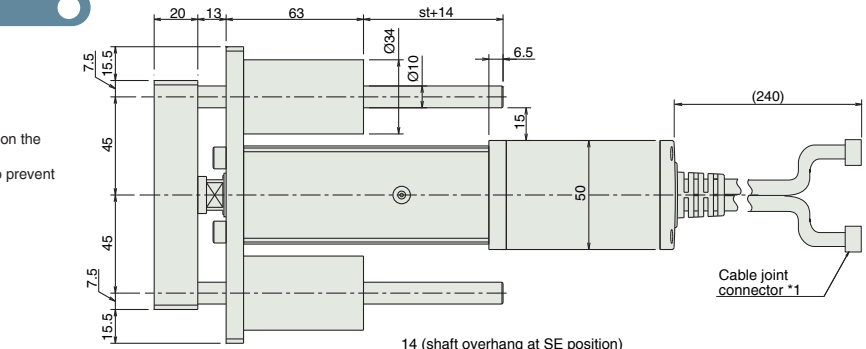
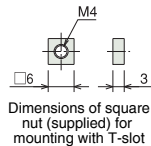
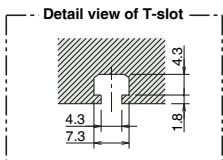
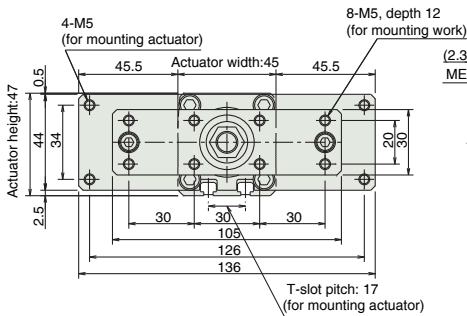
Item	Description
Drive method	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Guide	Double guide, guide rod diameter Ø10mm, ball bush type
Rod diameter	Ø22mm
Rod non-rotation accuracy	±0.05°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
- \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end
- \*3 The bottom face of the brake unit has no T-slots.



\* Models of the brake specification have their overall length extended by 58 mm and weight increased by 0.4 kg compared to the standard specification.

Dimensions, Weight and Maximum Speed by Stroke

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

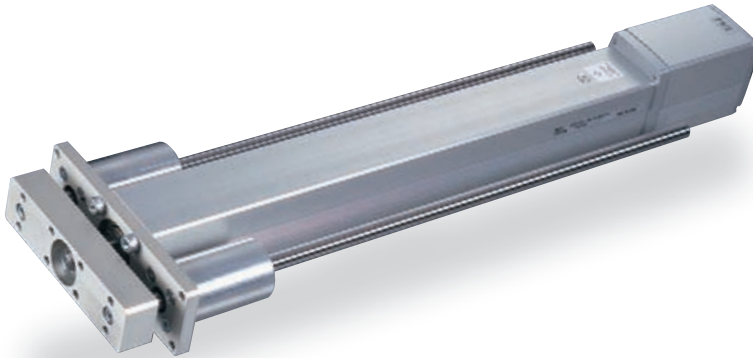
# RCP2-RGD6C

ROBO Cylinder, Rod Type with Double Guides, Actuator Width 64mm, Pulse Motor, Straight

Model Specification Items **RCP2-RGD6C-I-56P**

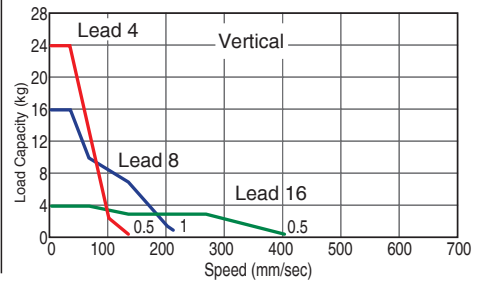
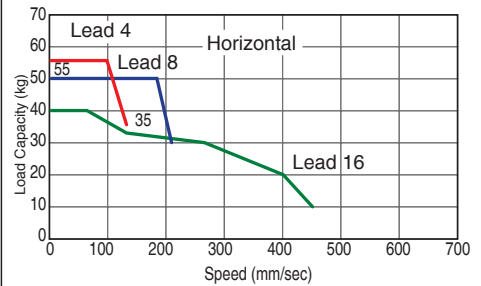
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification 56□ size	56P: Pulse motor	16: 16mm 8: 8mm 4: 4mm	50: 50mm ?	300: 300mm (Set in 50-mm steps)	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□□: Specified length R□□: Robot cable	B: Brake FT: Foot bracket NM: Reversed-home specification	

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the correlation diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The load capacity is based on operation at an acceleration of 0.2 G. This is the maximum acceleration. The horizontal load capacity assumes use of an external guide. The horizontal load capacity assumes use of an external guide. Refer to Technical Reference (p. 413) for the weight that can be supported with the supplied guide alone.

### Actuator Specifications

#### Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RGD6C-I-56P-16-①-P1-②-③	16	~40	~5	240	50 ~ 200 (Set in 50-mm steps)
RCP2-RGD6C-I-56P-8-①-P1-②-③	8	~50	~17.5	470	
RCP2-RGD6C-I-56P-4-①-P1-②-③	4	~55	~26	800	

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 300 (Set in 50-mm steps)
5	450<400>
2.5	210
4	130

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

### Options

Name	Model	Page
Brake	B	P381
Foot bracket	FT	P384
Reversed-home specification	NM	P385

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Guide	Double guide, guide rod diameter Ø12mm, ball bush type
Rod diameter	Ø22mm
Rod non-rotation accuracy	±0.05°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- 150w
- Pulse Motor
- 20w
- 30w
- 60w
- 100w

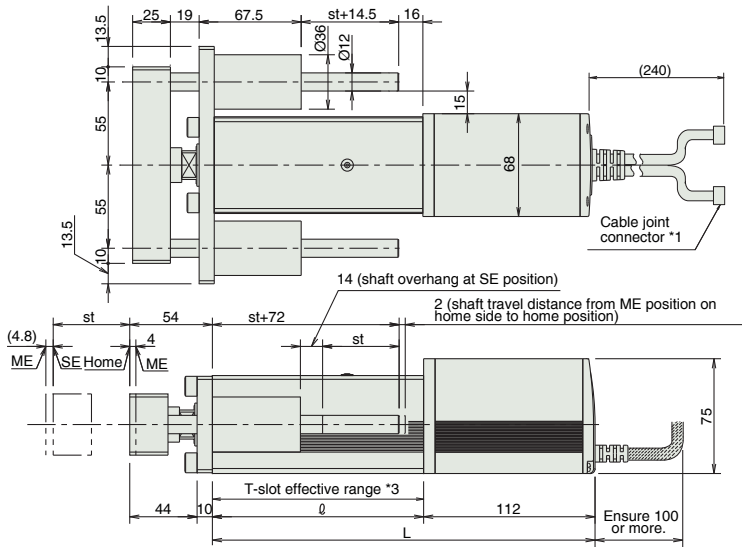
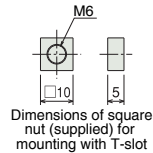
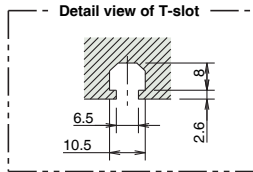
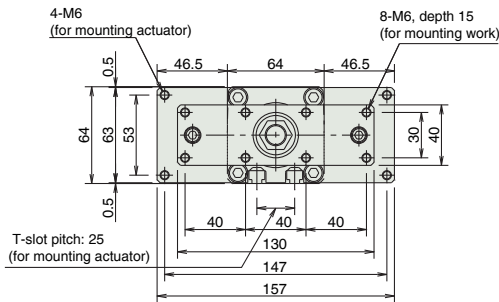


Dimensions

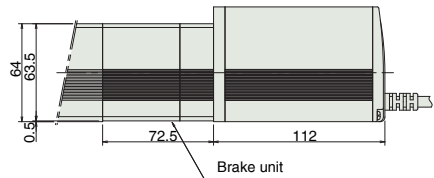
You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
- \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end
- \*3 The bottom face of the brake unit has no T-slots.



With brake



\* Models of the brake specification have their overall length extended by 72.5 mm and weight increased by 0.9 kg compared to the standard specification.

Dimensions, Weight and Maximum Speed by Stroke

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

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points	→P335		

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 25 mm
- 32 mm
- 35 mm
- 37 mm
- 45 mm
- 55 mm
- 64 mm
- 75 mm
- 100 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**RCP2** ROBO Cylinder

# RCP2-GRS

ROBO Cylinder, Gripper Type, Actuator Width 69mm, Pulse Motor

■ Model Specification Items **RCP2** — **GRS** — **I** — **20P** — **1** — **10** — **P1** —  —

Series	Type	Encoder type	Motor type	Gear ratio	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	20P: Pulse motor	20□ size	1: Gear ratio	1/1	10: 10mm (5 mm per side)	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	SB: Shaft bracket FB: Flange bracket

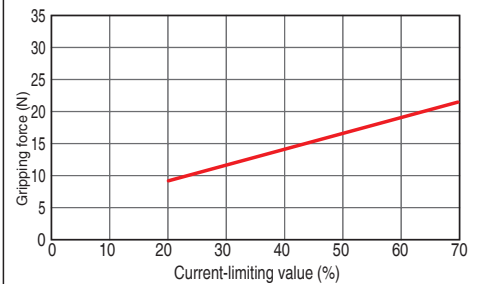
\* Refer to p. 31 of the front matter for details on the model specification items.



■ Adjustment of Gripping Force

Depending on the push-motion operation required, the gripping force (push force) can be adjusted to a desired level within the current-limiting values of 20 to 70% on the controller side.

\* The gripping force in the diagram below indicates the sum of gripping forces of both fingers.



- (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 gripping forces of both fingers when the gripping point distance is 0 and overhang distance is 0. Although the weight of a work that can be physically transferred varies depending on the friction coefficient determined by the finger material and work material, as well as on the shape of the work, a rough guide is that normally the work weight should not exceed 1/10 to 1/20 of the gripping force. (Provide a greater allowance if the actuator is operated at high acceleration/deceleration or receives shock.)

**Actuator Specifications**

■ Lead and Load Capacity

Model	Gear ratio (mm)	Maximum gripping force (N)	Stroke (mm)
RCP2-GRS-I-20P-1-10-P1-①-②	1	21	10

Explanation of numbers ① Cable length ② Options

■ Stroke and Maximum Opening/Closing Speed

Stroke Gear ratio	100 (mm)
	33.3

(Unit: mm/s)

**Options**

Name	Model	Page
Shaft bracket	SB	P387
Flange bracket	FB	P381

**Actuator Specifications**

Item	Description
Drive method	Timing belt + Trapezoid screw (lead 1.5)
Positioning repeatability	±0.01mm
Backlash	0.15mm or less per side (Fingers always pressured to open side via spring)
Guide	Cross-roller guide
Allowable load moment	Ma : 6.3N • m Mb : 6.3N • m Mc : 7.0N • m
Weight	0.36kg
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

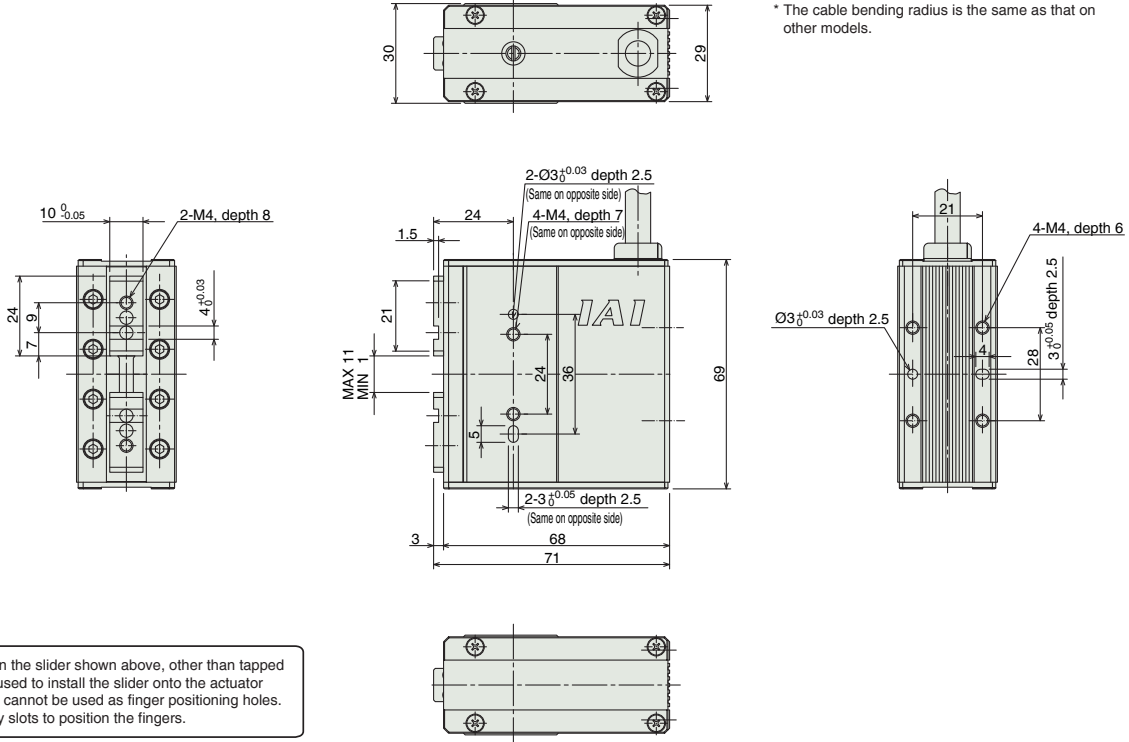
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* The slider home is located on the open side.



\* The cable bending radius is the same as that on other models.

**Note**  
The holes in the slider shown above, other than tapped holes, are used to install the slider onto the actuator body. They cannot be used as finger positioning holes. Use the key slots to position the fingers.

Weight (kg) 0.36

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page		
Positioner type		PCON-C-20PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.			
Positioner type meeting safety category		PCON-CG-20PI-NP-2-0							
Solenoid valve type		PCON-CY-20PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points					→ P305
Pulse-train input type (differential line driver specification)		PCON-PL-20PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)					
Pulse-train input type (open collector specification)		PCON-PO-20PI-NP-2-0	Pulse-train input type supporting an open collector						
Serial communication type		PCON-SE-20PI-0-0	Dedicated serial communication type	64 points					
Program control type		PSEL-C-1-20PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points					→ P335

RCP2 ROBO Cylinder

# RCP2-GRM

ROBO Cylinder, Gripper Type, Actuator Width 74mm, Pulse Motor

Model Specification Items **RCP2** - **GRM** - **I** - **28P** - **1** - **14** - **P1** -  -

Series	Type	Encoder type	Motor type	Gear ratio	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	28P: Pulse motor	28□ size	1: Gear ratio	1/1	10: 10mm (7 mm per side)	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	SB: Shaft bracket FB: Flange bracket

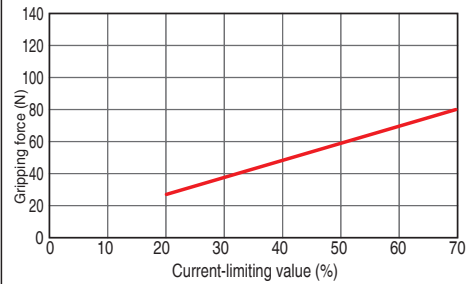
\* Refer to p. 31 of the front matter for details on the model specification items.



### Adjustment of Gripping Force

Depending on the push-motion operation required, the gripping force (push force) can be adjusted to a desired level within the current-limiting values of 20 to 70% on the controller side.

\* The gripping force in the diagram below indicates the sum of gripping forces of both fingers.



- (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 gripping forces of both fingers when the gripping point distance is 0 and overhang distance is 0. Although the weight of a work that can be physically transferred varies depending on the friction coefficient determined by the finger material and work material, as well as on the shape of the work, a rough guide is that normally the work weight should not exceed 1/10 to 1/20 of the gripping force. (Provide a greater allowance if the actuator is operated at high acceleration/deceleration or receives shock.)

### Actuator Specifications

#### Lead and Load Capacity

Model	Gear ratio (mm)	Maximum gripping force (N)	Stroke (mm)
RCP2-GRM-I-28P-1-14-P1-①-②	1	80	14

Explanation of numbers ① Cable length ② Options

#### Stroke and Maximum Opening/Closing Speed

Stroke Gear ratio	100 (mm)
	36.7

(Unit: mm/s)

### Options

Name	Model	Page
Shaft bracket	SB	P387
Flange bracket	FB	P381

### Actuator Specifications

Item	Description
Drive method	Timing belt + Trapezoid screw (lead 1.5)
Positioning repeatability	±0.01mm
Backlash	0.15mm or less per side (Fingers always pressured to open side via spring)
Guide	Cross-roller guide
Allowable load moment	Ma : 6.3N • m Mb : 6.3N • m Mc : 8.3N • m
Weight	0.5kg
Ambient operating temperature, humidity	0-40°C, 85% RH or below (non-condensing)

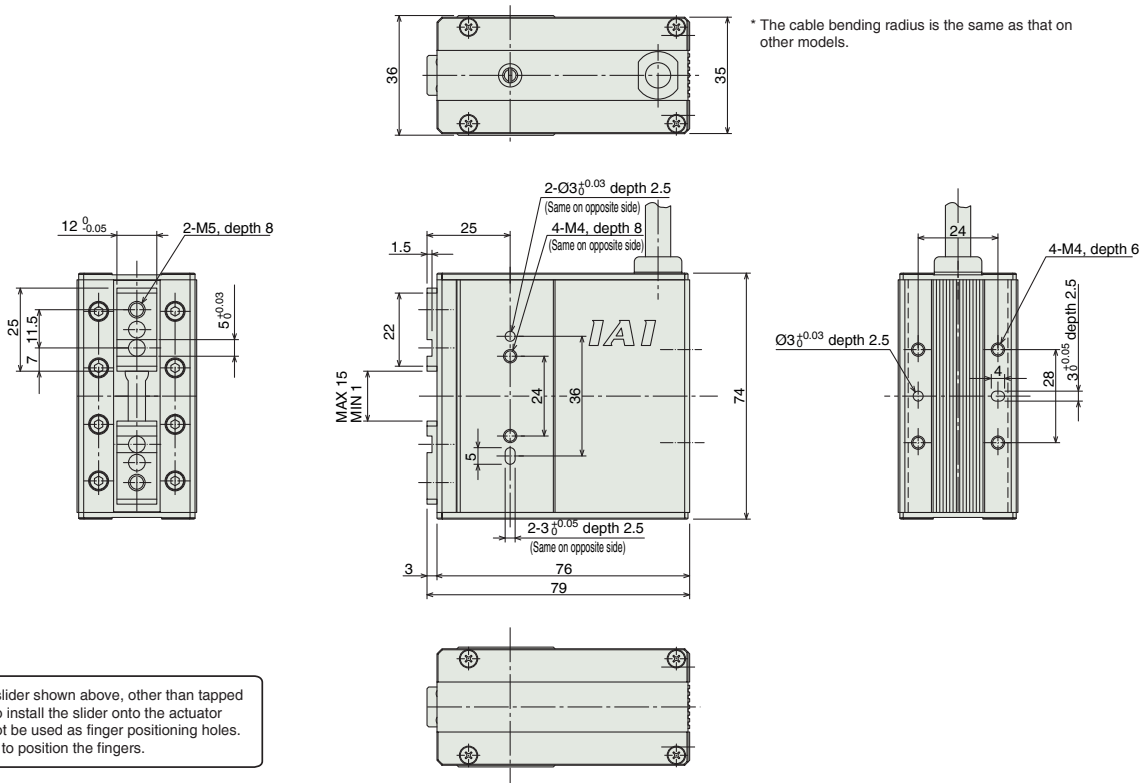
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* The slider home is located on the open side.



\* The cable bending radius is the same as that on other models.

**Note**  
The holes in the slider shown above, other than tapped holes, are used to install the slider onto the actuator body. They cannot be used as finger positioning holes. Use the key slots to position the fingers.

Weight (kg) 0.5

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page		
Positioner type		PCON-C-28PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.			
Positioner type meeting safety category		PCON-CG-28PI-NP-2-0							
Solenoid valve type		PCON-CY-28PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points					→ P305
Pulse-train input type (differential line driver specification)		PCON-PL-28PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)					
Pulse-train input type (open collector specification)		PCON-PO-28PI-NP-2-0	Pulse-train input type supporting an open collector						
Serial communication type		PCON-SE-28PI-0-0	Dedicated serial communication type	64 points					
Program control type		PSEL-C-1-28PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points					→ P335

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-GR3LS

ROBO Cylinder, 3-Finger Gripper, Lever type, Actuator Width 62mm, Pulse Motor

Model Specification Items **RCP2-GR3LS-I-28P-30-19-P1**

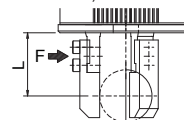
Series	Type	Encoder type	Motor type	Gear ratio	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	28P: Pulse motor	30: Gear ratio	19: 19°	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□□: Specified length R□□: Robot cable	SB: Shaft bracket FB: Flange bracket		

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Gripping Force and Current-Limiting Value

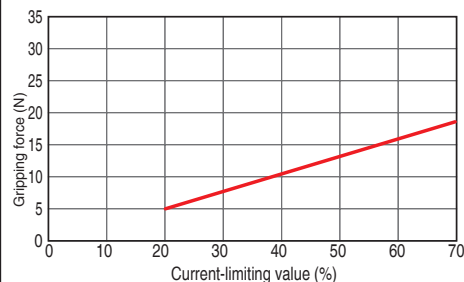
Lever type (GR3LS/ GRSLM)



\* The values in the graph below indicate gripping forces at a gripping point of 10 mm. The actual gripping force decreases in inverse proportion to the distance from the opening/closing fulcrum.

Calculate the actual gripping force using the formulas below:  
**Effective gripping force (S type) =  $P \times 24 / (L + 14)$**   
**Effective gripping force (M type) =  $P \times 28.5 / (L + 18.5)$**

P = Gripping force determined from the graph  
 L = Distance from the finger attachment surface to the gripping point



- (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 gripping forces of all fingers when the gripping point distance is 10 and overhang distance is 0. Refer to the explanation on the right when determining the weight of a work that can be physically transferred.

### Actuator Specifications

#### Lead and Load Capacity

Model	Gear ratio (mm)	Maximum gripping force (N)	Stroke (°)
RCP2-GR3LS-I-28P-30-19-P1-①-②	30	18	19

Explanation of numbers ① Cable length ② Options

#### Stroke and Maximum Opening/Closing Speed

Stroke	19 (°)
Gear ratio	200

(Unit: °/s)

### Options

Name	Model	Page
Shaft bracket	SB	P387
Flange bracket	FB	P381

### Actuator Specifications

Item	Description
Drive method	Worm gear + Worm wheel gear
Positioning repeatability	±0.01°
Backlash	1° or less per side (Fingers always pressured to open side via spring)
Weight	0.6kg
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

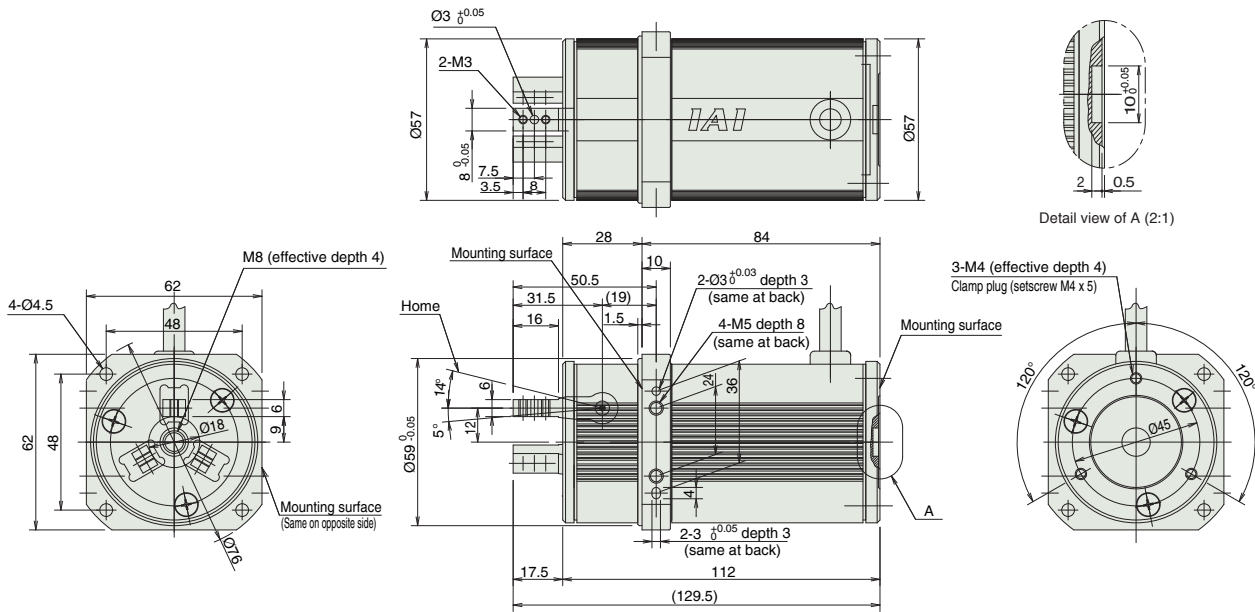


Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* During home return, the fingers return along a line expanding outward by 1 from the home. Pay attention to prevent contact between the fingers and surrounding parts.



Weight (kg) 0.6

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page		
Positioner type		PCON-C-28PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.			
Positioner type meeting safety category		PCON-CG-28PI-NP-2-0							
Solenoid valve type		PCON-CY-28PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points					→ P305
Pulse-train input type (differential line driver specification)		PCON-PL-28PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)					
Pulse-train input type (open collector specification)		PCON-PO-28PI-NP-2-0	Pulse-train input type supporting an open collector						
Serial communication type		PCON-SE-28PI-0-0	Dedicated serial communication type	64 points					
Program control type		PSEL-C-1-28PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points					→ P335

RCP2 ROBO Cylinder

# RCP2-GR3LM

ROBO Cylinder, 3-Finger Gripper, Lever type, Actuator Width 80mm, Pulse Motor

Model Specification Items **RCP2-GR3LM-I-42P-30-19-P1**

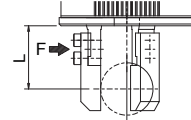
Series	Type	Encoder type	Motor type	Gear ratio	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	42P: Pulse motor	30: Gear ratio	19: 19°	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□□: Specified length R□□: Robot cable	SB: Shaft bracket FB: Flange bracket		

\* Refer to p. 31 of the front matter for details on the model specification items.

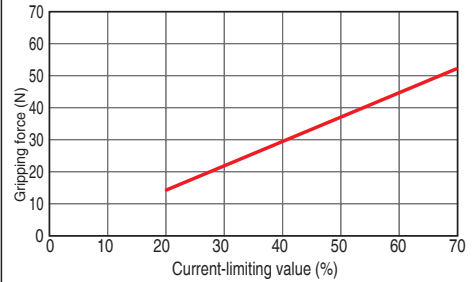


### Correlation Diagram of Gripping Force and Current-Limiting Value

Lever type (GR3LS/ GRSLM)



\* The values in the graph below indicate gripping forces at a gripping point of 10 mm. The actual gripping force decreases in inverse proportion to the distance from the opening/closing fulcrum.  
Calculate the actual gripping force using the formulas below:  
**Effective gripping force (S type) =  $P \times 24 / (L + 14)$**   
**Effective gripping force (M type) =  $P \times 28.5 / (L + 18.5)$**   
P = Gripping force determined from the graph  
L = Distance from the finger attachment surface to the gripping point



- (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 gripping forces of all fingers when the gripping point distance is 10 and overhang distance is 0. Refer to the explanation on the right when determining the weight of a work that can be physically transferred.

### Actuator Specifications

#### Lead and Load Capacity

Model	Gear ratio (mm)	Maximum gripping force (N)	Stroke (°)
RCP2-GR3LM-I-42P-30-19-P1-①-②	30	51	19

Explanation of numbers ① Cable length ② Options

#### Stroke and Maximum Opening/Closing Speed

Stroke	19 (°)
Gear ratio	200

(Unit: °/s)

### Options

Name	Model	Page
Shaft bracket	SB	P387
Flange bracket	FB	P381

### Actuator Specifications

Item	Description
Drive method	Worm gear + Worm wheel gear
Positioning repeatability	±0.01mm
Backlash	1° or less per side (Fingers always pressured to open side via spring)
Weight	1.1kg
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

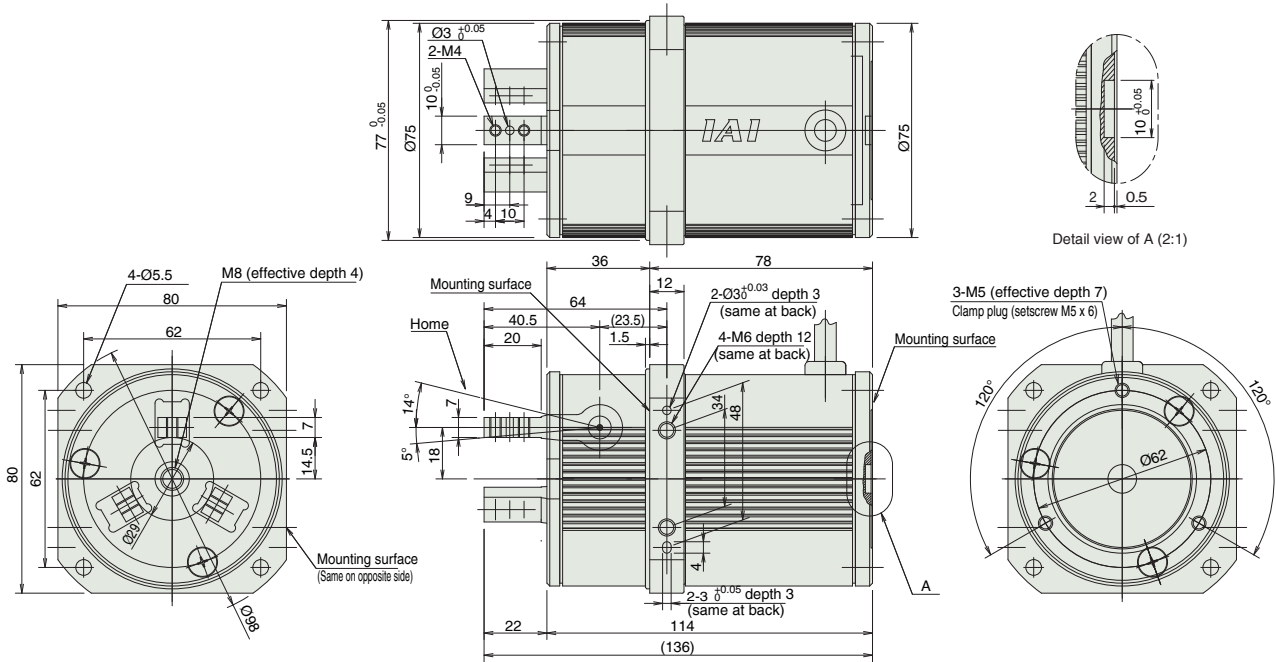
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* During home return, the fingers return along a line expanding outward by 1 from the home. Pay attention to prevent contact between the fingers and surrounding parts.



Weight (kg) 1.1

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page		
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.			
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0							
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points					→ P305
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)					
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector						
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points					
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points					→ P335

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-GR3SS

ROBO Cylinder, 3-Finger Gripper, Slide type, Actuator Width 52mm, Pulse Motor

Model Specification Items **RCP2-GR3SS-I-28P-30-10-P1**

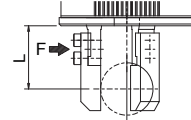
Series	Type	Encoder type	Motor type	Gear ratio	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	28P:Pulse motor 28□size	30: Gear ratio 1/30	10:10mm (5 mm per side)	P1: PCON PSEL	N :No cable P :1m S :3m M :5m X□□: Specified length R□□: Robot cable	SB: Shaft bracket FB: Flange bracket		

\* Refer to p. 31 of the front matter for details on the model specification items.



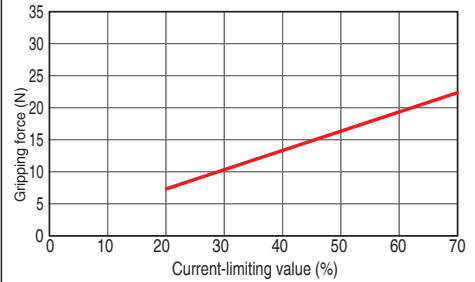
Correlation Diagram of Gripping Force and Current-Limiting Value

Slide type (GR3SS/ GRSSM)



\* Keep the distance (L) from the finger attachment surface to the gripping point to the following dimensions or less.

GR3SS → 50mm max.  
GR3SM → 80mm max.



- (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 gripping forces of all fingers when the gripping point distance is 10 and overhang distance is 0. Refer to the explanation on the right when determining the weight of a work that can be physically transferred.

Actuator Specifications

Lead and Load Capacity

Model	Gear ratio (mm)	Maximum gripping force (N)	Stroke (mm)
RCP2-GR3SS-I-28P-30-10-P1-①-②	30	22	10

Explanation of numbers ① Cable length ② Options

Stroke and Maximum Opening/Closing Speed

Stroke / Gear ratio	10 (mm)
30	40

(Unit: mm/s)

Options

Name	Model	Page
Shaft bracket	SB	P387
Flange bracket	FB	P381

Actuator Specifications

Item	Description
Drive method	Worm gear + Worm wheel gear
Positioning repeatability	±0.01mm
Backlash	0.3mm or less per side (Fingers always pressured to open side via spring)
Guide	Cross-roller guide
Allowable load moment	Ma : 3.8N • m Mb : 3.8N • m Mc : 3.0N • m
Weight	0.6kg
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm

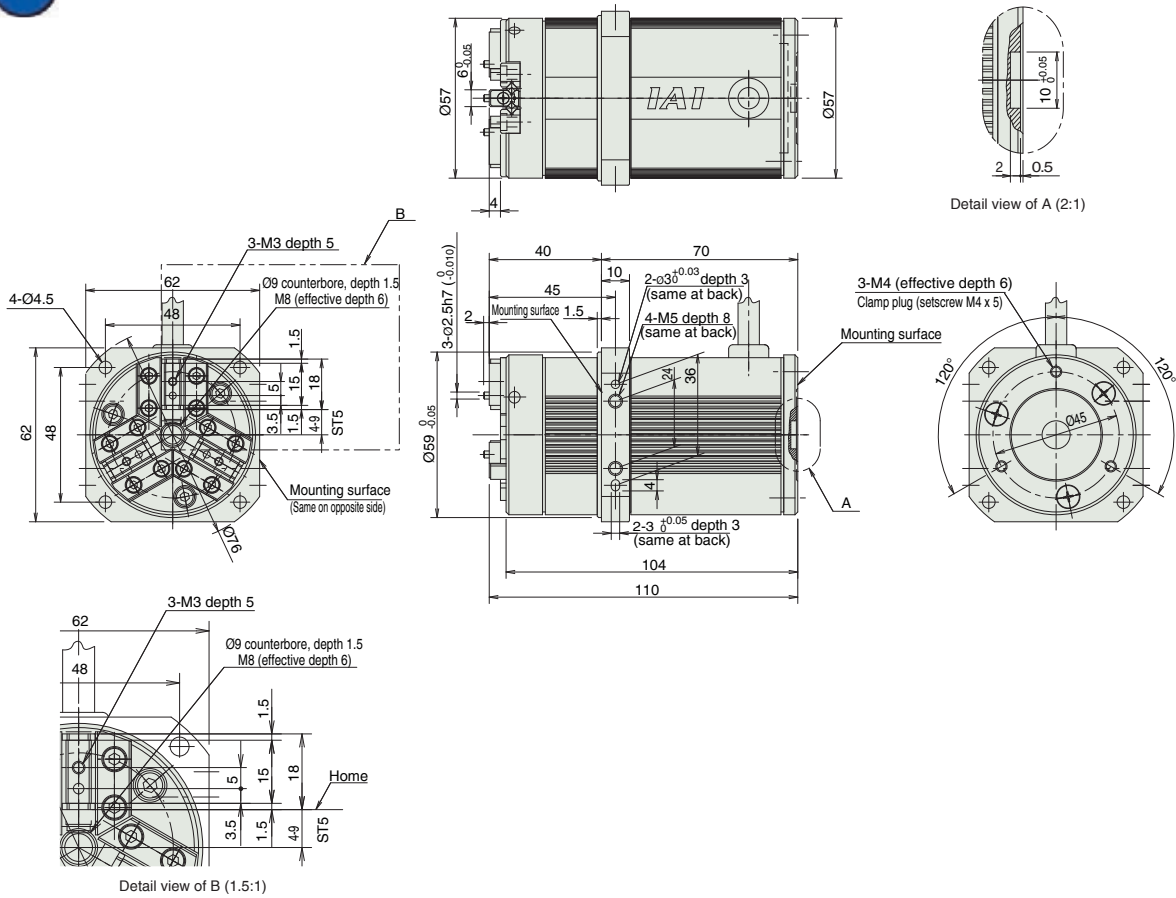
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* During home return, the fingers return along a line expanding outward by 0.5 mm from the home. Pay attention to prevent contact between the fingers and surrounding parts.



Weight (kg) 0.6

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page	
Positioner type		PCON-C-28PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.		
Positioner type meeting safety category		PCON-CG-28PI-NP-2-0						
Solenoid valve type		PCON-CY-28PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points				→P305
Pulse-train input type (differential line driver specification)		PCON-PL-28PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)				
Pulse-train input type (open collector specification)		PCON-PO-28PI-NP-2-0	Pulse-train input type supporting an open collector					
Serial communication type		PCON-SE-28PI-0-0	Dedicated serial communication type	64 points				
Program control type		PSEL-C-1-28PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points				→P335

50 mm

62 mm

64 mm

68 mm

69 mm

74 mm

80 mm

88 mm

104-284 mm

Pulse Motor

20w

30w

60w

100w

150w

RCP2 ROBO Cylinder

# RCP2-GR3SM

ROBO Cylinder, 3-Finger Gripper, Slide type, Actuator Width 80mm, Pulse Motor

Model Specification Items **RCP2-GR3SM-I-42P-30-14-P1**

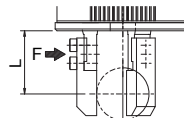
Series	Type	Encoder type	Motor type	Gear ratio	Stroke	Applicable controller	Cable length	Options
I: Incremental specification	42P: Pulse motor 42□ size	30: Gear ratio 1/30	14: 14mm (7 mm per side)	P1: PCON PSEL	N: No cable P: 1m S: 3m M: 5m X□□: Specified length R□□: Robot cable	SB: Shaft bracket FB: Flange bracket		

\* Refer to p. 31 of the front matter for details on the model specification items.



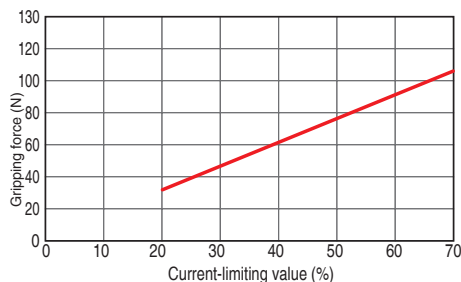
### Correlation Diagram of Gripping Force and Current-Limiting Value

Slide type (GR3SS/ GRSSM)



\* Keep the distance (L) from the finger attachment surface to the gripping point to the following dimensions or less.

GR3SS → 50mm max.  
GR3SM → 80mm max.



- (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 gripping forces of all fingers when the gripping point distance is 10 and overhang distance is 0. Refer to the explanation on the right when determining the weight of a work that can be physically transferred.

### Actuator Specifications

#### Lead and Load Capacity

Model	Gear ratio (mm)	Maximum gripping force (N)	Stroke (mm)
RCP2-GR3SM-I-42P-30-14-P1-①-②	30	102	14

Explanation of numbers ① Cable length ② Options

#### Stroke and Maximum Opening/Closing Speed

Stroke Gear ratio	14 (mm)
	50

(Unit: mm/s)

### Options

Name	Model	Page
Shaft bracket	SB	P387
Flange bracket	FB	P381

### Actuator Specifications

Item	Description
Drive method	Worm gear + Worm wheel gear
Positioning repeatability	±0.01mm
Backlash	0.3mm or less per side (Fingers always pressured to open side via spring)
Guide	Cross-roller guide
Allowable load moment	Ma : 6.3N • m Mb : 6.3N • m Mc : 5.7N • m
Weight	1.2kg
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

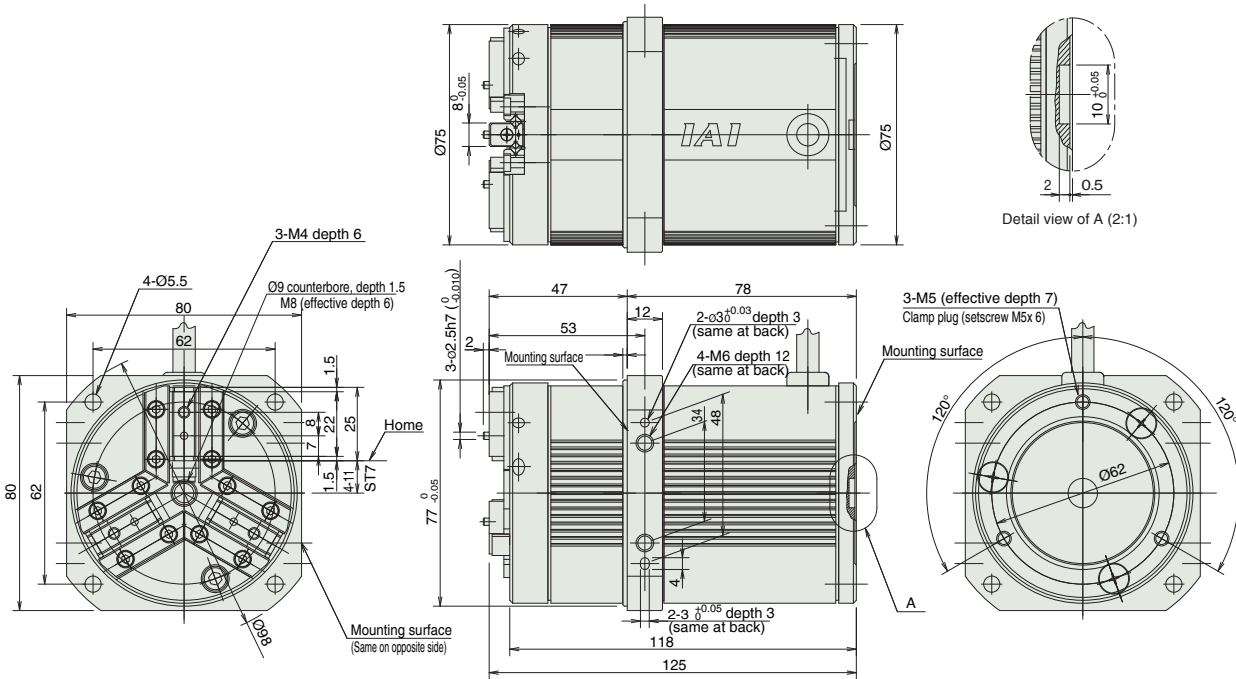


Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



\* During home return, the fingers return along a line expanding outward by 0.5 mm from the home. Pay attention to prevent contact between the fingers and surrounding parts.



Weight (kg) 1.2

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page		
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.			
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0							
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points					→ P305
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)					
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector						
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points					
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points					→ P335

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**RCP2** ROBO Cylinder

# RCP2-RTBL

ROBO Cylinder, Vertical Rotary Type, Actuator Width 50mm, Pulse Motor

Model Specification Items **RCP2** - **RTBL** - **I** - **28P** -   - **360** - **P1** -   -  

Series — Type — Encoder type — Motor type — Gear ratio — Oscillation angle — Applicable controller — Cable length — Options

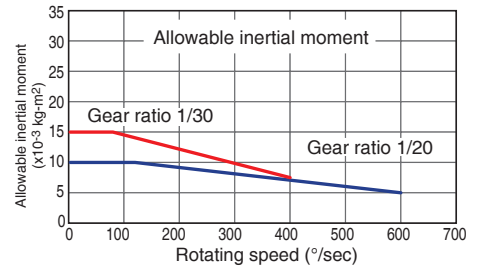
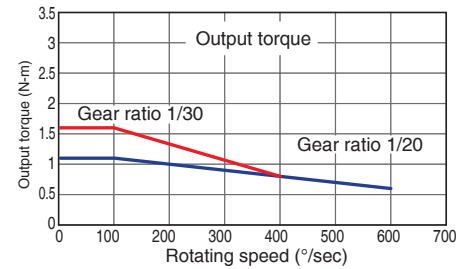
I: Incremental 28P:Pulse motor specification 28□size    20: Gear ratio 1/20    360:360°    P1: PCON    N : No cable    SA: Shaft adaptor  
 PSEL    S : 3m    TA: Table adaptor  
 M : 5m    NM: Reversed-home specification  
 X□□: Specified length  
 R□□: Robot cable

\* Refer to p. 31 of the front matter for details on the model specification items.



**Correlation Diagram of Speed and Load Capacity**

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- (1) The output torque will decrease as the rotating speed increases. Use the graph of output torque on the right to determine if the required operating speed can be achieved.
- (2) The allowable inertial moment of a rotatable work varies depending on the rotating speed. Use the graph of allowable inertial moment on the right to determine if the inertial moment required for operation is within the allowable value.

**Actuator Specifications**

**Lead and Load Capacity**

Model	Gear ratio	Maximum torque(N·m)	Allowable inertial moment (kg·m <sup>2</sup> )	Oscillation angle (°)
RCP2-RTBL-I-28P-20-360-P1-①-②	1/20	1.1	0.01	360
RCP2-RTBL-I-28P-30-360-P1-①-②	1/30	1.7	0.015	

Explanation of numbers ① Cable length ② Options

**Stroke and Maximum Opening/Closing Speed**

Stroke Gear ratio	±9999°
	600
1/30	400

(Unit: °/s)

**Options**

Name	Model	Page
Shaft adapter	SA	P387
Table adapter	TA	P388
Reversed-home specification	NM	P385

**Actuator Specifications**

Item	Description
Drive method	Hypoid gear
Positioning repeatability	±0.01°
Backlash	±0.1°
Allowable thrust load	50N
Allowable load moment	3.9N · m
Weight	0.86kg
Ambient operating temperature, humidity	0-40°C, 85% RH or below (non-condensing)

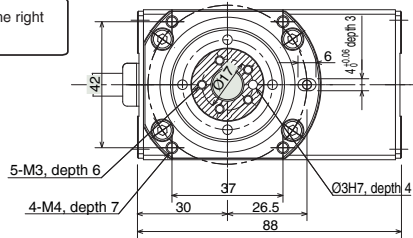
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Dimensions

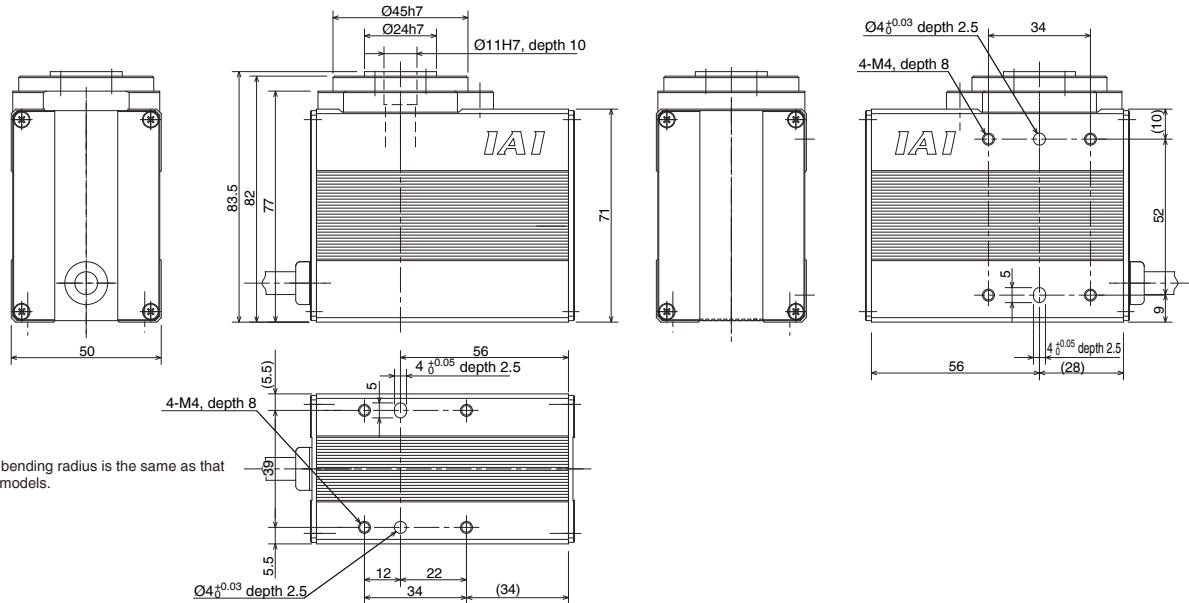
You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)



Note  
\* The shaded area shown to the right rotates.



Note  
The position shown to the left becomes the home position. During home return, the actuator rotates to a position 1 counterclockwise from the current position. Pay attention to prevent contact between the actuator and surrounding parts. The operating range covers up to the ±9999° position in clockwise and counter-clockwise rotation as viewed from the top.



\* The cable bending radius is the same as that on other models.

Weight (kg) 0.86

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page		
Positioner type		PCON-C-28PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.			
Positioner type meeting safety category		PCON-CG-28PI-NP-2-0							
Solenoid valve type		PCON-CY-28PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points					→ P305
Pulse-train input type (differential line driver specification)		PCON-PL-28PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)					
Pulse-train input type (open collector specification)		PCON-PO-28PI-NP-2-0	Pulse-train input type supporting an open collector						
Serial communication type		PCON-SE-28PI-0-0	Dedicated serial communication type	64 points					
Program control type		PSEL-C-1-28PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points					→ P335

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

RCP2 ROBO Cylinder

# RCP2-RTCL

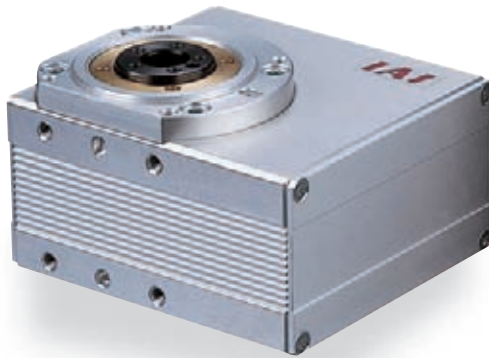
ROBO Cylinder, Flat Rotary Type, Actuator Width 88mm, Pulse Motor

Model Specification Items **RCP2** - **RTCL** - **I** - **28P** -   - **360** - **P1** -   -  

Series — Type — Encoder type — Motor type — Gear ratio — Oscillation angle — Applicable controller — Cable length — Options

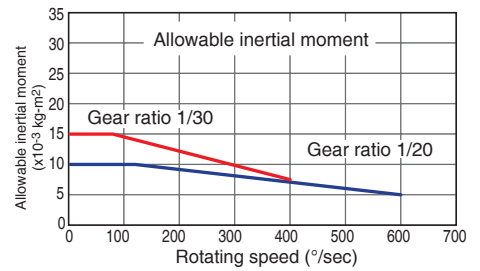
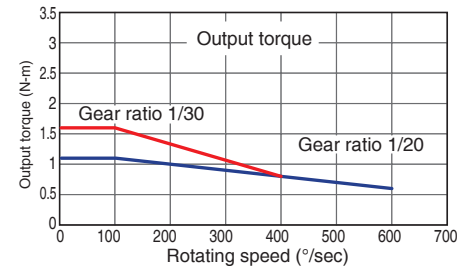
I: Incremental 28P:Pulse motor specification 28□size    20: Gear ratio 1/20    360:360°    P1: PCON    N : No cable    SA: Shaft adaptor  
 PSEL    S : 3m    TA: Table adaptor  
 M : 5m    NM: Reversed-home specification  
 X□□: Specified length  
 R□□: Robot cable

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- (1) The output torque will decrease as the rotating speed increases. Use the graph of output torque on the right to determine if the required operating speed can be achieved.
- (2) The allowable inertial moment of a rotatable work varies depending on the rotating speed. Use the graph of allowable inertial moment on the right to determine if the inertial moment required for operation is within the allowable value.

### Actuator Specifications

#### Lead and Load Capacity

Model	Gear ratio	Maximum torque(N·m)	Allowable inertial moment (kg·m <sup>2</sup> )	Oscillation angle (°)
RCP2-RTCL-I-28P-20-360-P1-①-②	1/20	1.1	0.01	360
RCP2-RTCL-I-28P-30-360-P1-①-②	1/30	1.7	0.015	

Explanation of numbers ① Cable length ② Options

#### Stroke and Maximum Opening/Closing Speed

Stroke Gear ratio	±9999°	
	1/20	600
1/30	400	

(Unit: °/s)

### Options

Name	Model	Page
Shaft adapter	SA	P387
Table adapter	TA	P388
Reversed-home specification	NM	P385

### Actuator Specifications

Item	Description
Drive method	Hypoid gear
Positioning repeatability	±0.01°
Backlash	±0.1°
Allowable thrust load	50N
Allowable load moment	3.9N · m
Weight	0.92kg
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 50 mm
- 62 mm
- 64 mm
- 68 mm
- 69 mm
- 74 mm
- 80 mm
- 88 mm
- 104-284 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w



**RCP2CR** ROBO Cylinder

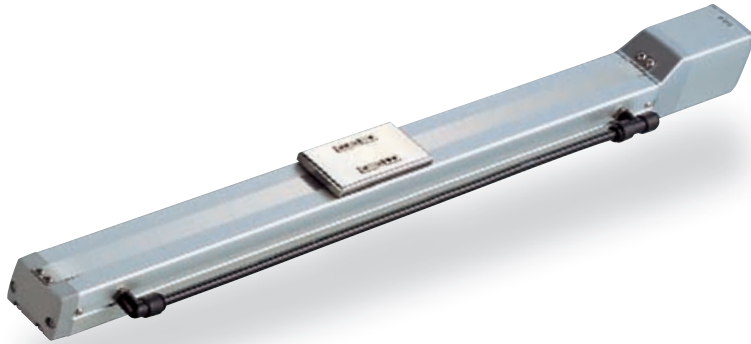
# RCP2CR-SA5C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 52mm  
Pulse Motor, Straight

Model Specification Items **RCP2CR-SA5C-I-42P**

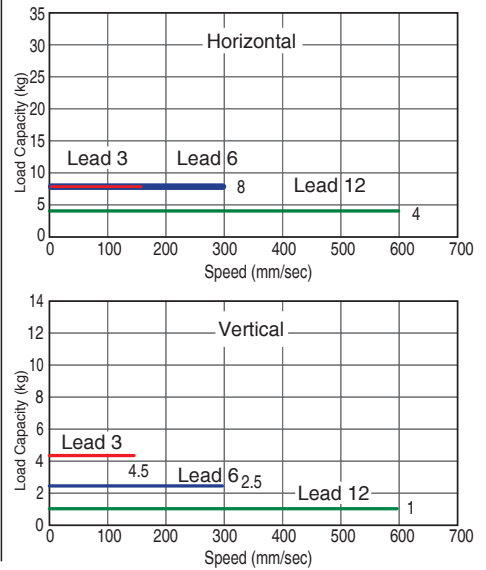
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I	Incremental 42P	Pulse motor specification 42□size	42P	12: 12mm 6: 6mm 3: 3mm	50:50mm ? 300:300mm (Set in 50-mm steps)	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	BE : Brake (wire taken out from end) BL : Brake (wire taken out from left) BR : Brake (wire taken out from right) NM : Reversed-home specification VR : Suction joint on opposite side

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.
  - Mc moment is 7.8 N·m for strokes of 350 or longer.
  - Class 10 cleanliness is based on the horizontal specification.

### Actuator Specifications

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2CR-SA5C-I-42P-12-①-P1-②-③	12	4	1	50 ~ 500 (Set in 50-mm steps)
RCP2CR-SA5C-I-42P-6-①-P1-②-③	6	8	2.5	
RCP2CR-SA5C-I-42P-3-①-P1-②-③	3	8	4.5	

Explanation of numbers ① Stroke ② Cable length ③ Options

**Stroke, Maximum Speed and Suction Volume**

Stroke / Lead	50 ~ 500 (Set in 50-mm steps)		Suction volume (N $\phi$ /mm)
	Stroke	50 ~ 500	
12	600	50	
6	300	30	
3	150	15	

(Unit: mm/s)

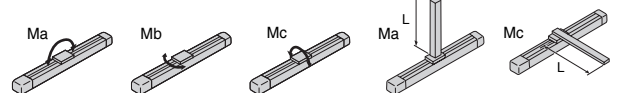
### Options

Name	Model	Page
Brake (Cable exiting the end)	BE	P381
Brake (Cable exiting the left)	BL	P381
Brake (Cable exiting the right)	BR	P381
Reversed-home specification	NM	P385
Vacuum joint on opposite side	VR	P389

### Actuator Specifications

Item	Description
Drive method	Ball screw $\phi$ 10mm, rolled C10
Positioning repeatability	$\pm$ 0.02mm
Backlash	0.1mm or less
Allowable load moment	Ma : 4.9N·m Mb : 6.8N·m Mc : 11.7N·m
Overhang load length	Ma direction: 150mm or less, Mb·Mc directions: 150mm or less
Grease	Low-dust-raising grease (both ball screw and guide)
Cleanliness class	Class 10 (0.1 $\mu$ m)
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w



- Control - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller

- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 73 mm
- 80 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**Dimensions**

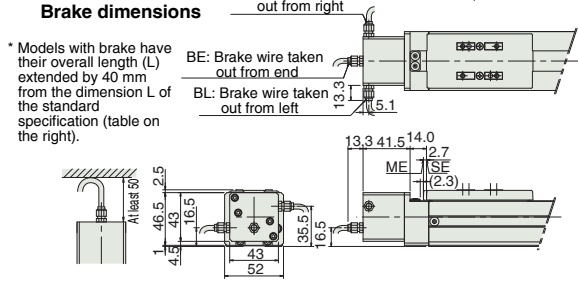
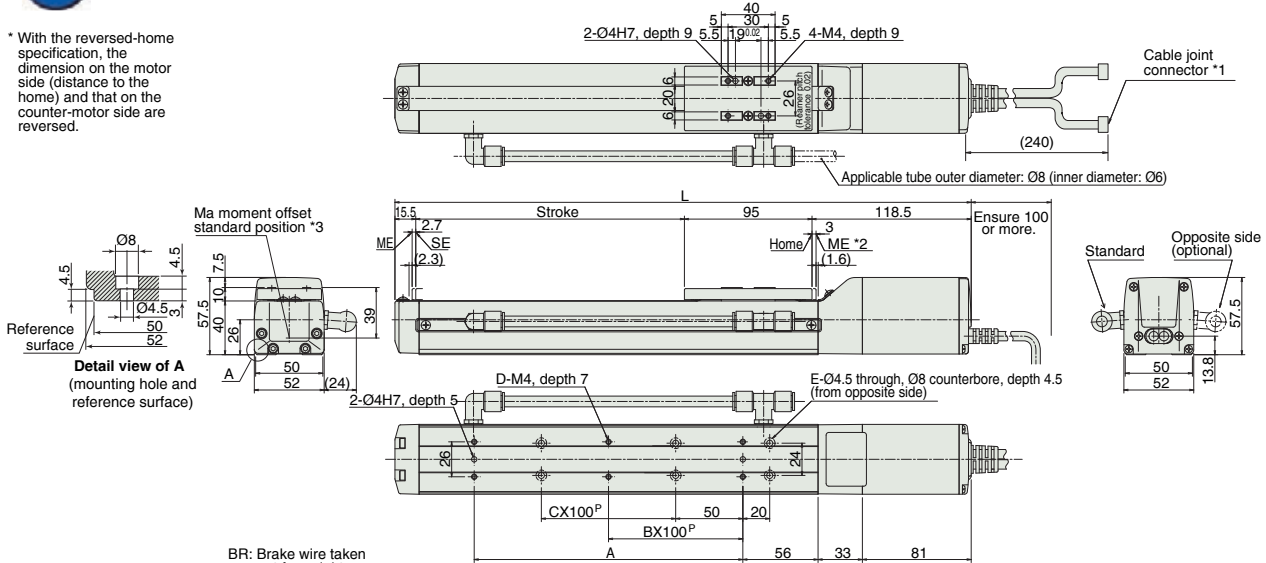
You can download CAD drawings from our website.

[www.robocylinder.de](http://www.robocylinder.de)

2D CAD

\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

\*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.  
 \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.  
 ME: Mechanical end  
 SE: Stroke end  
 The dimensions in ( ) are reference values.  
 \*3 Reference position for calculating Ma moment.



**Dimensions and Weight by Stroke**

Stroke	50	100	150	200	250	300	350	400	450	500
L	279	329	379	429	479	529	579	629	679	729
A	73	100	100	200	200	300	300	400	400	500
B	0	0	0	1	1	2	2	3	3	4
C	0	0	1	1	2	2	3	3	4	4
D	4	4	4	6	6	8	8	10	10	12
E	4	4	6	6	8	8	10	10	12	12
Weight (kg)	1.7	1.8	1.9	2.0	2.1	2.3	2.4	2.5	2.6	2.7

**Controller**

**Applicable Controllers**

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector	(-)			
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

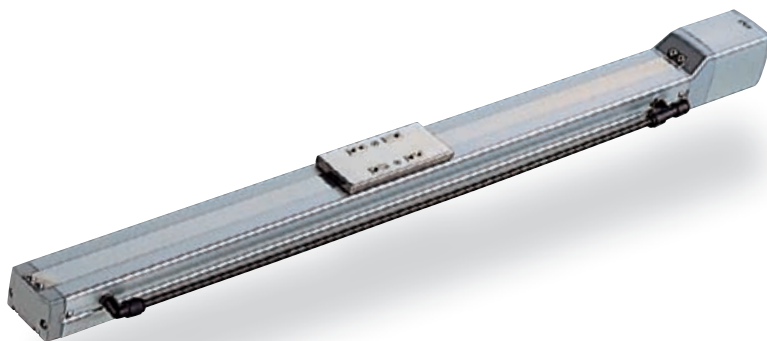
# RCP2CR ROBO Cylinder

## RCP2CR-SA6C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 58mm  
Pulse Motor, Straight

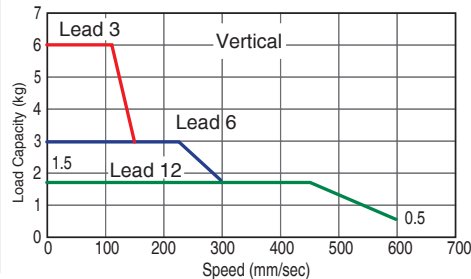
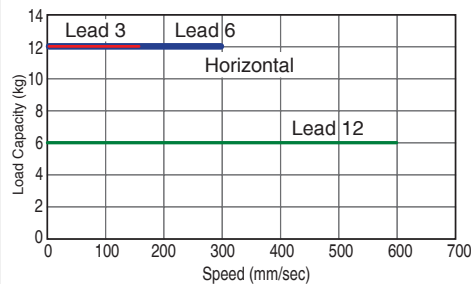
Model Specification Items	<b>RCP2CR</b>	<b>SA6C</b>	<b>I</b>	<b>42P</b>			<b>P1</b>		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental	42P: Pulse motor	12: 12mm	50: 50mm	P1: PCON	N: No cable	BE: Brake
			specification 42□size		6: 6mm	?	PSEL	P: 1m	BL: Brake
					3: 3mm			S: 3m	(wire taken out from left)
						600: 600mm		M: 5m	BR: Brake
						(Set in 50-mm steps)		X□□: Specified length	(wire taken out from right)
								R□□: Robot cable	NM: Reversed-home specification
									VR: Suction joint on opposite side

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.
- Class 10 cleanliness is based on the horizontal specification.

### Actuator Specifications

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2CR-SA6C-I-42P-12-①-P1-②-③	12	6	~1.5	50 ~ 600 (Set in 50-mm steps)
RCP2CR-SA6C-I-42P-6-①-P1-②-③	6	12	~3	
RCP2CR-SA6C-I-42P-3-①-P1-②-③	3	12	~6	

Explanation of numbers ① Stroke ② Cable length ③ Options

**Stroke, Maximum Speed and Suction Volume**

Stroke / Lead	50 - 550	600	Suction volume (Nl/mm)
	(Set in 50-mm steps)		
12	600	540	50
6	300	270	30
3	150	135	15

(Unit: mm/s)

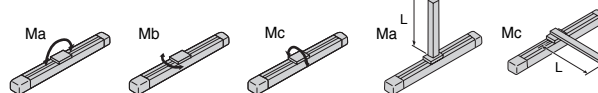
### Options

Name	Model	Page
Brake (Cable exiting the end)	BE	P381
Brake (Cable exiting the left)	BL	P381
Brake (Cable exiting the right)	BR	P381
Reversed-home specification	NM	P385
Vacuum joint on opposite side	VR	P389

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Allowable load moment	Ma : 8.9N • m Mb : 12.7N • m Mc : 18.6N • m
Overhang load length	Ma direction: 220mm or less, Mb • Mc directions: 220mm or less
Grease	Low-dust-raising grease (both ball screw and guide)
Cleanliness class	Class 10 (0.1µm)
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



Overhang load length

40 mm

52 mm

58 mm

60 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

Dimensions

You can download CAD drawings from our website.

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2D CAD

\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

\*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.

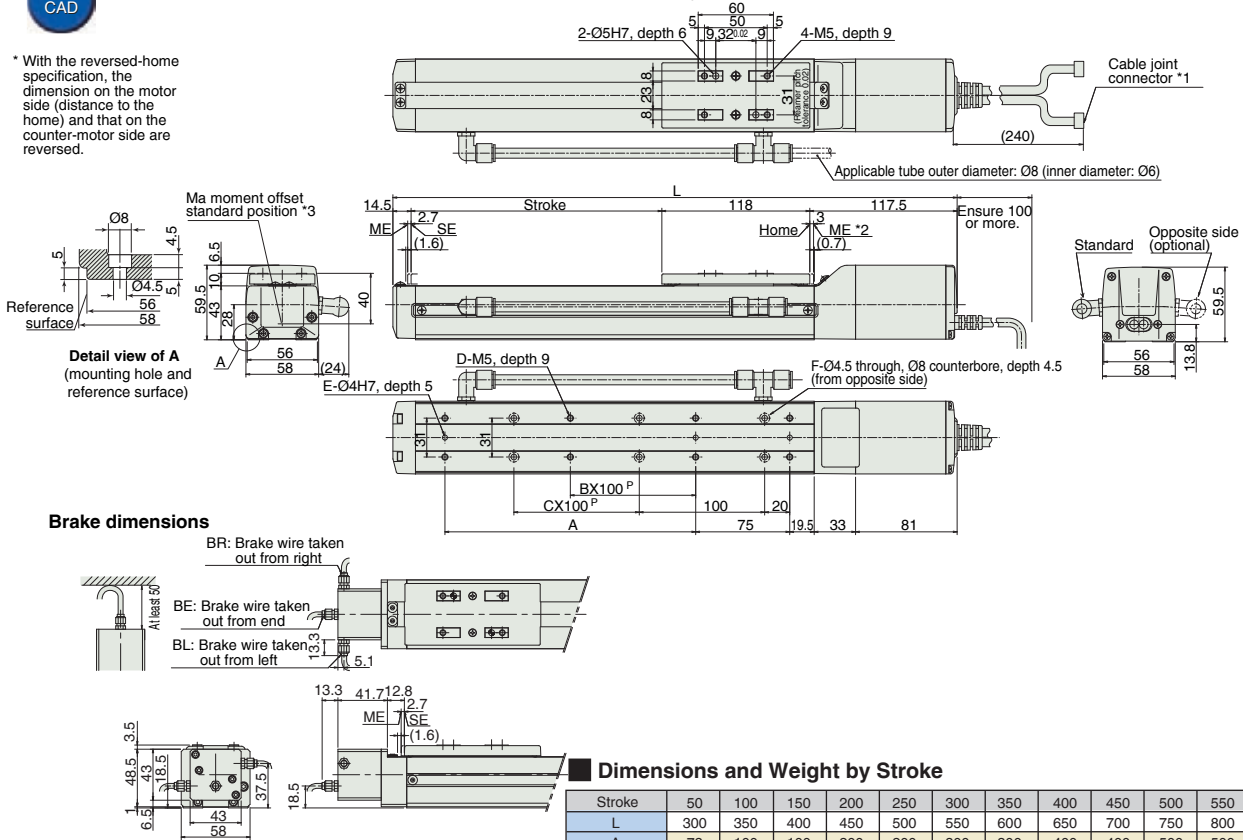
\*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.

ME: Mechanical end

SE: Stroke end

The dimensions in ( ) are reference values.

\*3 Reference position for calculating Ma moment.



Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	300	350	400	450	500	550	600	650	700	750	800	850
A	73	100	100	200	200	300	300	400	400	500	500	600
B	0	0	0	1	1	2	2	3	3	4	4	5
C	0	0	1	1	2	2	3	3	4	4	5	5
D	4	6	6	8	8	10	10	12	12	14	14	16
E	2	3	3	3	3	3	3	3	3	3	3	3
F	4	4	6	6	8	8	10	10	12	12	14	14
Weight (kg)	2.0	2.2	2.3	2.4	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.6

\* Models with brake have their overall length (L) extended by 40 mm from the dimension L of the standard specification (table on the right).

- Controler - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller

- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 73 mm
- 80 mm

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	( - )			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

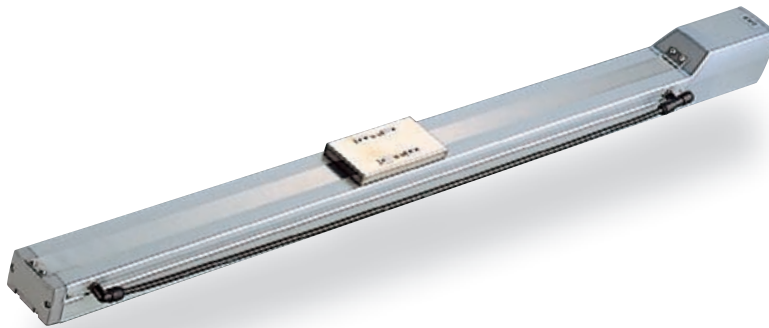
# RCP2CR ROBO Cylinder

## RCP2CR-SA7C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 73mm  
Pulse Motor, Straight

Model Specification Items	<b>RCP2CR</b>	<b>SA7C</b>	<b>I</b>	<b>56P</b>			<b>P1</b>		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental 56P	Pulse motor specification 56□size	16: 16mm 8: 8mm 4: 4mm	100:100mm ?	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	BE : Brake (wire taken out from end) BL : Brake (wire taken out from left) BR : Brake (wire taken out from right) NM : Reversed-home specification VR : Suction joint on opposite side

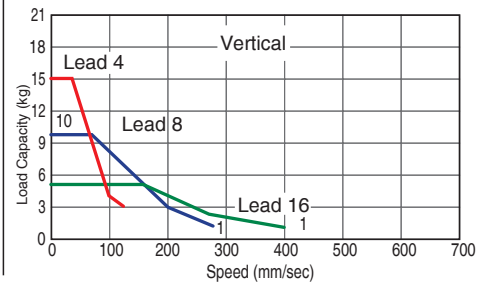
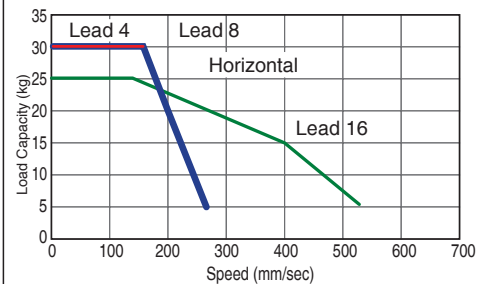
\* Refer to p. 31 of the front matter for details on the model specification items.



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 4 or the actuator is operated vertically). This is the maximum acceleration.
- (4) Class 10 cleanliness is based on the horizontal specification.

### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



### Actuator Specifications

#### Lead and Load Capacity (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2CR-SA7C-I-56P-16-①-P1-②-③	16	~25	~5	100 ~ 800 (Set in 100-mm steps)
RCP2CR-SA7C-I-56P-8-①-P1-②-③	8	~30	~10	
RCP2CR-SA7C-I-56P-4-①-P1-②-③	4	~30	~15	

Explanation of numbers ① Stroke ② Cable length ③ Options

#### Stroke, Maximum Speed and Suction Volume

Stroke (mm)	100 ~ 700 (Set in 100-mm steps)		800 (mm)	Suction volume (Nl/mm)
	Lead	100 ~ 700 (Set in 100-mm steps)		
16		533 <400>	480 <400>	70
8		266	240	40
4		133	120	30

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

### Options

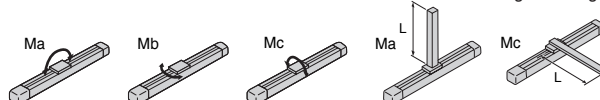
Name	Model	Page
Brake (Cable exiting the end)	BE	P381
Brake (Cable exiting the left)	BL	P381
Brake (Cable exiting the right)	BR	P381
Reversed-home specification	NM	P385
Vacuum joint on opposite side	VR	P389

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.1mm or less
Allowable load moment	Ma : 13.9N • m Mb : 19.9N • m Mc : 38.3N • m
Overhang load length	Ma direction: 230mm or less, Mb • Mc directions: 230mm or less
Grease	Low-dust-raising grease (both ball screw and guide)
Cleanliness class	Class 10 (0.1µm)
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



235 RCP2CR-SA7C

40 mm

52 mm

58 mm

60 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

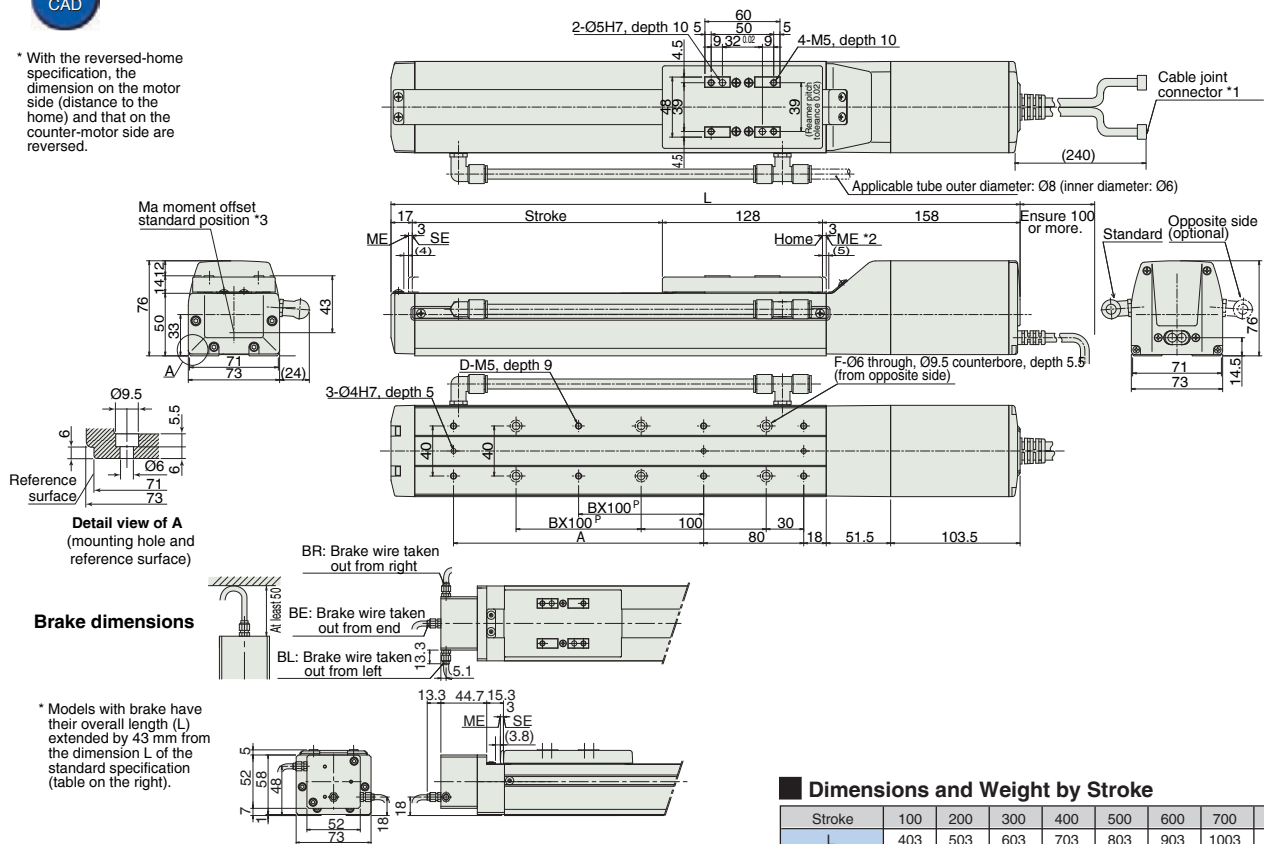
Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

2D CAD

\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

\*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.  
 \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.  
 ME: Mechanical end  
 SE: Stroke end  
 \*3 Reference position for calculating Ma moment.



Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controler - Integral Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller

- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 73 mm
- 80 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

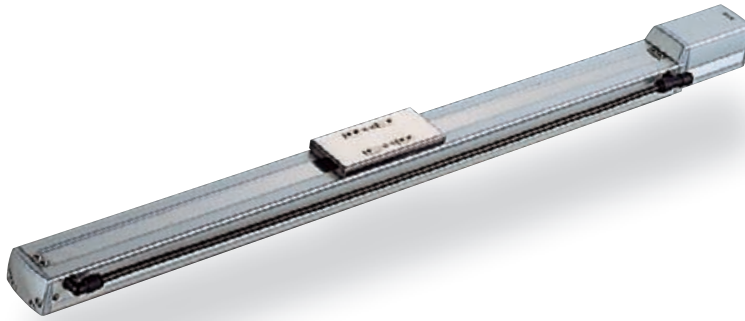
**RCP2CR** ROBO Cylinder

# RCP2CR-SS7C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 60mm  
Pulse Motor, Straight, Iron Base Type

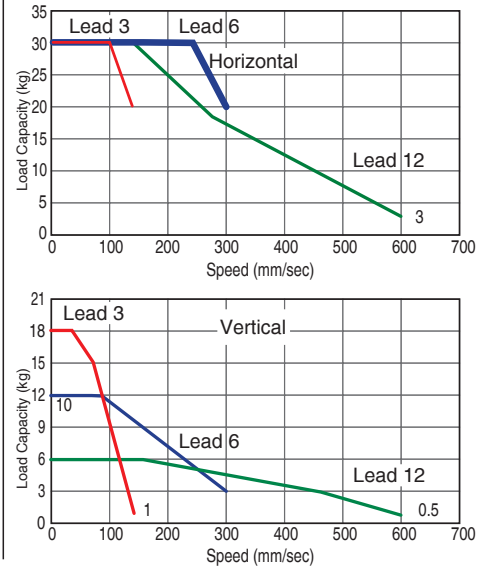
Model Specification Items	<b>RCP2CR</b> - <b>SS7C</b> - <b>I</b> - <b>42P</b> - [ ] - [ ] - <b>P1</b> - [ ] - [ ]							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental 42P:Pulse motor specification 42□size				12: 12mm 6: 6mm 3: 3mm	100:100mm ?	P1 : PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	B : Brake NM : Reversed-home specification VR : Suction joint on opposite side

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

### Actuator Specifications

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2CR-SS7C-I-42P-12-①-P1-②-③	12	~30	~4	100 ~ 600 (Set in 100-mm steps)
RCP2CR-SS7C-I-42P-6-①-P1-②-③	6	~30	~8	
RCP2CR-SS7C-I-42P-3-①-P1-②-③	3	~30	~12	

Explanation of numbers ① Stroke ② Cable length ③ Options

**Stroke, Maximum Speed and Suction Volume**

Stroke / Lead	100 ~ 500 (Set in 100-mm steps)	600 (mm)	Suction volume (Nl/mm)
16	600	470	50
8	300	230	30
4	150	115	15

(Unit: mm/s)

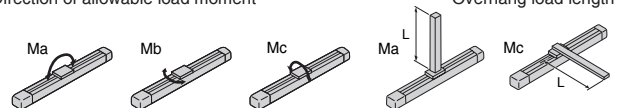
### Options

Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Vacuum joint on opposite side	VR	P389

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Allowable load moment	Ma : 14.7N • m Mb : 14.7N • m Mc : 33.3N • m
Overhang load length	Ma direction: 300mm or less, Mb • Mc directions: 300mm or less
Grease	Low-dust-raising grease (both ball screw and guide)
Cleanliness class	Class 10 (0.1µm)
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



40 mm

52 mm

58 mm

60 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w



Dimensions

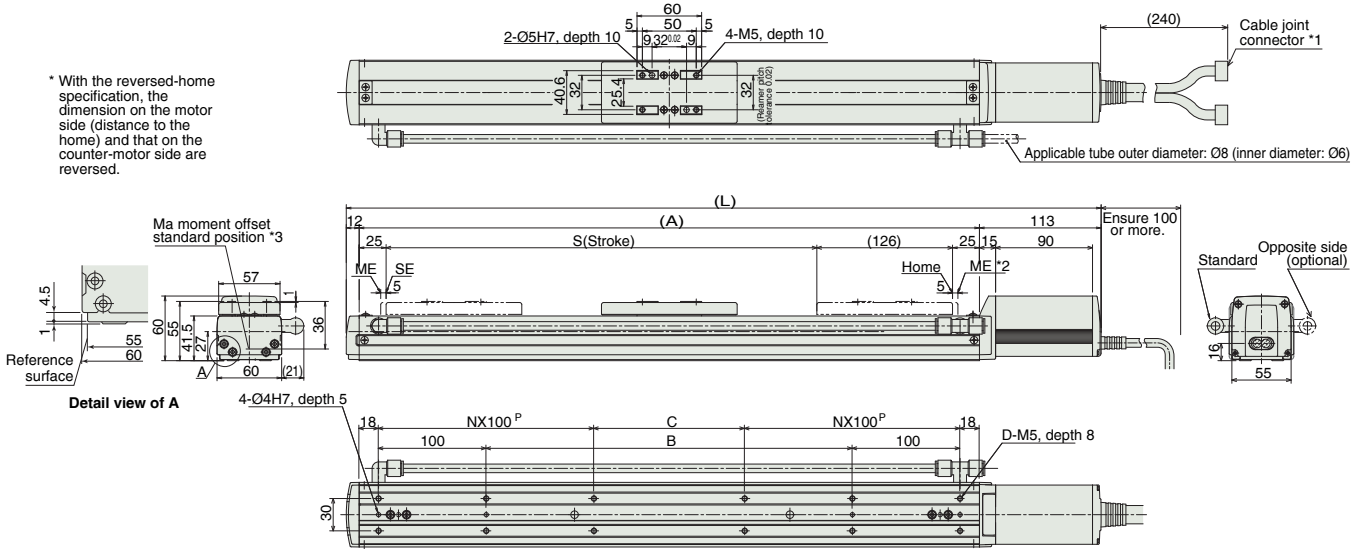
You can download CAD drawings from our website.

www.robocylinder.de

2D CAD

\*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.  
 \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.  
 ME: Mechanical end  
 SE: Stroke end  
 The dimensions in ( ) are reference values.  
 \*3 Reference position for calculating Ma moment.

\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.



Brake dimensions

\* Models with brake have their overall length (L) extended by 24.5 mm from the dimension L of the standard specification (table on the right).

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600
L	401	501	601	701	801	901
A	276	376	476	576	676	776
B	40	140	240	340	440	540
C	40	140	40	140	40	140
D	8	8	12	12	16	16
N	1	1	2	2	3	3
Weight (kg)	3.6	4.2	4.9	5.6	6.3	6.9

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	( - )			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

Controller - Integral Type

Slider Type

Rod Type

Arm / Flat Type

Gripper / Rotary Type

Cleanroom Type

Splash Proof Type

Controller

40 mm

52 mm

58 mm

60 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

150w

**RCP2CR** ROBO Cylinder

# RCP2CR-SS8C

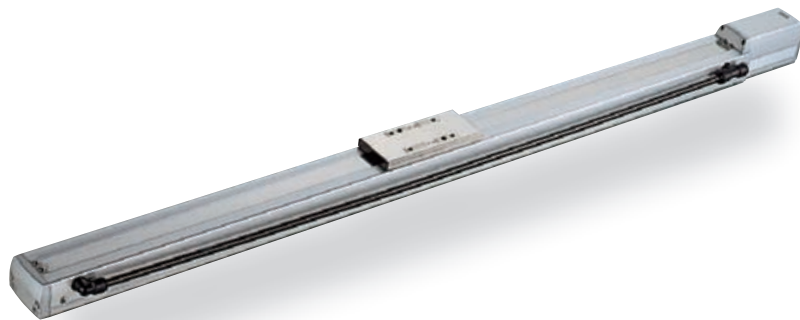
Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 80mm  
Pulse Motor, Straight, Iron Base Type

Model Specification Items **RCP2CR** - **SS8C** - **I** - **56P** -    -    - **P1** -    -   

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental	56P: Pulse motor	20: 20mm	10: 10mm	5: 5mm	100: 100mm	P1: PCON	N : No cable P : 1m S : 3m M : 5m X <span style="border: 1px solid black; padding: 1px;">  </span> : Specified length R <span style="border: 1px solid black; padding: 1px;">  </span> : Robot cable	B : Brake NM : Reversed-home specification VR : Suction joint on opposite side

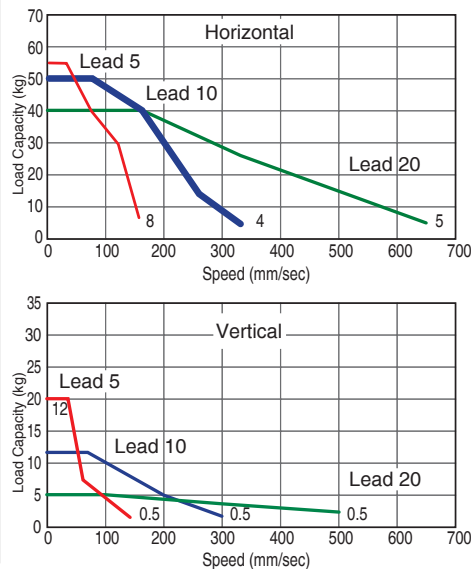
1000: 1000mm (Set in 100-mm steps)

\* Refer to p. 31 of the front matter for details on the model specification items.



**Correlation Diagram of Speed and Load Capacity**

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 5 or the actuator is operated vertically). This is the maximum acceleration.

**Actuator Specifications**

**Lead and Load Capacity**

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2CR-SS8C-I-56P-20-①-P1-②-③	20	~40	~5	100 ~ 1000 (Set in 100-mm steps)
RCP2CR-SS8C-I-56P-10-①-P1-②-③	10	~50	~12	
RCP2CR-SS8C-I-56P-5-①-P1-②-③	5	~55	~20	

Explanation of numbers ① Stroke ② Cable length ③ Options

**Stroke, Maximum Speed and Suction Volume**

Stroke / Lead	100 - 800	900	1000	Suction volume (Nl/mm)
	(Set in 100-mm steps)	(mm)	(mm)	
20	666 <555>	625 <500>	515 <500>	80
10	333 <300>	310 <300>	255	40
5	165 <150>	155 <150>	125	20

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

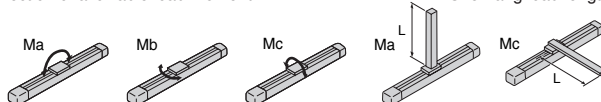
**Options**

Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Vacuum joint on opposite side	VR	P389

**Actuator Specifications**

Item	Description
Drive method	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Allowable load moment	Ma : 36.3N • m Mb : 36.3N • m Mc : 77.4N • m
Overhang load length	Ma direction: 450mm or less, Mb • Mc directions: 450mm or less
Grease	Low-dust-raising grease (both ball screw and guide)
Cleanliness class	Class 10 (0.1µm)
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



40 mm

52 mm

58 mm

60 mm

73 mm

80 mm

Pulse Motor

20w

30w

60w

100w

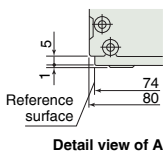
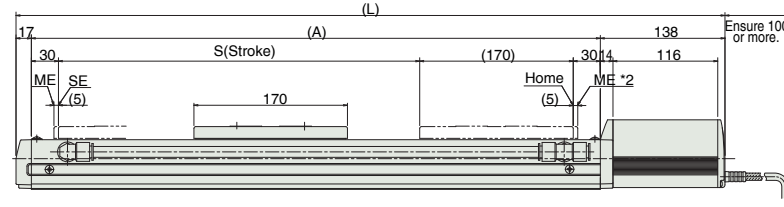
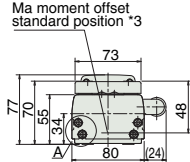
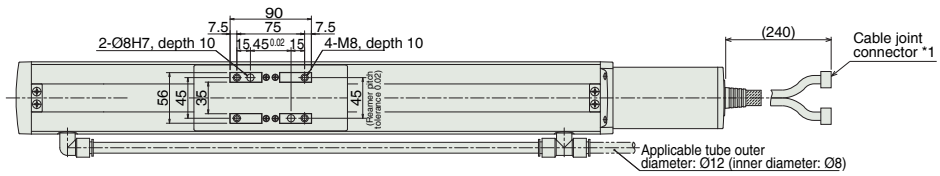
150w

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

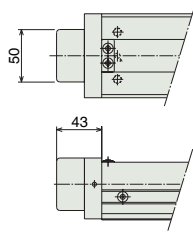
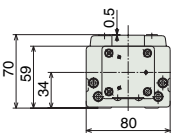
2D CAD

\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.



Detail view of A

\* Models with brake have their overall length (L) extended by 26 mm from the dimension L of the standard specification (table on the right).



- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
- \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts. ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating Ma moment.

Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800	900	1000
L	485	585	685	785	885	985	1085	1185	1285	1385
A	330	430	530	630	730	830	930	1030	1130	1230
B	100	200	300	400	500	600	700	800	900	1000
D	8	10	12	14	16	18	20	22	24	26
N	3	4	5	6	7	8	9	10	11	12
Weight (kg)	7.5	8.5	9.6	10.6	11.7	12.7	13.8	14.9	15.9	17.0

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector	(-)			
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller

- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 73 mm
- 80 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**RCP2CR** ROBO Cylinder

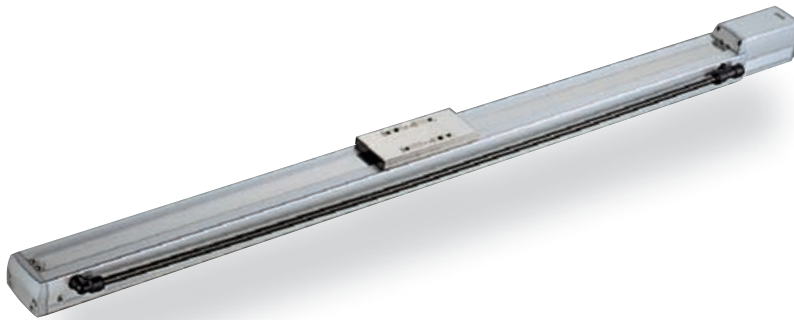
# RCP2CR-HS8C

Cleanroom Type ROBO Cylinder, High-Speed Slider Type, Actuator Width 80mm  
Pulse Motor, Straight, Iron Base Type

■ Model Specification Items

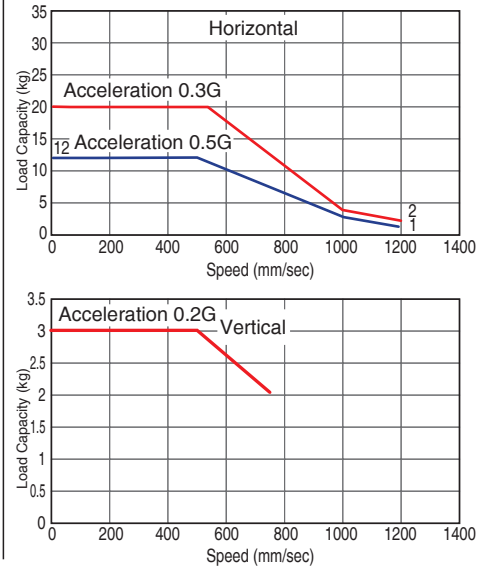
<b>RCP2CR</b>	<b>HS8C</b>	<b>I</b>	<b>86P</b>			<b>P2</b>		
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental	86P: Pulse motor specification 86□ size	30: 30mm	100: 100mm ? 1000: 1000mm (Set in 100-mm steps)	P2: PCON-CF	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	B : Brake NM : Reversed-home specification VR : Suction joint on opposite side

\* Refer to p. 31 of the front matter for details on the model specification items.



■ Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the actuator is operated vertically). The maximum acceleration is 0.5 G in horizontal application and 0.2 G in vertical application.

Actuator Specifications

■ Lead and Load Capacity (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

■ Stroke and Maximum Speed

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2CR-HS8C-I-86P-30-①-P2-②-③	30	~20	~3	100 ~ 1000 (Set in 100-mm steps)

Stroke / Lead	Stroke		
	100 ~ 800 (Set in 100-mm steps)	900 (mm)	1000 (mm)
30	1200 <750>	1000 <750>	800 <750>

Explanation of numbers ① Stroke ② Cable length ③ Options

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

Options

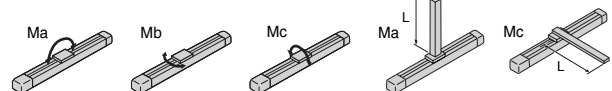
Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385
Vacuum joint on opposite side	VR	P389

Actuator Specifications

Item	Description
Drive method	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Allowable load moment	Ma : 36.3N • m Mb : 36.3N • m Mc : 77.4N • m
Overhang load length	Ma direction: 450mm or less, Mb • Mc directions: 450mm or less
Grease	Low-dust-raising grease (both ball screw and guide)
Cleanliness class	Class 10 (0.1µm)
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 73 mm
- 80 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

Dimensions

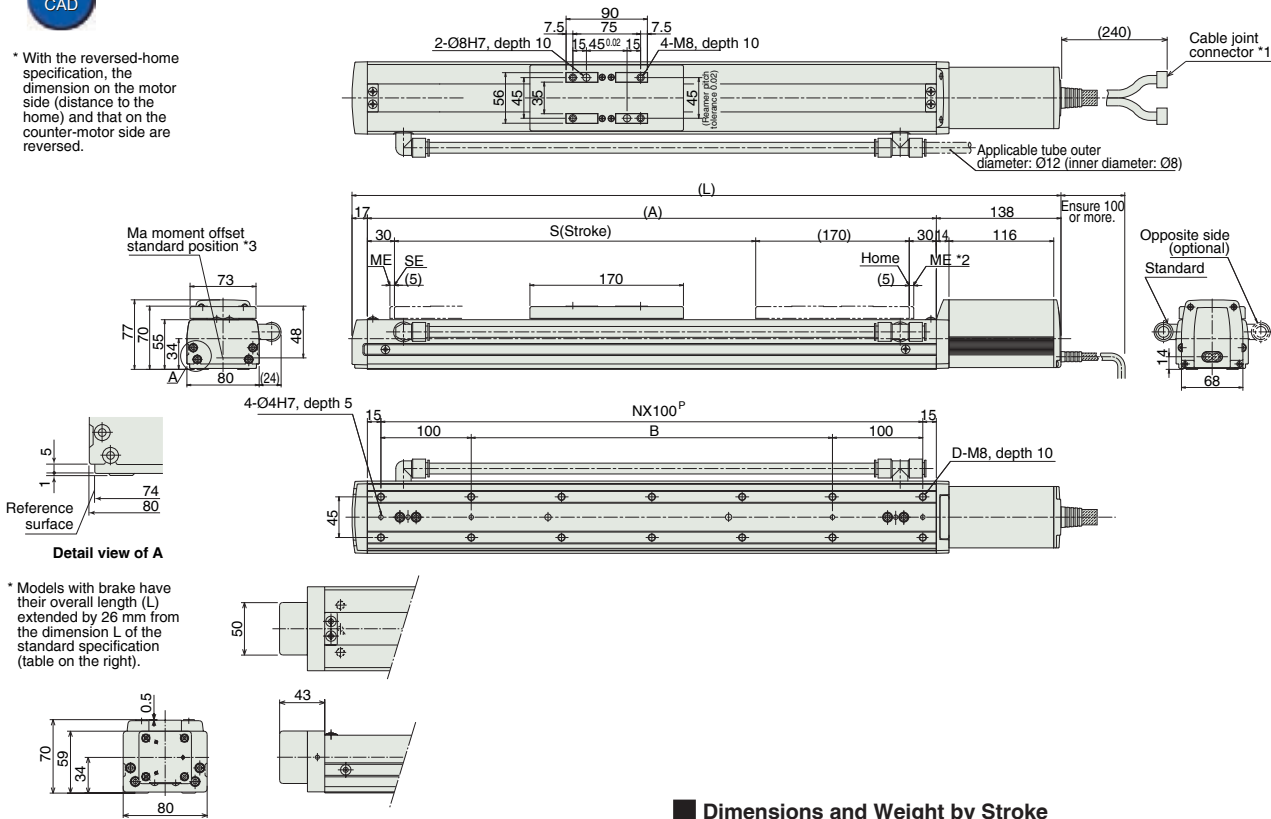
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2D CAD

\* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

- \*1 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.
- \*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.  
ME: Mechanical end  
SE: Stroke end
- \*3 Reference position for calculating Ma moment.



Dimensions and Weight by Stroke

Stroke	100	200	300	400	500	600	700	800	900	1000
L	485	585	685	785	885	985	1085	1185	1285	1385
A	330	430	530	630	730	830	930	1030	1130	1230
B	100	200	300	400	500	600	700	800	900	1000
D	8	10	12	14	16	18	20	22	24	26
N	3	4	5	6	7	8	9	10	11	12
Weight (kg)	7.5	8.5	9.6	10.6	11.7	12.7	13.8	14.9	15.9	17.0

Controller

Applicable Controllers

Contact IAI for the HS8C compatible controller.

- Control - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller

- 40 mm
- 52 mm
- 58 mm
- 60 mm
- 73 mm
- 80 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**RCP2W** ROBO Cylinder

# RCP2W-SA16C

ROBO Cylinder, Waterproof Type, Actuator Width 158mm, Pulse Motor, Straight

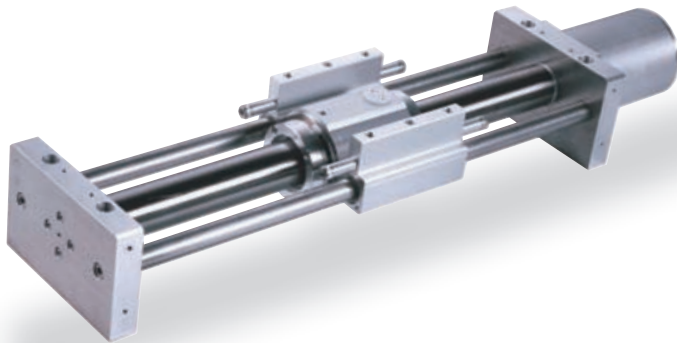
Model Specification Items **RCP2W** - **SA16C** - **I** - **86P** -  -  - **P2** -  -

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental 86P: Pulse motor specification 86□ size      8: 8mm      50: 50mm      P2: PCON-CF      N : No cable      CO : With cover  
 4: 4mm      ?      RCP2-CF      P : 1m      NM : Reversed-home specification  
 S : 3m      M : 5m      X□□ : Specified length  
 R□□ : Robot cable

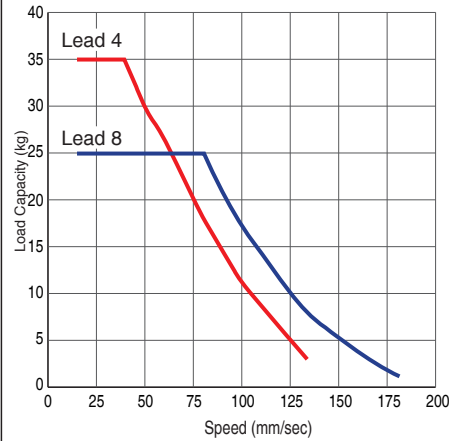
600: 600mm (Set in 50-mm steps)

\* Refer to p. 31 of the front matter for details on the model specification items.



**Correlation Diagram of Speed and Load Capacity**

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.2 G. The maximum acceleration is 0.2 G.

**Actuator Specifications**

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2W-SA16C-I-86P-8-①-P2-②-③	8	~25	Not possible	50 ~ 600 (Set in 50-mm steps)
RCP2W-SA16C-I-86P-4-①-P2-②-③	4	~35		

**Stroke and Maximum Speed**

Stroke / Lead	50 ~ 600 (Set in 50-mm steps)
8	180
4	133

Explanation of numbers ① Stroke ② Cable length ③ Options

(Unit: mm/s)

**Options**

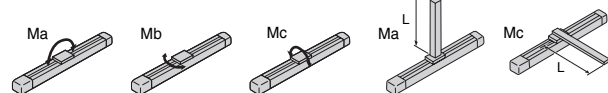
Name	Model	Page
With cover	CO	P272
Reversed-home specification	NM	P385

**Actuator Specifications**

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.08mm
Backlash	0.1mm or less
Guide	Ø20 non-lubrication direct-acting slide guide
Allowable static load moment	20.0N • m
Overhang load length	Ma direction: 200mm or less
Protective structure	IP67
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment

Overhang load length



- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- 32 mm
- 37 mm
- 45 mm
- 64 mm
- 100 mm
- 158 mm
- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w



- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Stainless Proof Type
- Controller

- 32 mm
- 37 mm
- 45 mm
- 64 mm
- 100 mm
- 158 mm

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

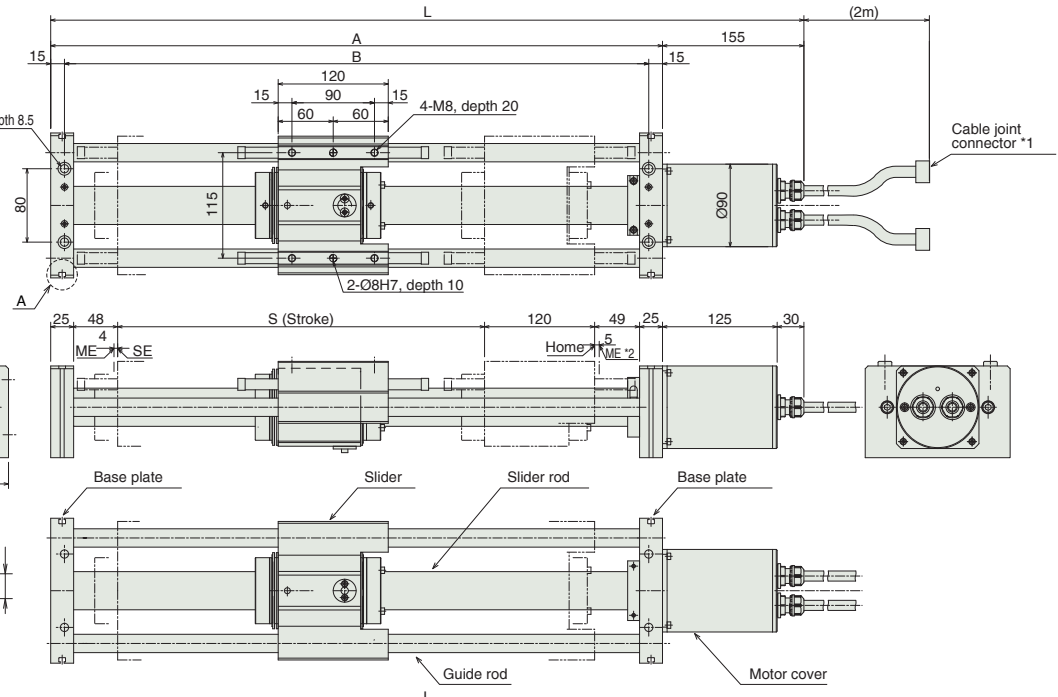
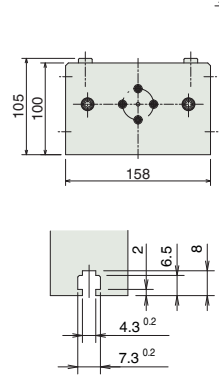
**Dimensions**

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

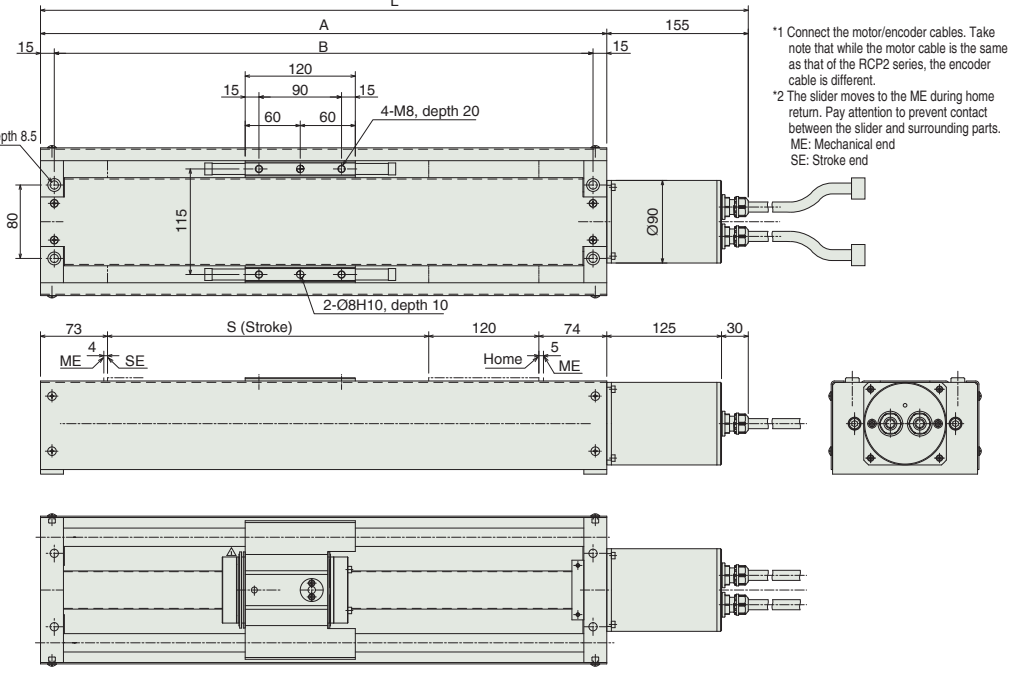
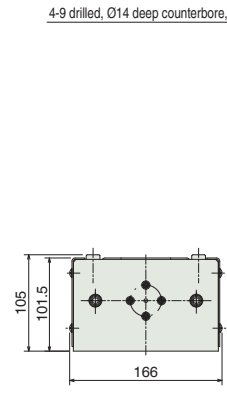


4-9 drilled, Ø14 deep counterbore, depth 8.5  
 \* With the reversed-home specification, the dimension on the motor side (distance to the home) and that on the counter-motor side are reversed.

[Without cover]



[With cover] (optional)



**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

**Controller**  
 Applicable Controllers  
 Contact IAI for the RCP2W-SA16C compatible controller.

# RCP2W ROBO Cylinder

## RCP2W-RA4C

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

Model Specification Items **RCP2W-RA4C-I-42P**

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental specification 42□ size	42P: Pulse motor			10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm ?	P1: PCON PSEL	N : No cable P : 1m S : 3m M : 5m X□: Specified length R□: Robot cable	B : With brake FL : With flange FT : With foot bracket NM : Reversed-home specification

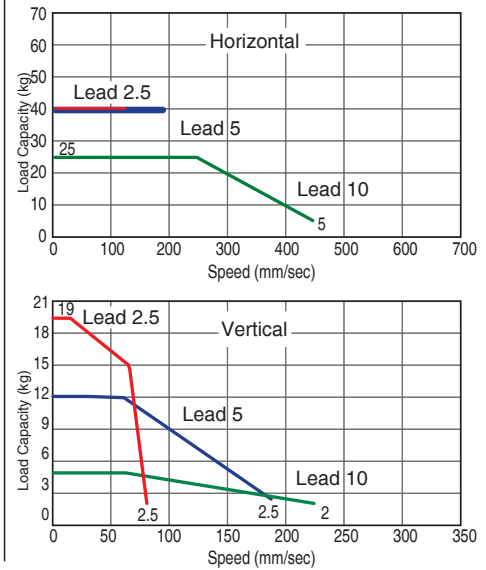
\* Refer to p. 31 of the front matter for details on the model specification items.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.2 G. The maximum acceleration is 0.2 G.

### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



### Actuator Specifications

#### Lead and Load Capacity (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2W-RA4C-I-42P-10-①-P1-②-③	10	~25	~4.5	150	50 ~ 300 (Set in 50-mm steps)
RCP2W-RA4C-I-42P-5-①-P1-②-③	5	40	~12	284	
RCP2W-RA4C-I-42P-2.5-①-P1-②-③	2.5	40	~19	358	

Explanation of numbers ① Stroke ② Cable length ③ Options

(Note 2) Refer to p. 408 for the graph of push force.

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 200 (Set in 50-mm steps)	250 (mm)	300 (mm)
	10	450 <250>	450 <250>
5	190	190	175
2.5	125 <115>	115	85

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

### Options

Name	Model	Page
Brake	B	P381
Flange	FL	P382
Foot bracket	FT	P384
Reversed-home specification	NM	P385

### Actuator Specifications

Item	Description
Drive method	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø22mm
Rod non-rotation accuracy	±1.5°
Protective structure	IP65
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

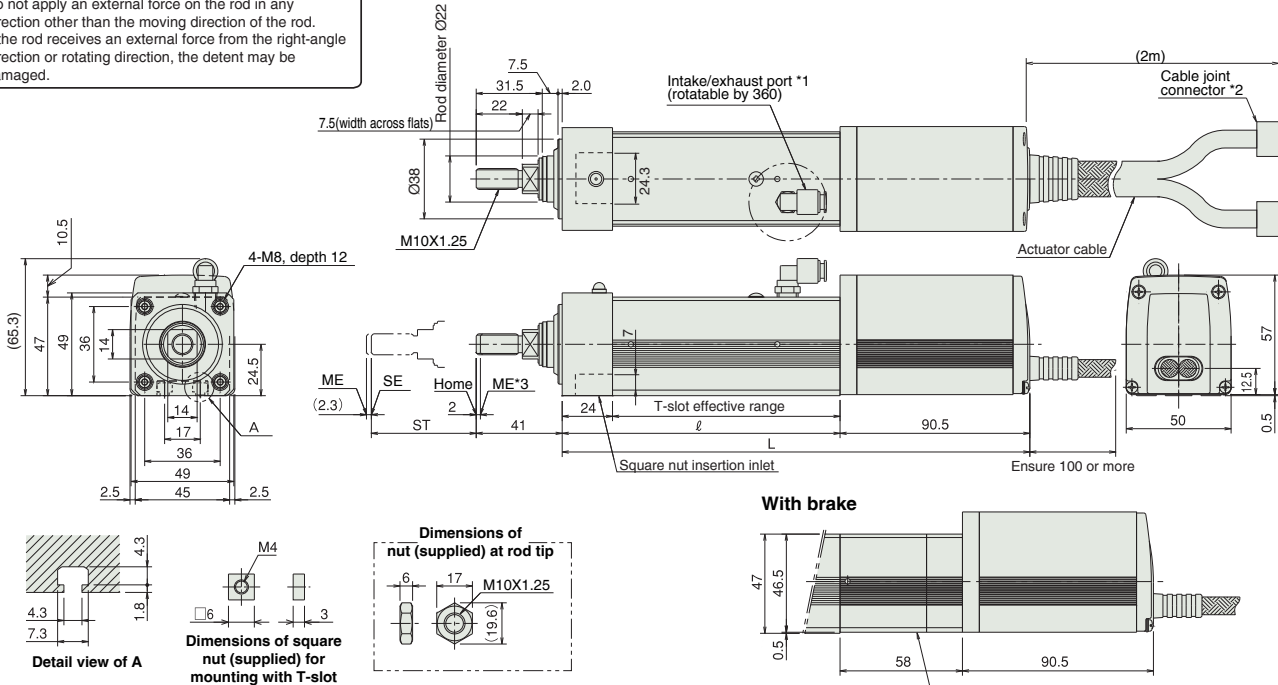
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Stainless Proof Type
- Controller

Dimensions

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

2D CAD

**Note**  
Do not apply an external force on the rod in any direction other than the moving direction of the rod. If the rod receives an external force from the right-angle direction or rotating direction, the detent may be damaged.



\* Models with brake have their overall length extended by 58 mm and weight increased by 0.4 kg.

\*1 The intake/exhaust port connects to a line used for bleeding air from inside the actuator. Connect a tube with an outer diameter of 6 and extend the other end of the tube to a place not exposed to water.  
\*2 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.  
\*3 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.  
\*4 There is no T-slot in the bottom face of the brake unit.

**Dimensions and Weight by Stroke** \* The figures in ( ) apply to models with brake. Those in < > apply when the actuator is used vertically.

Stroke	50	100	150	200	250	300
Q	132.5	182.5	232.5	282.5	332.5	382.5
L	223(281)	273(331)	323(381)	373(431)	423(481)	473(531)
Weight (kg)	1.9	2.1	2.2	2.5	2.9	3.1

- 32 mm
- 37 mm
- 45 mm
- 64 mm
- 100 mm
- 158 mm

Controller

Applicable Controllers

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-42PI-NP-2-0					
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting a differential line driver	(-)			
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting an open collector				
Serial communication type		PCON-SE-42PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

**RCP2W** ROBO Cylinder

# RCP2W-RA6C

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

Model Specification Items **RCP2W-RA6C-I-56P**

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I: Incremental	56P: Pulse motor	16: 16mm	8: 8mm	4: 4mm	50: 50mm	P1: PCON	N: No cable P: 1m S: 3m M: 5m X□: Specified length R□: Robot cable	B: With brake FL: With flange FT: With foot bracket NM: Reversed-home specification

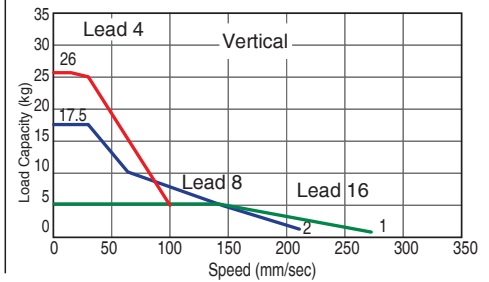
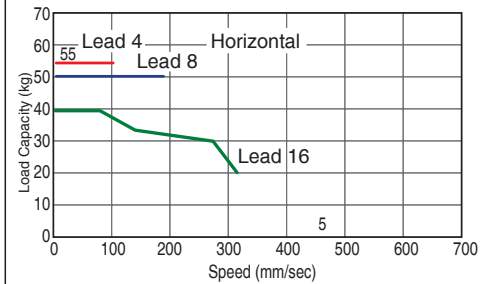
300: 300mm (Set in 50-mm steps)

\* Refer to p. 31 of the front matter for details on the model specification items.



**Correlation Diagram of Speed and Load Capacity**

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- POINT Selection Points**
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
  - (3) The load capacity is based on operation at an acceleration of 0.2 G. The maximum acceleration is 0.2 G.

**Actuator Specifications**

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2W-RA6C-I-56P-16-①-P1-②-③	16	~40	~5	240	50 ~ 300 (Set in 50-mm steps)
RCP2W-RA6C-I-56P-8-①-P1-②-③	8	50	~17.5	470	
RCP2W-RA6C-I-56P-4-①-P1-②-③	4	55	~26	800	

Explanation of numbers ① Stroke ② Cable length ③ Options

**Stroke and Maximum Speed**

Stroke / Lead	50 ~ 300 (Set in 50-mm steps)
	16
8	200
4	100

\* The figures in <> apply when the actuator is used vertically. (Unit: mm/s)

**Options**

Name	Model	Page
Brake	B	P381
Flange	FL	P382
Foot bracket	FT	P384
Reversed-home specification	NM	P385

**Actuator Specifications**

Item	Description
Drive method	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø30mm
Rod non-rotation accuracy	±1.0°
Protective structure	IP65
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Pulse Motor

20w

30w

60w

100w

150w

32 mm

37 mm

45 mm

64 mm

100 mm

158 mm

Controller - Integrated Type

Slider Type

Rod Type

Arm / Flat Type

Gripper / Rotary Type

Cleanroom Type

Splash Proof Type

Controller

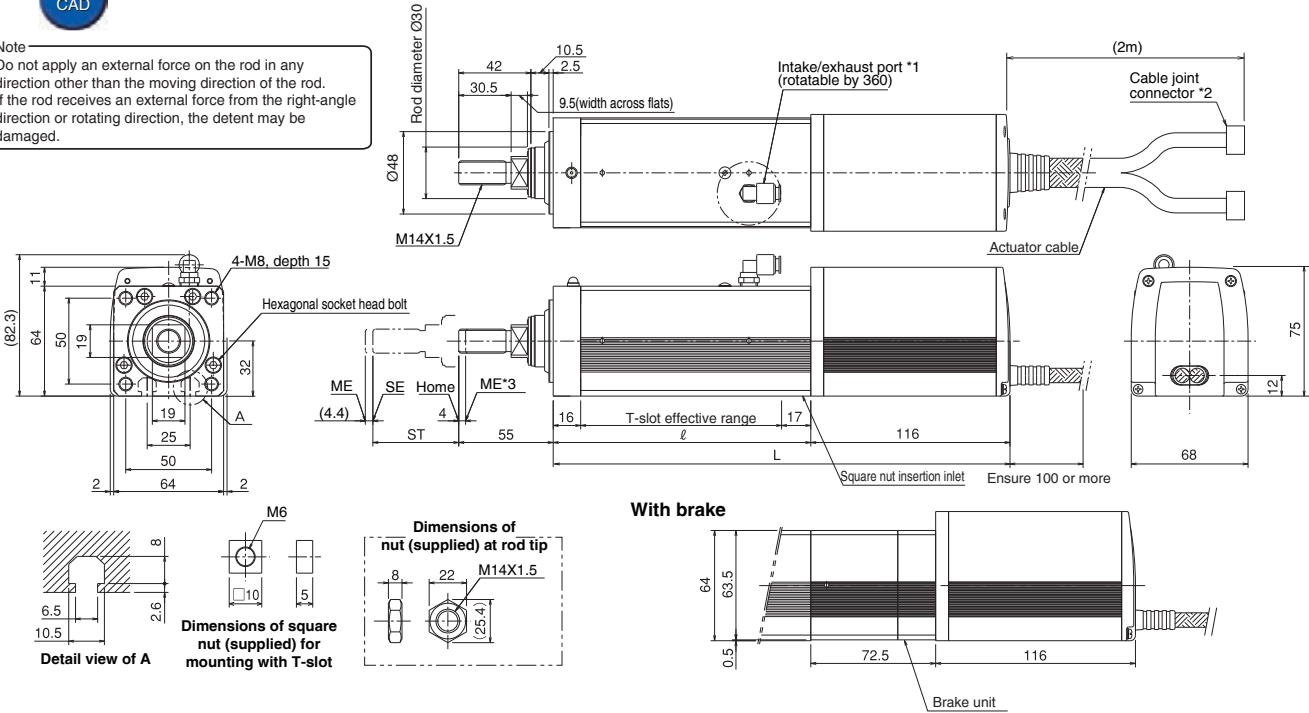
- Controller - Integral Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Stainless Proof Type
- Controller

**Dimensions**

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

2D CAD

**Note**  
Do not apply an external force on the rod in any direction other than the moving direction of the rod. If the rod receives an external force from the right-angle direction or rotating direction, the detent may be damaged.



\* Models with brake have their overall length extended by 72.5 mm and weight increased by 0.9 kg.

\*1 The intake/exhaust port connects to a line used for bleeding air from inside the actuator. Connect a tube with an outer diameter of 6 and extend the other end of the tube to a place not exposed to water.  
\*2 Connect the motor/encoder cables. Refer to p. 314 for details on the cables.  
\*3 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.  
\*4 There is no T-slot in the bottom face of the brake unit.

**Dimensions and Weight by Stroke**

\* The figures in ( ) apply to models with brake. Those in < > apply when the actuator is used vertically.

Stroke	50	100	150	200	250	300
Ø	150	200	250	300	350	400
L	266(338.5)	316(388.5)	366(438.5)	416(488.5)	466(538.5)	516(588.5)
Weight (kg)	3.5	4.0	4.5	5.0	5.5	6.0

- 32 mm
- 37 mm
- 45 mm
- 64 mm
- 100 mm
- 158 mm

**Controller**

**Applicable Controllers**

RCP2 series actuators can be operated using the following controllers. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
Positioner type		PCON-C-56PI-NP-2-0	Supporting up to 512 positioning points	512 points	DC24V	2A max.	→P305
Positioner type meeting safety category		PCON-CG-56PI-NP-2-0					
Solenoid valve type		PCON-CY-56PI-NP-2-0	Same control actions as those applicable to solenoid valves	3 points			
Pulse-train input type (differential line driver specification)		PCON-PL-56PI-NP-2-0	Pulse-train input type supporting a differential line driver	( - )			
Pulse-train input type (open collector specification)		PCON-PO-56PI-NP-2-0	Pulse-train input type supporting an open collector	( - )			
Serial communication type		PCON-SE-56PI-0-0	Dedicated serial communication type	64 points			
Program control type		PSEL-C-1-56PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

# RCP2W ROBO Cylinder

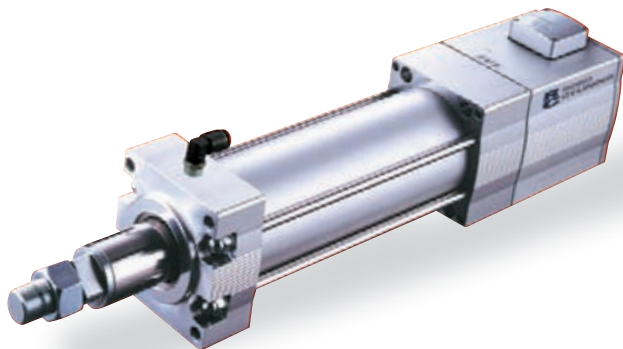
## RCP2W-RA10C

ROBO Cylinder, High-Thrust Rod Type, Actuator Width 100mm, Pulse Motor Coupling Specification

Model Specification Items **RCP2W-RA10C-I-86P**

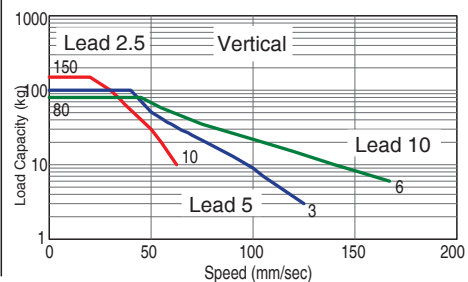
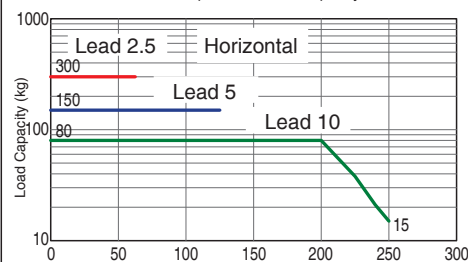
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
I	Incremental	86P	Pulse motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 300: 300mm (Set in 50-mm steps)	P2: PCON-CF RCP2-CF	N : No cable P : 1m S : 3m M : 5m X□ : Specified length R□ : Robot cable	B : With brake FL : With flange FT : With foot bracket

\* Refer to p. 31 of the front matter for details on the model specification items.



### Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.



- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- With the RCP2 series, the load capacity will decrease as the speed increases because a pulse motor is used. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The load capacity is based on operation at an acceleration of 0.04 G (lead 10), 0.02 G (lead 5) or 0.01 G (lead 2.5). These are the maximum accelerations for the respective lead specifications.

### Actuator Specifications

**Lead and Load Capacity** (Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1)		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2W-RA10C-I-86P-10-①-P2-②-③	10	~80	~80	1500	50 ~ 300 (Set in 50-mm steps)
RCP2W-RA10C-I-86P-5-①-P2-②-③	5	150	~100	3000	
RCP2W-RA10C-I-86P-2.5-①-P2-②-③	2.5	300	~150	6000	

**Stroke and Maximum Speed**

Stroke / Lead	50 ~ 300 (Set in 50-mm steps)
	10
5	125
2.5	63

Explanation of numbers ① Stroke ② Cable length ③ Options

(Unit: mm/s)

### Options

Name	Model	Page
Cable outlet direction	A1~A3	P381
Brake	B	P381
Flange	FL	P382
Foot bracket	FT	P384

### Actuator Specifications

Item	Description
Drive method	Ball screw, rolled C10
Positioning repeatability	±0.02mm
Backlash	0.05mm or less
Rod diameter	Ø40mm
Rod non-rotation accuracy	±1.0°
Protective structure	IP54
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Controller - Integrated Type

Slider Type

Rod Type

Arm / Flat Type

Gripper / Rotary Type

Cleanroom Type

Splash Proof Type

Controller

32 mm

37 mm

45 mm

64 mm

100 mm

158 mm

Pulse Motor

20w

30w

60w

100w

150w



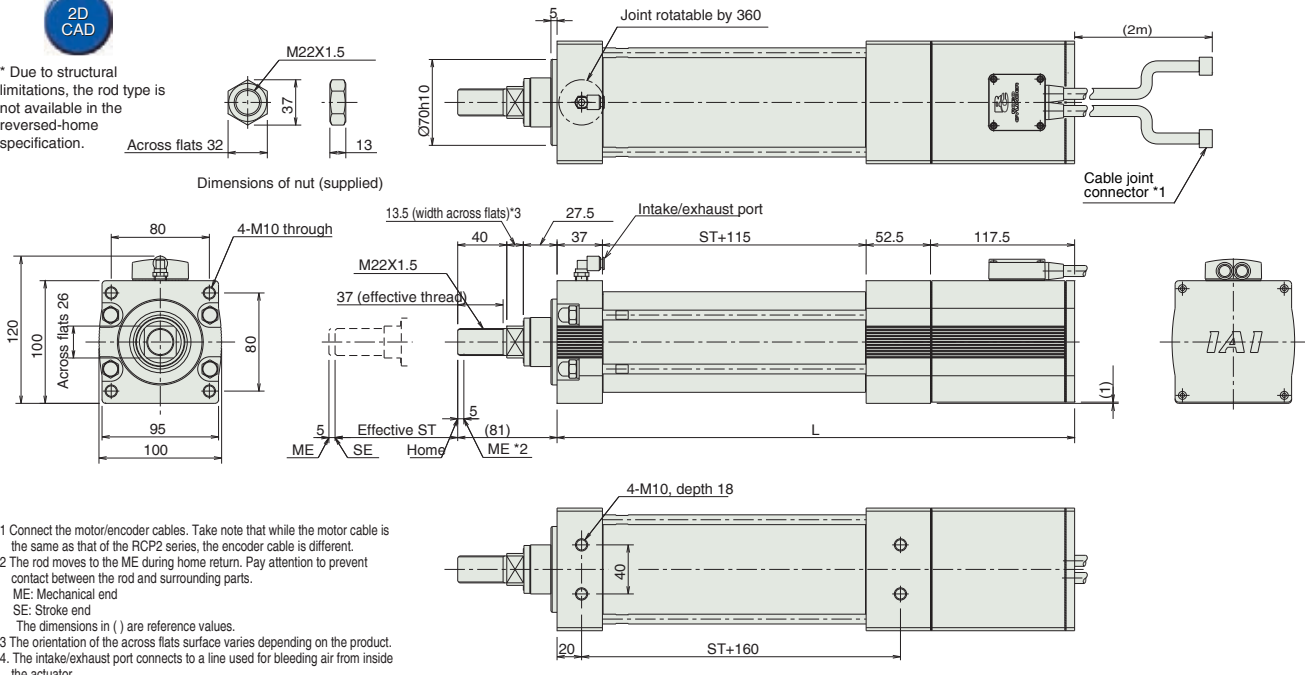
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Stainless Steel Type
- Controller

**Dimensions**

You can download CAD drawings from our website. [www.robocylinder.de](http://www.robocylinder.de)

2D CAD

\* Due to structural limitations, the rod type is not available in the reversed-home specification.



- \*1 Connect the motor/encoder cables. Take note that while the motor cable is the same as that of the RCP2 series, the encoder cable is different.
- \*2 The rod moves to the ME during home return. Pay attention to prevent contact between the rod and surrounding parts.  
ME: Mechanical end  
SE: Stroke end  
The dimensions in ( ) are reference values.
- \*3 The orientation of the across flats surface varies depending on the product.
- \*4. The intake/exhaust port connects to a line used for bleeding air from inside the actuator.

\* Models with brake have their overall length extended by 45.5 mm and weight increased by 1.5 kg.

**Maximum Speed 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

- 32 mm
- 37 mm
- 45 mm
- 64 mm
- 100 mm
- 158 mm

**Controller**

**Applicable Controllers**

Contact IAI for the RCP2-RA10C compatible controller.

- Pulse Motor
- 20w
- 30w
- 60w
- 100w
- 150w

# ACON-/PCON-ABU Controller Module

# ABU



Absolute unit  
Module for ACON and PCON controller

## Features

### 1 Easy Change from Incremental to Absolute Encoder Type

Only connecting to ACON/PCON, RCA/RCP2 actuators incremental version will function as absolute version (with back-up battery). ACON/PCON-ABU set includes ACON/PCON-ABU unit, back-up battery (AB-7) and cable connected to controller (CB-AC/PC-PJ002).

\* Caution: An error will be indicated when sliders or rod of the actuators move faster than specified speed. Please refer to the specified speed (allowable rotation per minute) in the specification table.

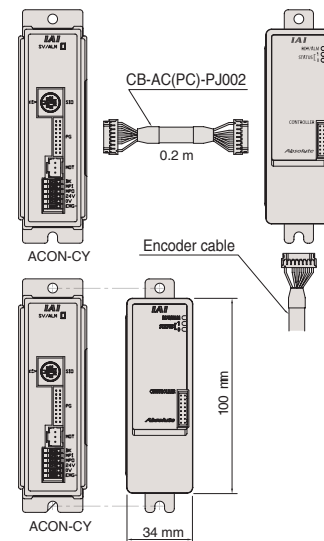
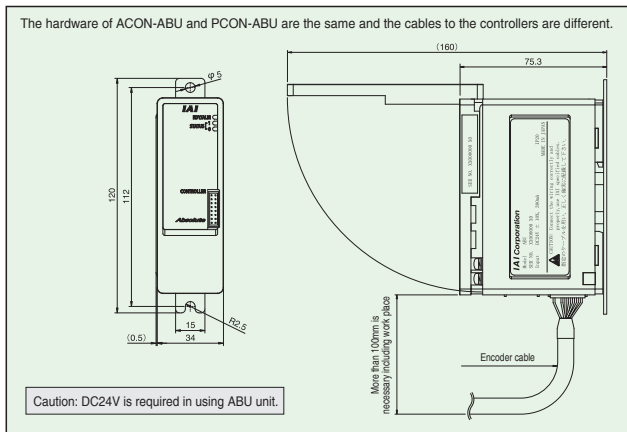
### 2 No Home Return necessary

By connecting with ACON/PCON-C, -CG, -CY or -SE type the current position of system will be held even if power is disconnected, the actuator can operate immediately without homing. Encoder data can be saved as long as 20 days.

### 3 Small Size like as Controller Types SE/CY

It is as compact as CY and SE controller types (width 34 mm, height 100 mm, length 75.3 mm), so space and cost can be saved.

## External Dimensions



## Specification Table

Item	ACON-ABU		PCON-ABU	
Controller type to be connected	ACON-C/CG/CY/SE		PCON-C/CG/CY/SE	
	In ordering controllers to be connected to ABU unit, please add "ABU" at the end of controller type name, e.g. "ACON-C-20I-NP-2-0-ABU"			
Connected actuators	RCA series		RCP2 series *1	
Cables connected to controller	CB-AC-PJ002 (0.2 m)		CB-PC-PJ002 (0.2 m)	
Backup battery (included in a set)	AB-7			
Power voltage	DC24V ±10%			
Power capacity	max. 300mA			
Ambient Temperature	0~40°C (at best 20°C)			
Ambient Humidity	95% RH (non-condensing)			
Environment	No corrosive gas, no dust			
Weight	330 g			
Allowable encoder rotation per minute *2	800 rpm	400 rpm	200 rpm	100 rpm
Position data retainable hours *2	120h	240h	360h	480h

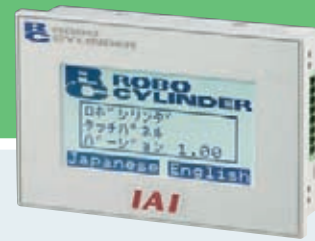
\*1 ABU unit does not function for types RA2C, RA10C, GRS, GRM, GR3LS, GR3LM, GR3SS, GR3SM, RTBL, RTCL and RCP2-W-SA16.

\*2 Position data retainable hours varies by allowable rotation per minute.

Controller - Integrated Type  
Slider Type  
Rod Type  
Arm / Flat Type  
Gripper / Rotary Type  
Cleanroom Type  
Splash Proof Type  
Controller  
Controller Models  
Gateway unit  
Absolute Unit / Touch Panel  
ERC2  
PCON  
ACON  
SCON  
PSEL  
ASEL  
SSEL  
XSEL

# RCM-PM

Touch panel to input, change and monitor data of PCON/ACON/SCON/ERC2/ROBONET



## Features

### 1 Easy Input, Change and Monitor Data

Position data and parameter (user parameter) can be changed and position, speed and IO status can be monitored. Dialogue window help users using for the first time.

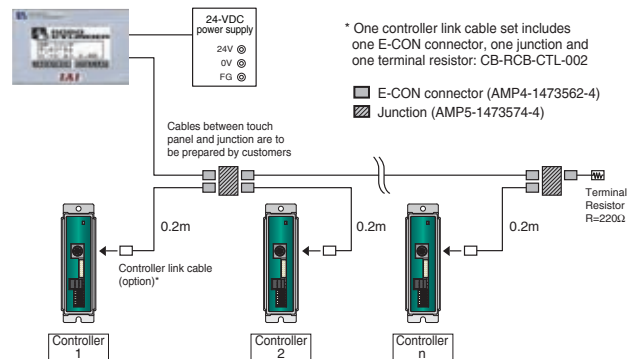
### 2 Three-color Back Light indicates the Status

In the normal status the back light is white and it turn to pink with error and to red with emergency.

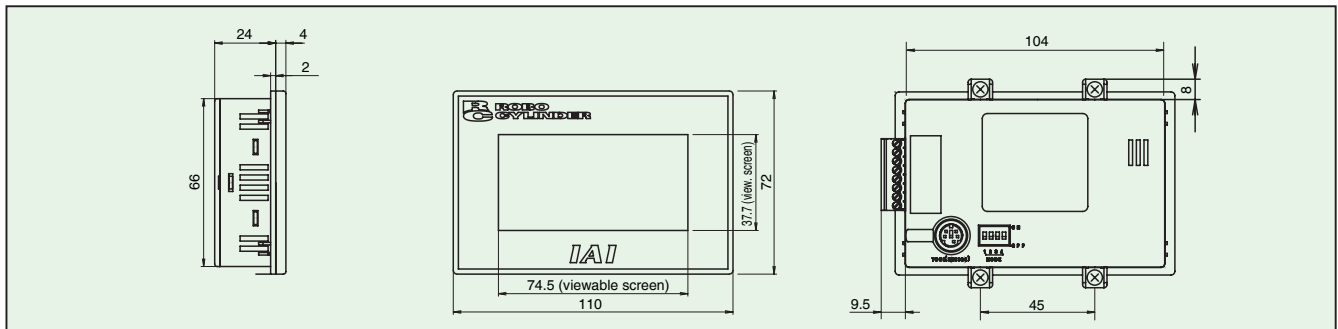
### 3 Connecting multiple Controllers

Up to 16 controllers of PCON, ACON, SCON, ERC2 or ROBONET can be connected.

The diagram shows only serial communication connection. Please refer to the manual for power supply and emergency.



## External Dimensions



## Specification Table

	Item	RCM-PM-01
Basic specifications	Power supply voltage	DC 24V
	Functional voltage	DC 21.6~26.4V
	Power capacity	less than 2W (less than 80mA)
	Ambient temperature / humidity	0~50°C / 20~85% RH (non-condensing)
	Environment	IP65 (initial stage) only from front side
	Weight	ca. 160g
Communication	Communication standard	RS485
	Communication condition	Transmit speed 115.2 kbps, Data bit 8 bit, no parity, Stop bit 1 bit
	Protocol	Modbus/RTU
	Controller to be connected	PCON/ACON/SCON/ERC2/ROBONET (max. 16 controllers can be connected)
Function	Monitor	Current position, speed, acceleration, error code, error message, PIO status bit, speed wave, current wave, current value
	Error list	max. 16 error lists (code, detail code, address, time, message)
	Position table edit	Position, speed, acceleration, band-width, push-mode, individual zone, incremental position, jog/inching, direct teaching, error message by non allowable data
	Move function	Position, direct movement, jog, screen jump function at error
	Parameter edit	Zone signal, software limit, PIO pattern selection, jog speed, inching distance, speed at push mode, safety speed
	Back light	White (standard), pink (error), red (emergency)
	View screen adjustment	Contrast and brightness adjustment
Gateway monitor function	Current position (max. 4 axes), current speed (max. 4 axes), current level (max. 4 axes), total current level, error monitor for all axes, Gateway system status	

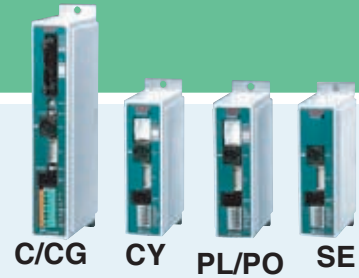
- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- Controller Models
- Gateway Unit
- Absolute Unit / Touch Panel
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL

# PCON Controller

# PCON

## Model C / CG / CY / PL / PO / SE

Position controller for RCP2 series

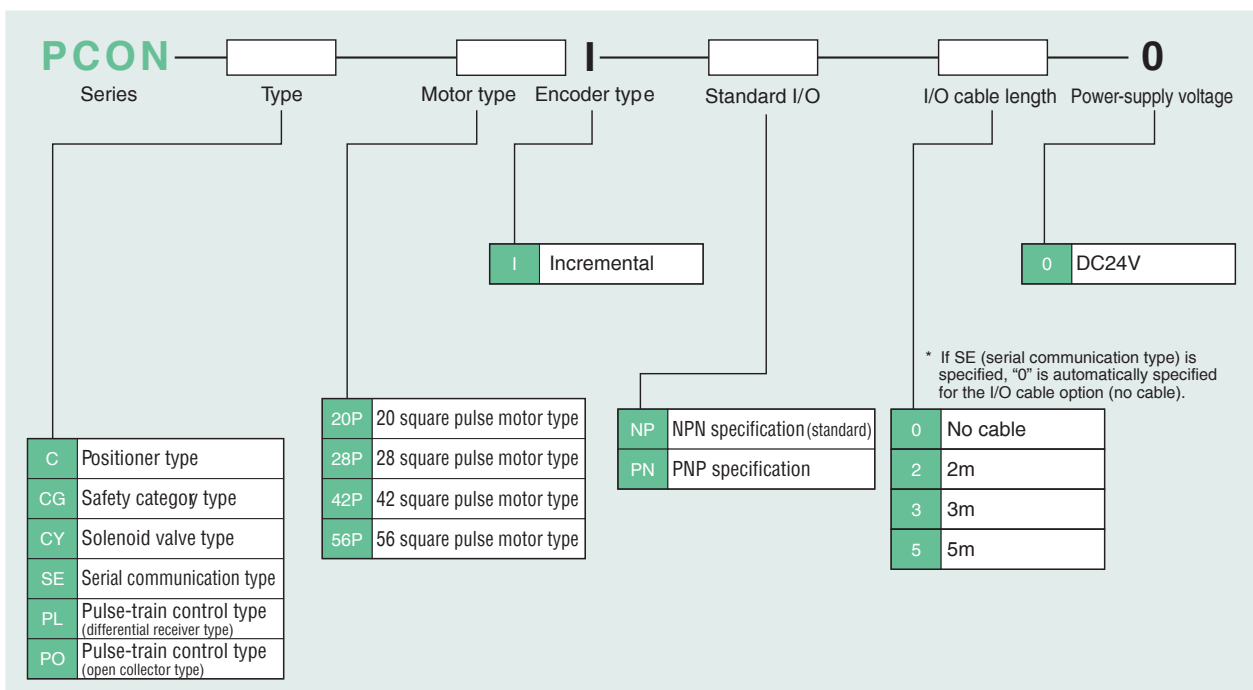


### Type List

Position controller capable of operating RCP2 series actuator. Select from five types each supporting a different control mode.

Type	C	CG	CY	PL / PO	SE
Name	Positioner type	Safety category type	Solenoid valve type	Pulse-train control type	Serial communication type
External view					
Description	Positioner supporting up to 512 positioning points	C type conforming to safety category	Same control actions as those used on air cylinders	Controller for pulse-train control	Network controller
Number of position points	512 points	512 points	3 points	—	64 points
	—	—	—	—	—

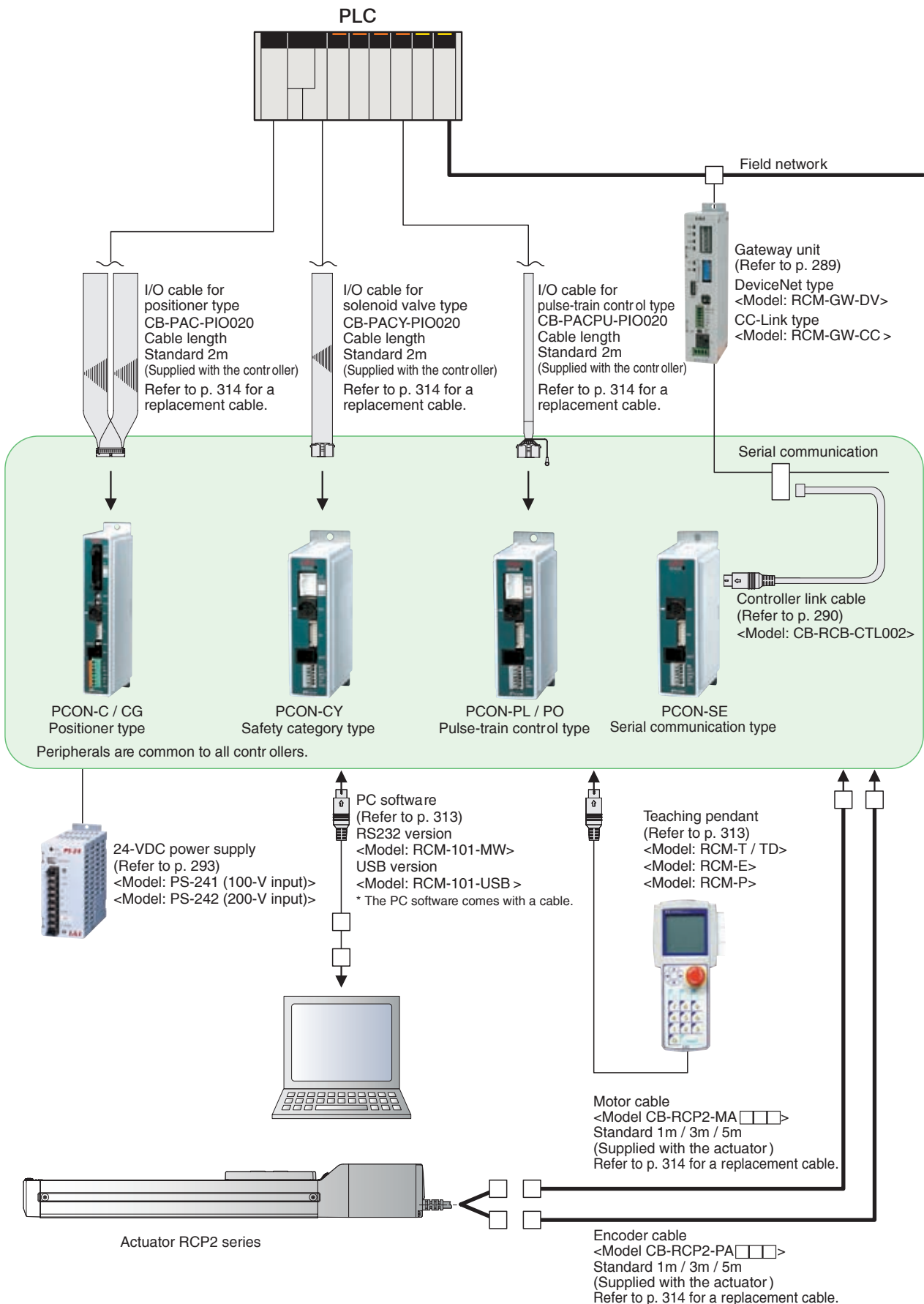
### Model



Controller - Integrated Type  
Slider Type  
Rod Type  
Arm / Flat Type  
Cripper / Rotary Type  
Cleanroom Type  
Splash Proof Type  
Controller Models  
Gateway unit  
PS-24  
ERC2  
PCON  
ACON  
SCON  
PSEL  
ASEL  
SSEL  
XSEL

System Configuration

- Controller - Integrated type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- Controller Models
- Gateway unit
- PS-24
- ERIC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL

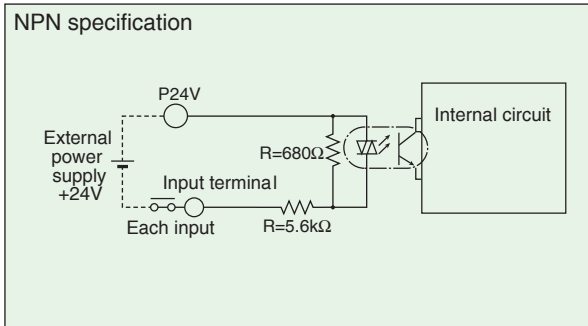


# PCON Controller

## I/O Specifications

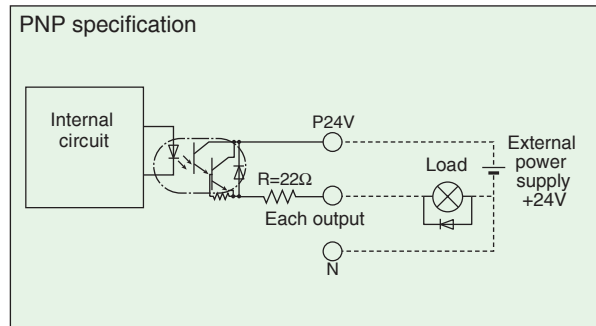
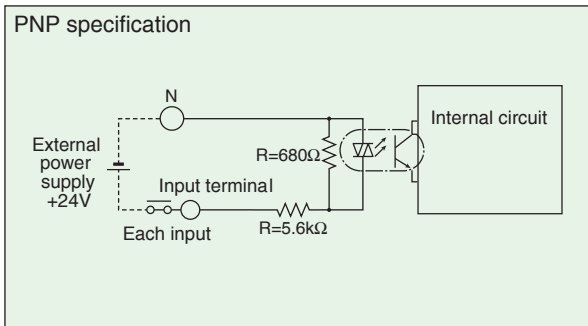
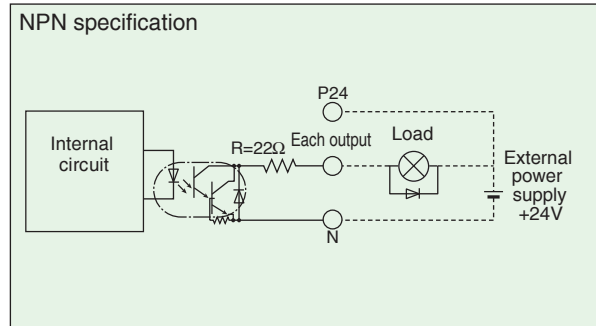
### Input Part External input specifications

Item	Specification
Input voltage	24VDC $\pm$ 10%
Input current	4mA/circuit
Leak current	1mA max./point
Insulation method	Photocoupler



### Output Part External output specifications

Item	Specification
Load voltage	DC24V
Maximum load current	50mA/point
Residual voltage	2V max.
Insulation method	Photocoupler



## I/O Specifications

The four controller types (C/CG, CY, PL/PO and SE) are differentiated by their I/O specifications. Since the positioner type and solenoid valve type allow the I/O signal settings to be changed through the controller, multiple functions can be provided for selection as needed.

### Controller Functions by Type

Type	C / CG	CY	PL / PO	SE	Features
Name	Positioner type	Solenoid valve type	Pulse-train control type	Serial communication type	
Positioner mode	○	○	×	×	A basic operation mode in which the actuator is operated by specifying a position number and then inputting a start signal.
Teaching mode	○	×	×	×	In this mode, the slider (rod) can be moved by means of an external signal to store the achieved position as position data.
Solenoid valve mode	○	○	×	×	The actuator can be moved simply by ON/OFF of position signals. This mode supports the same control actions you are already familiar with on solenoid valves of air cylinders.
Pulse train mode	×	×	○	×	In this mode, you can operate the actuator freely using pulse trains without inputting position data.
Network support	○	○	×	○	The controller can be connected to a DeviceNet or CC-Link network using a gateway unit.



## Explanation of I/O Signal Functions

The table below explains the functions assigned to the respective I/O signals of the controller. Since the signals that can be used vary depending on the controller type and settings, check the signal table for each controller to confirm the available functions.

### ■ Controller Functions by Type

Category	Abbreviation	Signal name	Function description
Input	CSTR	PTP strobe signal (start signal)	Input this signal to cause the actuator to start moving to the position set by the command position number signal.
	PC1~PC256	Command position number signal	This signal is used to input a target position number (binary input).
	BKRL	Brake forced-release signal	This signal forcibly releases the brake.
	RMOD	Running mode switching signal	This signal can switch the running mode when the MODE switch on the controller is set to AUTO (AUTO when this signal is OFF, or MANU when the signal is ON).
	* STP	Pause signal	Turning this signal OFF causes the moving actuator to decelerate to a stop. The actuator will resume the remaining movement if the signal is turned OFF during the pause.
	RES	Reset signal	Turning this signal ON resets the alarms that are present. If this signal is turned ON while the actuator is paused (*STP is OFF), the remaining movement can be cancelled.
	SON	Servo ON signal	The servo remains on while this signal is ON, or off while the signal is OFF.
	HOME	Home return signal	Turning this signal ON performs home-return operation.
	MODE	Teaching mode signal	Turning this signal ON switches the controller to the teaching mode (provided that CSTR, JOG+ and JOG- are all OFF and the actuator is not moving).
	JISL	Jog/inching switching signal	The actuator can be jogged with JOG+ and JOG- while this signal is OFF. The actuator performs inching operation with JOG+ and JOG- while this signal is ON.
	JOG+ JOG-	-----	----
	PWRT	Teaching signal	In the teaching mode, specify a desired position number and then turn this signal ON for at least 20 ms to write the current position under the specified position number.
	ST0~ST6	Start position command	Turning this signal ON in the solenoid valve mode causes the actuator to move to the specified position. (Start signal is not required.)
	TL	Torque limit selection signal	While this signal is ON, torque is limited by the value set by a parameter. The TLR signal turns ON if torque has reached the specified value.
DCLR	Deviation counter clear signal	The position deviation counter is continuously cleared while this signal is ON.	
Output	PEND/INP	Position complete signal	This signal turns ON when the actuator has entered the positioning band after movement. If the actuator has exceeded the positioning band, PEND does not turn OFF, but INP does. PEND and INP can be swapped using a parameter.
	PM1~PM256	Completed position number signal	This signal is used to output the position number achieved at completion of positioning (binary output).
	HEND	Home return complete signal	This signal turns ON upon completion of home return.
	ZONE1	Zone signal	This signal turns ON when the current actuator position has entered the range specified by parameters.
	PZONE	Position zone signal	This signal turns ON when the current actuator position has entered the range specified by position data during position movement. PZONE can be used together with ZONE1, but PZONE is valid only during movement to a specified position.
	RMDS	Running mode status signal	This signal is used to output the running mode status.
	* ALM	Controller alarm status signal	This signal remains ON while the controller is normal, and turns OFF if an alarm has generated.
	MOVE	Moving signal	This signal remains ON while the actuator is moving (including the periods during home return and push-motion operation).
	SV	Servo ON status signal	This signal remains ON while the servo is on.
	* EMGS	Emergency stop status signal	This signal remains ON while the controller is not in the emergency stop mode, and turns OFF once an emergency stop has been actuated.
	MODES	Mode status signal	This signal turns ON when the controller has switched to the teaching mode via MODE signal input. It turns OFF upon returning to the normal mode.
	WEND	Write complete signal	This signal remains OFF after the controller has switched to the teaching mode. It turns ON upon completion of data write using the PWRT signal. If the PWRT signal is turned OFF, this signal also turns OFF.
	PE0~PE6	Current position number signal	This signal turns ON after the controller has completed moving to the target position in the solenoid valve mode.
	TLR	Torque limiting signal	This signal turns ON once the motor torque has reached the specified value in a condition where torque is being limited by the TL signal.
	LSO~LS2	Limit switch output signal	Each signal turns ON when the current actuator position has entered the positioning band before or after the target position. If the actuator has already completed home return, these signals are output even before a movement command is issued or while the servo is OFF.
TRQS	Torque level status signal	This signal outputs when the current value of the motor reaches the limitation value, before the JOG operation returns to the starting point and the slider (rod) collides to the mechanical end or an obstacle.	

**I/O Signal Table**

**■ Positioner type (PCON-C / CG)**

Pin number	Category	Number of positioning points	Parameter (PIO pattern) selection					
			0	1	2	3	4	5
			Positioning mode	Teaching mode	256-point mode	512-point mode	Solenoid valve mode 1	Solenoid valve mode 2
			64 points	64 points	256 points	512 points	7 points	3 points
		Zone signal	○	x	x	x	○	○
		P zone signal	○	○	○	x	○	○
1A	24V		P24					
2A	24V		P24					
3A	-		NC					
4A	-		NC					
5A	Input	IN0	PC1	PC1	PC1	PC1	ST0	ST0
6A		IN1	PC2	PC2	PC2	PC2	ST1	ST1 (JOG+)
7A		IN2	PC4	PC4	PC4	PC4	ST2	ST2 (-)
8A		IN3	PC8	PC8	PC8	PC8	ST3	-
9A		IN4	PC16	PC16	PC16	PC16	ST4	-
10A		IN5	PC32	PC32	PC32	PC32	ST5	-
11A		IN6	-	MODE	PC64	PC64	ST6	-
12A		IN7	-	JISL	PC128	PC128	-	-
13A		IN8	-	JOG+	-	PC256	-	-
14A		IN9	BKRL	JOG-	BKRL	BKRL	BKRL	BKRL
15A		IN10	RMOD	RMOD	RMOD	RMOD	RMOD	RMOD
16A		IN11	HOME	HOME	HOME	HOME	HOME	-
17A		IN12	* STP	* STP	* STP	* STP	* STP	-
18A		IN13	CSTR	CSTR/PWRT	CSTR	CSTR	-	-
19A		IN14	RES	RES	RES	RES	RES	RES
20A	IN15	SON	SON	SON	SON	SON	SON	
1B	Output	OUT0	PM1	PM1	PM1	PM1	PE0	LSO
2B		OUT1	PM2	PM2	PM2	PM2	PE1	LS1 (TRQS)
3B		OUT2	PM4	PM4	PM4	PM4	PE2	LS2(-)
4B		OUT3	PM8	PM8	PM8	PM8	PE3	-
5B		OUT4	PM16	PM16	PM16	PM16	PE4	-
6B		OUT5	PM32	PM32	PM32	PM32	PE5	-
7B		OUT6	MOVE	MOVE	PM64	PM64	PE6	-
8B		OUT7	ZONE1	MODES	PM128	PM128	ZONE1	ZONE1
9B		OUT8	PZONE	PZONE	PZONE	PM256	PZONE	PZONE
10B		OUT9	RMDS	RMDS	RMDS	RMDS	RMDS	RMDS
11B		OUT10	HEND	HEND	HEND	HEND	HEND	HEND
12B		OUT11	PEND	PEND/WEND	PEND	PEND	PEND	-
13B		OUT12	SV	SV	SV	SV	SV	SV
14B		OUT13	* EMGS	* EMGS	* EMGS	* EMGS	* EMGS	* EMGS
15B	OUT14	* ALM	* ALM	* ALM	* ALM	* ALM	* ALM	
16B		-	-	-	-	-	-	
17B	-		NC					
18B	-		NC					
19B	0V		N					
20B	0V		N					

(Note) The signal names inside the parenthesis become the function before returning to the starting point.

**■ Solenoid valve type (PCON-CY)**

Pin number	Category	Number of positioning points	Parameter (PIO pattern) selection	
			0	1
			Solenoid valve mode 0	Solenoid valve mode 1
			3 points	3 points
		Zone signal	x	x
		P zone signal	x	○
1	24V			
2	0V			
3	Input	IN0	ST0	ST0
4		IN1	ST1(JOG)	ST1(JOG)
5		IN2	ST2(-)	ST2(-)
6		IN3	SON	SON
7	Output	OUT0	LS0	PE0
8		OUT1	LS1(TRQS)	PE1(TRQS)
9		OUT2	LS2(-)	PE2(-)
10		OUT3	SV	PZONE
11		OUT4	HEND	HEND
12	OUT5	* ALM	* ALM	

(Note) The signal names inside the parenthesis become the function before returning to the starting point.

**■ Pulse-train type (PCON-PL/PO)**

Pin number	Category	Number of positioning points	Parameter (PIO pattern) selection	
			0	1
			Standard mode	Push mode
			-	-
		Zone signal	x	x
		P zone signal	x	x
1	24V			
2	0V			
3	Input	IN0	SON	SON
4		IN1	TL	TL
5		IN2	HOME	HOME
6		IN3	RES	RES/DCLR
7	Output	OUT0	SV	SV
8		OUT1	INP	INP/TLR
9		OUT2	HEND	HEND
10	Input	OUT3	* ALM	* ALM
11			* PP	* PP
12			PP	PP
13			* NP	* NP
14			NP	NP

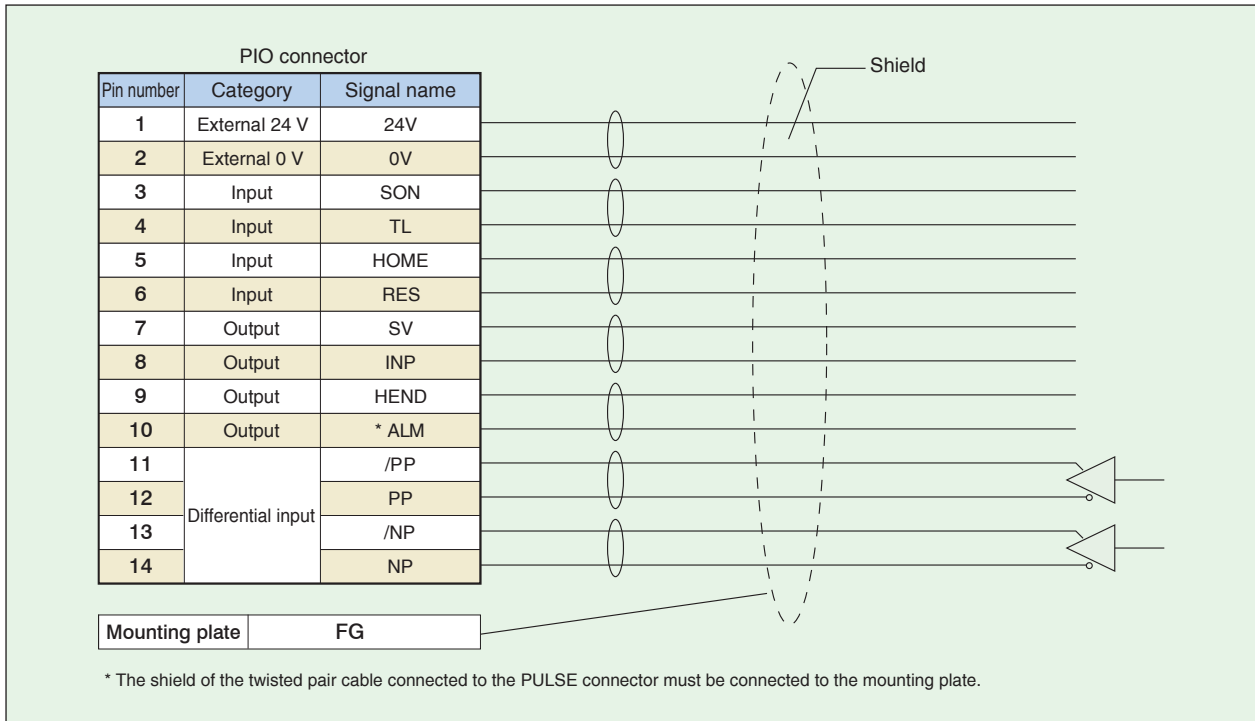
- Controller - Integrated type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- Controller Models
- Gateway unit
- PS-24
- ERC2
- PCON
- ACON
- SCON
- PSEL
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- SSEL
- XSEL

**Wiring Diagram for Pulse-Train Input Type**

- Controller - Integrated type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller**
- Controller Models
- Gateway Unit
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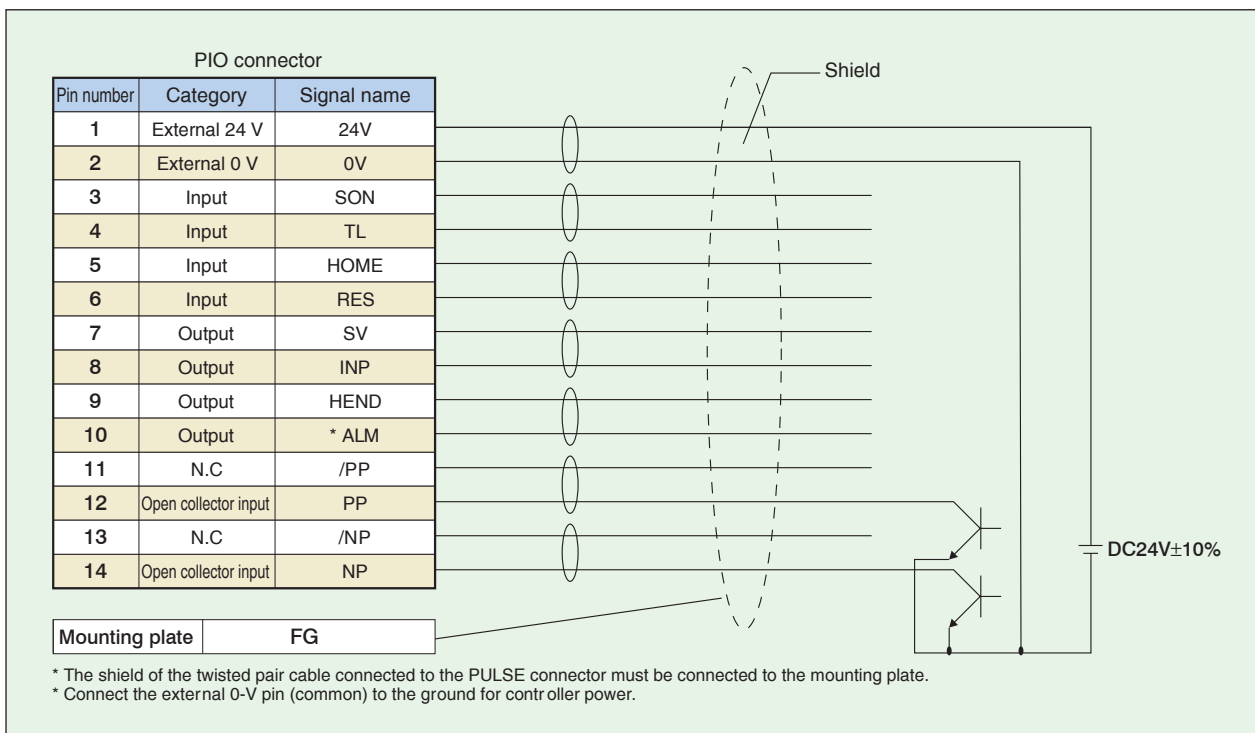
**■ Differential Receiver Method (PCON-PL)**

Maximum input pulse frequency : MAX 200kpps  
 Cable length : MAX 10m



**■ Open Collector Method (PCON-PO)**

Maximum input pulse frequency : MAX 60kpps  
 Cable length : MAX 2m



# PCON Controller

## Command Pulse Input Patterns

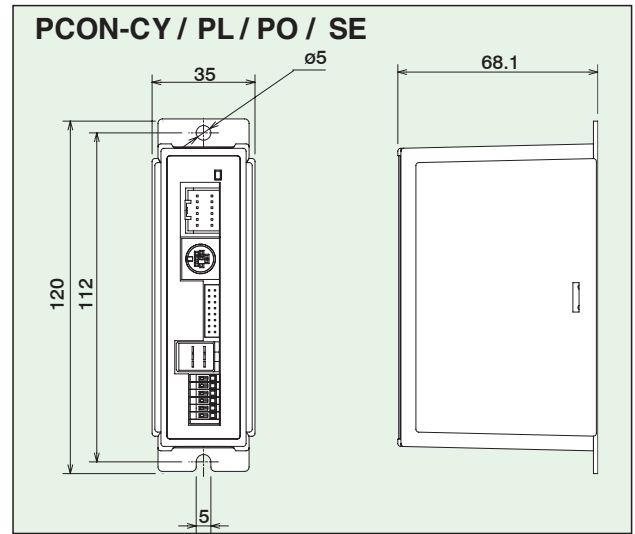
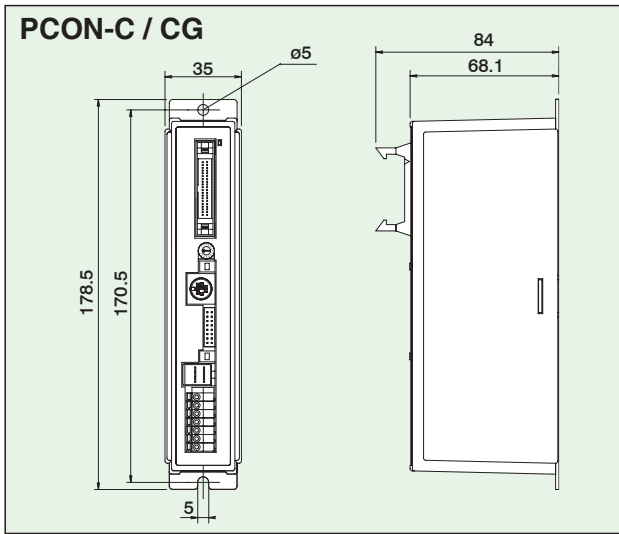
Command pulse train pattern		Input terminal	Forward	Reverse	
Negative logic	Forward pulse train	PP•/PP			
	Reverse pulse train	NP•/NP			
	Forward pulse trains and reverse pulse trains indicate the motor revolutions in forward direction and reverse direction, respectively.				
	Pulse train	PP•/PP			
	Sign	NP•/NP	Low	High	
	Command pulses indicate the motor revolutions, while the sign of the command indicates the rotating direction.				
	Phase-A/B pulse train	PP•/PP			
		NP•/NP			
	Phase-A/B (x4) pulses with a 90° phase difference specify both the revolutions and rotating direction.				
	Positive logic	Forward pulse train	PP•/PP		
Reverse pulse train		NP•/NP			
Pulse train		PP•/PP			
Sign		NP•/NP	High	Low	
Phase-A/B pulse train		PP•/PP			
	NP•/NP				

## Specification Table

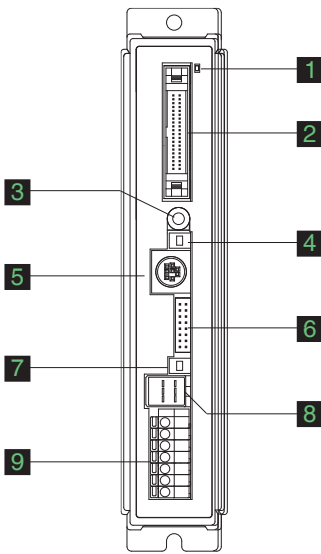
Item	Specification					
	C	CG	CY	PL	PO	SE
Controller type	C	CG	CY	PL	PO	SE
Connectable actuators	RCP2 series actuator (Note 1)					
Number of controlled axes	1 axis					
Operation method	Positioner type		Solenoid valve type	Pulse-train control type		Serial communication type
Number of positioning points	512 points		3 points	—		64 points
Backup memory	EEPROM					
I/O connector	40-pin connector		12-pin connector	14-pin connector		None
Number of I/O points	16 input points / 16 output points		4 input points / 6 output points	4 input points / 4 output points		None
I/O power supply	Externally supplied 24VDC ± 10%					
Serial communication	RS485 1ch					
Peripheral communication cable	CB-PAC-PIO □□□		CB-PACY-PIO □□□	CB-PACPU-PIO □□□		CB-RCB-CTL002
Command pulse-train input method	—			Differential line driver	Open collector	—
Maximum input pulse frequency (Note 2)	—			Max 200kpps	Max 60kpps	—
Position detection method	Incremental encoder					
Drive-source cutoff relay at emergency stop	Built-in	External				
Forced release of electromagnetic brake	Brake release switch ON/OFF		BK-release terminal signal ON/OFF on power connector			
Motor cable	CB-RCP2-MA □□□ (20m max.)					
Encoder cable	CB-RCP2-PA □□□ (20m max.)					
Input power supply	DC24V±10%					
Power-supply capacity	2A max.					
Dielectric strength voltage	DC500V 1MΩ					
Vibration resistance	XYZ directions		10-57Hz One-side amplitude 0.035mm (continuous), 0.075mm (intermittent) 58-150Hz 4.9m/s <sup>2</sup> (continuous), 9.8m/s <sup>2</sup> (intermittent)			
Ambient operating temperature	0~40°C					
Ambient operating humidity	10~95% (non-condensing)					
Operating ambience	Free from corrosive gases					
Protection class	IP20					
Weight	Approx. 300g			Approx. 130g		

(Note 1) The high-thrust type (RFA), high-speed type (HS8C/HS8R) and waterproof type (RCP2W-SA16) cannot be operated.  
 (Note 2) With the open collector specification, keep the maximum input frequency to 60 kpps or below to prevent malfunction.

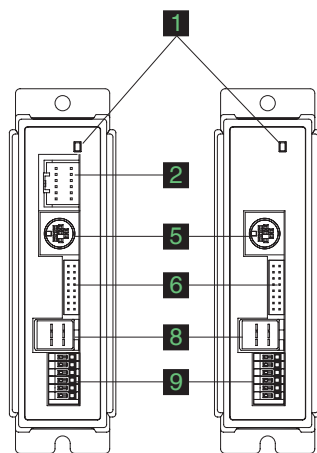
External Dimensions



Name of Each Part



C / CG type



CY / PL / PO type

SE type

\* PIO connector pins  
CY: 12 pins  
PL/PO: 14 pins

Blinking (green) LED indicators

These LED indicate the condition of the controller.

Unlit Servo on Lit (red) Alarm present Lit (green) Servo off **1** Automatic servo-off mode

**2** PIO connector

Connect a cable for communicating with a PLC or other external equipment.

**3** Address-setting rotary switch

This switch is used to set the address of each controller when multiple controllers are linked.

**4** Mode switch

This switch is used to switch between teaching operation (MANU) and automatic operation (AUTO).

Operation details

MANU	I/O commands are not accepted. Data can be written from a teaching pendant.
AUTO	I/O commands are valid, while operations from a teaching pendant are not accepted. Monitoring is possible.

**5** SIO connector

Connect a teaching-pendant or PC cable, or a controller to connect to a gateway unit.

Operation details

Pin number	Signal	Pin	Remarks
1	SGA	RS485 differential signal+	
2	SGB	RS485 differential signal-	
3	5V	+5-V output	For RS232/485 conversion
4	ENBL	Enable signal	
5	EMGA	EMG line connection to external equipment	
6	24V	24-V power for T/P	For T/P
7	0V	Ground	
8	EMGB	EMG line connection to external equipment	
9	0V	Ground for EMG line connection to external equipment	

**6** Encoder/brake connector

Connect the encoder/brake cables of the actuator.

**7** Brake release switch

A switch to forcibly release the brake

**8** Motor connector

Connect the motor cable of the actuator.

**9** Power terminal block

Supplies the main controller power and actuates an emergency stop.

C/CG types

Pin number	Signal Name	Name
7	S1	TP_BMG external drive-source cutoff terminal
6	S2	TP_BMG external drive-source cutoff terminal
5	MPI	Motor drive-source cutoff terminal
4	MPO	Motor drive-source cutoff terminal
3	24V	Positive side of the 24-V power supply
2	0V	Negative side of the 24-V power supply
1	EMG	EMG signal (application of 24 V)

CY / PL / PO / SE types

Pin number	Signal Name	Name
6	BK	Brake release
5	MPI	Motor drive-source cutoff terminal
4	MPO	Motor drive-source cutoff terminal
3	24V	Positive side of the 24-V power supply
2	0V	Negative side of the 24-V power supply
1	EMG	EMG signal (application of 24 V)




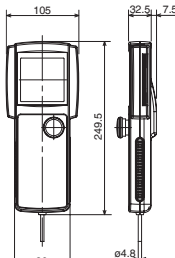
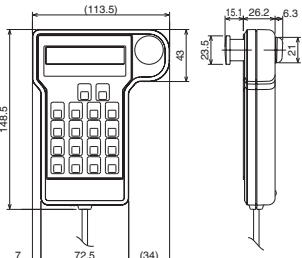
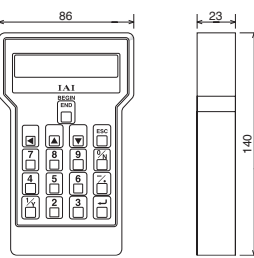
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# PCON Controller

## Options

### Teaching Pendant

An input device that provides all functions you need for trial operation and adjustment, such as position data input, test operation, as well as monitoring of current axis positions and input/output signals.

Name	Teaching Pendant	Simple teaching pendant	Data setting unit
Model	RCM-T (standard specification) RCM-TD (with deadman switch *1)	RCM-E	RCM-P
Standard price	—	—	—
External view			
Features	A standard, user-friendly teaching pendant equipped with a large LCD screen. A deadman switch type ensuring added safety is also available.	An economical type offering the same functions as the RCA-T at a substantially lower price.	An affordable data setting unit that provides all editing functions other than those relating to axis operation. * This unit does not support operations relating to axis movement.
Display	21 characters x 16 lines on LCD	16 characters x 2 lines on LCD	16 characters x 2 lines on LCD
Weight	Approx. 550g	Approx. 400g	Approx. 360g
Cable length	5m	5m	5m
Ambient operating temperature, humidity	Temperature: 0~40°C, Humidity: 85% RH or below		
External dimensions			

\*1 The deadman switch is a safety switch that cuts off the drive source when released to disable operation.

### PC Software

A software program that helps input position data and perform test operation. It significantly facilitates debugging operation by offering wide-ranging functions including jogging, inching, step operation and continuous operation.

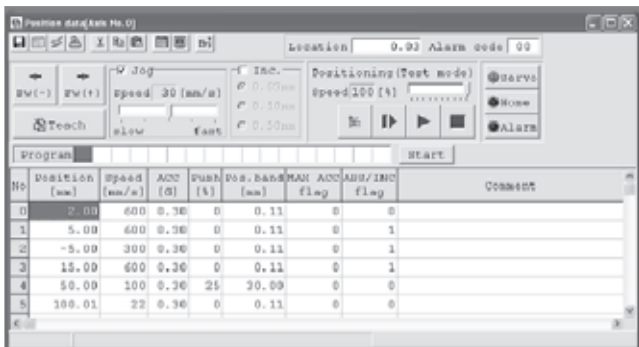
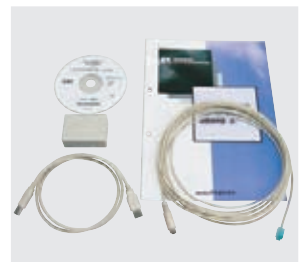
### RS232 Communication Type Model RCM-101-MW

<Content>PC software (CD-ROM),  
PC cable  
(communication cable +  
RS232 conversion unit)



### USB Communication Type Model RCM-101-USB

<Content>PC software (CD-ROM),  
PC cable  
(communication cable + USB  
conversion unit + USB cable)





**Spare Parts**

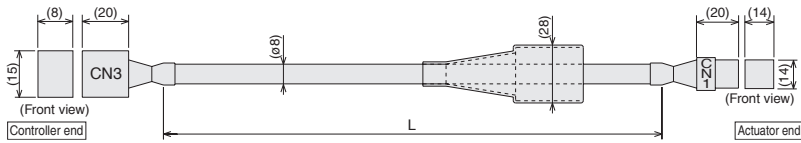
Should you require spare parts after the purchase of your product for replacing the original cables, etc., refer to the model names specified below.

**Motor Cable**

Model **CB-RCP2-MA**□□□□

\* The standard motor cable is a robot cable.

\* □□□ indicates the cable length (L). Lengths up to 20 m can be specified. Example) 080 = 8 m



CN3			M cable			CN1		
Orange	A	A1	1	A	Yellow	1	A	Yellow
Grey	B	A2	2	VMM	Grey	2	VMM	Grey
White	B	A3	3	A	Orange	3	A	Orange
Yellow	A	B1	4	B	Orange Black 1	4	B	Orange Black 1
Pink	VMM	B2	5	VMM	Pink	5	VMM	Pink
Orange Black 1	B	B3	6	B	White	6	B	White

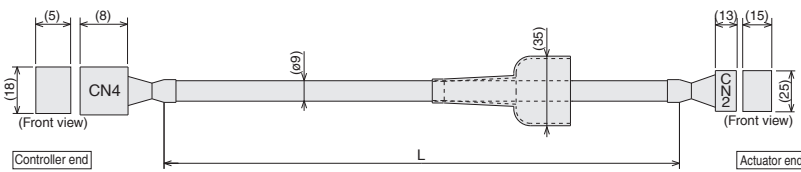
I-1318119-3 (AMP) SLP-06V (JST)

**Encoder Cable / Encoder Robot Cable**

Model **CB-RCP2-PA**□□□□/ **CB-RCP2-PA**□□□□-**RB**

\* The standard encoder cable is a normal cable. A robot cable can be specified as an option.

\* □□□ indicates the cable length (L). Lengths up to 20 m can be specified. Example) 080 = 8 m



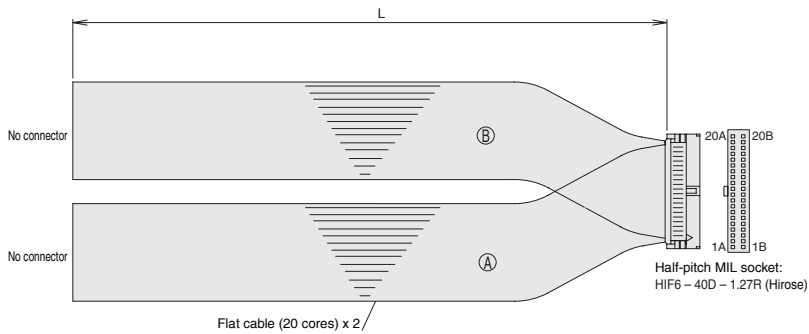
Cable color	Signal name	Pin number	Pin number	Signal name	Cable color
-	(BA1)	16	1	ENA	Brown
-	(BA2)	15	2	ENA	Green
Orange Black 1	BK+	14	3	VBB	Purple
Grey	BK-	13	4	ENB	Pink
Brown	ENA	12	5	-	-
Green	ENA	11	6	-	-
Purple	ENB	10	7	-	-
Blue	GND	9	8	-	-
Pink	ENB	8	9	GND	Blue
Black	-	7	10	VBB	Orange
Yellow	VPS	6	11	VPS	Yellow
Orange	VBB	5	12	-	-
Blue	GND	4	13	-	-
-	(N.C)	3	14	-	-
-	(N.C)	2	15	-	-
Drain	F.G	1	16	BK+	Red
			17	BK-	Grey
			18	F.G	Drain

PHDR-1-8V/S (JST) XMP-1-8V (JST)

**I/O Cable for Positioner Type (PCON-C/CG)**

Model **CB-PAC-PIO**□□□□

\* □□□ indicates the cable length (L). Lengths up to 20 m can be specified. Example) 080 = 8 m

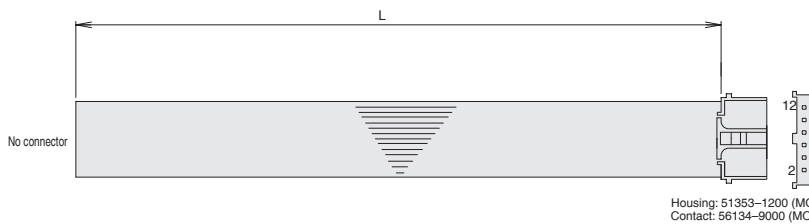


No.	Signal name	Cable color	Wire	No.	Signal name	Cable color	Wire
1A	24V	Brown-1	1B	OUT0	Brown-3		
2A	24V	Red-1	2B	OUT1	Red-3		
3A	-	Orange-1	3B	OUT2	Orange-3		
4A	-	Yellow-1	4B	OUT3	Yellow-3		
5A	IN0	Green-1	5B	OUT4	Green-3		
6A	IN1	Blue-1	6B	OUT5	Blue-3		
7A	IN2	Purple-1	7B	OUT6	Purple-3		
8A	IN3	Grey-1	8B	OUT7	Grey-3		
9A	IN4	White-1	9B	OUT8	White-3		
10A	IN5	Black-1	10B	OUT9	Black-3		
11A	IN6	Brown-2	11B	OUT10	Brown-4		
12A	IN7	Red-2	12B	OUT11	Red-4		
13A	IN8	Orange-2	13B	OUT12	Orange-4		
14A	IN9	Yellow-2	14B	OUT13	Yellow-4		
15A	IN10	Green-2	15B	OUT14	Green-4		
16A	IN11	Blue-2	16B	OUT15	Blue-4		
17A	IN12	Purple-2	17B	-	Purple-4		
18A	IN13	Grey-2	18B	-	Grey-4		
19A	IN14	White-2	19B	0V	White-4		
20A	IN15	Black-2	20B	0V	Black-4		

**I/O Cable for Solenoid Valve Type (PCON-CY)**

Model **CB-PACY-PIO**□□□□

\* □□□ indicates the cable length (L). Lengths up to 20 m can be specified. Example) 080 = 8 m

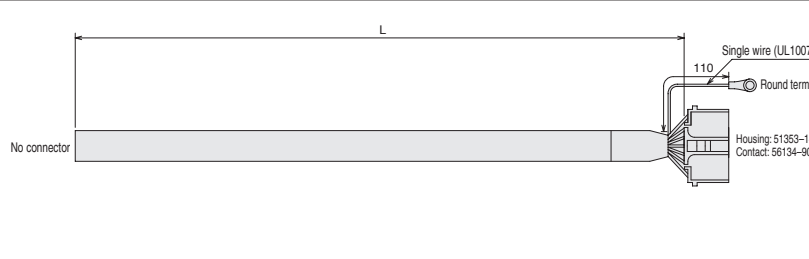


No.	Signal name	Cable color	Wire
1	24V	Brown	
2	0V	Red-1	
3	IN0	Orange-1	
4	IN1	Yellow-1	
5	IN2	Green-1	
6	IN3	Blue-1	
7	OUT0	Purple-1	
8	OUT1	Grey-1	
9	OUT2	White-1	
10	OUT3	Black-1	
11	OUT4	Brown-2	
12	OUT5	Red-2	

**I/O Cable for Pulse-Train Control Type (PCON-PL/PO)**

Model **CB-PACPU-PIO**□□□□

\* □□□ indicates the cable length (L). Lengths up to 20 m can be specified. Example) 080 = 8 m



No.	Signal name	Cable color	Wire
1	IO_24V	Black	
2	IO_24G	White / Black	
3	IN0	Red	
4	IN1	White / Red	
5	IN2	Green	
6	IN3	White / Green	
7	OUT0	Yellow	
8	OUT1	White / Yellow	
9	OUT2	Brown	
10	OUT3	White / Brown	
11	PP	Blue	
12	PG	White / Blue	
13	NP	Grey	
14	NG	White / Grey	

0.2sq  
0.5-5 (JST)  
1 FG White / Grey AWG24

# PSEL Controller

# PSEL



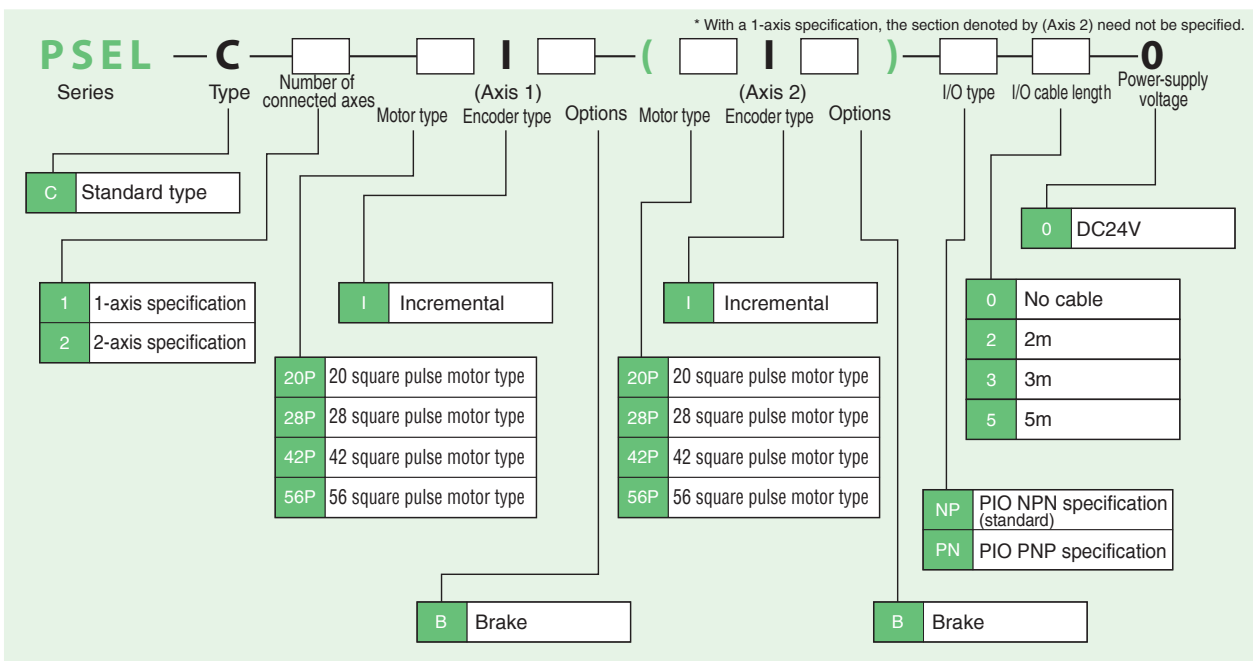
Program controller  
for RCP2 series

## Type List

Program controller capable of operating RCP2 series actuator. Various control functions are combined into a single unit.

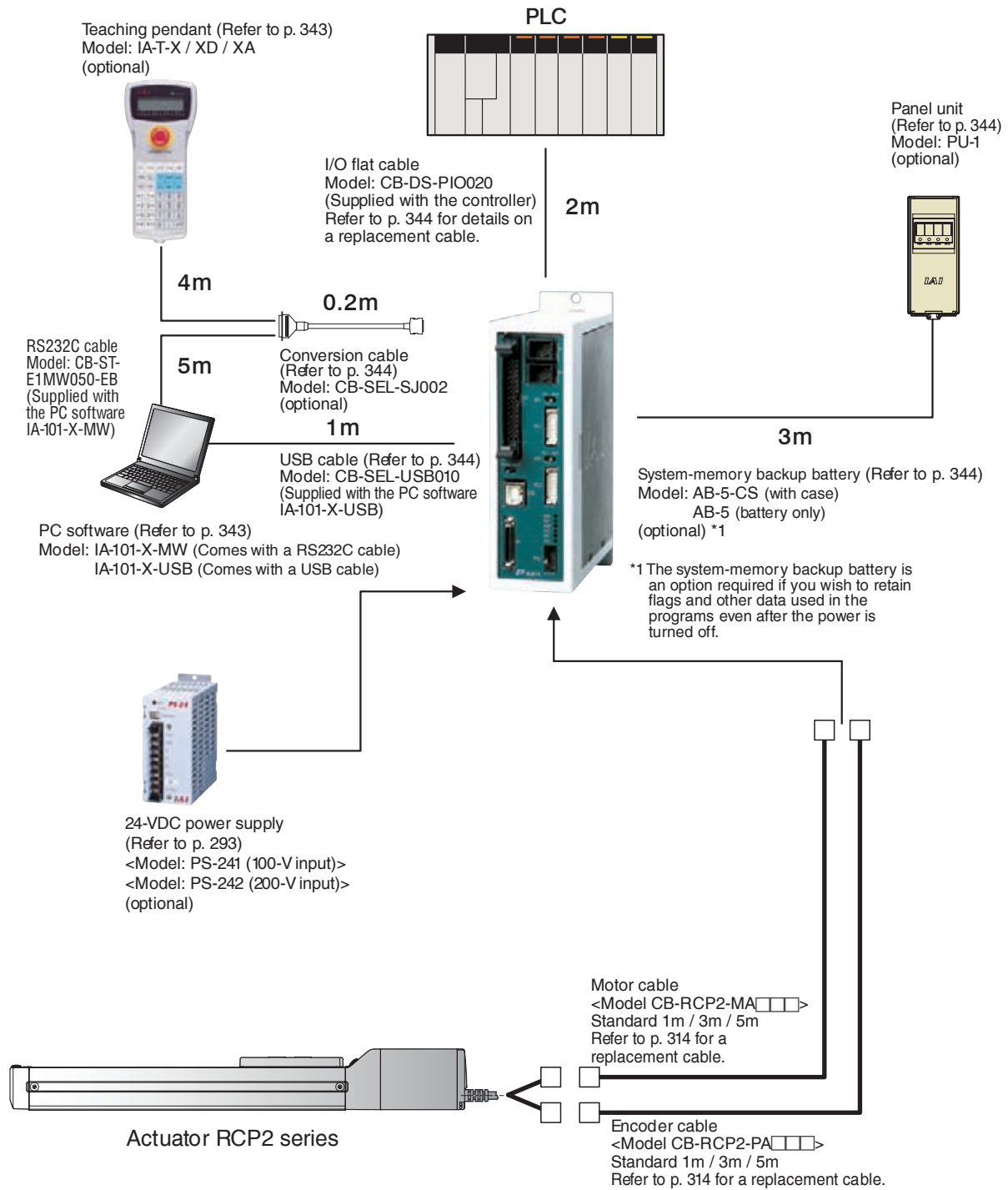
Type	C	
Name	Program mode	Positioner mode
External view		
Description	Both actuator operation and communication with external equipment can be handled by a single controller. When two axes are connected, arc interpolation and path operation can be performed.	Up to 1,500 positioning points are supported. Push-motion operation and teaching operation are also possible.
Number of position points	1500 points	

## Model



- Controller - Integrated Type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- Controller Models
- Gateway unit
- PS-24
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL

System Configuration



- Controller - Integrated type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller**
- Controller Models
- Gateway unit
- PS-24
- ERC2
- PCON
- ACON
- SCON
- PSEL**
- ASEL
- SSEL
- XSEL

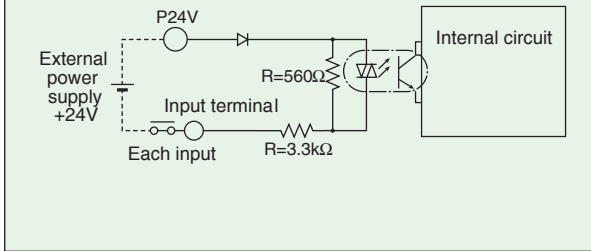
# PSEL Controller

## I/O Specifications

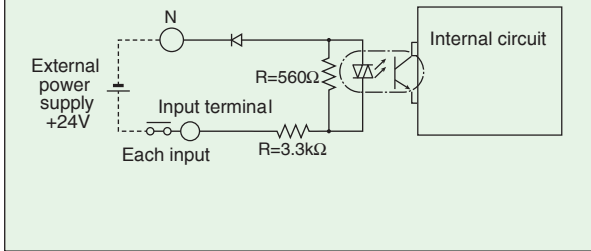
### Input Part External input specifications

Item	Specification
Input voltage	24VDC ± 10%
Input current	7mA/circuit
ON/OFF voltage	ON voltage (Min) NPN : DC16V / PNP : DC8V OFF voltage (Max) NPN : DC5V / PNP : DC19V
Insulation method	Photocoupler

#### NPN specification



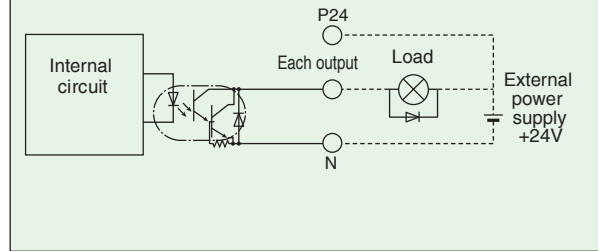
#### NPN specification



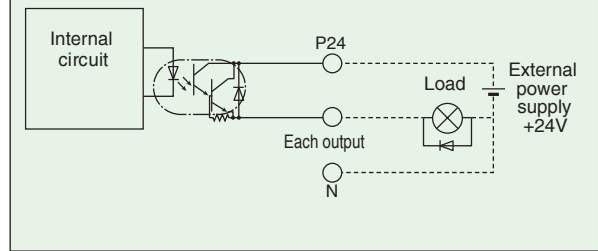
### Output Part External output specifications

Item	Specification
Load voltage	DC24V
Maximum load current	100mA/point 400mA/8 points
Residual voltage	Max 0.1mA/point
Insulation method	Photocoupler

#### NPN specification



#### NPN specification



## Explanation of I/O Functions

The PSEL controller lets you select either the “program mode” in which the actuator is operated by programs input to the controller, or the “positioner mode” in which the actuator moves to the positions specified by PLC signals received from the host.

The positioner mode provides the following five input patterns each supporting different applications.

### Controller Functions by Type

Operation mode	Features	
Program mode	Various operations including linear/arc interpolation operation, path operation ideal for coating processes, etc., arch-motion operation and palletizing operation can be performed using the Super SEL language that lets you program complex control actions using simple commands.	
Positioner mode	Standard mode	A basic operation mode in which a position number is specified and then a start signal is input to start operation. Push-motion operation and 2-axis linear interpolation operation are also supported.
	Product-type switchover mode	Multiple works of the same shape with slightly different hole positions can be handled using movement commands to the same position numbers by simply changing the product type number.
	2-axis independent mode	With a 2-axis controller, each axis can be commanded and operated separately.
	Teaching mode	The slider (rod) can be moved via an external signal to store the achieved position as position data.
	DS-S-C1 compatible mode	If you were using a DS-S-C1 controller before, you can replace it with a PSEL controller without having to change the host programs. * This mode does not ensure actuator compatibility.

Controller - Integrated Type  
Slider Type  
Rod Type  
Arm / Flat Type  
Gripper / Rotary Type  
Cleanroom Type  
Splash Proof Type  
Controller  
Controller Models  
Gateway unit  
PS-24  
ERC2  
PCON  
ACON  
SCON  
PSEL  
ASEL  
SSEL  
XSEL

Explanation of I/O Functions

Program Mode

Pin number	Category	Port number	Program Mode	Function	Wiring diagram
1A	P24		24-V input	Connect 24V.	
1B		016	Program No.1 selection	These signals are used to select the program to be started. (BCD input using ports 016 to 022)	
2A		017	Program No.2 selection		
2B		018	Program No.4 selection		
3A		019	Program No.8 selection		
3B		020	Program No.10 selection		
4A		021	Program No.20 selection		
4B		022	Program No.40 selection	This signal is used to reset the system to create the same condition after power reconnection. This signal is used to start the program selected by port Nos. 016 to 022.	
5A		023	CPU reset		
5B		000	Start	These signals are used with a program command to wait for external input.	
6A	Input	001	General-purpose input		
6B		002	General-purpose input		
7A		003	General-purpose input		
7B		004	General-purpose input		
8A		005	General-purpose input		
8B		006	General-purpose input		
9A		007	General-purpose input		
9B		008	General-purpose input		
10A		009	General-purpose input		
10B		010	General-purpose input		
11A	011	General-purpose input	These signals can be turned ON/OFF freely using program commands.		
11B	012	General-purpose input			
12A	013	General-purpose input			
12B	014	General-purpose input			
13A	015	General-purpose input			
13B	Output	300		Alarm	
14A		301	Ready		
14B		302	General-purpose output		
15A		303	General-purpose output		
15B		304	General-purpose output		
16A		305	General-purpose output		
16B	306	General-purpose output	Connect 0V.		
17A	307	General-purpose output			
17B	N		0-V input		

Positioner, Standard Mode

Pin number	Category	Port number	Positioner, Standard Mode	Function	Wiring diagram
1A	P24		24-V input	Connect 24V.	
1B		016	Position input 10	Port Nos. 007 to 019 are used to specify a target position number. Numbers can be specified either as BCD or binary codes .	
2A		017	Position input 11		
2B		018	Position input 12		
3A		019	Position input 13		
3B		020	—		
4A		021	—		
4B		022	—	This signal is used to reset minor errors. (The power must be reconnected to reset serious errors.) This signal is used to cause the actuator to start moving to the selected position.	
5A		023	Error reset		
5B		000	Start	This signal is used to perform home return. This signal is used to switch the servo on/off. This signal is used to perform push-motion operation. When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation. When this signal is turned OFF while the actuator is moving, the actuator will stop and the remaining operation will be cancelled. With a 2-axis specification, turning ON this signal causes the actuator to move via linear interpolation.	
6A	Input	001	Home return		
6B		002	Servo ON		
7A		003	Push		
7B		004	Pause		
8A		005	Cancellation		
8B		006	Interpolation setting		
9A		007	Position input 1		
9B		008	Position input 2		
10A		009	Position input 3		
10B		010	Position input 4		
11A	011	Position input 5			
11B	012	Position input 6			
12A	013	Position input 7	This signal is output upon an alarm. (Contact B) This signal is output once the controller has started properly and entered a ready state. This signal is output upon completion of movement to the specified position. This signal is output upon completion of home return. This signal is output while the servo is on. This signal is output upon completion of push-motion operation. This signal is output when the system-memory backup battery voltage has dropped (to the warning level). This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).		
12B	014	Position input 8			
13A	015	Position input 9			
13B	Output	300		Alarm	
14A		301		Ready	
14B		302		Position complete	
15A		303	Home return complete		
15B		304	Servo ON output		
16A		305	Push motion complete		
16B	306	System-memory backup battery error	Connect 0V.		
17A	307	Absolute-data backup battery error			
17B	N		0-V input		

- Controller - Integrated type
- Slider Type
- Rod Type
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- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- Controller Models
- Gateway Unit
- PS-24
- ERC2
- PCON
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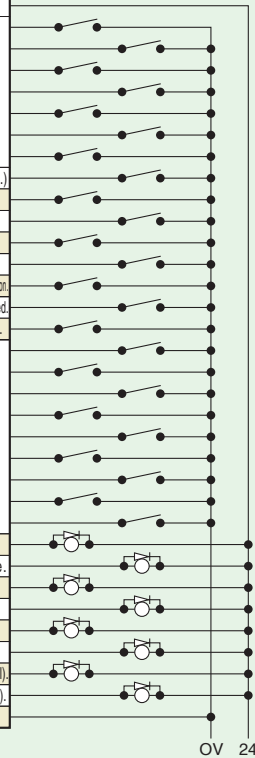
# PSEL Controller

## Explanation of I/O Functions

### Positioner, Product-Type Switchover Mode

Pin number	Category	Port number	Positioner, Product-Type Switchover Mode	Function		
1A	P24		24-V input	Connect 24V.		
1B			016	Position/product type input10	Port Nos. 007 to 022 are used to specify a target position number and a product type number. Position numbers and product type numbers are assigned by parameter settings. Numbers can be specified either as BCD or binary codes.	
2A			017	Position/product type input12		
2B			018	Position/product type input12		
3A			019	Position/product type input13		
3B			020	Position/product type input14		
4A			021	Position/product type input15		
4B			022	Position/product type input16		
5A			023	Error reset		This signal is used to reset minor errors. (The power must be reconnected to reset serious errors.)
5B			000	Start		This signal is used to cause the actuator to start moving to the selected position.
6A			001	Home return		This signal is used to perform home return.
6B			002	Servo ON	This signal is used to switch the servo on/off.	
7A			Input	003	Push	This signal is used to perform push-motion operation.
7B				004	Pause	When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
8A				005	Cancellation	When this signal is turned OFF while the actuator is moving, the actuator will stop and the remaining operation will be cancelled.
8B				006	Interpolation setting	With a 2-axis specification, turning ON this signal causes the actuator to move via linear interpolation.
9A				007	Position/product type input 1	Port Nos. 007 to 022 are used to specify a target position number and a product type number. Position numbers and product type numbers are assigned by parameter settings. Numbers can be specified either as BCD or binary codes.
9B	008	Position/product type input2				
10A	009	Position/product type input3				
10B	010	Position/product type input4				
11A	011	Position/product type input5				
11B	012	Position/product type input6				
12A	013	Position/product type input7				
12B	014	Position/product type input8				
13A	015	Position/product type input9				
13B	300	Alarm	This signal is output upon an alarm. (Contact B)			
14A	Output	301	Ready	This signal is output once the controller has started properly and entered a ready state.		
14B		302	Position complete	This signal is output upon completion of movement to the specified position.		
15A		303	Home return complete	This signal is output upon completion of home return.		
15B		304	Servo ON output	This signal is output while the servo is on.		
16A		305	Push motion complete	This signal is output upon completion of push-motion operation.		
16B		306	System-memory backup battery error	This signal is output when the system-memory backup battery voltage has dropped (to the warning level).		
17A		307	Absolute-data backup battery error	This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).		
17B	N		0-V input	Connect 0V.		

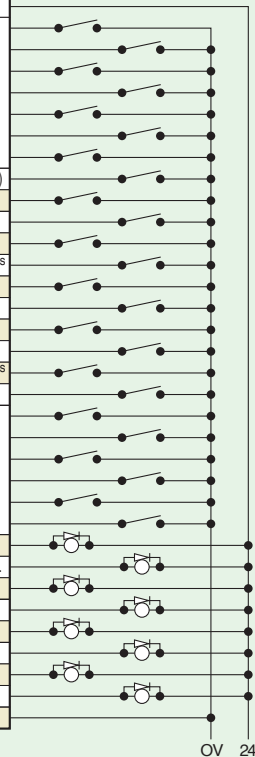
Wiring diagram



### Positioner, 2-axis Independent Mode

Pin number	Category	Port number	Positioner, Product-Type Switchover Mode	Function		
1A	P24		24-V input	Connect 24V.		
1B			016	Position input 7	Port Nos. 010 to 022 are used to specify a target position number. Position numbers for axis 1 and those for axis 2 are assigned by parameter settings.	
2A			017	Position input 8		
2B			018	Position input 9		
3A			019	Position input 10		
3B			020	Position input 11		
4A			021	Position input 12		
4B			022	Position input 13		
5A			023	Error reset		This signal is used to reset minor errors. (The power must be reconnected to reset serious errors.)
5B			000	Start 1		This signal is used to cause axis 1 to start moving to the selected position.
6A			001	Home return 1		This signal is used to move axis 1 to the home.
6B			002	Servo ON 1	This signal is used to switch on/off the servo for axis 1.	
7A			Input	003	Pause 1	When this signal is turned OFF while axis 1 is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
7B				004	Cancellation 1	This signal is used to cancel the movement of axis 1.
8A				005	Start 2	This signal is used to cause axis 2 to start moving to the selected position.
8B				006	Home return 2	This signal is used to move axis 2 to the home.
9A				007	Servo ON 2	This signal is used to switch on/off the servo for axis 2.
9B	008	Pause 2		When this signal is turned OFF while axis 2 is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.		
10A	009	Cancellation 2		This signal is used to cancel the movement of axis 2.		
10B	010	Position input 1		Port Nos. 010 to 022 are used to specify a target position number. Position numbers for axis 1 and those for axis 2 are assigned by parameter settings.		
11A	011	Position input 2				
11B	012	Position input 3				
12A	013	Position input 4				
12B	014	Position input 5				
13A	015	Position input 6				
13B	300	Alarm	This signal is output upon an alarm. (Contact B)			
14A	Output	301	Ready		This signal is output once the controller has started properly and entered a ready state.	
14B		302	Position complete 1		This signal is output upon completion of movement of axis 1 to the specified position.	
15A		303	Home return complete 1		This signal is output upon completion of home return of axis 1.	
15B		304	Servo ON output 1	This signal is output while the servo for axis 1 is on.		
16A		305	Position complete 2	This signal is output upon completion of movement of axis 2 to the specified position.		
16B		306	Home return complete 2	This signal is output upon completion of home return of axis 2.		
17A		307	Servo ON output 2	This signal is output while the servo for axis 2 is on.		
17B	N		0-V input	Connect 0V.		

Wiring diagram



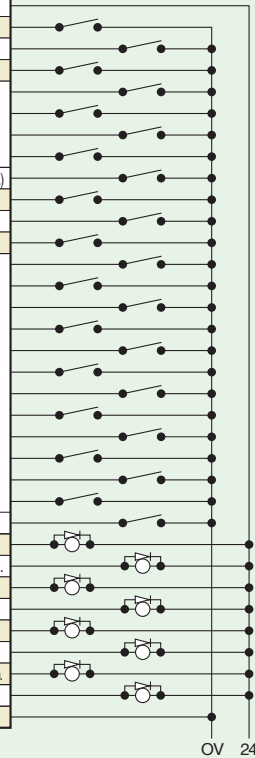


Explanation of I/O Functions

Positioner, Teach Mode

Pin number	Category	Port number	Positioner, Product-Type Switchover Mode	Function
1A	P24		24-V input	Connect 24V.
1B		016	Axis 1 JOG-	While this signal is input, axis 1 moves in the negative direction.
2A		017	Axis 2 JOG+	While this signal is input, axis 2 moves in the positive direction.
2B		018	Axis 2 JOG-	While this signal is input, axis 2 moves in the negative direction.
3A		019	Inching specification (0.01mm)	These signals are used to specify an inching travel distance. (The travel distance is the sum of values specified by port Nos. 019 to 022.)
3B		020	Inching specification (01mm)	
4A		021	Inching specification (0.5mm)	
4B		022	Inching specification (1mm)	
5A		023	Error reset	This signal is used to reset minor errors. (The power must be reconnected to reset serious errors.)
5B		000	Start	This signal is used to cause the actuator to start moving to the selected position.
6A		001	Servo ON	This signal is used to switch the servo on/off.
6B		002	Pause	When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
7A	Input	003	Position input 1	Port Nos. 003 to 013 are used to specify a target position number and a position number under which to input the current position. When the teaching mode specification signal at port No. 014 is ON, the current value will be written under the specified position number upon turning ON of the start signal at port No. 000.
7B		004	Position input 2	
8A		005	Position input 3	
8B		006	Position input 4	
9A		007	Position input 5	
9B		008	Position input 6	
10A		009	Position input 7	
10B		010	Position input 8	
11A		011	Position input 9	
11B		012	Position input 10	
12A		013	Position input 11	
12B	014	Teaching mode specification		
13A		015	Axis 1 JOG+	While this signal is input, axis 1 moves in the positive direction.
13B		300	Alarm	This signal is output upon an alarm. (Contact B)
14A	Output	301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	Position complete	This signal is output upon completion of movement to the specified position.
15A		303	Home return complete	This signal is output upon completion of home return.
15B		304	Servo ON output	This signal is output while the servo is on.
16A		305	—	—
16B		306	System-memory backup battery error	This signal is output when the system-memory backup battery voltage has dropped (to the warning level).
17A		307	Absolute-data backup battery error	This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).
17B	N		0-V input	Connect 0V.

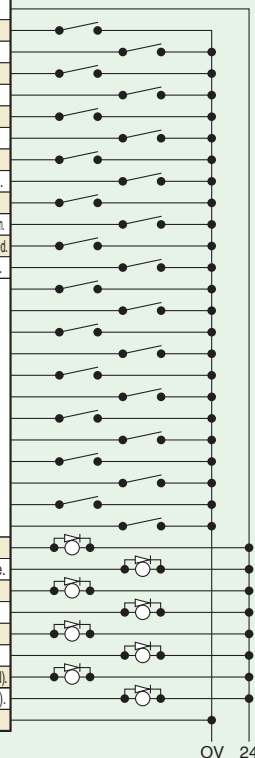
Wiring diagram



Positioner, DS-S-C1 Interchangeable Mode

Pin number	Category	Port number	Positioner, Standard Mode	Function
1A	P24		24-V input	Connect 24V.
1B		016	Position No. 1000	(Same as port Nos. 004 to 015)
2A		017	—	—
2B		018	—	—
3A		019	—	—
3B		020	—	—
4A		021	—	—
4B		022	—	—
5A		023	CPU reset	This signal is used to reset the system to create the same condition after power reconnection.
5B		000	Start	This signal is used to cause the actuator to start moving to the selected position.
6A		001	Hold (pause)	When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume the remaining operation.
6B		002	Cancellation	When this signal is turned OFF while the actuator is moving, the actuator will stop and the remaining operation will be cancelled.
7A	Input	003	Interpolation setting	With a 2-axis specification, turning ON this signal causes the actuator to move via linear interpolation.
7B		004	Position No. 1	Port Nos. 004 to 016 are used to specify a target position number. Numbers can be specified as BCD.
8A		005	Position No. 2	
8B		006	Position No. 4	
9A		007	Position No. 8	
9B		008	Position No. 10	
10A		009	Position No. 20	
10B		010	Position No. 40	
11A		011	Position No. 80	
11B		012	Position No. 100	
12A		013	Position No. 200	
12B	014	Position No. 400		
13A		015	Position No. 800	
13B		300	Alarm	This signal is output upon an alarm. (Contact A)
14A	Output	301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	Position complete	This signal is output upon completion of movement to the specified position.
15A		303	—	—
15B		304	—	—
16A		305	—	—
16B		306	System-memory backup battery error	This signal is output when the system-memory backup battery voltage has dropped (to the warning level).
17A		307	Absolute-data backup battery error	This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).
17B	N		0-V input	Connect 0V.

Wiring diagram



- Controller - Integrated type
- Slider Type
- Rod Type
- Arm / Flat Type
- Gripper / Rotary Type
- Cleanroom Type
- Splash Proof Type
- Controller
- Controller Models
- Gateway Unit
- PS-24
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL

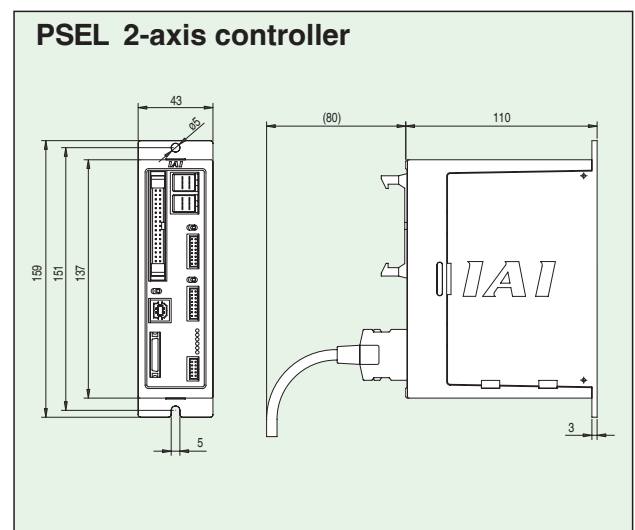
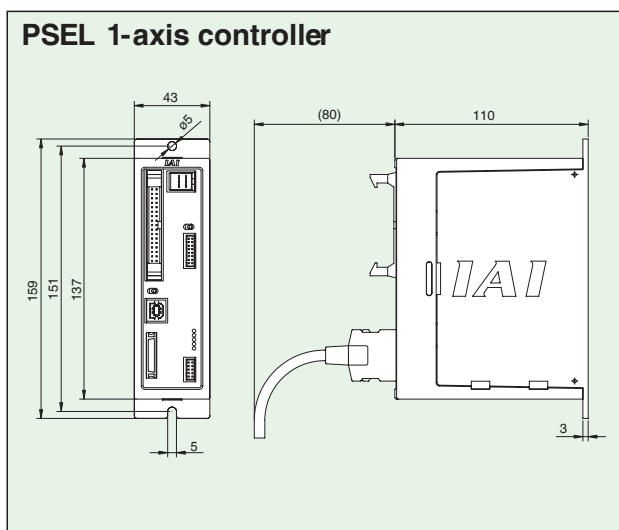
## PSEL Controller

### Specification Table

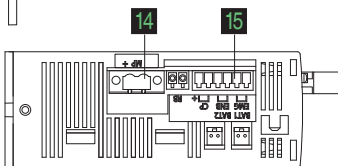
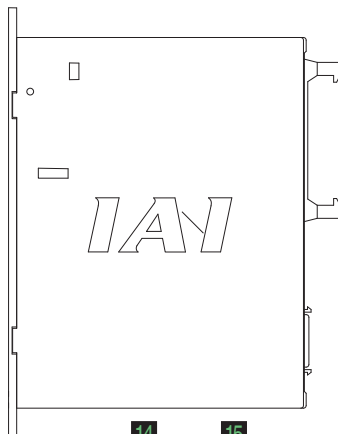
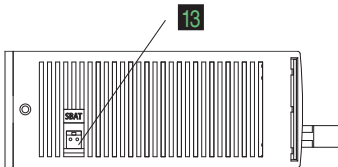
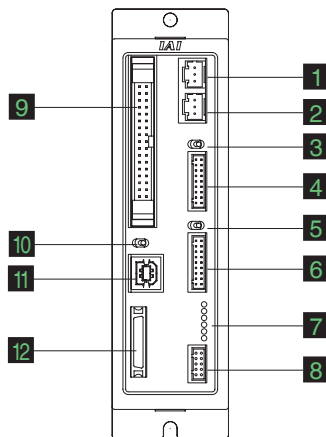
	Item	Specification	
Basic specifications	Connectable actuators	RCP2 series actuator (Note 1)	
	Input power supply	DC24V ±10%	
	Power-supply capacity	5.5A max. 5.5A	
	Dielectric strength voltage	500VDC, 10MΩ or above	
	Breakdown resistance	500VAC, 1 minute	
	Rush current	30A max.	
	Vibration resistance	XYZ directions 10~57Hz One-side amplitude 0.035mm (continuous), 0.075mm (intermittent) 58~150Hz 4.9m/s <sup>2</sup> (continuous), 9.8m/s <sup>2</sup> (intermittent)	
Control specifications	Number of controlled axes	1 axis/2 axes	
	Maximum total output of connected axes	-	
	Position detection method	Incremental encoder	
	Speed setting	From 1mm/s. The maximum limit varies depending on the actuator.	
	Acceleration setting	From 0.01G. The maximum limit varies depending on the actuator.	
Program	Operation method	Program operation / Positioner operation (switchable)	
	Programming language	Super SEL language	
	Number of programs	64 programs	
	Number of program steps	2,000 steps	
	Number of multi-tasking programs	8 programs	
	Number of positioning points	1,500 points	
	Data storage device	Flash ROM (A system-memory backup battery can be added as an option)	
Communication	Data input method	Teaching pendant or PC software	
	Number of I/O points	24 input points / 8 output points (NPN or PNP selectable)	
	I/O power supply	Externally supplied 24VDC ± 10%	
	PIO cable	CB-DS-PIO (supplied with the controller)	
	Serial communication function	RS232C (D-sub, half-pitch connector) / USB connector	
	Field network	(To be supported in the future)	
	Motor cable	CB-RCP2-MA (20m max.)	
	Encoder cable	MoCB-RCP2-PA (20m max.)	
	General specifications	Protective functions	Motor overcurrent, motor driver temperature check, overload check, encoder open-circuit check, soft limit over, system error, battery error, etc.
		Ambient operating temperature, humidity	0~40°C, 10~95% (non-condensing)
Operating ambience		Free from corrosive gases. In particular, there shall be no significant powder dust.	
Protection class		IP20	
Weight		Approx. 450g	
External dimensions		43mm W x159mm H x110mm D	

(Note 1) The high-thrust type (RA10C), high-speed type (HS8C/HS8R) and waterproof type (RCP2W-SA16) cannot be operated.

### External Dimensions



## Name of Each Part

**1** Motor connector for axis 1

Connect the motor cable of the axis 1 actuator.

**2** Motor connector for axis 2

Connect the motor cable of the axis 2 actuator.

**3** Brake switch for axis 1

This switch is used to release the axis brake. Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

**4** Encoder connector for axis 1

Connect the encoder cable of the axis 1 actuator.

**5** Brake switch for axis 2

This switch is used to release the axis brake. Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

**6** Encoder connector for axis 2

Connect the encoder cable of the axis 2 actuator.

**7** Status indicator LEDs

These LEDs are used to indicate the operating condition of the controller.

Indication details are as follows:

- PWR: This LED indicates that the controller is receiving power.
- RDY: This LED indicates that the controller is ready to perform program operation.
- ALM: This LED indicates that the controller is abnormal.
- EMG: This LED indicates that an emergency stop is actuated and the drive source is cut off.
- SV1: This LED indicates that the axis 1 actuator servo is on.
- SV2: This LED indicates that the axis 2 actuator servo is on.

**8** Panel unit connector

A connector for the panel unit (optional) that displays the controller status and error numbers.

**9** I/O connector

A connector for interface I/Os.

A 34-pin flat connector is used for the DIO (24 IN/8 OUT) interface.

The I/O power is also supplied to the controller through this connector (pins 1 and 34).

**10** Mode switch

This switch is used to specify the running mode of the controller.

The left position indicates the MANU (manual operation) mode, while the right position indicates the AUTO (automatic operation) mode. Teaching can only be performed as manual operation, and automatic operation using external I/Os is not possible in the MANU mode.

**11** USB connector

A connector for PC connection via USB. If the USB connector is connected, the TP connector is disabled and all communication inputs to the TP connector are cut off.

**12** Teaching pendant (TP) connector

A half-pitch I/O 26-pin connector that connects a teaching pendant when the running mode is MANU. A special conversion cable is needed to connect a conventional D-sub, 25-pin connector.

**13** System-memory backup battery connector

If you wish to retain the various data recorded in the SRAM of the controller even after the power is cut off, connect the necessary battery to this connector. This battery is installed externally to the unit. The controller does not come standard with the battery (it must be specified as an option).

**14** Motor power input connector

This connector is used to input the motor power. It consists of a 2-pin, 2-piece connector by Phoenix Contact.

**15** Control power/system input connector

This connector is used to connect the control power input, emergency stop switch, and enable switch. It consists of a 6-pin, 2-piece connector by Phoenix Contact.

# PSEL Controller

## Options

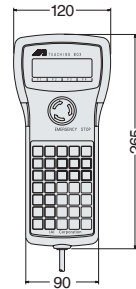
### Teaching pendant

**Features** A teaching device providing program/position input function, test operation function, monitoring function, and more.

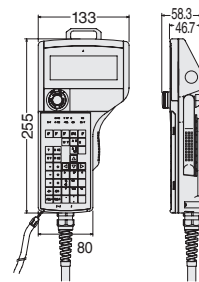
#### Model

Model	Description	
IA-T-X-J	Standard type with connector conversion cable	—
IA-T-X	Standard type	—
IA-T-XD-J	Deadman switch type with connector conversion cable	—
IA-T-XD	Deadman switch type	—
IA-T-XA-J	ANSI type with connector conversion cable	—
IA-T-XA	ANSI type	—

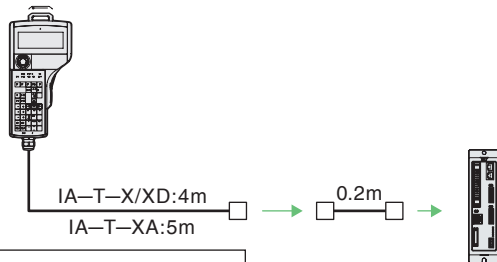
IA-T-X/XD



IA-T-XA



#### Configuration



**Note**  
The PSEL controller is supported by version 1.40 or later (or 1.30 or later with the ANSI type).

Conversion cable: CB-SEL-SJ002

#### Specifications

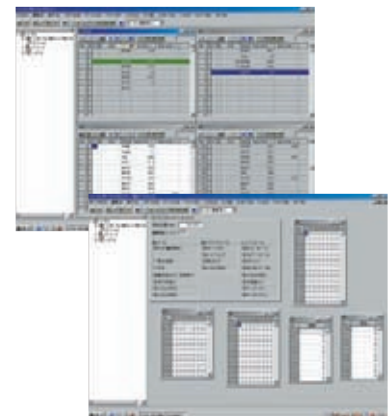
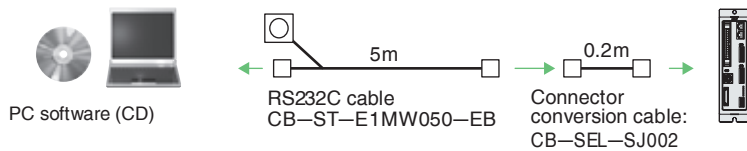
Item	IA-T-X/XD	IA-T-XA
Ambient operating temperature, humidity	Temperature 0~40°C, Humidity 85% RH or below	
Operating ambience	Free from corrosive gases. In particular, there shall be no significant powder dust.	Protective structure conforming to IP54
Weight	Approx. 650g	Approx. 600g (excluding cable)
Cable length	4m	5m
Display	LCD with 20 characters x 4 lines	LCD with 32 characters x 8 lines

### PC Software (Windows Only)

**Features** A startup support software program offering program/position input function, test operation function, monitoring function, and more. The functions needed for debugging have been enhanced to help reduce the startup time.

**Model** IA-101-X-MW-J  
(with RS232C Cable + Connector Conversion Cable)

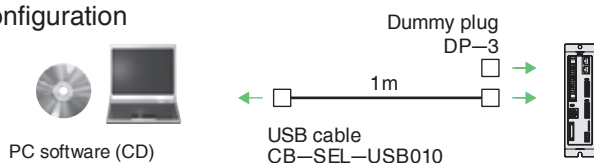
#### Configuration



**Note**  
The PSEL controller is supported by version 7.0.0.0 or later.

**Model** IA-101-X-USB (with USB Cable)

#### Configuration

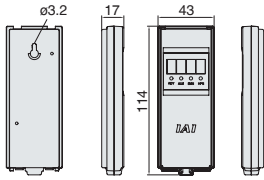


Options

Panel Unit

**Features** A display for checking controller error codes and active program numbers.

**Model PU-1** (Cable Length 3m)



System-Memory Backup Battery

**Features** If your programs use global flags, etc., you need this battery to retain data even after the power is turned off.

**Model AB-5-CS** (with Case)  
**AB-5** (Battery Only)



Dummy plug

**Features** When connecting your PSEL controller to a PC using a USB cable, install this plug on the teaching port to cut off the enable circuit. (This plug comes with the PC software IA-101-X-USB.)

**Model DP-3**



USB Cable

**Features** Use this cable to connect your controller with USB port to a PC. If your controller has no USB port (XSEL), connect a RS232C cable to a USB cable via a USB conversion adapter and connect the USB cable to the USB port on the PC. (Refer to the PC software IA-101-X-USBMW.)

**Model CB-SEL-USB010** (Cable Length 1m)



Connector Conversion Cable

**Features** This conversion cable is used to connect a D-sub, 25-pin connector for teaching pendant or PC software to the teaching connector (half-pitch) on the PSEL controller.

**Model CB-SEL-SJ002** (Cable Length 0.2m)



Spare Parts

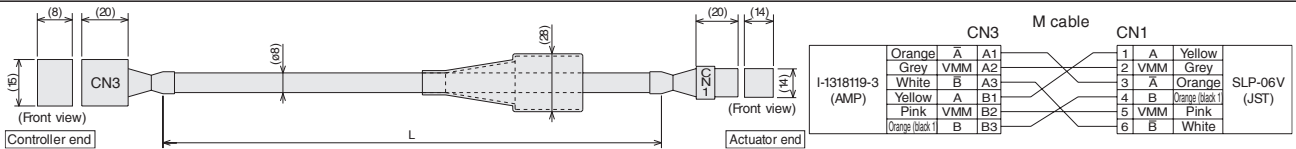
Should you require spare parts after the purchase of your product for replacing the original cables, etc., refer to the model names specified below.

Motor Cable

**Model CB-RCP2-MA** [ ] [ ] [ ]

\* The standard motor cable is a robot cable.

\* [ ] [ ] indicates the cable length (L). Lengths up to 20 m can be specified. Example) 080 = 8 m

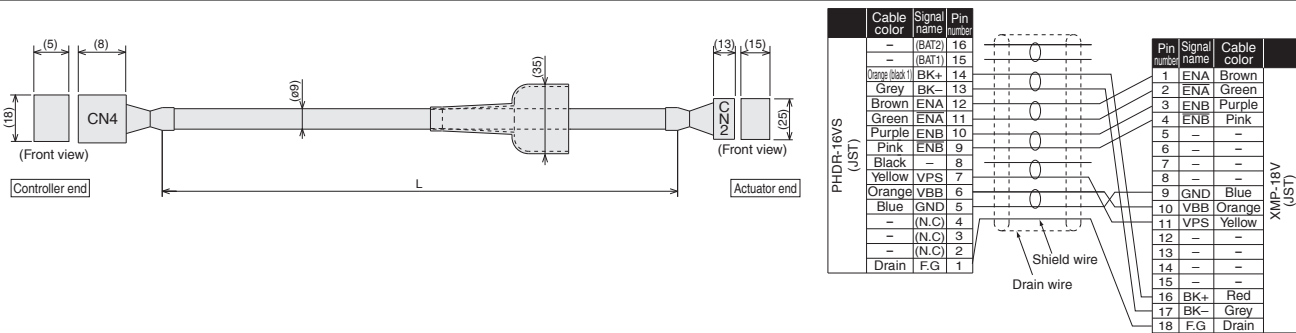


Encoder Cable / Encoder Robot Cable

**Model CB-RCP2-PA** [ ] [ ] [ ] / **CB-RCP2-PA** [ ] [ ] [ ] -**RB**

\* The standard encoder cable is a normal cable. A robot cable can be specified as an option.

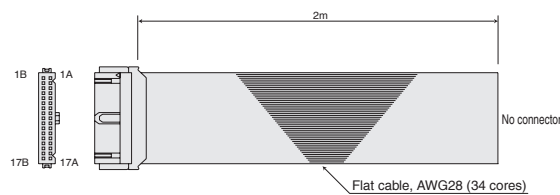
\* [ ] [ ] indicates the cable length (L). Lengths up to 20 m can be specified. Example) 080 = 8 m



I/O Flat Cable

**Model CB-DS-PIO** [ ] [ ] [ ]

\* [ ] [ ] indicates the cable length (L). Lengths up to 10 m can be specified. Example) 080 = 8 m



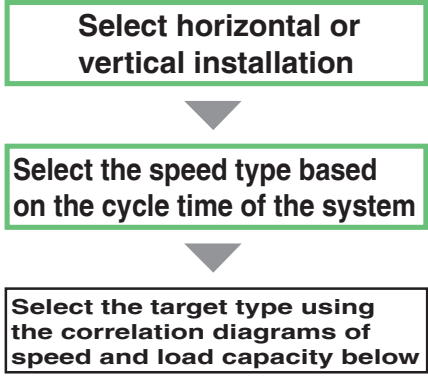
No.	Color	Wire	No.	Color	Wire
1A	Brown 1	Flat cable pressure-welded	9B	Grey 2	Flat cable pressure-welded
1B	Red 1		10A	White 2	
2A	Orange 1		10B	Black 2	
2B	Yellow 1		11A	Brown 3	
3A	Green 1		11B	Red 3	
3B	Blue 1		12A	Orange 3	
4A	Purple 1		12B	Yellow 3	
4B	Grey 1		13A	Green 3	
5A	White 1		13B	Blue 3	
5B	Black 1		14A	Purple 3	
6A	Brown 2		14B	Grey 3	
6B	Red 2		15A	White 3	
7A	Orange 2		15B	Black 3	
7B	Yellow 2		16A	Brown 4	
8A	Green 2		16B	Red 4	
8B	Blue 2		17A	Orange 4	
9A	Purple 2		17B	Yellow 4	

Model Selection Information (Correlation Diagram of Speed and Load Capacity)

# Selection Guide (Correlation Diagram of Speed and Load Capacity)

RCP2 Series

Slider type (Motor Straight Type)

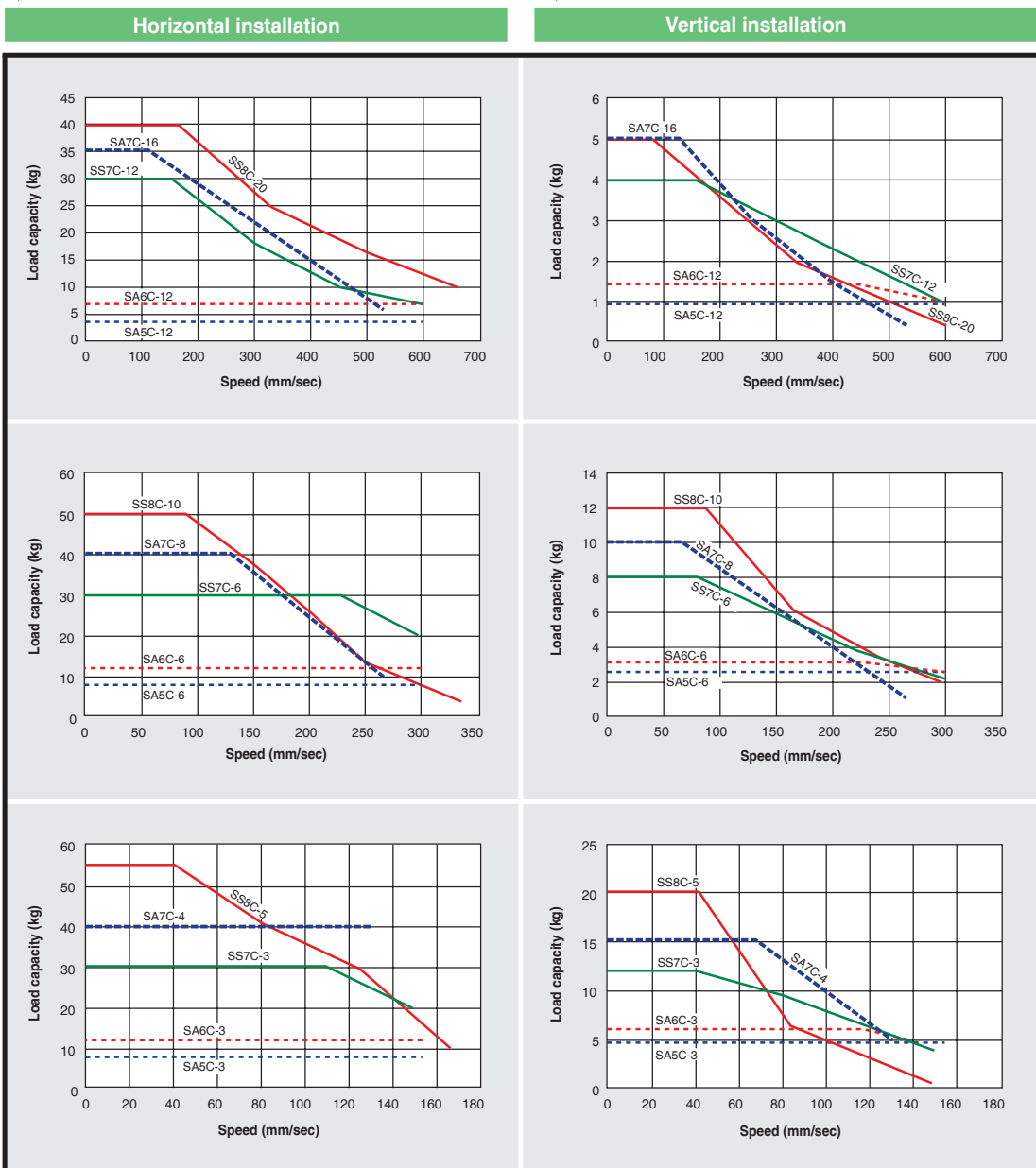


**Caution for Use**

- If you will be using a slider type and the load installed on the slider will project significantly from the center, consider the load moment and overhang load length.

**Load moment**  
Keep Ma/Mb/Mc load moments within their specified ranges.

**Overhang load length**  
When the center of gravity of the installed load is L/2. If the load projects in Ma, Mb or Mc direction, keep the overhang load length within the specified range.



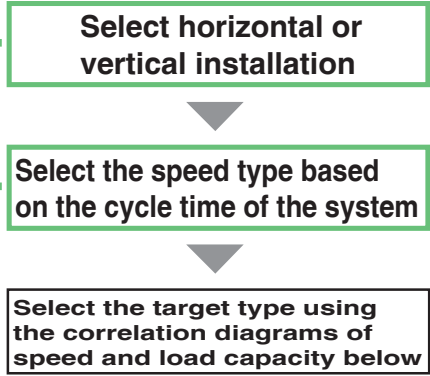
(Note) In the above diagrams, the figure after the type code indicates the lead.



Model Selection Information (Correlation Diagram of Speed and Load Capacity)

RCP2 Series

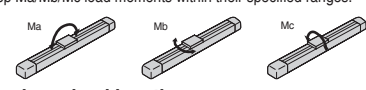
Slider type (Motor □evering □ype)



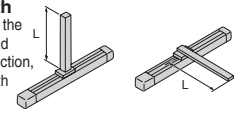
**Caution for Use**

● If you will be using a slider type and the load installed on the slider will project significantly from the center, consider the load moment and overhang load length.

**Load moment**  
Keep Ma/Mb/Mc load moments within their specified ranges.

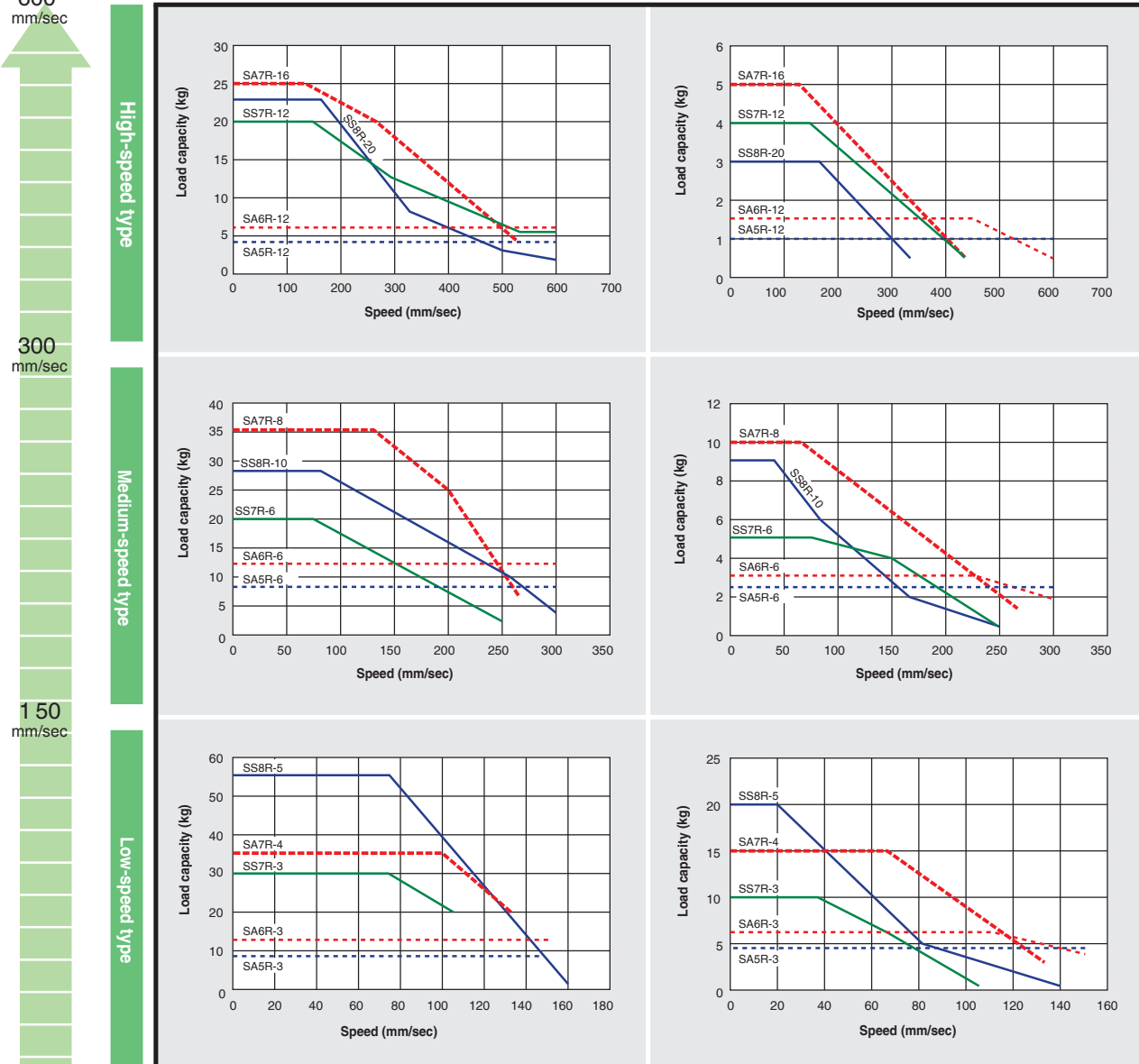


**Overhang load length**  
When the center of gravity of the installed load is L/2. If the load projects in Ma, Mb or Mc direction, keep the overhang load length within the specified range.



Maximum speed 600 mm/sec

Horizontal installation Vertical installation



(Note) In the above diagrams, the figure after the type code indicates the lead.

Model Selection Information (Correlation Diagram of Speed and Load Capacity)

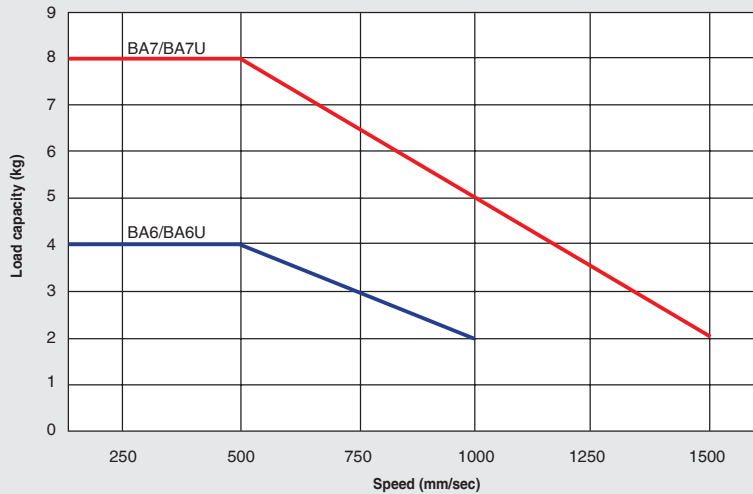
# Selection Guide (Correlation Diagram of Speed and Load Capacity)

RCP2 Series

Belt Slider Type

Select the target type using the correlation diagrams of speed and load capacity below.

Horizontal installation



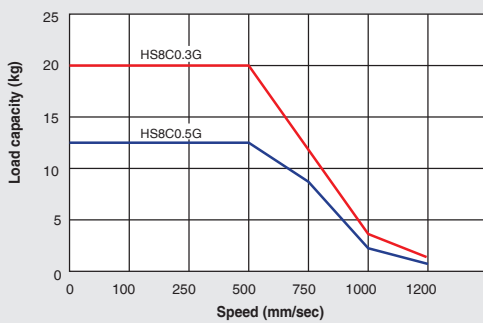
RCP2 Series

High-Speed Ball-Screw Slider Type

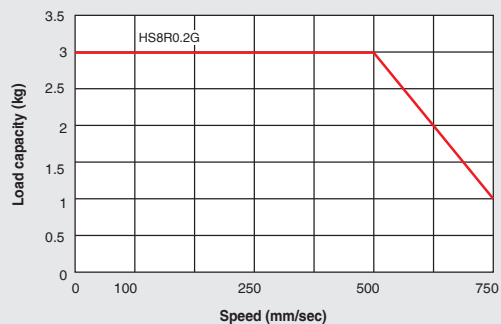
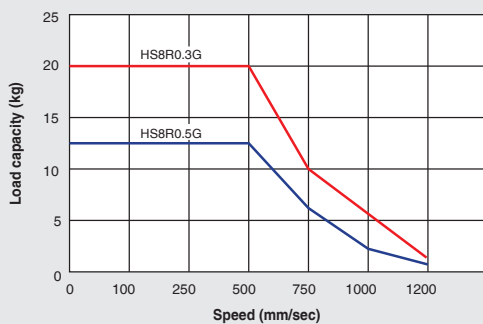
Horizontal installation

Vertical installation

RCP2-  
HS8C



RCP2-  
HS8R



## Model Selection Information (Correlation Diagram of Speed and Load Capacity)

RCP2 Series

Standard Rod Type

Select horizontal or vertical installation

Select the speed type based on the cycle time of the system

Select the target type using the correlation diagrams of speed and load capacity below



### Caution for Use

- With rod types, no external force is considered other than the force applied from the moving direction of the rod. If the rod will receive any force in the right-angle direction or rotating direction, the customer should use a high-rigidity type or add a guide.

Maximum speed 500 mm/sec

250 mm/sec

125 mm/sec

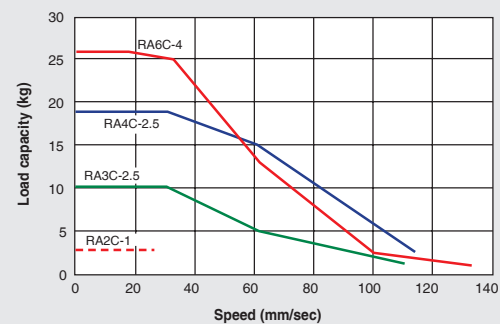
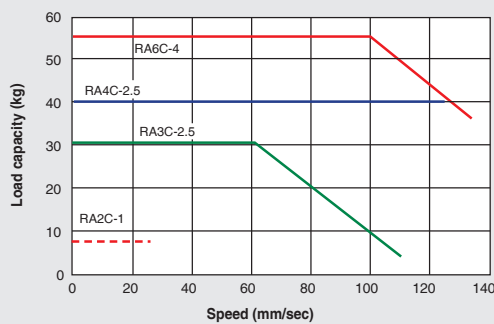
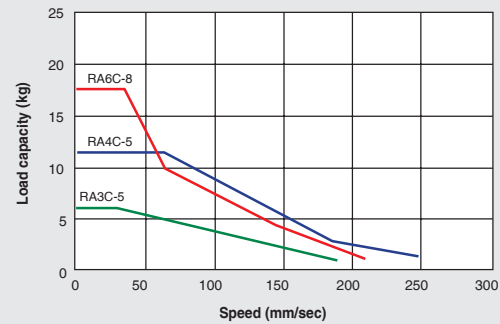
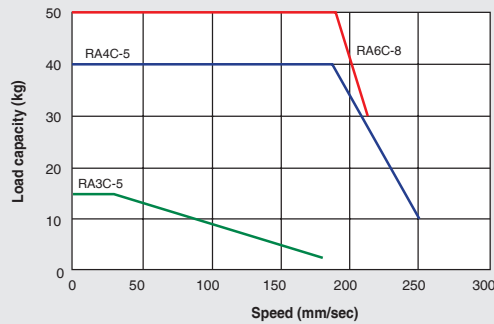
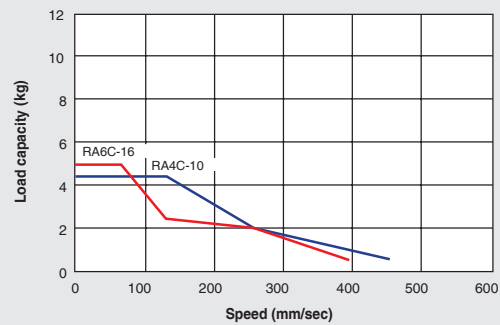
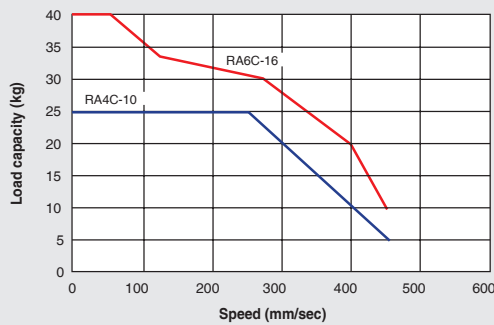
High-speed type

Medium-speed type

Low-speed type

Horizontal installation (Note 1)

Vertical installation



(Note) In the above diagrams, the figure after the type code indicates the lead.

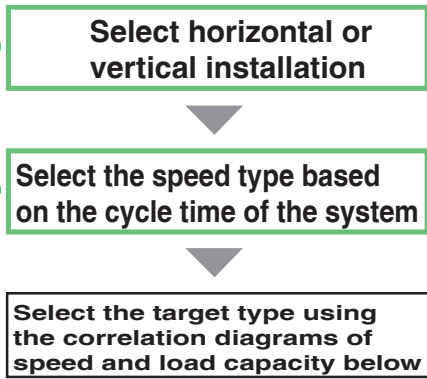
(Note 1) The figures in the diagrams under "Horizontal Installation" assume use of an external guide.

Model Selection Information (Correlation Diagram of Speed and Load Capacity)

# Selection Guide (Correlation Diagram of Speed and Load Capacity)

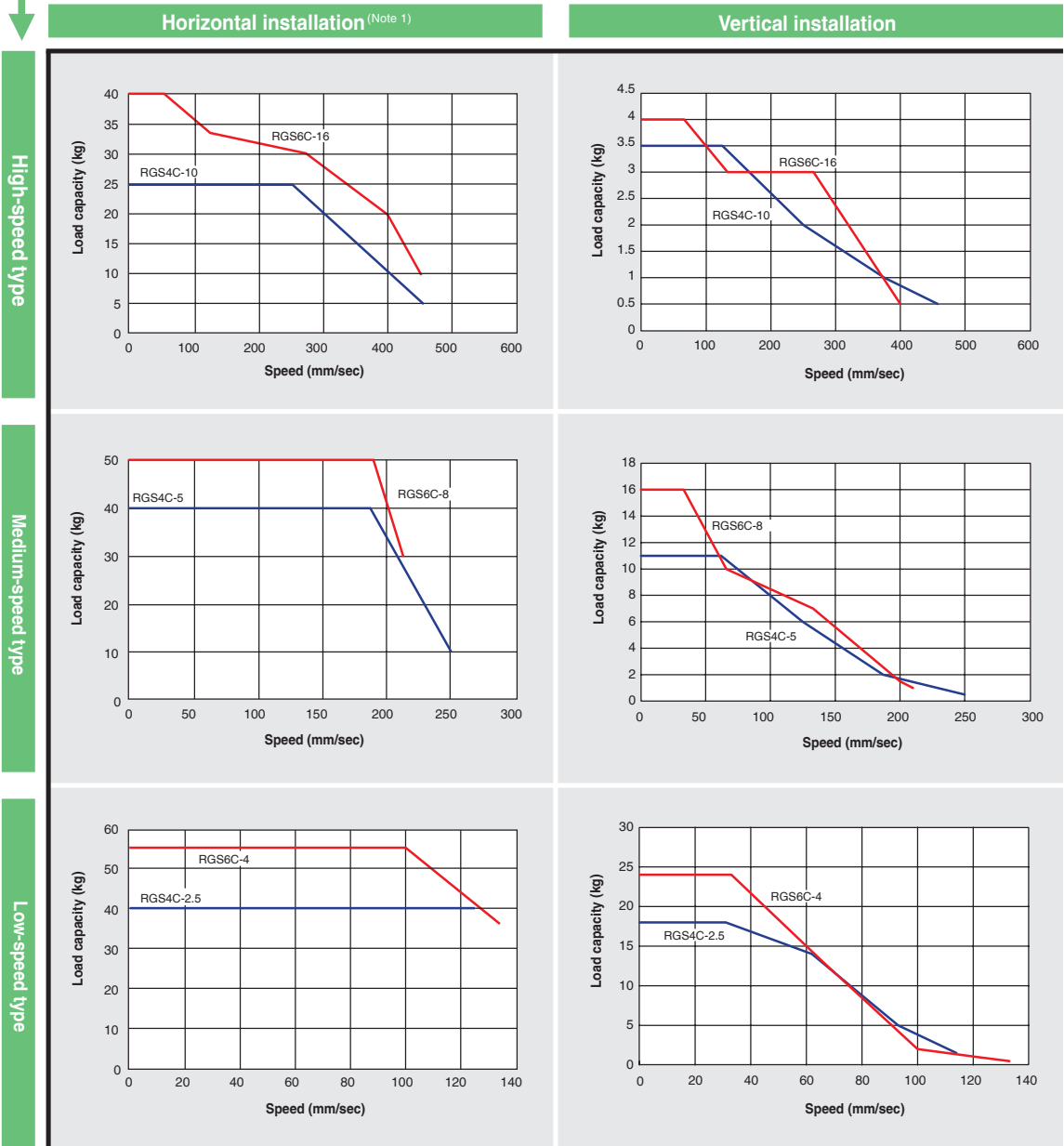
RCP2 Series

Single-Guide Type



**Caution for Use**

- The figures in the following diagrams under "Horizontal Installation" assume use of an external guide.



(Note) In the above diagrams, the figure after the type code indicates the lead.  
 (Note 1) The figures in the diagrams under "Horizontal Installation" assume use of an external guide.

## Model Selection Information (Correlation Diagram of Speed and Load Capacity)

RCP2 Series

Double Guide Type

Select horizontal or vertical installation

Select the speed type based on the cycle time of the system

Select the target type using the correlation diagrams of speed and load capacity below



### Caution for Use

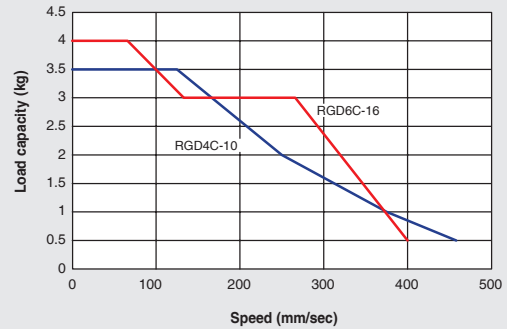
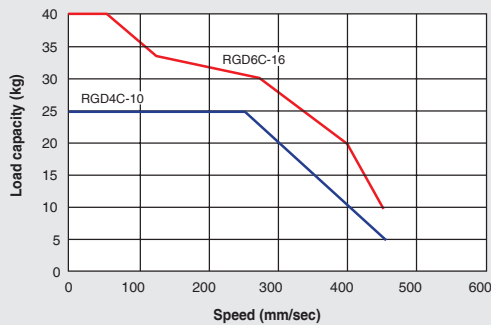
- The figures in the following diagrams under "Horizontal Installation" assume use of an external guide.

Maximum speed  
500  
mm/sec

High-speed type

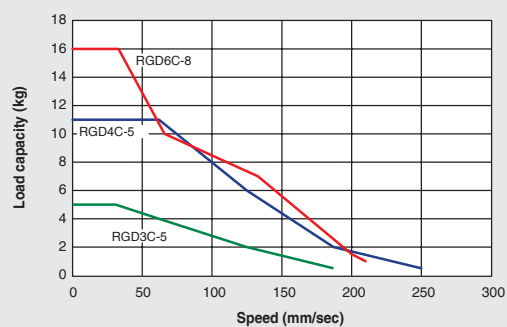
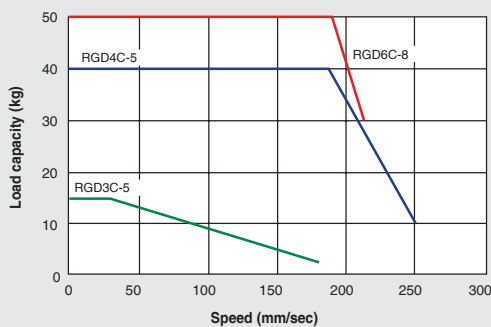
Horizontal installation (Note 1)

Vertical installation



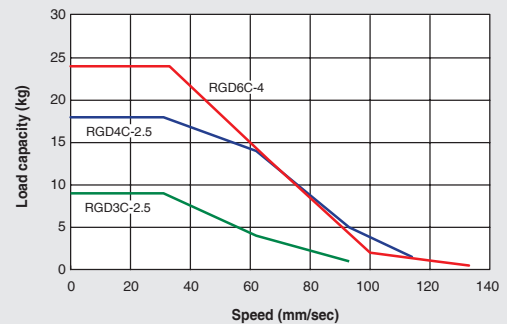
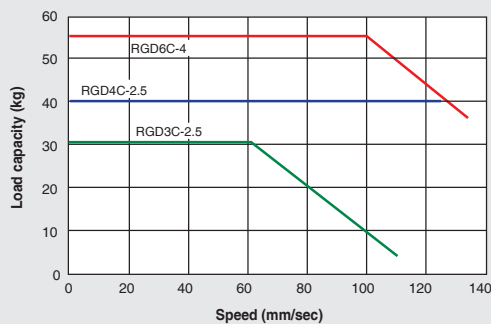
250  
mm/sec

Medium-speed type



125  
mm/sec

Low-speed type



(Note) In the above diagrams, the figure after the type code indicates the lead.

(Note 1) The figures in the diagrams under "Horizontal Installation" assume use of an external guide.

Model Selection Information (Correlation Diagram of Speed and Load Capacity)

# Selection Guide (Correlation Diagram of Speed and Load Capacity)

RCP2 Series

High-Thrust Type

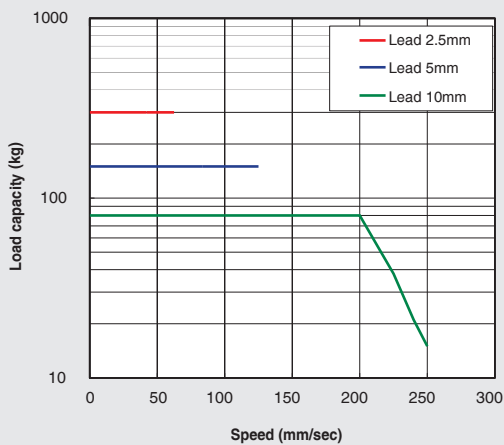


### Caution for Use

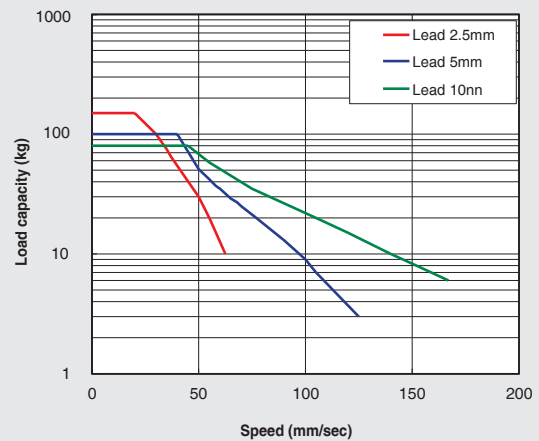
- With rod types, no external force is considered other than the force applied from the moving direction of the rod. If the rod will receive any force in the right-angle direction or rotating direction, the customer should add a guide.
- The figures in the following diagrams under "Horizontal Installation" assume use of an external guide.

Select horizontal or vertical installation

#### Horizontal installation



#### Vertical installation



(Note) In the above diagrams, the figure after the type code indicates the lead.



Model Selection Information (Correlation Diagram of Speed and Load Capacity)

RCP2CR Series

Slider Type (Motor Straight Type)

Select horizontal or vertical installation

Select the speed type based on the cycle time of the system

Select the target type using the correlation diagrams of speed and load capacity below

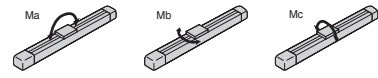


Caution for Use

● If you will be using a slider type and the load installed on the slider will project significantly from the center, consider the load moment and overhang load length.

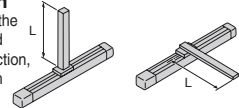
Load moment

Keep Ma/Mb/Mc load moments within their specified ranges.



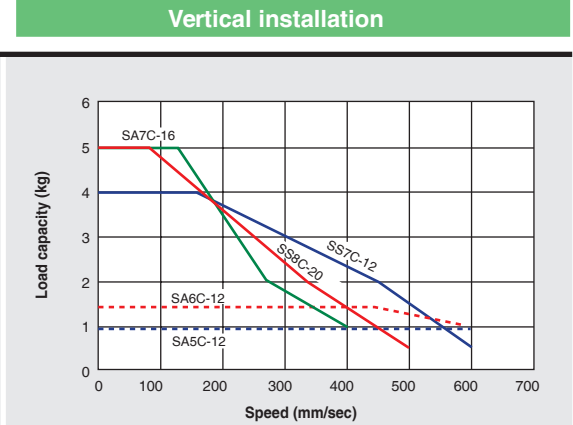
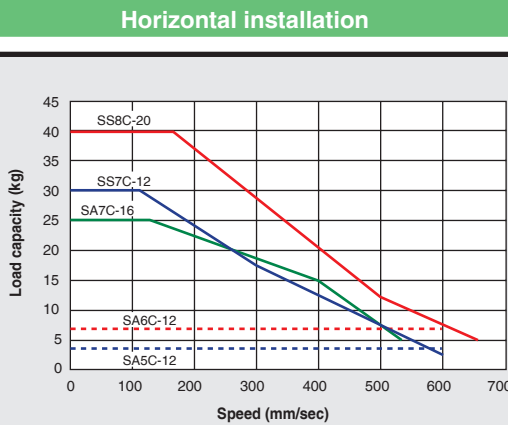
Overhang load length

When the center of gravity of the installed load is L/2. If the load projects in Ma, Mb or Mc direction, keep the overhang load length within the specified range.



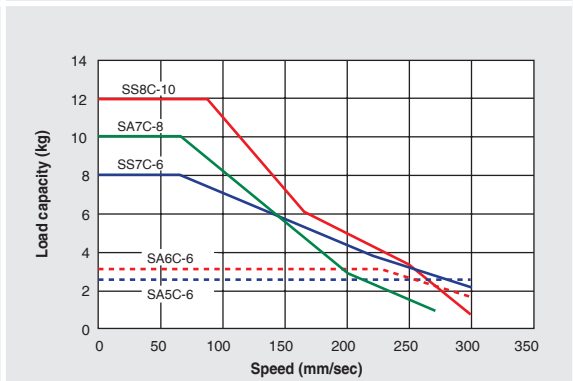
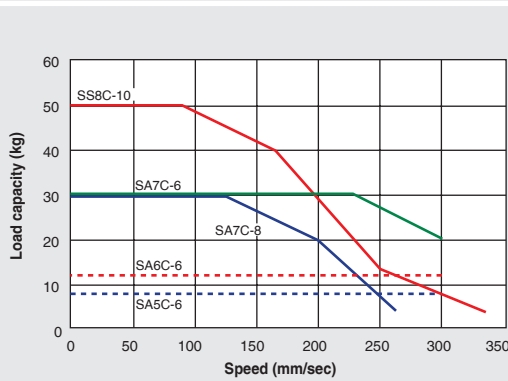
Maximum speed  
600 mm/sec

High-speed type



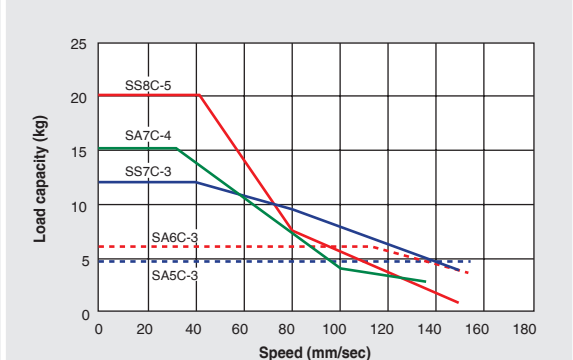
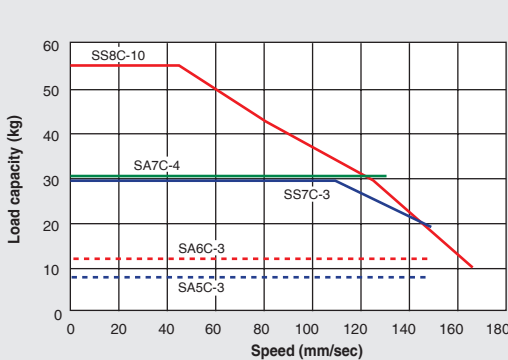
300 mm/sec

Medium-speed type



150 mm/sec

Low-speed type



(Note) In the above diagrams, the gure after the type code indicates the lead.  
(Note 1) If the actual load is equal to the maximum load capacity at the applicable speed, vibration overshoot may occur. Select a model that provides an allowance of approx. 70%.

Model Selection Information (Correlation Diagram of Speed and Load Capacity)

# Selection Guide (Correlation Diagram of Speed and Load Capacity)

RCP2W Series

Rod type

Select horizontal or vertical installation

Select the speed type based on the cycle time of the system

Select the target type using the correlation diagrams of speed and load capacity below



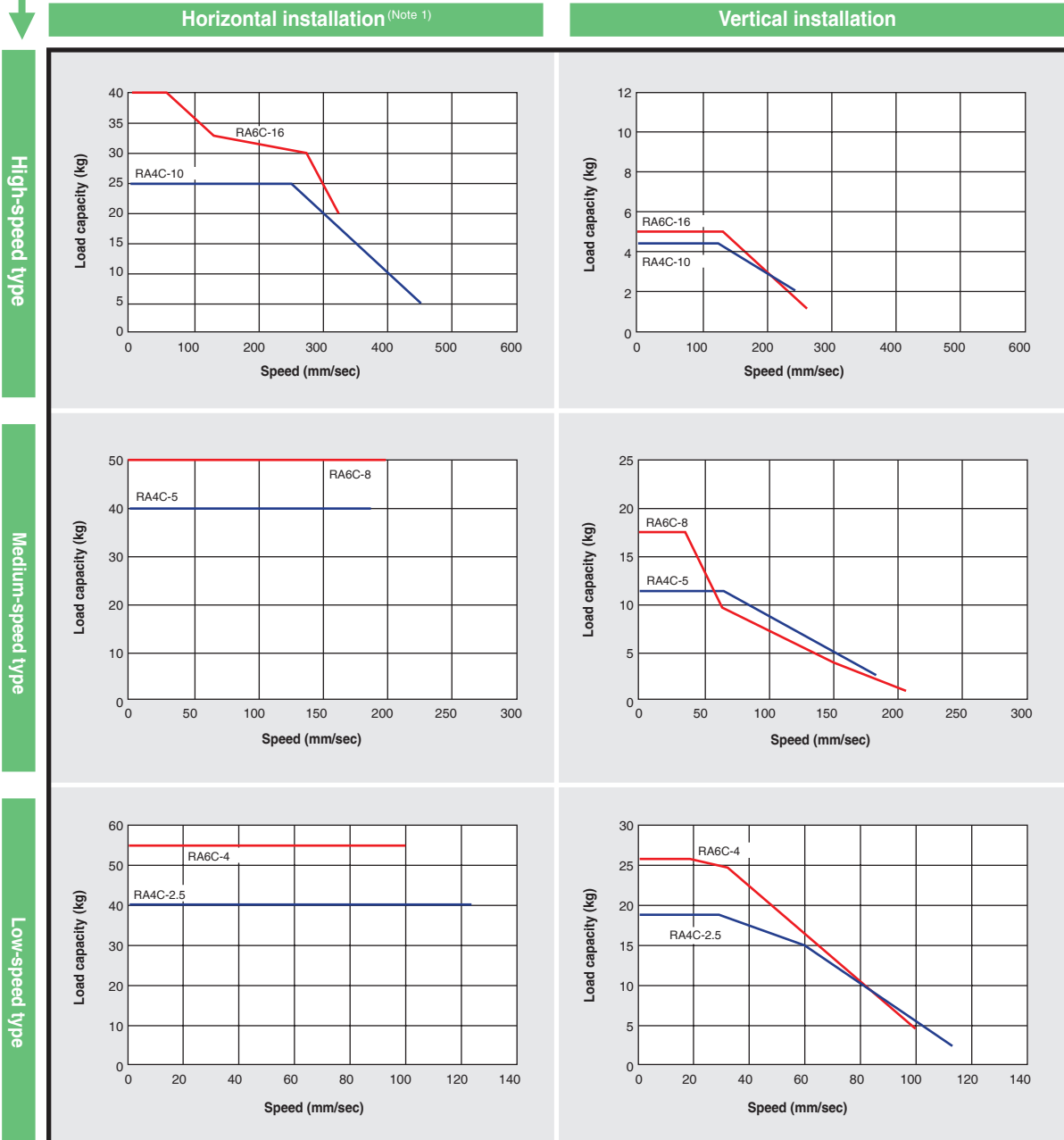
### Caution for Use

- With rod types, no external force is considered other than the force applied from the moving direction of the rod. If the rod will receive any force in the right-angle direction or rotating direction, the customer should use a high-rigidity type or add a guide.

Maximum speed  
500 mm/sec

250 mm/sec

125 mm/sec



(Note 1) If the actual load is equal to the maximum load capacity at the applicable speed, vibration overshoot may occur. Select a model that provides an allowance of approx. 70%.

## Model Selection Information (Correlation Diagram of Speed and Load Capacity)

RCP2W Series

Waterproof Slider Type

**Horizontal installation  
only**

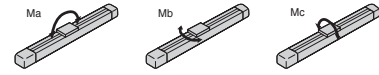


### Caution for Use

- If you will be using a slider type and the load installed on the slider will project significantly from the center, consider the load moment and overhang load length.

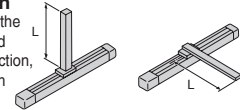
#### Load moment

Keep Ma/Mb/Mc load moments within their specified ranges.

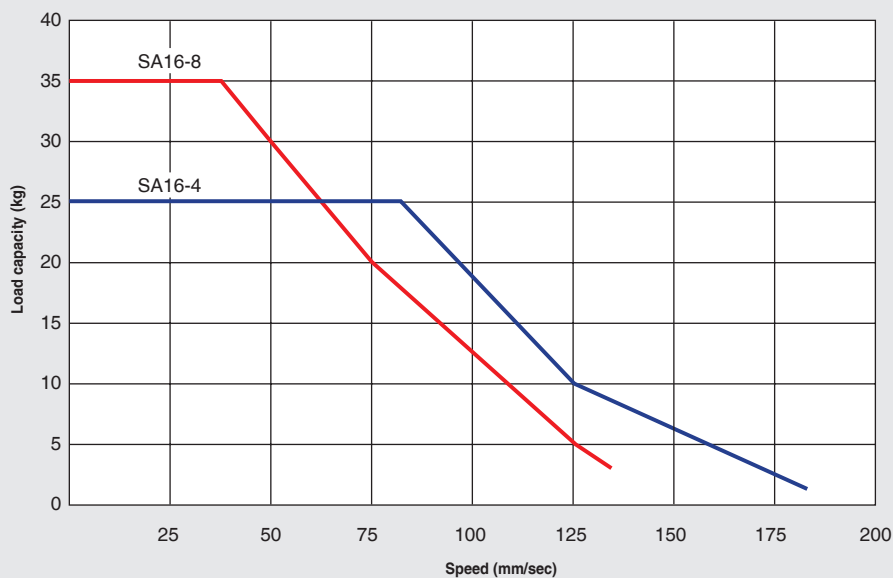


#### Overhang load length

When the center of gravity of the installed load is L/2. If the load projects in Ma, Mb or Mc direction, keep the overhang load length within the specified range.



### Horizontal installation



(Note) The RCP2W-SA16 is not available with brake, so it cannot be used vertically.

(Note) In the above diagrams, the figure after the type code indicates the lead.

(Note 1) If the actual load is equal to the maximum load capacity at the applicable speed, vibration overshoot may occur. Select a model that provides an allowance of approx. 70%.

## Model Selection Information (Push Force)

# Selection Guide Correlation (Diagrams of Push Force and Current-Limiting Value)

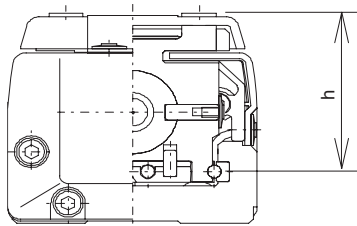
RCP2 Series

Slider type

When performing push-motion operation using a slider type, limit the push current to prevent the reactive moment generated by the push force from exceeding 80% of the rated moment ( $M_a$ ,  $M_b$ ) specified in the catalog.

The position where guide moment is applied is illustrated below to facilitate moment calculation. Calculate the moment by considering an offset required at the position where push force is applied.

Since applying an excessive force exceeding the rated moment may damage the guide and shorten the service life of the actuator, set sufficient push current by considering a safety factor.



SA5C:h=39mm  
SA6C:h=40mm  
SA7C:h=43mm  
SS7C:h=36mm  
SS8C:h=48mm

Note

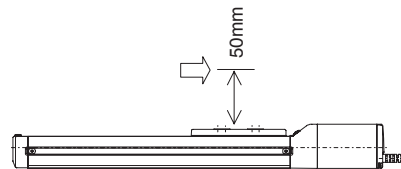
- Push-motion operation cannot be performed on belt types (BA6/BA7).
- The travel speed is fixed to 20 mm/s during push-motion operation.

Calculation example)

If a push force of 100 N is applied at the position shown to the right on the RCP2-SS7C type, the moment received by the guide is calculated as follows:

$$\begin{aligned} M_a &= (36+50) \times 100 \\ &= 8600(\text{N}\cdot\text{mm}) \\ &= 8.6(\text{N}\cdot\text{m}) \end{aligned}$$

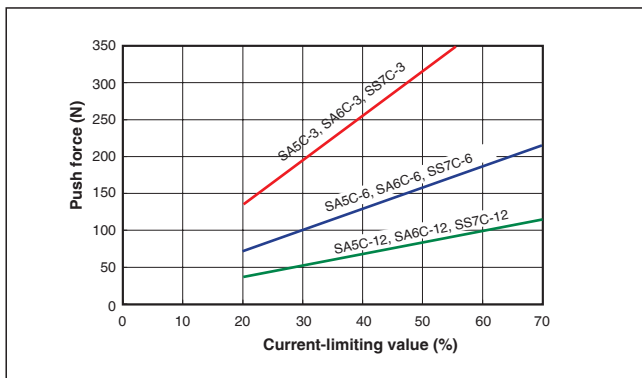
Since the rated moment of the SS7 ( $M_a$ ) is 14.7 (N·m),  $14.7 \times 0.8 = 11.76 > 8.6$ . Accordingly, the requirement is satisfied. If  $M_b$  moment generates as a result of push motion, follow the same procedure to calculate the actual moment based on the overhang load and confirm that it is within 80% of the rated moment.



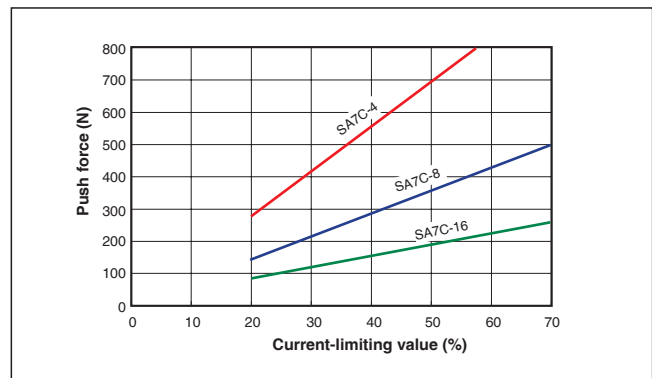
### Correlation Diagrams of Push Force and Current-Limiting Value

\* The figures in the following diagrams are reference values and may differ slightly from actual values.

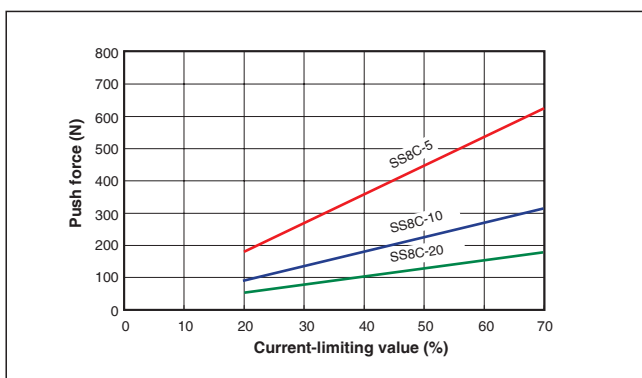
#### SA5C/SA6C/SS7C type



#### SA7C type



#### SS8C type



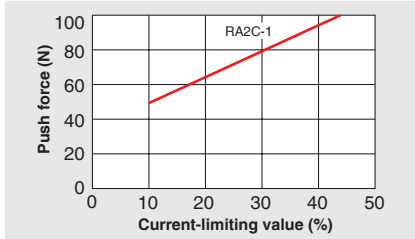
## Model Selection Information (Push Force)

### RCP2 Series

### Rod type

The push force applied in push-motion operation can be changed freely by changing the current-limiting value in the controller. Since the maximum push force varies from one model to another, use the diagrams below to check the required push force and select a type that satisfies the force requirement.

#### RA2C type



\* With the RPA type, the maximum push force is determined by the stroke.

25-50 stroke : 100N  
75 stroke : 75N  
100 stroke : 55N

#### Caution for Use

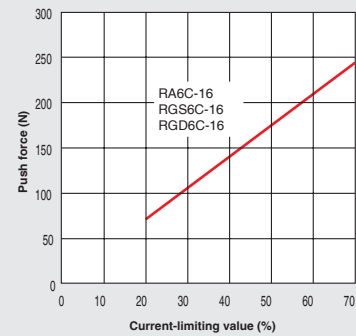
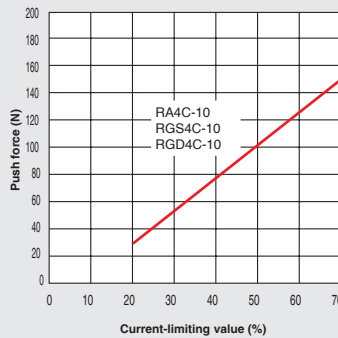
- The relationships of push force and current-limiting value represent reference values and may differ slightly from actual values.
- If the current-limiting value is less than 20%, the push force may fluctuate. Keep the current-limiting value to 20% or above.
- The travel speed is fixed to 20 mm/s during push-motion operation.

### RA3C/RGD3C

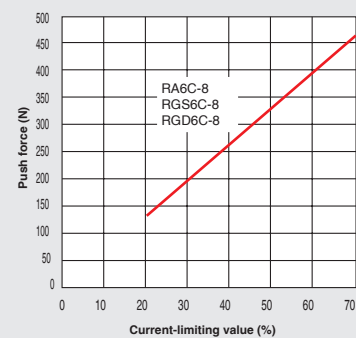
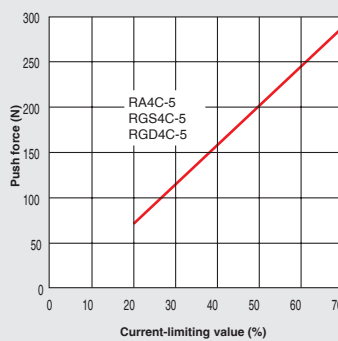
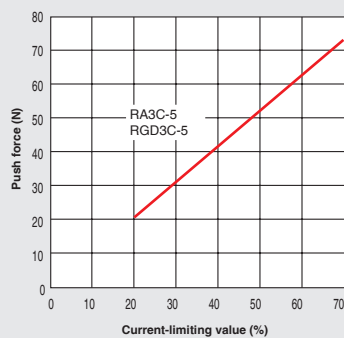
### RA4C/RGS4C/RGD4C

### RA6C/RGS6C/RGD6C

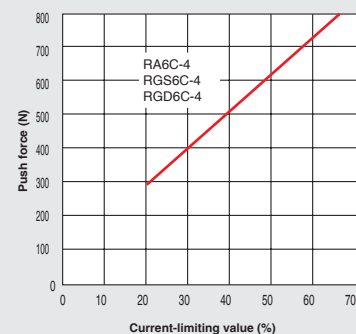
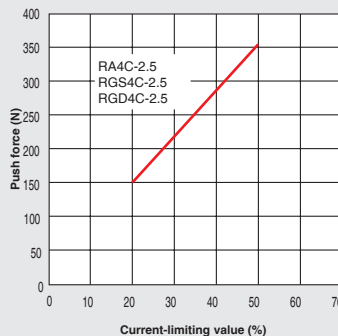
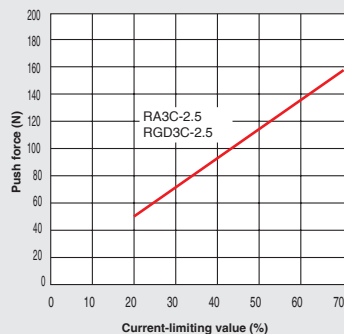
High-speed type



Medium-speed type



Low-speed type



(Note) In the above diagrams, the figure after the type code indicates the lead.

## Model Selection Information (Push Force)

# Selection Guide Correlation (Diagrams of Push Force and Current-Limiting Value)

RCP2 Series

High-Thrust Rod Type

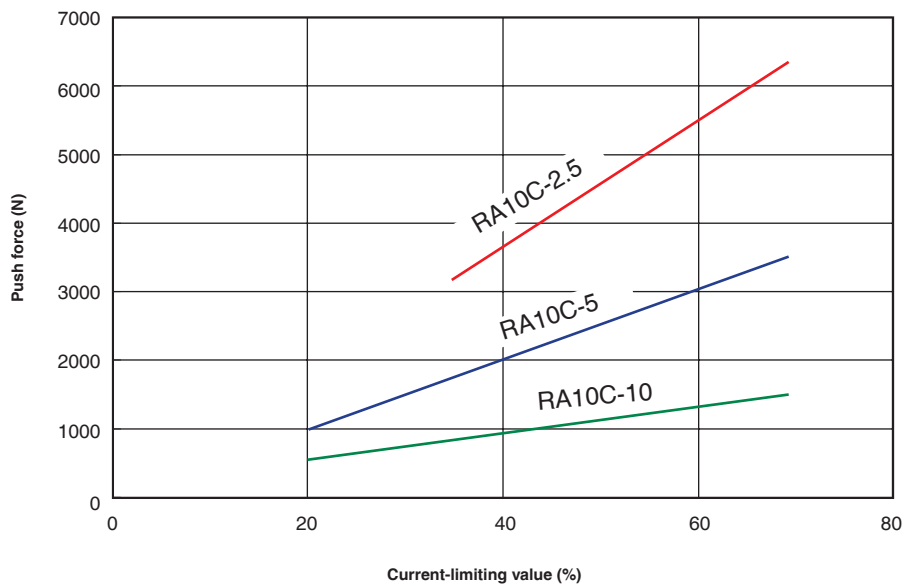
The push force applied in push-motion operation can be changed freely by changing the current-limiting value in the controller. Since the maximum push force varies from one model to another, use the diagrams below to check the required push force and select a type that satisfies the force requirement.



### Caution for Use

- The relationships of push force and current-limiting value represent reference values and may differ slightly from actual values.
- If the current-limiting value is less than 20%, the push force may fluctuate. Keep the current-limiting value to 20% or above.

### RA10C type



#### Note

Use the table below as a guide when determining the maximum push count when the type having each lead is operated at the maximum push force for a push-motion travel distance of 1 mm.

Lead (type)	2.5	5	10
Push count	1.4 million times	25 million times	157.6 million times

\* The maximum push count varies depending on the operating conditions such as shock and vibration. The figures shown to the left assume absence of shock or vibration.



## RCP2 Series

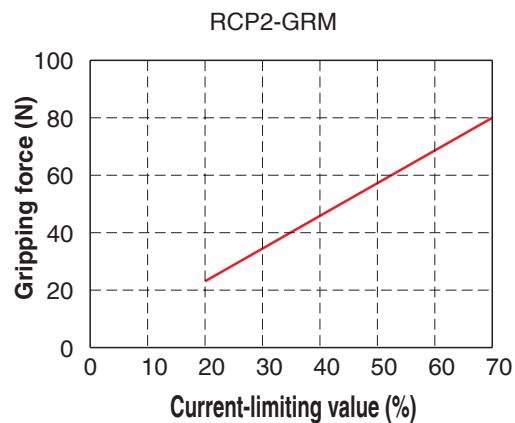
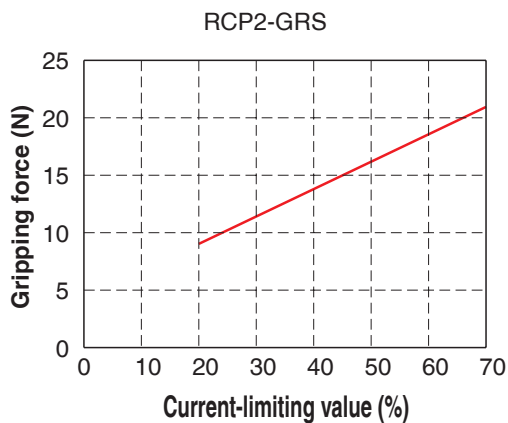
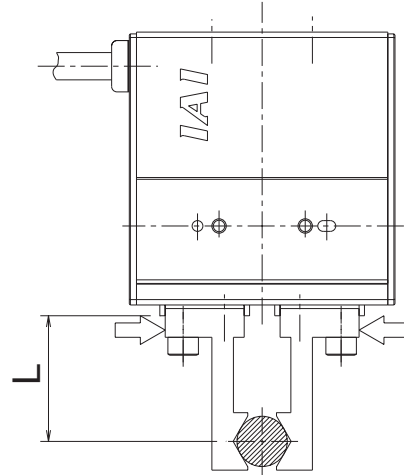
## Gripper

## Gripping Force Adjustment

In accordance with the push-motion operation, the gripping force (push force) can be adjusted freely within the range of current-limiting values of 20% to 70%.

Since the gripping force varies from one model to another, use the graphs below to check the required gripping force and select a type that satisfies the force requirement.

\* The gripping forces in the following diagrams indicate the sums of gripping forces of both fingers.



## Guide for Selecting Model from Weight of Work

Although the weight of a work that can be physically transferred varies depending on the friction coefficient determined by the finger material and work material, as well as on the shape of the work, a rough guide is that normally the work weight should not exceed 1/10 to 1/20 of the gripping force. Also, an additional allowance must be considered if the work is subject to high acceleration/deceleration or shock during transfer (1/30 to 1/50).

## Finger (Attachment) Shape

The distance (L) from the finger attachment surface to the gripping point should be kept to or below the dimensions below.

RCP2-GRS → 50mmMAX.  
RCP2-GRM → 80mmMAX.

Minimize the size and weight of fingers installed on the actuator. If the fingers are long, large or heavy, the actuator performance may drop or the guide may be negatively affected due to the inertial force and bending moment that generates when the fingers are opened/closed.



Caution

- \* The relationships of push force (gripping force) and current-limiting value represent reference values and may differ slightly from actual values.
- \* Take note that if the push force is too small, the push force may fluctuate or malfunction may occur due to slide resistance, etc. Keep the current-limiting value to 20% or above.
- \* Minimize the size and weight of fingers installed on the actuator. If the fingers are long, large or heavy, the actuator performance may drop or the guide may be negatively affected.

Model Selection Information (Push Force)

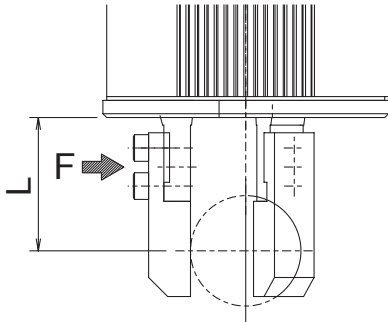
# Selection Guide Correlation (Diagrams of Push Force and Current-Limiting Value)

RCP2 Series

3-Finger Gripper

## Correlation Diagram of Gripping Force and Current-Limiting Value

■ Lever Type



\* The values in the graphs below indicate gripping forces at a gripping point of 10 mm. The actual gripping force decreases in inverse proportion to the distance from the opening/closing fulcrum

Calculate the actual gripping force using the formulas below:

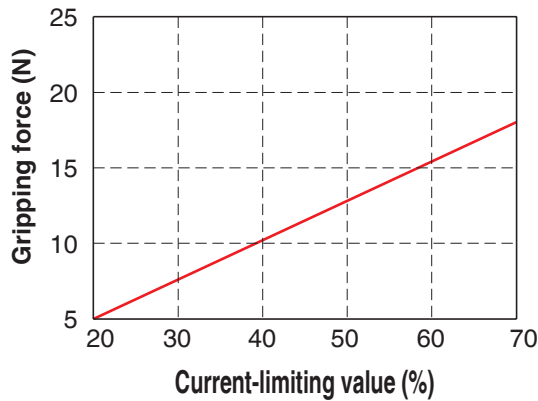
Effective gripping force (S type)= $P \times 24 / (L + 14)$

Effective gripping force (M type)= $P \times 28.5 / (L + 18.5)$

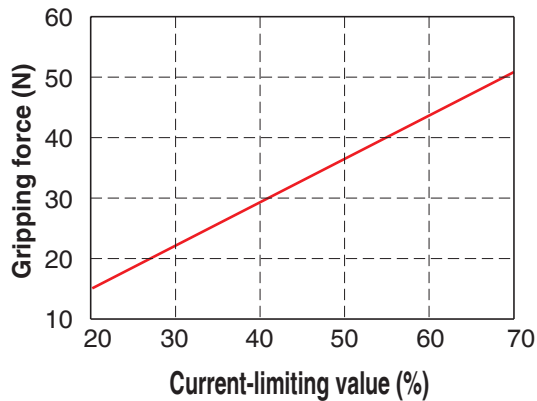
P = Gripping force determined from the graph

L = Distance from the finger attachment surface to the gripping point

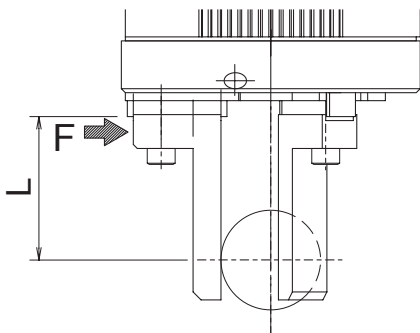
RCP2-GR3LS



RCP2-GR3LM



■ Slide Type (GR3SS/GR3SM)



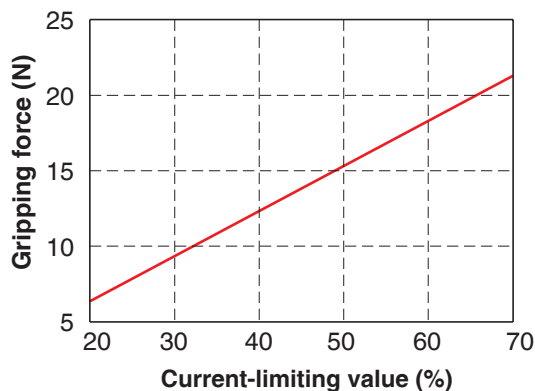
\* Keep the distance (L) from the finger attachment surface to the gripping point to the following dimensions or less.

Calculate the actual gripping force using the formulas below:

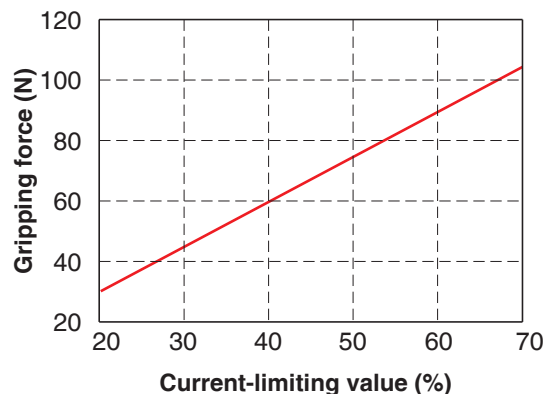
GR3SS → 50mm Max.

GR3SM → 80mm Max.

RCP2-GR3SS



RCP2-GR3SM

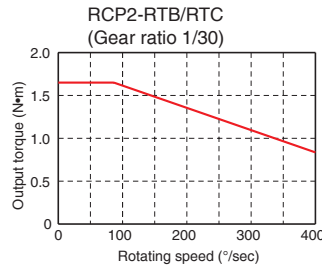
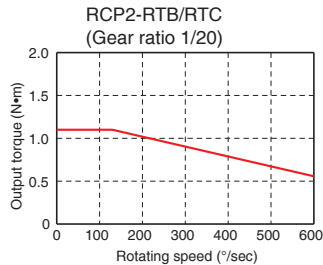


RCP2 Series

Rotary

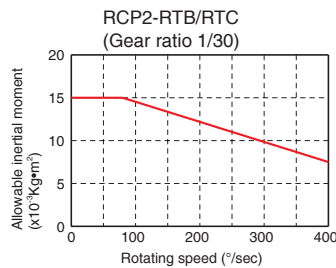
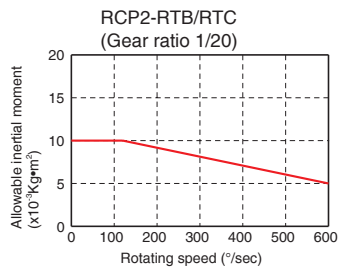
Output Torque

The output torque will decrease as the rotating speed increases. Use the graphs below to check if the required operating speed and torque can be achieved.



Allowable Inertial Moment

The allowable inertial moment of a rotatable work varies depending on the rotating speed. Check the operating conditions and the inertial moment of the work to be rotated (refer to p. 16) to select an appropriate model.



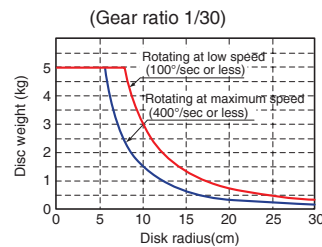
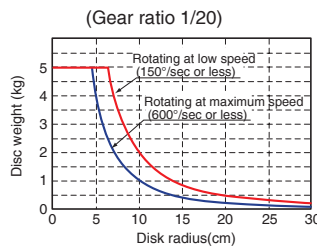
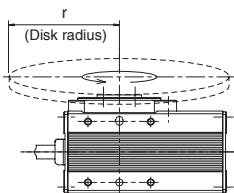
When a rotating axis is used horizontally, load torque will generate due to gravity if the center of gravity of the work is away from the center of rotation. In this case, either the rotating speed or the inertial moment of the work must be reduced.

Model Selection Guide

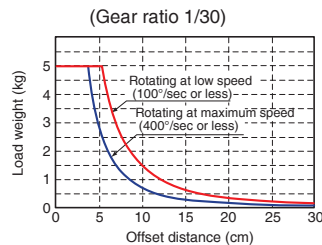
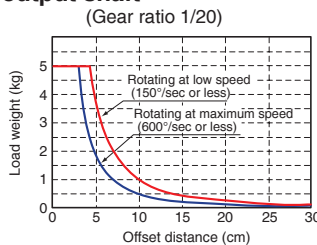
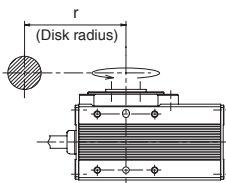
Select an appropriate model from the shape and weight of the load installed on the output shaft by using the figures and tables below as a reference.

\* The weight that can be rotated varies depending on the rotating speed. (The higher the rotating speed, the less the rotatable weight becomes.)

A. Disc-shaped load at the center of the output shaft



B. Load offset from the center of the output shaft



\* When a rotating axis is used horizontally, load torque will generate due to gravity if the center of gravity of the work is away from the center of rotation. In this case, either the rotating speed or the inertial moment of the work must be reduced.



Caution

- If the load exceeds the allowable value, the actuator may malfunction, its service life may be shortened, or damage may occur. The load must be set so that the allowable value will not be exceeded.
- If a rotating axis is used horizontally, the work structure must be such that the load torque can be minimized.

**RCP2 Series**  
**Extract Cat. No. 0707-E**

The information contained in this catalog is subject to change without notice for the purpose of product improvement



Providing quality products  
since 1986



**IAI Industrieroboter GmbH**  
Ober der Röth 4  
D-65824 Schwalbach / Frankfurt  
Germany  
Tel.:+49-6196-8895-0  
Fax:+49-6196-8895-24  
E-Mail: info@IAI-GmbH.de  
Internet: <http://www.eu.IAI-GmbH.de>

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**IAI America Inc.**

2690 W. 237th Street, Torrance, CA 90505, U.S.A  
Tel.: +1-310-891-6015 Fax: +1-310-891-0815

**IAI CORPORATION**

645-1 Shimizu Hirose, Shizuoka 424-0102, Japan  
Tel.: +81-543-64-5105 Fax: +81-543-64-5182