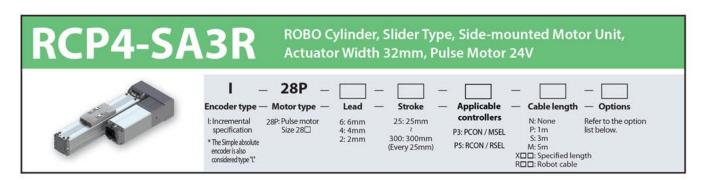
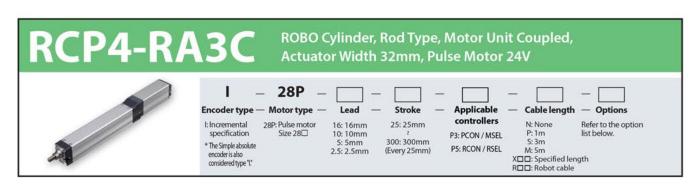
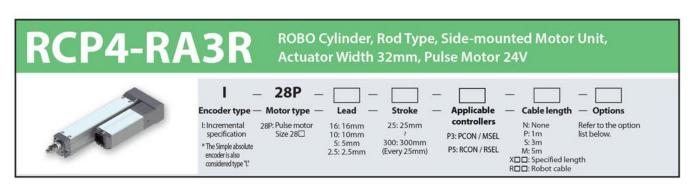
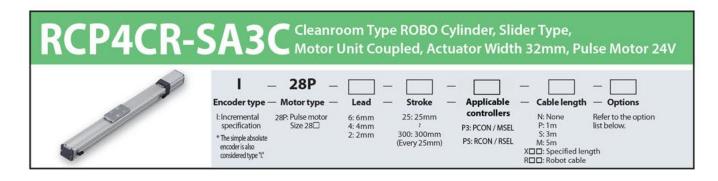
#### RCP4-SA3C ROBO Cylinder, Slider Type, Motor Unit Coupled, Actuator Width 32mm, Pulse Motor 24V 28P Applicable Stroke Options Encoder type Motor type Lead Cable length controllers I: Incremental 28P: Pulse motor N: None Refer to the option 6: 6mm 4: 4mm 25: 25mm specification Size 28□ P3: PCON / MSFL 300: 300mm S: 3m 2: 2mm \* The simple absolute P5: RCON / RSEL (Every 25mm) M: 5m X□□: Specified length considered type "L" R□□: Robot cable





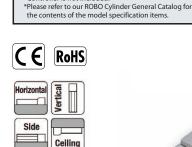




#### ROBO Cylinder, Slider Type, Motor Unit Coupled, **P4-SA3** Actuator Width 32mm, Pulse Motor 24V 28P RCP4 - SA3C -Specification Items Encoder type — Motor type Stroke **Applicable** Cable length Options controllers 28P: Pulse motor 6: 6mm 25: 25mm N: None Refer to the option specification Size 28□ 4.4mm P: 1m list below. P3: PCON / MSEL 300: 300mm S: 3m 2: 2mm \* The simple absolute P5: RCON / RSEL

(Every 25mm)

100



\*Controller is not included.

\* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions Please contact us for more information.



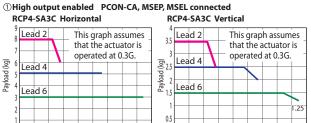
encoder is also

considered type "I."



- (1) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to "The Tables for Payload by Speed and Acceleration" on P. 13.
- (2) Please refer to "Correlation Diagrams Between Push Force and Current Limit" on P. 14 for push-motion operation.

#### ■ Correlation Diagrams of Speed and Payload



M: 5m

X□□: Specified length R□□: Robot cable

\* PCON-CA is a previous model. The current model is PCON-CB.

0.75

150 200 250 300 350 400 450

100 150 200 250 300 350 400 450 0 50 100 150 200 250 300 350 400 450 Speed (mm/s) Speed (mm/s) ②High output disabled PCON-CA, MSEP connected RCP4-SA3C Horizontal RCP4-SA3C Vertical Lead 2 This graph assumes Lead 2 This graph assumes 3.5 that the actuator is that the actuator is operated at 0.3G. operated at 0.3G. Payload (kg) Lead 4 Lead 4 Lead 6 0.5

#### Actuator Specifications

#### ■Lead and Payload

Model Number		Maximum Payload Horizontal (kg)   Vertical (kg)		Stroke (mm)
RCP4-SA3C-I-28P-6- ① -P3- ② - ③	6	3	1.5	
RCP4-SA3C-I-28P-4- ① -P3- ② - ③	4	5	2.5	25 ~ 300 (Every 25mm)
RCP4-SA3C-I-28P-2- ① -P3- ② - ③	2	8	3.5	

Legend: Stroke Cable length Options

#### ■Stroke and Max. Speed (Unit: mm/s)

50 100

Lead (mm)	High-output Setting	25 ~ 300 (Every 25mm)
6	Enabled	420
0	Disabled	420
4	Enabled	280
4	Disabled	200
2	Enabled	140
2	Disabled	140

1) Stroke	
	_
Stroke (mm)	
2=	$\overline{}$

T Our One			
Stroke (mm)	Standard Price	Stroke (mm)	Standard Price
25	_	175	_
50	_	200	_
75	_	225	_
100	_	250	_
125	_	275	_
150	_	300	_

#### ② Cable Length

150 200 250 300 350 400 450

Type	Cable Code	Standard Price
	<b>P</b> (1m)	_
Standard Type	<b>S</b> (3m)	_
	<b>M</b> (5m)	_
	<b>X06</b> (6m) ~ <b>X10</b> (10m)	_
Specified Length	<b>X11</b> (11m) ~ <b>X15</b> (15m)	_
	X16 (16m) ~ X20 (20m)	_
	<b>R01</b> (1m) ~ <b>R03</b> (3m)	_
	<b>R04</b> (4m) ~ <b>R05</b> (5m)	_
Robot Cable	<b>R06</b> (6m) ~ <b>R10</b> (10m)	_
	<b>R11</b> (11m) ~ <b>R15</b> (15m)	_
	R16 (16m) ~ R20 (20m)	_

\* For a maintenance cable, please see the back cover.

③ Options			
Name	Option Code	Reference Page	Standard Price
Brake	В		-
Home-position Check Sensor (On Left)	HSL	Please refer to	-
Home-position Check Sensor (On Right)	HSR	our ROBO Cylinder General	_
Non-motor End Specification	NM	Catalog.	_
Slider Roller Specification	SR		_

- \* For the home-position check sensor, there are 2 types; HSR (sensor attached on the right) and HSL (sensor attached on the left). Please see the following page for
- \*Additional Option: Designated grease specification Code: G1, G3 or G4 Change the grease applied to the ball screw, linear guide, and rod sliding surface of the actuator to low dust-generating grease for clean environments. ((G1: Kuroda C grease, G3: AFF grease, G4: AFE-CA grease)

Actuator Specifications					
ltem	Description				
Drive System	Ballscrew Ø6mm rolled C10				
Positioning Repeatability	±0.02mm				
Lost Motion	0.1mm or less				
Base	Material: Aluminum with white alumite treatment				
Dynamic Allowable Moment (*1)	Ma: 3.82N•m, Mb: 5.45N•m, Mc: 6.10N•m				
Static Allowable Moment	Ma: 6.30N•m, Mb: 8.90N•m, Mc: 10.0N•m				
Ambient Operating Temperature, Humidity	0 ~ 40°C, 85% RH or less (Non-condensing)				

Reference for overhang load length of all 3 directions (Ma, Mb, and Mc): 100mm or less

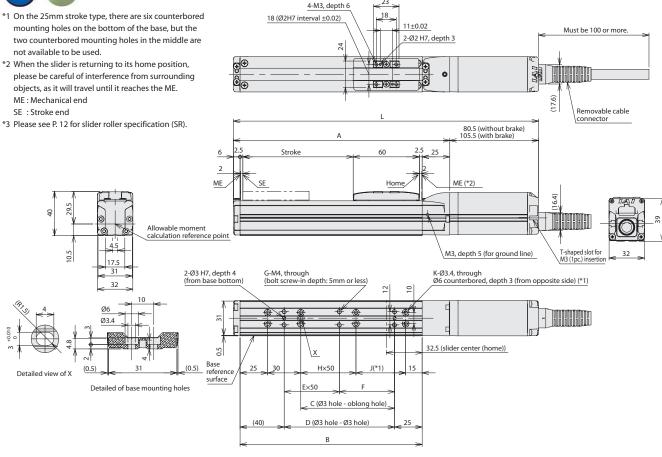
- (\*1) This assumes a standard life of 5,000km. The operational life will vary depending on operation and installation conditions.
  - Please refer to our ROBO Cylinder General Catalog for details on operational life, allowable moment direction, and overhang load length.

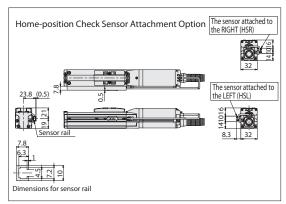
# CAD drawings can be downloaded from our website. www.intelligentactuator.com





- $^{*}1\,$  On the 25mm stroke type, there are six counterbored mounting holes on the bottom of the base, but the two counterbored mounting holes in the middle are not available to be used.
- objects, as it will travel until it reaches the ME.





#### ■Dimensions and Mass by Stroke

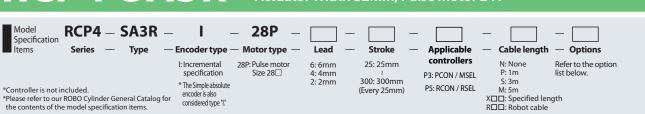
9	Stroke	25	50	75	100	125	150	175	200	225	250	275	300
	Without Brake	201.5	226.5	251.5	276.5	301.5	326.5	351.5	376.5	401.5	426.5	451.5	476.5
L	With Brake	226.5	251.5	276.5	301.5	326.5	351.5	376.5	401.5	426.5	451.5	476.5	501.5
	Α	121	146	171	196	221	246	271	296	321	346	371	396
	В	90	115	140	165	190	215	240	265	290	315	340	365
	С	10	35	60	85	110	135	160	185	210	235	260	285
	D	25	50	75	100	125	150	175	200	225	250	275	300
	E	0	0	0	1	1	2	2	3	3	4	4	5
	F	25	50	75	50	75	50	75	50	75	50	75	50
	G	4	4	4	6	6	8	8	10	10	12	12	14
	Н	0	0	0	1	1	2	2	3	3	4	4	5
	J	(20)	45	70	45	70	45	70	45	70	45	70	45
	K	(6)	6	6	8	8	10	10	12	12	14	14	16
Mass	Without Brake	0.51	0.55	0.58	0.61	0.65	0.68	0.71	0.75	0.78	0.81	0.85	0.88
(kg)	With Brake	0.6	0.64	0.67	0.7	0.74	0.77	0.8	0.84	0.87	0.9	0.94	0.97

Applicable Controllers

\* Controller for RCP4 series is PCON, MSEL, RCON or RSEL. Please refer our Controller General Catalog and/or contact IAI.

# CP4-SA3R

## ROBO Cylinder, Slider Type, Side-mounted Motor Unit, Actuator Width 32mm, Pulse Motor 24V







Ceiling

\* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions Please contact us for more information.



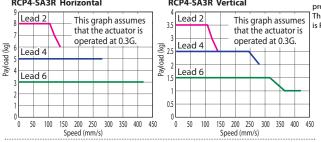
The figure above is the side-mounted motor specification (ML).



- (1) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to "The Tables for Payload by Speed and Acceleration" on P. 13.
- (2) Please refer to "Correlation Diagrams Between Push Force and Current Limit" on P. 14 for push-motion operation.

#### ■Correlation Diagrams of Speed and Payload

#### ①High output enabled PCON-CA, MSEP, MSEL connected RCP4-SA3R Horizontal



\* PCON-CA is a RCP4-SA3R Vertical previous model. . The current model is PCON-CB.

#### ②High output disabled PCON-CA, MSEP connected

#### RCP4-SA3R Horizontal RCP4-SA3R Vertical The graph shows the condition This graph assumes Lead 2 3.5 when operation is conducted that the actuator is at 0.3G for Lead 4/6 and operated at 0.3G. Payload (kg) Lead 4 0.1G for Lead 2. Lead 6 0.5 50 100 150 200 250 300 350 400 450 50 100 150 200 250 300 350 400 450 Speed (mm/s)

#### Actuator Specifications

#### ■Lead and Payload

Model Number	Lead (mm)	Maximum Horizontal (kg)		Stroke (mm)
RCP4-SA3R-I-28P-6- ① -P3- ② - ③	6	3	1.5	
RCP4-SA3R-I-28P-4- ① -P3- ② - ③	4	5	2.5	25 ~ 300 (Every 25mm)
RCP4-SA3R-I-28P-2- ① -P3- ② - ③	2	8	3.5	

Legend: ① Stroke ② Cable length ③ Options

#### Stroke and Max. Speed (Unit: mm/s)

Lead (mm)	High-output Setting	25 ~ 300 (Every 25mm)			
6	Enabled	420			
"	Disabled	420			
4	Enabled	280			
4	Disabled	280			
2	Enabled	140			
	Disabled	140			

Stroke (mm)	Standard Price	Stroke (mm)	Standard Price
25	_	175	_
50	_	200	_
75	_	225	_
100	_	250	_
125	_	275	_
150	_	300	_

#### ② Cable Length

_		
Type	Cable Code	Standard Price
	<b>P</b> (1m)	_
Standard Type	<b>S</b> (3m)	_
	<b>M</b> (5m)	_
	<b>X06</b> (6m) ~ <b>X10</b> (10m)	_
Specified Length	X11 (11m) ~ X15 (15m)	_
	X16 (16m) ~ X20 (20m)	_
	<b>R01</b> (1m) ~ <b>R03</b> (3m)	_
	<b>R04</b> (4m) ~ <b>R05</b> (5m)	_
Robot Cable	<b>R06</b> (6m) ~ <b>R10</b> (10m)	_
	<b>R11</b> (11m) ~ <b>R15</b> (15m)	_
	R16 (16m) ~ R20 (20m)	_

\* For a maintenance cable, please see the back cover.

③ Options*			
Name	Option Code	Reference Page	Standard Price
Brake	В		_
Motor Side-mounted to the Left	ML		_
Motor Side-mounted to the Right	MR	Please refer to	_
Home-position Check Sensor (On Left)(*1)	HSL	our ROBO Cylinder General	_
Home-position Check Sensor (On Right)(*1)	HSR	Catalog.	_
Non-motor End Specification	NM	catalog.	_
Slider Roller Specification	SR		_
Back Attachment Plate	RP	→P. 8	_

- (\*1) Select "HSR" when the motor mounted direction is ML and "HSL" when the motor mounted direction is MR.
- \*Additional Option: Designated grease specification Code: G1, G3 or G4 Change the grease applied to the ball screw, linear guide, and rod sliding surface of the actuator to low dust-generating grease for clean environments.

((G1: Kuroda C grease, G3: AFF grease, G4: AFE-CA grease)

#### Actuator Specifications

Item	Description
Drive System	Ballscrew Ø6mm rolled C10
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Dynamic Allowable Moment (*1)	Ma: 3.82N•m, Mb: 5.45N•m, Mc: 6.10N•m
Static Allowable Moment	Ma: 6.30N•m, Mb: 8.90N•m, Mc: 10.0N•m
Ambient Operating Temperature, Humidity	0 ~ 40°C, 85% RH or less (Non-condensing)

Reference for overhang load length of all 3 directions (Ma, Mb, and Mc): 100mm or less

- (\*1) This assumes a standard life of 5,000km. The operational life will vary depending on operation and installation conditions.
- Please refer to our ROBO Cylinder General Catalog for details on operational life, allowable moment direction, and overhang load length.

Allowable moment calculation reference

#### CAD drawings can be downloaded from our website. www.intelligentactuator.com





- \*1 On the 25mm stroke type, there are six counterbored mounting holes on the bottom of the base, but the two counterbored mounting holes in the middle are not available to be used.
- \*2 When the slider is returning to its home position, please be careful of interference from surrounding objects,

as it will travel until it reaches the ME. ME: Mechanical end

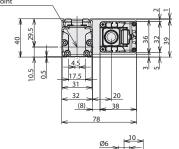
SE: Stroke end M3, depth 5 (same on opposite side) For ground line

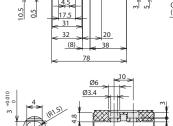


Detailed view of Y

Stroke 60 2-Ø2 H7, depth 3 SE 4-M3, depth 6 18 (Ø2 H7 interval ±0.02) 11±0.02 Removable cable connector 80.5 (without brake) Must be 100 or more 105.5 (with brake)

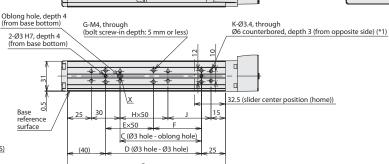
600 78 4×M4 bolt screw-in depth 8 Back Attachment Plate (Option)

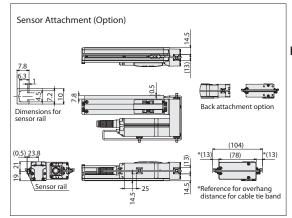




Detailed view of X Detailed of base mounting holes







#### ■Dimensions and Mass by Stroke

	Stroke	25	50	75	100	125	150	175	200	225	250	275	300
- 1	Standard	131.5	156.5	181.5	206.5	231.5	256.5	281.5	306.5	331.5	356.5	381.5	406.5
_	Back Attachment Option	141.5	166.5	191.5	216.5	241.5	266.5	291.5	316.5	341.5	366.5	391.5	416.5
	Α	108.5	133.5	158.5	183.5	208.5	233.5	258.5	283.5	308.5	333.5	358.5	383.5
	В	90	115	140	165	190	215	240	265	290	315	340	365
	С	10	35	60	85	110	135	160	185	210	235	260	285
	D	25	50	75	100	125	150	175	200	225	250	275	300
	E	0	0	0	1	1	2	2	3	3	4	4	5
	F	25	50	75	50	75	50	75	50	75	50	75	50
	G	4	4	4	6	6	8	8	10	10	12	12	14
	Н	0	0	0	1	1	2	2	3	3	4	4	5
	J	(20)	45	70	45	70	45	70	45	70	45	70	45
	K	(6)	6	6	8	8	10	10	12	12	14	14	16
Mass	Without Brake	0.64	0.68	0.71	0.74	0.78	0.81	0.84	0.88	0.91	0.94	0.98	1.01
(kg)	With Brake	0.73	0.77	0.80	0.83	0.87	0.90	0.93	0.97	1.00	1.03	1.07	1.10

Applicable Controllers

\* Controller for RCP4 series is PCON, MSEL, RCON or RSEL. Please refer our Controller General Catalog and/or contact IAI.

#### ROBO Cylinder, Rod Type, Motor Unit Coupled, CP4-RA3 Actuator Width 32mm, Pulse Motor 24V **28P** RCP4 - RA3C -Specification Items Encoder type — Motor type Stroke **Applicable** Cable length Options controllers 28P: Pulse motor 16: 16mm 25: 25mm N: None Refer to the option specification Size 28□ 10: 10mm P3: PCON / MSEL P: 1m list below. 300: 300mm 5:5mm \* The Simple absolute P5: RCON / RSEL \*Controller is not included. M: 5m 2.5: 2.5mm (Every 25mm) encoder is also \*Please refer to our ROBO Cylinder General Catalog for the contents of the model specification items. X□□: Specified length R□□: Robot cable considered type "I."

## Radial Load Applicable





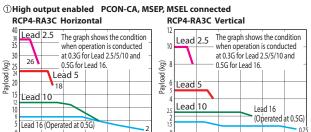
 Depending on the model, there may be some limitations to using the vertical mount position. Please contact us for more information.





- (1) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to "The Tables for Payload by Speed and Acceleration" on P. 13.
- (2) Please refer to "Correlation Diagrams Between Push Force and Current Limit" on P. 14 for push-motion operation.
- (3) The radial cylinder is equipped with a built-in guide. Please refer to the diagrams on back cover for allowable load mass.

#### ■Correlation Diagrams of Speed and Payload



\* PCON-CA is a previous model. The current model is PCON-CB.

400 600 800 1.000 1.200 400 600 800 1,000 Speed (mm/s) Speed (mm/s) ②High output disabled PCON-CA, MSEP connected RCP4-RA3C Horizontal RCP4-RA3C Vertical Lead 2.5 The graph shows the condition The graph shows the condition Lead 2.5 Ine graph shows the when operation is conducted when operation is 2.5/5/10 and when operation is conducted 10 at 0.3G for Lead 2.5/5/10 and at 0.3G for Lead 2.5/5/10 and 0.5G for Lead 16. (kg 0.5G for Lead 16. Payload ( Lead 5 18 Lead 5 15 Lead 10 Lead 10 Lead 16 (Operated at 0.5G) Lead 16 (Operated at 0.5G) 0.75 800 1.000

#### Actuator Specifications

#### ■Lead and Payload

Model Number	Lead (mm)	Maximum Horizontal (kg)		Maximum Push Force (N)	Stroke (mm)
RCP4-RA3C-I-28P-16- ① -P3- ② - ③	16	6	1.5	36	
RCP4-RA3C-I-28P-10- ① -P3- ② - ③	10	12	2.5	57	25 ~ 300
RCP4-RA3C-I-28P-5- ① -P3- ② - ③	5	24	5	114	(Every 25mm)
RCP4-RA3C-I-28P-2.5- ① -P3- ② - ③	2.5	36	10	229	

Legend: 1 Stroke Cable length Options \*Refer to P. 14 for the push-motion operation.

#### ■Stroke and Max. Speed (Unit: mm/s)

Speed (mm/s)

200

= 3ti oke aliu wax. Speed (Oliit. Illili)'s							
Lead (mm)	High-output Setting	25 ~ 300 (Every 25mm)					
16	Enabled	1,120					
10	Disabled	840					
10	Enabled	700					
10	Disabled	700					
5	Enabled	350					
]	Disabled	330					
2.5	Enabled	175					
2.5	Disabled	1/5					

Stroke (mm)	Standard Price	Stroke (mm)	Standard Price
25	_	175	_
50	_	200	-
75	_	225	_
100	_	250	-
125	_	275	_
150	_	300	_

#### ② Cable Length

600 800 1,000 1,200

Speed (mm/s)

Туре	Cable Code	Standard Price
	<b>P</b> (1m)	_
Standard Type	<b>S</b> (3m)	_
	<b>M</b> (5m)	_
	<b>X06</b> (6m) ~ <b>X10</b> (10m)	_
Specified Length	<b>X11</b> (11m) ~ <b>X15</b> (15m)	_
	X16 (16m) ~ X20 (20m)	_
	<b>R01</b> (1m) ~ <b>R03</b> (3m)	_
	<b>R04</b> (4m) ~ <b>R05</b> (5m)	_
Robot Cable	<b>R06</b> (6m) ~ <b>R10</b> (10m)	_
	<b>R11</b> (11m) ~ <b>R15</b> (15m)	_
	R16 (16m) ~ R20 (20m)	_

<sup>\*</sup> For a maintenance cable, please see the back cover.

③ Options			
Name	Option Code	Reference Page	Standard Price
Brake	В	Please refer to	_
Home-position Check Sensor (Top)	HS	our ROBO Cylinder General	_
Non-motor End Specification	NM	Catalog.	_

Actuator Specifications	
ltem	Description
Drive System	Ballscrew Ø8mm rolled C10
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod	Ø16mm Aluminum
Rod Non-rotation Precision(*1)	0 deg.
Allowable Load and Torque on	Refer to the table in the right page and the
Rod Tip	graph at the back cover of this catalog.
Rod Tip Overhang Distance	100mm or less
Ambient Operating Temperature Humidity	0 ~ 40°C 85% RH or less (Non-condensing)

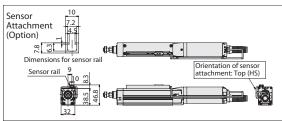
<sup>(\*1)</sup> Accuracy of rod displacement in rotating direction when no load is received.

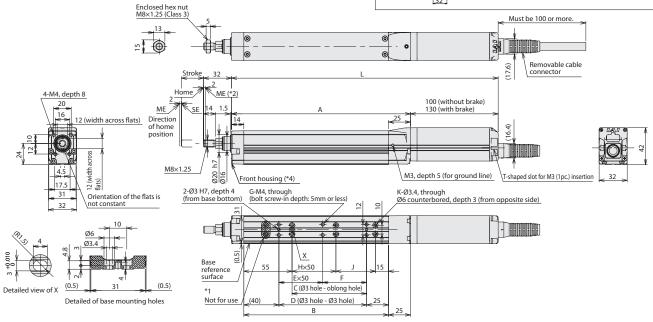
#### CAD drawings can be downloaded from our website.



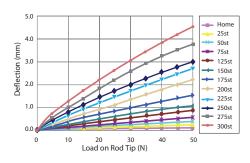


- \*1 The two counterbored mounting holes (K) on the bottom of the base near the rod end are not available to use.
- \*2 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME. ME: Mechanical end
- SE: Stroke end
  \*3 The orientation of the bolt varies depending on the product.
- \*4 If the actuator is installed using the front housing, make sure that the actuator will not receive any external force.





#### ■RCP4-RA3C Rod Deflection (Reference)



## ■Dimensions and Mass by Stroke

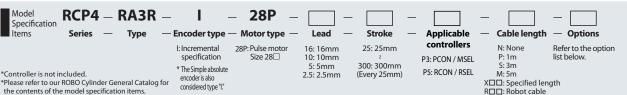
admensions and mass by stroke													
	Stroke	25	50	75	100	125	150	175	200	225	250	275	300
	Without Brake	229	254	279	304	329	354	379	404	429	454	479	504
_	With Brake	259	284	309	334	359	384	409	434	459	484	509	534
	A	129	154	179	204	229	254	279	304	329	354	379	404
	В	90	115	140	165	190	215	240	265	290	315	340	365
	С	10	35	60	85	110	135	160	185	210	235	260	285
	D	25	50	75	100	125	150	175	200	225	250	275	300
	E	0	0	0	1	1	2	2	3	3	4	4	5
	F	25	50	75	50	75	50	75	50	75	50	75	50
	G	4	4	4	6	6	8	8	10	10	12	12	14
	Н	0	0	0	1	1	2	2	3	3	4	4	5
	J	20	45	70	45	70	45	70	45	70	45	70	45
	K	4	4	4	6	6	8	8	10	10	12	12	14
Allowable Stati	ic Load on Rod Tip (N)	38.8	33.5	29.5	26.3	23.7	21.6	19.8	18.2	16.9	15.7	14.7	13.8
Allowable Dynamic		19.4	16.6	14.2	12.2	10.7	9.5	8.5	7.7	7.0	6.4	5.8	5.4
Load on Rod Tip (N)	Load Offset 100mm	9.1	9.4	8.9	8.3	7.7	7.1	6.6	6.1	5.6	5.2	4.9	4.5
Allowable Static 7	Allowable Static Torque on Rod Tip (N•m)		3.4	3.0	2.7	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.4
Allowable Dynamic	c Torque on Rod Tip (N•m)	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5
Mass	Without Brake	0.59	0.64	0.69	0.73	0.78	0.83	0.88	0.93	0.98	1.02	1.07	1.12
(kg)	With Brake	0.68	0.73	0.78	0.82	0.87	0.92	0.97	1.02	1.07	1.11	1.16	1.21

Applicable Controllers

\* Controller for RCP4 series is PCON, MSEL, RCON or RSEL. Please refer our Controller General Catalog and/or contact IAI.

# CP4-RA3R

## ROBO Cylinder, Rod Type, Side-mounted Motor Unit, Actuator Width 32mm, Pulse Motor 24V



#### Radial Load Applicable







 Depending on the model, there may be some limitations to using the vertical mount position. Please contact us for more information

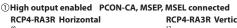


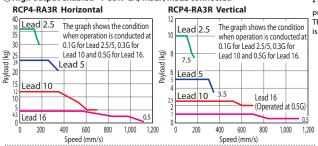
The figure above is the side-mounted motor specification (ML).



- (1) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to "The Tables for Payload by Speed and Acceleration" on P. 13.
- (2) Please refer to "Correlation Diagrams Between Push Force and Current Limit" on P. 14 for push-motion operation.
- (3) The radial cylinder is equipped with a built-in guide. Please refer to the diagrams on back cover for allowable load mass.

#### ■Correlation Diagrams of Speed and Payload

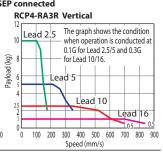




\* PCON-CA is a previous model. . The current model is PCON-CB.

②High output disabled PCON-CA, MSEP connected

#### RCP4-RA3R Horizontal The graph shows the condition Lead 2.5 when operation is conducted at 0.1G for Lead 2.5/5 and 0.3G Payload (kg) Payload (kg) for Lead 10/16. Lead 5 20 15 Lead 10 Lead 16 100 200 300 400 500 600 700 800 900 Speed (mm/s)



#### Actuator Specifications

#### ■Lead and Payload

Model Number	Lead (mm)	Maximum Horizontal (kg)		Maximum Push Force (N)	Stroke (mm)
RCP4-RA3R-I-28P-16- ① -P3- ② - ③	16	5	1	36	
RCP4-RA3R-I-28P-10- ① -P3- ② - ③	10	12	2.5	57	25 ~ 300
RCP4-RA3R-I-28P-5- ① -P3- ② - ③	5	24	5	114	(Every 25mm)
RCP4-RA3R-I-28P-2.5- ① -P3- ② - ③	2.5	36	10	229	

Legend:	1 Stroke	2 Cable length	Options
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#### Stroke and Max. Speed (Unit: mm/s)

<u> </u>					
Lead (mm)	High-output Setting	25 ~ 300 (Every 25mm)			
16	Enabled	1,120			
10	Disabled	840			
10	Enabled	700			
10	Disabled	/00			
5	Enabled	350			
5	Disabled	350			
2.5	Enabled	175			
2.5	Disabled	1/5			

#### ① Stroke

Stroke (mm)	Standard Price	Stroke (mm)	Standard Price
25	_	175	_
50	_	200	-
75	_	225	_
100	_	250	-
125	_	275	_
150	_	300	_

#### ② Cable Length

Туре	Cable Code	Standard Price
	<b>P</b> (1m)	_
Standard Type	<b>S</b> (3m)	_
	<b>M</b> (5m)	_
	<b>X06</b> (6m) ~ <b>X10</b> (10m)	_
Specified Length	<b>X11</b> (11m) ~ <b>X15</b> (15m)	_
	X16 (16m) ~ X20 (20m)	_
	<b>R01</b> (1m) ~ <b>R03</b> (3m)	_
	<b>R04</b> (4m) ~ <b>R05</b> (5m)	_
Robot Cable	<b>R06</b> (6m) ~ <b>R10</b> (10m)	_
	<b>R11</b> (11m) ~ <b>R15</b> (15m)	_
	R16 (16m) ~ R20 (20m)	_

<sup>\*</sup> For a maintenance cable, please see the back cover.

# ③ Options

Name	Option Code	Reference Page	Standard Price
Brake	В		_
Motor Side-mounted to the Left	ML	Please refer to	_
Motor Side-mounted to the Right	MR	our ROBO	_
Home-position Check Sensor	HS	Cylinder General	_
Non-motor End Specification	NM	Catalog.	_
Back Attachment Plate	RP		_

#### Actuator Specifications

retudeor Specifications				
Item	Description			
Drive System	Ballscrew Ø8mm rolled C10			
Positioning Repeatability	±0.02mm			
Lost Motion	0.1mm or less			
Rod	Ø16mm Aluminum			
Rod Non-rotation Precision(*1)	0 deg.			
Allowable Load and Torque on	Refer to the table in the right page and the			
Rod Tip	graph at the back cover of this catalog.			
Rod Tip Overhang Distance	100mm or less			
Ambient Operating Temperature, Humidity	0 ~ 40°C, 85% RH or less (Non-condensing)			

(\*1) Accuracy of rod displacement in rotating direction when no load is received.

#### Dimensions

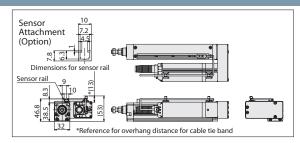
## urawings can be iloaded from our website. www.intelligentactuator.com

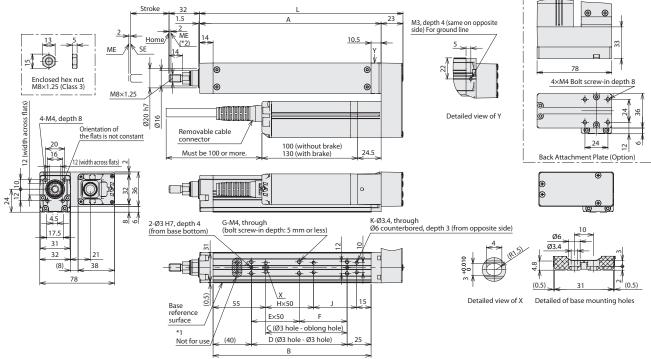


- $^{*}1$  The two counterbored mounting holes (K) on the bottom of the base near the rod end are not available to use.
- \*2 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.

ME: Mechanical end 3D CAD SE: Stroke end

- \*3 The orientation of the bolt varies depending on the product.
- \*4 If the actuator is installed using the front housing, make sure that the actuator will not receive any external force.





#### **■**RCP4-RA3R Rod Deflection (Reference)

5.0 Home 25st 4.0 50st Deflection (mm) **₩** 75st - 125st 3.0 → 150st - 175st 2.0 200st 225st ► 250st 275st - 300st 0.04 50 Load on Rod Tip (N)

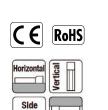
Dimensions and mass by Stroke													
Stroke		25	50	75	100	125	150	175	200	225	250	275	300
	Standard	137.5	162.5	187.5	212.5	237.5	262.5	287.5	312.5	337.5	362.5	387.5	412.5
L	Back Attachment Option	147.5	172.5	197.5	222.5	247.5	272.5	297.5	322.5	347.5	372.5	397.5	422.5
	A	114.5	139.5	164.5	189.5	214.5	239.5	264.5	289.5	314.5	339.5	364.5	389.5
	В	90	115	140	165	190	215	240	265	290	315	340	365
	С	10	35	60	85	110	135	160	185	210	235	260	285
	D	25	50	75	100	125	150	175	200	225	250	275	300
	E	0	0	0	1	1	2	2	3	3	4	4	5
	F	25	50	75	50	75	50	75	50	75	50	75	50
	G		4	4	6	6	8	8	10	10	12	12	14
	Н		0	0	1	1	2	2	3	3	4	4	5
	J	20	45	70	45	70	45	70	45	70	45	70	45
	K	4	4	4	6	6	8	8	10	10	12	12	14
Allowable Stat	ic Load on Rod Tip (N)	38.8	33.5	29.5	26.3	23.7	21.6	19.8	18.2	16.9	15.7	14.7	13.8
Allowable Dynamic	Load Offset 0mm	19.4	16.6	14.2	12.2	10.7	9.5	8.5	7.7	7.0	6.4	5.8	5.4
Load on Rod Tip (N) Load Offset 100mm		9.1	9.4	8.9	8.3	7.7	7.1	6.6	6.1	5.6	5.2	4.9	4.5
Allowable Static Torque on Rod Tip (N•m)		3.9	3.4	3.0	2.7	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.4
Allowable Dynamic Torque on Rod Tip (N•m)		0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5
Mass	Without Brake	0.71	0.76	0.81	0.85	0.90	0.95	1.00	1.05	1.10	1.14	1.19	1.24
(kg)	With Brake	0.80	0.85	0.90	0.94	0.99	1.04	1.09	1.14	1.19	1.23	1.28	1.33

Applicable Controllers

\* Controller for RCP4 series is PCON, MSEL, RCON or RSEL. Please refer our Controller General Catalog and/or contact IAI.

## RCP4CR-SA3C Cleanroom Type ROBO Cylinder, Slider Type, Motor Unit Coupled, Actuator Width 33mm Motor Unit Coupled, Actuator Width 32mm, Pulse Motor 24V

RCP4CR - SA3C -28P Specification Items Encoder type — Motor type Stroke **Applicable** Cable length Options controllers 28P: Pulse motor 6: 6mm 25: 25mm N: None Refer to the option specification Size 28□ 4.4mm P: 1m list below. P3: PCON / MSEL 300: 300mm S: 3m 2: 2mm \* The simple absolute P5: RCON / RSEL M: 5m \*Controller is not included. (Every 25mm) encoder is also \*Please refer to our ROBO Cylinder General Catalog for the contents of the model specification items. X□□: Specified length R□□: Robot cable considered type "I."



Ceiling

 Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions Please contact us for more information.

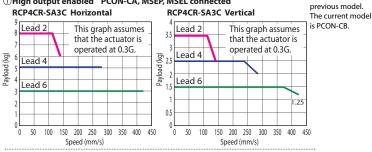




- (1) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to "The Tables for Payload by Speed and Acceleration" on P. 13.
- (2) Please refer to "Correlation Diagrams Between Push Force and Current Limit" on P. 14 for push-motion operation.

#### ■ Correlation Diagrams of Speed and Payload

① High output enabled PCON-CA, MSEP, MSEL connected RCP4CR-SA3C Horizontal RCP4CR-SA3C Vertical



\* PCON-CA is a

②High output disabled PCON-CA, MSEP connected RCP4CR-SA3C Horizontal RCP4CR-SA3C Vertical Lead 2 This graph assumes Lead 2 This graph assumes 3.5 that the actuator is that the actuator is operated at 0.3G. operated at 0.3G. Lead 4 Payload (kg) Lead 4 Lead 6 1.5 0.5 0.75 100 150 200 250 300 350 400 450 50 100 150 200 250 300 350 400 450

#### Actuator Specifications

#### ■Lead and Payload

Model Number		Maximum Horizontal (kg)		Stroke (mm)
RCP4CR-SA3C-I-28P-6- ① -P3- ② - ③	6	3	1.5	
RCP4CR-SA3C-I-28P-4- ① -P3- ② - ③	4	5	2.5	25 ~ 300 (Every 25mm)
RCP4CR-SA3C-I-28P-2- ① -P3- ② - ③	2	8	3.5	

Legend: Stroke Cable length Options

#### ■ Stroke, Max. Speed and Vacuum Volume (Unit: mm/s)

	Lead (mm)	High-output Setting	25 ~ 300 (Every 25mm)	Vacuum Volume (Nℓ/mm)	
1	6	Enabled	420	20	
	0	Disabled	420	20	
l	4	Enabled	280	15	
1	4	Disabled	200	15	
	2	Enabled	140	10	
_	-	Disabled	140	10	

#### ① Stroke

Stroke (mm)	Standard Price	Stroke (mm)	Standard Price
25	_	175	_
50	_	200	_
75	_	225	_
100	_	250	-
125	_	275	_
150	_	300	_

#### ② Cable Length

Type	Cable Code	Standard Price
	<b>P</b> (1m)	_
Standard Type	<b>S</b> (3m)	_
	<b>M</b> (5m)	_
Specified Length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	_
	<b>X11</b> (11m) ~ <b>X15</b> (15m)	_
	X16 (16m) ~ X20 (20m)	_
	<b>R01</b> (1m) ~ <b>R03</b> (3m)	_
Robot Cable	<b>R04</b> (4m) ~ <b>R05</b> (5m)	_
	<b>R06</b> (6m) ~ <b>R10</b> (10m)	_
	<b>R11</b> (11m) ~ <b>R15</b> (15m)	_
	R16 (16m) ~ R20 (20m)	_

For a maintenance cable, please see the back cover.

#### ③ Options

Name	Option Code	Reference Page	Standard Price
Brake	В		_
Home-position Check Sensor (On Left)	HSL	Please refer to	_
Home-position Check Sensor (On Right)	HSR	our ROBO Cylinder General	_
Non-motor End Specification	NM	Catalog.	_
Vacuum Joint Opposite Position	VR	- catalogi	_

\* For the home-position check sensor, there are 2 types; HSR (sensor attached on the right) and HSL (sensor attached on the left). Please see the following page for details.

Additional Option: Designated grease specification - Code: G3 or G4

Change the grease applied to the ball screw, linear guide, and rod sliding surface of the actuator to low dust-generating grease for clean environments.

(G3: AFF grease, G4: AFE-CA grease)

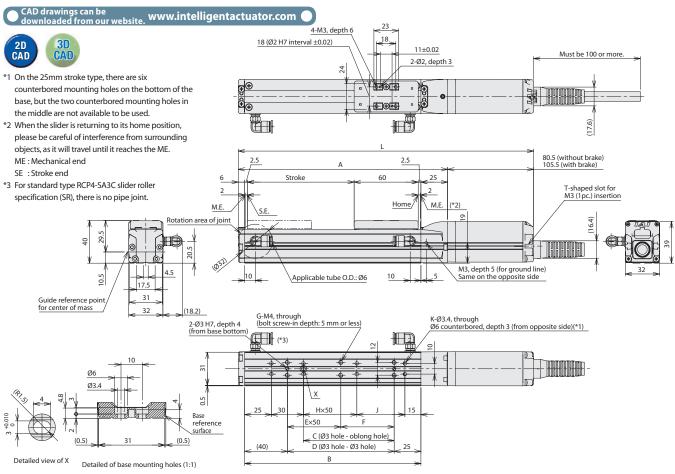
#### Actuator Specification

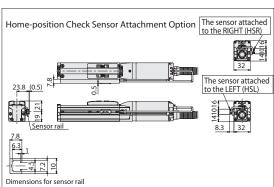
Actuator Specifications							
Item	Description						
Drive System	Ballscrew Ø6mm rolled C10						
Positioning Repeatability	±0.02mm						
Lost Motion	0.1mm or less						
Base	Material: Aluminum with white alumite treatment						
Guide	Linear guide						
Dynamic Allowable Moment (*1)	Ma: 3.82N•m, Mb: 5.45N•m, Mc: 6.10N•m						
Static Allowable Moment	Ma: 6.30N•m, Mb: 8.90N•m, Mc: 10.0N•m						
Grease	Low particle-emission (urea based) grease used (on both ball screw and guide)						
Cleanliness Class	Class 10 (Fed. Std. 209D), Equiv. to Class 2.5 (ISO 14644-1)						
Ambient Operating Temperature, Humidity	0 ~ 40°C, 85% RH or less (Non-condensing)						

Reference for overhang load length of all 3 directions (Ma, Mb, and Mc): 100mm or less

- (\*1) This assumes a standard life of 5,000km. The operational life will vary depending on operation and installation conditions.
- Please refer to our ROBO Cylinder General Catalog for details on operational life, allowable moment direction, and overhang load length.

#### Dimensions





#### ■Dimensions and Mass by Stroke

Stroke	25	50	75	100	125	150	175	200	225	250	275	300
Without Brake	201.5	226.5	251.5	276.5	301.5	326.5	351.5	376.5	401.5	426.5	451.5	476.5
With Brake	226.5	251.5	276.5	301.5	326.5	351.5	376.5	401.5	426.5	451.5	476.5	501.5
A	121	146	171	196	221	246	271	296	321	346	371	396
В	90	115	140	165	190	215	240	265	290	315	340	365
С	10	35	60	85	110	135	160	185	210	235	260	285
D	25	50	75	100	125	150	175	200	225	250	275	300
E	0	0	0	1	1	2	2	3	3	4	4	5
F	25	50	75	50	75	50	75	50	75	50	75	50
G	4	4	4	6	6	8	8	10	10	12	12	14
Н	0	0	0	1	1	2	2	3	3	4	4	5
J	(20)	45	70	45	70	45	70	45	70	45	70	45
K	(6)	6	6	8	8	10	10	12	12	14	14	16
Without Brake	0.51	0.55	0.58	0.61	0.65	0.68	0.71	0.75	0.78	0.81	0.85	0.88
With Brake	0.6	0.64	0.67	0.7	0.74	0.77	0.8	0.84	0.87	0.9	0.94	0.97
	Without Brake With Brake A B C D E F G H J K Without Brake	Without Brake 201.5 With Brake 226.5 A 121 B 90 C 10 D 25 E 0 F 25 G 4 H 0 J (20) K (6) Without Brake 201.5	Without Brake         201.5         226.5         226.5         251.5         A         121         146         26.5         251.5         A         121         146         36         115         C         10         35         D         25         50         E         0         0         F         25         50         G         4         4         4         H         0         0         G         4         4         H         0         0         J         4         4         H         0         0         0         J         K         (6)         6         6         Without Brake         0.51         0.55	Without Brake With Brake         201.5         226.5         251.5         276.5           A         121         146         171           B         90         115         140           C         10         35         60           D         25         50         75           E         0         0         0           F         25         50         75           G         4         4         4           H         0         0         0           J         (20)         45         70           K         (6)         6         6           Without Brake         0.51         0.55         0.58	Without Brake         201.5         226.5         251.5         276.5           With Brake         226.5         251.5         276.5         301.5           A         121         146         171         196           B         90         115         140         165           C         10         35         60         85           D         25         50         75         100           E         0         0         0         1           F         25         50         75         50           G         4         4         4         6           H         0         0         0         1           J         (20)         45         70         45           K         (6)         6         6         8           Without Brake         0.51         0.55         0.58         0.61	Without Brake         201.5         226.5         251.5         276.5         301.5           With Brake         226.5         251.5         276.5         301.5         326.5           A         121         146         171         196         221           B         90         115         140         165         190           C         10         35         60         85         110           D         25         50         75         100         125           E         0         0         0         1         1           F         25         50         75         50         75           G         4         4         4         6         6           H         0         0         0         1         1           J         (6)         6         8         8           Without Brake         0.51         0.55         0.58         0.61         0.65	Without Brake With Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5         351.5         326.5         351.5         326.5         351.5         326.5         351.5         361.5         351.5         361.5         351.5         361.5         351.5         361.5         351.5         361.5         351.5         361.5         351.5         361.5         361.5         361.5         361.5         361.5         361.5         361	Without Brake With Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5           A         121         146         171         196         221         246         271           B         90         115         140         165         190         215         240           C         10         35         60         85         110         135         160           D         25         50         75         100         125         150         175           E         0         0         0         1         1         2         2           F         25         50         75         50         75         50         75           G         4         4         4         6         6         8         8           H         0         0         0         1         1         2         2           J         (20)         45         70         45         70         45         70         45         70         45         70         45         70         45         70         45         70         46         <	Without Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5         376.5           With Brake         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5           A         121         146         171         196         221         240         271         296           B         90         115         140         165         190         215         240         265           C         10         35         60         85         110         135         160         185           D         25         50         75         100         125         150         175         200           E         0         0         0         1         1         2         2         3           F         25         50         75         50         75         50         75         50           G         4         4         4         6         6         8         8         10           H         0         0         0         1         1         2         2         3	Without Brake With Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5           A         121         146         171         196         221         246         271         296         321           B         90         115         140         165         190         215         240         265         290         221           C         10         35         60         85         110         135         160         185         210           D         25         50         75         100         125         150         175         200         225           E         0         0         0         1         1         2         2         3         3           F         25         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75         50         75 <td>Without Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5           With Brake         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5         451.5           A         121         146         171         196         21         246         271         296         321         346           B         90         115         140         165         190         215         240         265         290         315           C         10         35         60         85         110         135         160         185         210         235           D         25         50         75         100         125         150         175         200         225         250           E         0         0         0         1         1         2         2         3         3         4           F         25         50         75         50         75         50         75         50         75         50         75         50</td> <td>Without Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5         451.5           With Brake         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5         451.5         476.5           A         121         146         165         190         215         240         265         290         315         346         371           B         90         115         140         165         190         215         240         265         290         315         346         371           C         10         35         60         85         110         135         160         185         290         315         340           D         25         50         75         100         125         150         175         200         225         250         275           E         0         0         0         1         1         2         2         3         3         4         4           F         25         50         75         50</td>	Without Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5           With Brake         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5         451.5           A         121         146         171         196         21         246         271         296         321         346           B         90         115         140         165         190         215         240         265         290         315           C         10         35         60         85         110         135         160         185         210         235           D         25         50         75         100         125         150         175         200         225         250           E         0         0         0         1         1         2         2         3         3         4           F         25         50         75         50         75         50         75         50         75         50         75         50	Without Brake         201.5         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5         451.5           With Brake         226.5         251.5         276.5         301.5         326.5         351.5         376.5         401.5         426.5         451.5         476.5           A         121         146         165         190         215         240         265         290         315         346         371           B         90         115         140         165         190         215         240         265         290         315         346         371           C         10         35         60         85         110         135         160         185         290         315         340           D         25         50         75         100         125         150         175         200         225         250         275           E         0         0         0         1         1         2         2         3         3         4         4           F         25         50         75         50

Applicable Controllers

\* Controller for RCP4 series is PCON, MSEL, RCON or RSEL. Please refer our Controller General Catalog and/or contact IAI.