

#### ROBO Cylinder, Rod Type, Side-mounted Motor Type, Actuator Width 40mm, 24V Pulse Motor ■Model RCP5—RA4R— WA 35P Applicable Specification Туре - Encoder type -Motor type Stroke Cable length Options Items WA: Battery-less 35P: Pulse motor, 16: 16mm 60: 60mm N: No cable Please refer to P3: PCON/MSEL size 35□ 10: 10mm P: 1m the options P5: RCON/RSEL S: 3m 410: 410mm specification table below. 5:5mm 2.5: 2.5mm (Every 50mm) M: 5m X□□: Specified length

# **Radial Load Applicable**

\*Controller is not included.



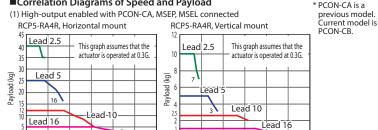
Depending on the mode there may be some limitations to using the vertical mount position Please refer to P.59 for details.



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

- (1) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to the "Selection Guidelines" (RCP5 Payload by Speed/Acceleration Table) on P. 61.
- (2) Please refer to P. 59 for push-motion operation.
- (3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown in P. 65 and after for the allowable load mass.

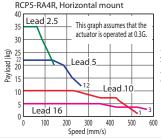
### ■Correlation Diagrams of Speed and Payload



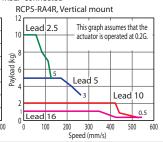
R□□: Robot cable

(2) High-output disabled with PCON-CA, MSEP connected

1,000 1,200



Speed (mm/s)



Speed (mm/s)

### Actuator Specifications

#### ■Lead and Payload

Model number		Connected	Maximun	n payload	Maximum	Stroke
Model Humber	(mm)	controller	Horizontal (kg)	Vertical (kg)	push force (N)	(mm)
RCP5-RA4R-WA-35P-16-①-P3-②-③	16	High-output enabled	5	1	48	
KCP5-KA4K-WA-35P-16-[U]-P3-[2]-[3]		High-output disabled	3	'	48	
RCP5-RA4R-WA-35P-10-①-P3-②-③		High-output enabled	12	2.5	77	
RCP5-RA4R-WA-35P-10-W-P3-W-3	10	High-output disabled	10	2		60~410 (Every 50mm)
RCP5-RA4R-WA-35P-5-①-P3-②-③	5	High-output enabled	25	5	155	
RCP5-RA4R-WA-35P-5-W-P3-W-3	)	High-output disabled	22	3		
RCP5-RA4R-WA-35P-2.5-①-P3-②-③	2.5	High-output enabled	40	10	310	
RCP5-RA4R-WA-35P-2.5-W-P3-W-	2.5	High-output disabled	35	10	310	

Legend: Stroke Cable length Options \*Please refer to P. 59 for push-motion operation.

#### ■Stroke and Maximum Speed

/1	In	i÷۰	m	m	1

1,000

Lead (mm)	Connected controller	60~360 (Every 50mm)	410 (mm)		
16	High-output enabled	tput enabled 840			
16	High-output disabled	560			
	High-output enabled	610			
10	High-output disabled 525				
High-output enabled		350 340			
,	High-output disabled	260			
2.5	High-output enabled	175 170			
2.5	High-output disabled	130			

① Stroke			
Stroke (mm)	Standard price	Stroke (mm)	Standard price
60	-	260	-
110	-	310	-
160	-	360	-
210	-	410	-

# ③ Options

Name	Option code	Reference page	Standard price
Brake	В	→P. 11	-
Cable exit direction (Top)	CJT	→P. 11	-
Cable exit direction (Outside)	CJO	→P. 11	-
Cable exit direction (Bottom)	CJB	→P. 11	-
Flange	FL	→P. 12	-
Tip adapter (Flange)	FFA	→P. 12	-
Tip adapter (Internal thread)	NFA	→P. 13	-
Tip adapter (Keyway)	KFA	→P. 13	-
Motor side-mounted to the left (Standard)	ML	→P. 11	-
Motor side-mounted to the right	MR	→P. 11	-
Non-motor end specification	NM	→P. 11	-

Depending on the stroke, some rod attachment options are not available. Also, when selecting the shorter strokes, please be careful of nearby objects. Some interference may occur. Please refer to P. 14.

Cable Leff	gui	
Type	Cable code	Standard price
	<b>P</b> (1m)	-
Standard type	<b>S</b> (3m)	-
	M (5m)	-
	X06 (6m) ~X10 (10m)	-
Special length	X11 (11m)~X15 (15m)	-
	X16 (16m)~X20 (20m)	-
	R01 (1m) ~R03 (3m)	-
Robot cable	R04 (4m) ~R05 (5m)	-
	R06 (6m) ~R10 (10m)	-
	R11 (11m)~R15 (15m)	-
	R16 (16m)~R20 (20m)	-
*Please refer to P 80	for maintenance cables	

Please refer to P. 89 for maintenance cables.

(2) Cable Length

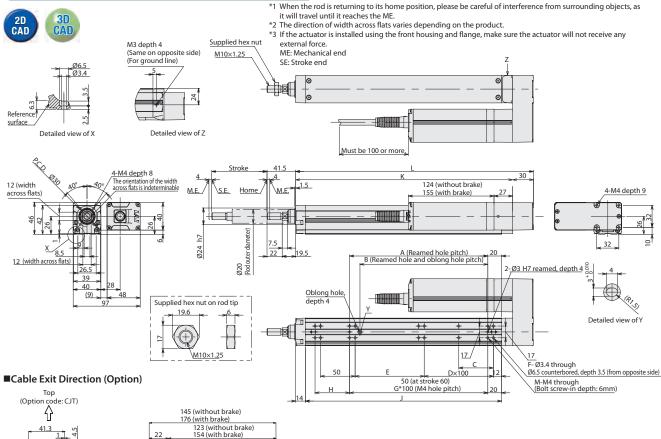
## **Actuator Specifications**

ltem	Description
Drive system	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Rod	Ø20mm Aluminum
Rod non-rotation precision (*1)	0 deg.
Allowable load and torque on rod tip	Refer to table in the page on the right, refer to P. 65
Rod tip overhang distance	100mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) Rod's angular displacement in rotational direction with no applied load is shown.

#### Dimensions

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

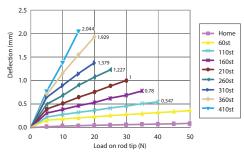


#### ■Rod Deflection of RCP5-RA4R (Reference Values)

\*The figure above is for the motor side-mounted to the left (ML).

Outside

(Option code: CJO)



## ■Dimensions and Mass by Stroke

Stroke         60         110         160         210         260         310         360         410           L         194         244         294         344         394         444         494         544           A         50         100         100         200         200         300         300         400           B         35         85         85         185         185         285         385           C         25         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50         100         50 <th colspan="7">=Differsions and Mass by Stroke</th>	=Differsions and Mass by Stroke									
A   50   100   100   200   200   300   300   400		Stroke	60	110	160	210	260	310	360	410
B 35 85 85 185 185 285 285 385  C 25 50 50 50 50 50 50 50 50 50  D 0 0 1 1 2 2 3 3 3  E 50 100 50 100 50 100 50 100 50 100  F 8 8 8 10 10 10 12 12 14 14  G - 1 1 1 2 2 3 3 3 4  H 50 50 100 50 100 50 100 50 100 50 100  K 1 1 2 2 3 3 3 4  H 50 50 10		L	194	244	294	344	394	444	494	544
C         25         50         100         50         100		A	50	100	100	200	200	300	300	400
D		В	35	85	85	185	185	285	285	385
E   S0   100   50   100   50   100   50   100       F   8   8   10   10   12   12   14   14     G   - 1   1   2   2   3   3   4     H   50   50   100   50   100   50   100   50     J   134   184   234   284   334   384   434   484     K   164   214   264   314   364   414   464   514     M   6   6   6   8   8   10   10   12     Allowable static load on rod tip (N)   55.8   44.6   37.1   31.7   27.6   24.3   21.7   19.5     Allowable static torque on rod tip (N-m)   16.5   14.5   12.4   10.7   9.2   8.0   7.0   6.2     Allowable static torque on rod tip (N-m)   5.6   4.5   3.8   3.2   2.8   2.5   2.3   2.1		С	25	50	50	50	50	50	50	50
F 8 8 8 10 10 12 12 14 14 14		D	0	0	1	1	2	2	3	3
Column   C		E	50	100	50	100	50	100	50	100
H   50   50   100   100		F	8	8	10	10	12	12	14	14
134   184   234   284   334   384   434   484   484   484   464   514   464   464   514   464		G	-	1	1	2	2	3	3	4
K   164   214   264   314   364   414   464   514     M   6   6   6   6   8   8   10   10   12     Allowable static load on rod tip (N)   55.8   44.6   37.1   31.7   27.6   24.3   21.7   19.5     Allowable dynamic load on rod tip (N)   Load offset 0mm   25.4   19.5   15.5   12.8   10.8   9.2   7.9   6.9     Allowable static torque on rod tip (N-m)   5.6   4.5   3.8   3.2   2.8   2.5   2.3   2.1     Allowable static torque on rod tip (N-m)   5.6   4.5   3.8   3.2   2.8   2.5   2.3   2.1		Н	50	50	100	50	100	50	100	50
Allowable static load on rod tip (N)   55.8   44.6   37.1   31.7   27.6   24.3   21.7   19.5     Allowable dynamic load offset 0mm d tip (N)   Load offset 100mm   16.5   14.5   12.4   10.7   9.2   8.0   7.0   6.2     Allowable static torque on rod tip (N-m)   5.6   4.5   3.8   3.2   2.8   2.5   2.3   2.1		J	134	184	234	284	334	384	434	484
Allowable static load on rod tip (N)   55.8   44.6   37.1   31.7   27.6   24.3   21.7   19.5     Allowable dynamic load offset 100mm   25.4   19.5   15.5   12.8   10.8   9.2   7.9   6.9     Allowable static torque on rod tip (N-m)   5.6   4.5   3.8   3.2   2.8   2.5   2.3   2.1		K	164	214	264	314	364	414	464	514
Allowable dynamic load offset 0mm   25.4   19.5   15.5   12.8   10.8   9.2   7.9   6.9	M		6	6	6	8	8	10	10	12
dynamic load offset 100mm of tip (N-m)         16.5         14.5         12.4         10.7         9.2         8.0         7.0         6.2           Allowable static torque on rod tip (N-m)         5.6         4.5         3.8         3.2         2.8         2.5         2.3         2.1	Allowable sta	atic load on rod tip (N)	55.8	44.6	37.1	31.7	27.6	24.3	21.7	19.5
on rod tip (N)     Load offset 100mm     16.5     14.5     12.4     10.7     9.2     8.0     7.0     6.2       Allowable static torque on rod tip (N-m)     5.6     4.5     3.8     3.2     2.8     2.5     2.3     2.1		Load offset 0mm	25.4	19.5	15.5	12.8	10.8	9.2	7.9	6.9
			16.5	14.5	12.4	10.7	9.2	8.0	7.0	6.2
	Allowable static torque on rod tip (N•m)		5.6	4.5	3.8	3.2	2.8	2.5	2.3	2.1
Allowable dynamic torque on rod tip (N·m) 1.7 1.5 1.2 1.1 0.9 0.8 0.7 0.6	Allowable dyna	mic torque on rod tip (N•m)	1.7	1.5	1.2	1.1	0.9	0.8	0.7	0.6
Macc (kg) Without brake 1.4 1.5 1.6 1.7 1.9 2.0 2.1 2.2	M (l)	Without brake	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2
Mass (kg) With brake 1.6 1.7 1.8 1.9 2.1 2.2 2.3 2.4	iviass (kg)	With brake	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4

Applicable Controllers

Bottom (Option code: CJB)

> \* Controller for RCP6 series is PCON, MSEL, RCON or RSEL. Please refer our Controller General Catalog and/or contact IAI.

> > IAI

RCP5-RA4R