

## RCP6(S)-WRA10R

Battery-less  
AbsoluteMotor  
Unit  
TypeSide-mounted  
MotorBody Width  
100\*  
mm24v  
Stepper  
MotorModel  
Specification  
Items

Series — Type — Encoder Type — Motor Type — Lead — Stroke — Applicable Controller/I/O Type — Cable Length — Options

RCP6: Separate Controller  
RCP6S: Built-in Controller

WA: Battery-less  
Absolute

35P: Stepper  
Motor  
35□ Size

16: 16mm  
10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
10: 10mm  
5: 5mm  
2.5: 2.5mm

[RCP6]  
P3: PCON  
MCON  
MSEL  
[RCP6S]  
SE: SIO Type

N: None  
P: 1m  
S: 3m  
M: 5m

X□□: Specified Length  
R□□: Robot Cable

Please refer to the  
options table below.  
\*Please make sure to  
specify either ML or MR  
when ordering the side-  
mounted motor type.

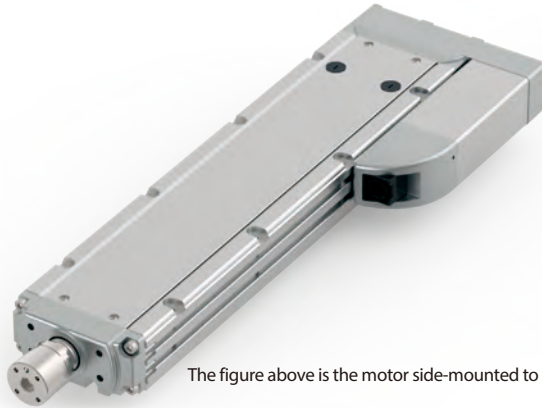
\* RCP6 does not include a controller. RCP6S includes a built-in controller.

\* Please refer to P.12 for more information about the model specification items.

## Radial Load OK



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



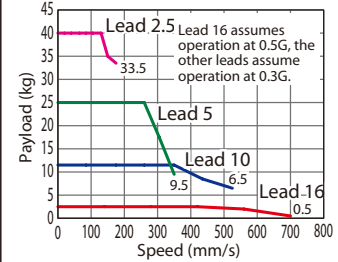
The figure above is the motor side-mounted to the left (ML).



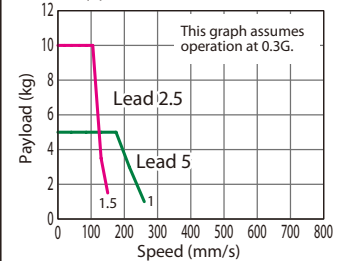
- (1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
- (2) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (RCP6 Tables of Payload by Speed/Acceleration) on P.115 for more details.
- (3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown in P.127 and after for the allowable load mass.
- (4) When performing push-motion operation, please confirm the push force of each model by checking the "Correlation diagram of push force and current limit" on P.113.

## Correlation Diagrams of Speed and Payload

High-output enabled with  
PCON/MCON/MSEL connected.  
RCP6(S)-WRA10R Horizontal mount



RCP6(S)-WRA10R Vertical mount



## Actuator Specifications

## Lead and Payload

(Note 1) The payload assumes that there is an external guide.

Model Number	Lead (mm)	Connected Controller	Max. Payload (kg)	Stroke (mm)
RCP6(S)-WRA10R-WA-35P-16-①-②-③-④	16	High-output Enabled	4	-
RCP6(S)-WRA10R-WA-35P-10-①-②-③-④	10	High-output Enabled	11.5	-
RCP6(S)-WRA10R-WA-35P-5-①-②-③-④	5	High-output Enabled	28	5
RCP6(S)-WRA10R-WA-35P-2.5-①-②-③-④	2.5	High-output Enabled	40	10

Legend: ① Stroke ② Applicable controller/I/O type ③ Cable length ④ Options

## Stroke and Max. Speed

(Unit: mm/s)

Lead (mm)	Connected Controller	50~400 (Every 50mm)	450 (mm)	500 (mm)
16	High-output Enabled	700		
10	High-output Enabled	525		490
5	High-output Enabled	350 <260>	290 <260>	240
2.5	High-output Enabled	175 <150>	145	120

Values in brackets < > are for vertical use.

## ① Stroke

Stroke (mm)	RCP6	RCP6S	Stroke (mm)	RCP6	RCP6S
50	○	○	300	○	○
100	○	○	350	○	○
150	○	○	400	○	○
200	○	○	450	○	○
250	○	○	500	○	○

## ④ Options

Name	Option Code	Reference Page
Brake	B	See P.105
Cable exit direction (Outside)	CJO	See P.105
Flange	FL	See P.106
Motor side-mounted to the left	ML	See P.109
Motor side-mounted to the right	MR	See P.109
Non-motor end specification	NM	See P.110
T-slot nut bar (Left)	NTBL	See P.110
T-slot nut bar (Right)	NTBR	See P.110

\* When selecting T-slot nut bar option with a side-mounted motor model, please choose NTBR when the motor is side-mounted to the left, and NTBL when the motor is side-mounted to the right.

# When selecting multiple options, please list them in alphabetical order. (e.g. B-CJB-NM)

## ③ Cable Length

Cable Type	Cable Code	RCP6	RCP6S
Standard	P (1m)	○	○
	S (3m)	○	○
	M (5m)	○	○
Specified Length	X06 (6m) ~X10 (10m)	○	○
	X11 (11m) ~X15 (15m)	○	○
	X16 (16m) ~X20 (20m)	○	○
	R01 (1m) ~R03 (3m)	○	○
Robot Cable	R04 (4m) ~R05 (5m)	○	○
	R06 (6m) ~R10 (10m)	○	○
	R11 (11m) ~R15 (15m)	○	○
	R16 (16m) ~R20 (20m)	○	○

\* Please refer to P.144 for more information regarding the maintenance cables.

## Actuator Specifications

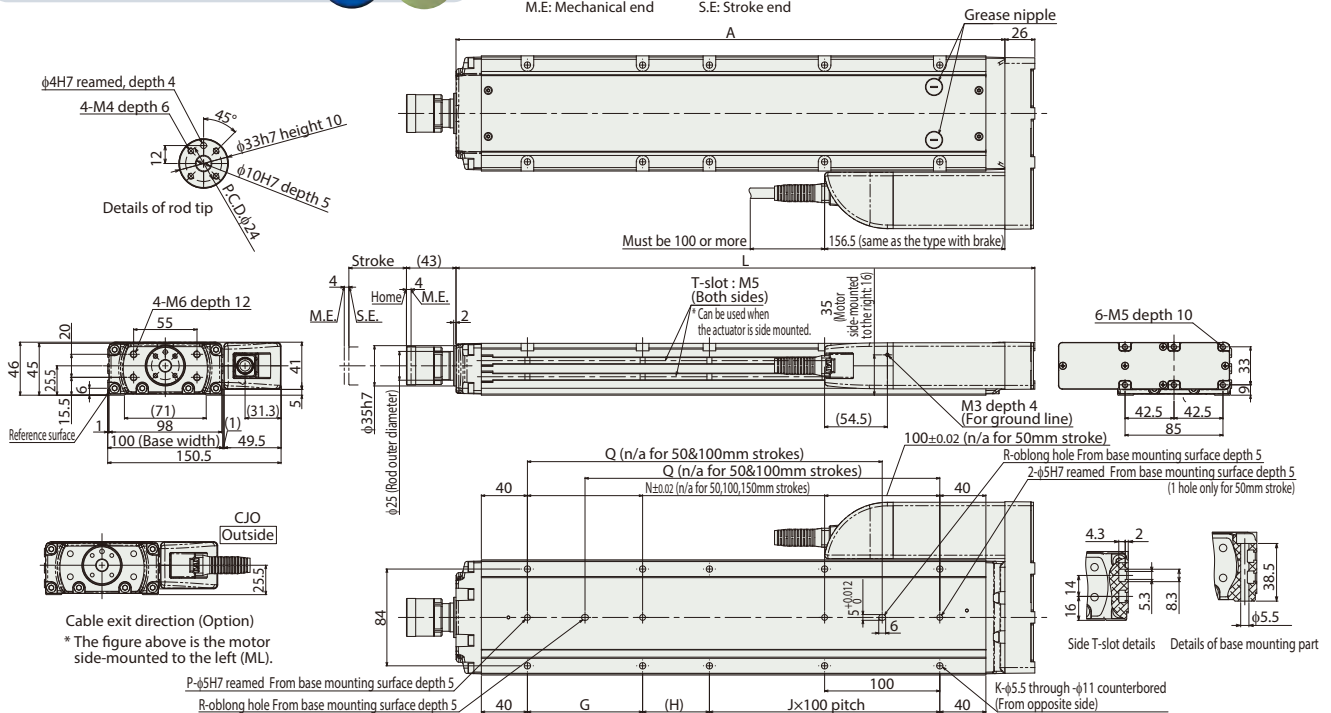
Item	Description
Drive system	Ball screw φ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	φ25mm Stainless steel
Rod non-rotation precision	0 deg.
Allowable load and torque on rod tip	See P. 127
Rod tip overhang distance	100mm
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

## Dimensions

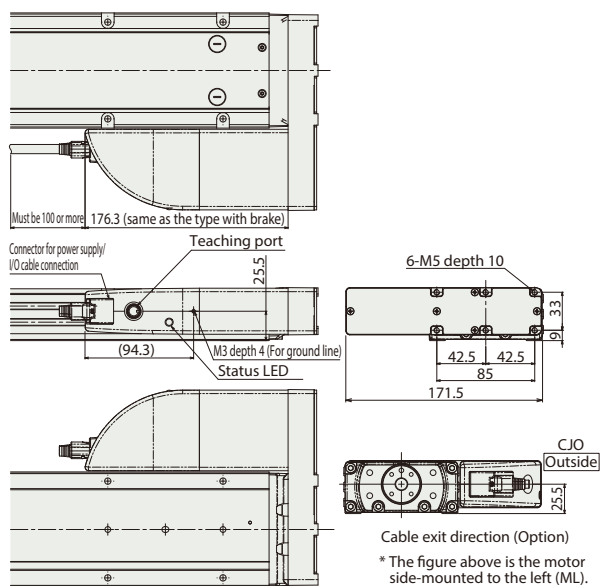
CAD drawings can be downloaded from our website.  
www.intelligentactuator.com



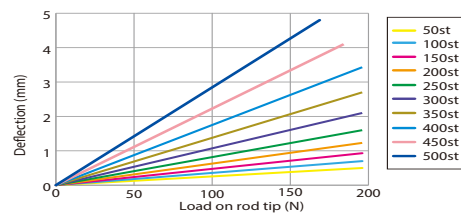
\*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.  
M.E: Mechanical end S.E: Stroke end



### RCP6S-WRA10R



### Rod Deflection of RCP6(S)-WRA10R (Reference Values)



### Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	252.5	302.5	352.5	402.5	452.5	502.5	552.5	602.5	652.5	702.5
A	226.5	276.5	326.5	376.5	426.5	476.5	526.5	576.5	626.5	676.5
G	-	-	-	100	100	100	100	100	100	100
H	108	58	108	58	108	58	108	58	108	58
J	0	1	1	1	1	2	2	3	3	4
K	4	6	6	8	8	10	10	12	12	14
N	-	-	-	100	100	100	100	100	100	100
P	1	1	1	2	2	2	2	2	2	2
Q	-	-	158	208	258	308	358	408	458	508
R	0	0	1	1	1	1	1	1	1	1
Allowable static load on rod tip (N)	196	196	196	196	196	196	196	196	184	169
Allowable static torque on rod tip (N·m)	10	10	10	10	10	10	10	10	10	10
3,000km	98	98	98	95	85	76	68	62	57	52
5,000km	50	50	50	50	50	50	50	50	50	49
Allowable dynamic load on rod tip (N)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9
Allowable dynamic torque on rod tip (N·m)	98	98	91	80	71	63	57	52	47	43
Mass (kg)	3.4	3.8	4.3	4.7	5.2	5.6	6.1	6.5	7.0	7.4
RCP6	3.5	3.9	4.4	4.8	5.3	5.7	6.1	6.6	7.0	7.5
RCP6S	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.6	7.1	7.5
	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	7.2	7.6

## ② Applicable Controllers

The RCP6 series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use. \* Please refer to P.147 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Positioner	Pulse train	Program	Network *Option	Maximum number of positioning points	Reference page
PCON-CB/CGB		1	DC24V	*Option	*Option	-	DeviceNet CC-Link EtherCAT EtherNet/IP CompoNet	512 (768 for network spec.)	Please see P.131
MCON-C/CG		4	Single-phase 100~230VAC	-	-	-	This model is network-compatible only.	256	Please see the MCON catalog.
MSEL-PC/PG		4	Single-phase 100~230VAC	-	-	-	Note: The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please see the MSEL-PC/PG catalog.

\*Please select "high-output specification" as an option for the MCON. With the MCON, operation is possible only when the high-output specification is selected.