RCP6(S)-WRA14R

Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 140* mm | 24V Stepper Motor

■ Model 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	WRA14R	WA: Battery-less Absolute	56P: Stepper Motor 56□ Size	24: 24mm 16: 16mm 8: 8mm 4: 4mm	50: 50mm ↓ 600: 600mm (50mm increments)	[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.

* Body width does not include the width of the side-mounted motor.

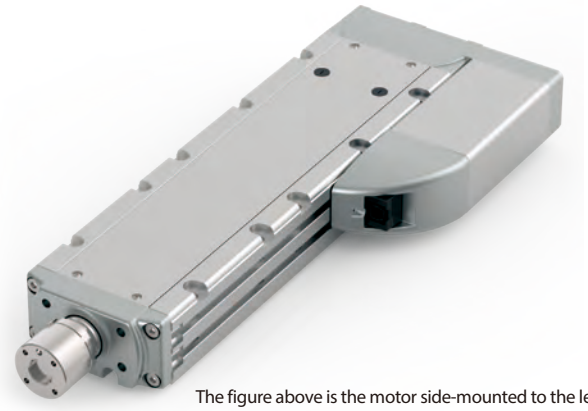
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.12 for more information about the model specification items.

Radial Load OK

CE RoHS

Horizontal | Vertical | Side | Ceiling

*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).

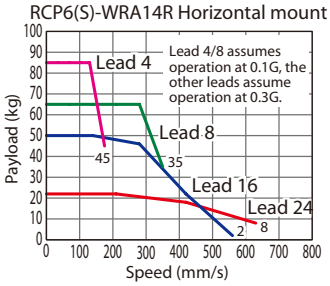
POINT Selection Notes

(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.
(5) Depending on the ambient operational temperature, duty control is necessary for the RCP6S (built-in controller type) with lead 4/8/16. Please refer to P.130 for more information.

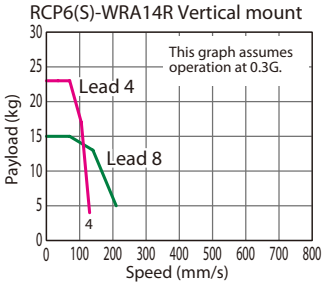
■ Correlation Diagrams of Speed and Payload

High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)-WRA14R Horizontal mount



RCP6(S)-WRA14R 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 Horizontal (kg)	Max. Payload Vertical (kg)	Stroke (mm)
RCP6(S)-WRA14R-WA-56P-24-①-②-③-④	24	High-output Enabled	25	-	50~600 (The increment of stroke is 50mm)
RCP6(S)-WRA14R-WA-56P-16-①-②-③-④	16	High-output Enabled	50	-	
RCP6(S)-WRA14R-WA-56P-8-①-②-③-④	8	High-output Enabled	65	15	
RCP6(S)-WRA14R-WA-56P-4-①-②-③-④	4	High-output Enabled	85	25	

■ Stroke and Max. Speed

(Unit: mm/s)

Lead (mm)	Connected Controller	50~600 (Every 50mm)
24	High-output Enabled	630
16	High-output Enabled	560
8	High-output Enabled	350 <210>
4	High-output Enabled	175 <130>

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

Values in brackets < > are for vertical use.

① Stroke

Stroke (mm)	RCP6	RCP6S	Stroke (mm)	RCP6	RCP6S
50	○	○	**350**	○	○
100	○	○	**400**	○	○
150	○	○	**450**	○	○
200	○	○	**500**	○	○
250	○	○	**550**	○	○
300	○	○	**600**	○	○

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)	○	○
Robot Cable	**R01** (1m) ~**R03** (3m)	○	○
	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.

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)

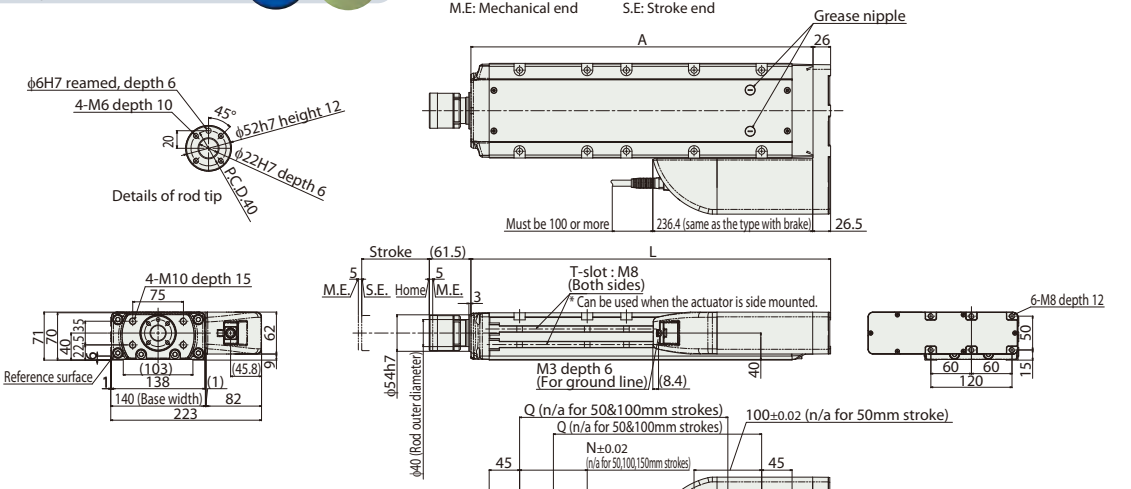
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ12mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ40mm Stainless steel
Rod non-rotation precision	0 deg.
Allowable load and torque on rod tip	See P. 127
Rod tip overhang distance	150mm
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

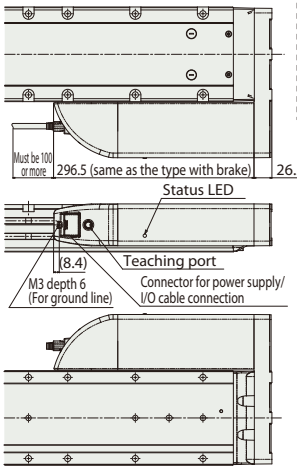
Dimensions

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

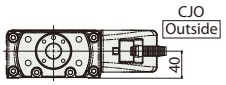
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end



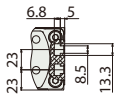
■RCP6S-WRA14R



Cable exit direction (Option)
* The figure above is the motor side-mounted to the left (ML).



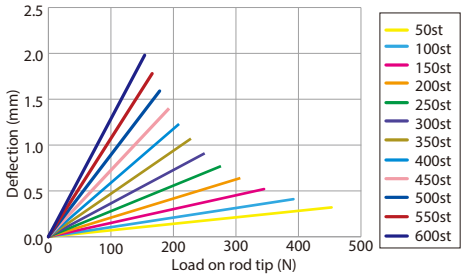
Cable exit direction (Option)
* The figure above is the motor side-mounted to the left (ML).



Side T-slot details

Details of base mounting part

■ Rod Deflection of RCP6(S)-WRA14R (Reference Values)



■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600
L			282	332	382	432	482	532	582	632	682	732	782	832
A			256	306	356	406	456	506	556	606	656	706	756	806
G			-	-	-	100	100	100	100	100	100	100	100	100
H			108	58	108	58	108	58	108	58	108	58	108	58
J			0	1	1	1	1	2	2	3	3	4	4	5
K			4	6	6	8	8	10	10	12	12	14	14	16
N			-	-	-	100	100	100	100	100	100	100	100	100
P			1	1	1	2	2	2	2	2	2	2	2	2
Q			-	-	158	208	258	308	358	408	458	508	558	608
R			0	0	1	1	1	1	1	1	1	1	1	1
Allowable static load on rod tip (N)			454	392	345	307	276	251	229	210	193	179	166	154
Allowable static torque on rod tip (N•m)			30	30	30	30	30	30	30	30	30	30	30	30
3,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	199	170	148	131	117	104	94	85	77	70	64	58
		Load offset 100mm	100	100	100	100	100	95	87	79	72	66	60	55
	Allowable dynamic torque on rod tip (N•m)		15.0	15.0	15.0	15.0	15.0	14.3	13.0	11.8	10.8	9.9	9.0	8.2
5,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	167	143	124	109	97	87	78	70	63	57	51	46
		Load offset 100mm	100	100	100	96	87	79	71	65	59	53	48	44
	Allowable dynamic torque on rod tip (N•m)		15.0	15.0	15.0	14.4	13.0	11.8	10.7	9.7	8.8	8.0	7.3	6.6
Mass (kg)	RCP6	w/o brake	8.7	9.6	10.5	11.4	12.2	13.1	14.0	14.9	15.7	16.6	17.5	18.4
		w/ brake	8.9	9.7	10.6	11.5	12.4	13.2	14.1	15.0	15.9	16.7	17.6	18.5
	RCP6S	w/o brake	8.9	9.8	10.7	11.5	12.4	13.3	14.2	15.0	15.9	16.8	17.7	18.5
		w/ brake	9.0	9.9	10.8	11.6	12.5	13.4	14.3	15.2	16.0	16.9	17.8	18.7

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