

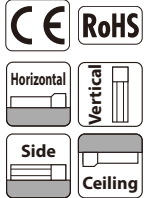
# RCP6(S)-WRA16C

Battery-less Absolute
Motor Unit Type
Coupled Motor
Body Width 160 mm
24v Stepper Motor

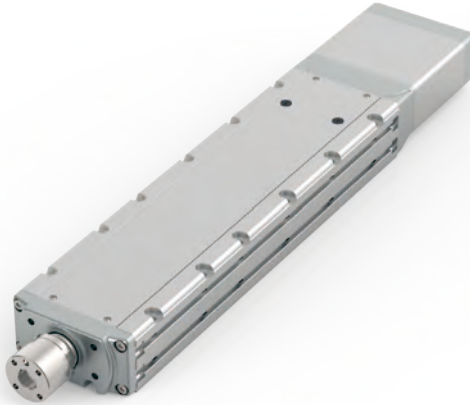
Model Specification Items	Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
	—	—	—	—	—	—	—	—	—
	RCP6: Separate Controller RCP6S: Built-in Controller	WRA16C	WA	60P	20: 20mm 10: 10mm 5: 5mm	50: 50mm 10: 10mm 800: 800mm (50mm increments)	[RCP6] P4: PCON- CFB/CGFB [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.

\* 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



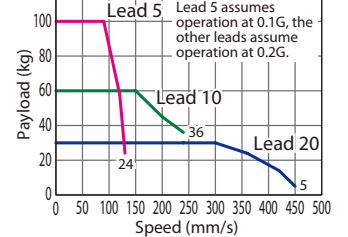
\*Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact IAI for more information regarding mounting positions.



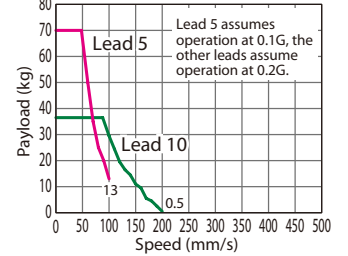
## Correlation Diagrams of Speed and Payload

PCON connected.

RCP6(S)-WRA16C Horizontal mount



RCP6(S)-WRA16C Vertical mount



- The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
- 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.
- 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.
- 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.
- For RCP6S (built-in controller type), please limit the duty cycle to 70% or less.
- The service life of an actuator with lead 5 varies depending on the payload when using vertically. Please refer to P. 114 for more information.

## Actuator Specifications

### Lead and Payload

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

Model Number	Lead (mm)	Max. Payload		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP6(S)-WRA16C-WA-60P-20-①-②-③-④	20	30	-	50~800 (The increment of stroke is 50mm)
RCP6(S)-WRA16C-WA-60P-10-①-②-③-④	10	60	36.5	
RCP6(S)-WRA16C-WA-60P-5-①-②-③-④	5	100	70	

### Stroke and Max. Speed

(Unit: mm/s)

Lead (mm)	50 (mm)	100 (mm)	150~400 (mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	280	405	450	400	340	295	260	225	200	180	
10	240 <200>		230 <200>	195	165	145	125	110	100	90	
5	130 <100>		115 <100>	95	80	70	60	55	50	45	

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	○	○	450	○	○
100	○	○	500	○	○
150	○	○	550	○	○
200	○	○	600	○	○
250	○	○	650	○	○
300	○	○	700	○	○
350	○	○	750	○	○
400	○	○	800	○	○

### ④ Options

Name	Option Code	Reference Page
Brake	B	See P.105
Cable exit direction (Top)	CJT	See P.105
Cable exit direction (Right)	CJR	See P.105
Cable exit direction (Left)	CJL	See P.105
Cable exit direction (Bottom)	CJB	See P.105
Flange	FL	See P.106
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 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

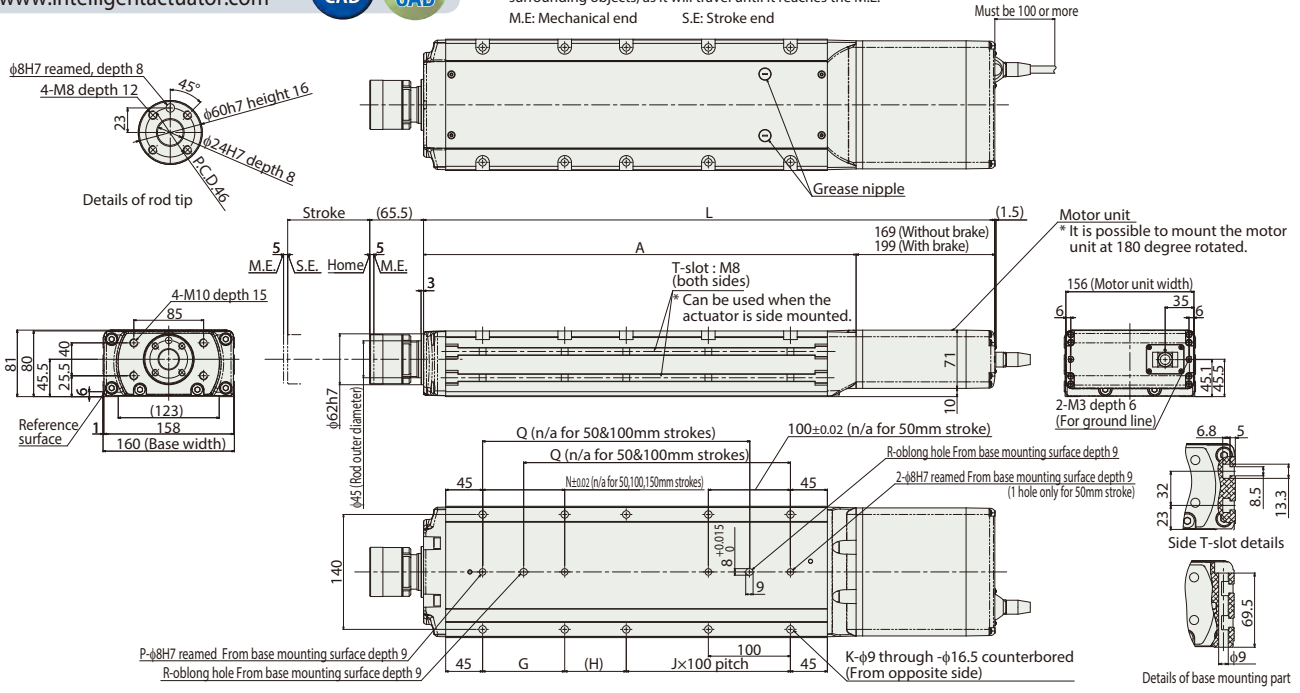
Item	Description
Drive system	Ball screw φ16mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	φ45mm Stainless steel
Rod non-rotation precision	0 deg.
Allowable load and torque on rod tip	See P. 127
Rod tip overhang distance	150mm
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

Dimensions

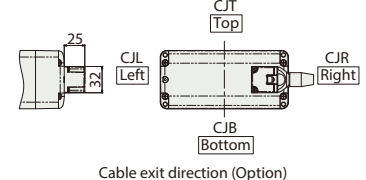
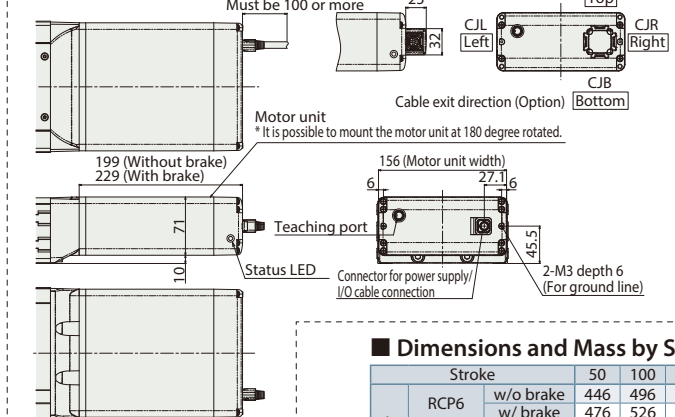
CAD drawings can be downloaded from our website.  
www.intelligentactuator.com



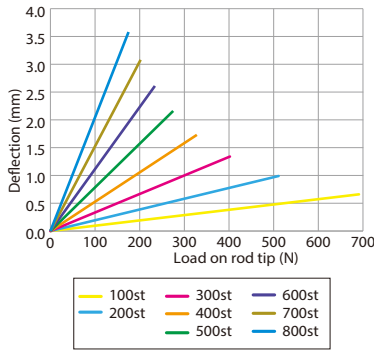
\*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.  
M.E: Mechanical end S.E: Stroke end



■ RCP6S-WRA16C



■ Rod Deflection of RCP6(S)-WRA16C (Reference Values)



■ Dimensions and Mass by Stroke

L	Stroke	Stroke															
		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
RCP6	w/o brake	446	496	546	596	646	696	746	796	846	896	946	996	1,046	1,096	1,146	1,196
	w/ brake	476	526	576	626	676	726	776	826	876	926	976	1,026	1,076	1,126	1,176	1,226
RCP6S	w/o brake	476	526	576	626	676	726	776	826	876	926	976	1,026	1,076	1,126	1,176	1,226
	w/ brake	506	556	606	656	706	756	806	856	906	956	1,006	1,056	1,106	1,156	1,206	1,256
A		277	327	377	427	477	527	577	627	677	727	777	827	877	927	977	1,027
	G	-	-	-	100	100	100	100	100	100	100	100	100	100	100	100	100
H		125	75	125	75	125	75	125	75	125	75	125	75	125	75	125	75
	J	0	1	1	1	1	2	2	3	3	4	4	5	5	6	6	7
K		4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
	N	-	-	-	100	100	100	100	100	100	100	100	100	100	100	100	100
P		1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
	Q	-	-	175	225	275	325	375	425	475	525	575	625	675	725	775	825
R		0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Allowable static load on rod tip (N)	588	588	588	511	451	402	362	329	300	275	254	235	217	202	188	176
3,000km	Allowable static torque on rod tip (N·m)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Allowable dynamic Load offset 0mm	255	220	191	168	149	134	120	109	99	90	81	74	67	61	55	50
5,000km	Allowable dynamic load on rod tip (N)	133	133	133	133	133	122	111	101	92	84	77	70	64	58	53	48
	Allowable dynamic torque on rod tip (N·m)	20.0	20.0	20.0	20.0	20.0	18.3	16.7	15.2	13.8	12.6	11.5	10.5	9.6	8.7	7.9	7.1
Mass (kg)	RCP6 w/o brake	11.5	12.6	13.7	14.9	16.0	17.1	18.3	19.4	20.5	21.7	22.8	23.9	25.1	26.2	27.3	28.5
	RCP6S w/o brake	11.6	12.7	13.9	15.0	16.2	17.3	18.4	19.5	20.7	21.8	23.0	24.1	25.2	26.3	27.5	28.6
	w/ brake	12.1	13.3	14.4	15.5	16.7	17.8	18.9	20.1	21.2	22.3	23.5	24.6	25.8	26.9	28.0	29.1

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		
PCON-CFB/CGFB		1	DC24V	●	●	-	512 (768 for network spec.)	Please see P.131
				*Option	*Option			
Control method: Network *Option DeviceNet, CompoNet, EtherNet/IP, CC-Link, MEDIANET, EtherCAT, PROFINET, CANopen								