

# RCP6(S)-WSA16C



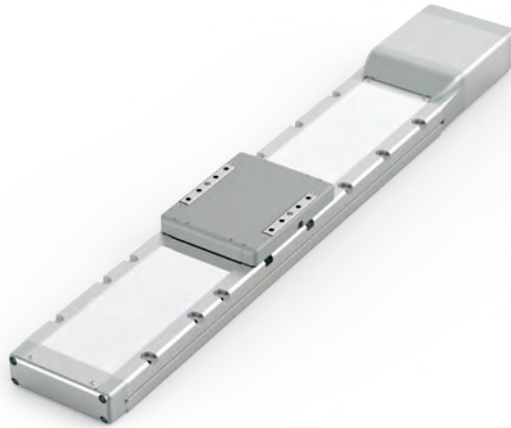
## Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6: Separate Controller RCP6S: Built-in Controller	WSA16C	WA: Battery-less Absolute	56SP: High-thrust Stepper Motor 56□ Size	20:20mm 10:10mm 5: 5mm	50: 50mm 1100: 1,100mm (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.10 for more information about the model specification items.



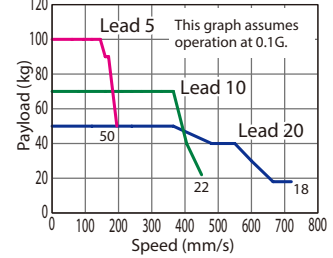
\* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact IAI for more information regarding mounting positions.



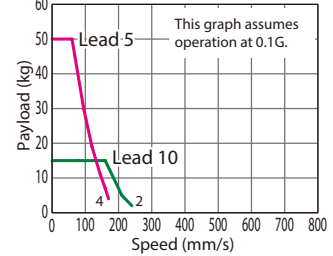
- POINT Selection Notes**
- (1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
  - (2) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (RCP6 Tables of Payload by Speed/Acceleration) on P.115 for more details.
  - (3) 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.
  - (4) 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.

## Correlation Diagrams of Speed and Payload

PCON connected.  
RCP6(S)-WSA16C Horizontal mount



RCP6(S)-WSA16C Vertical mount



## Actuator Specifications

### Lead and Payload

Model Number	Lead (mm)	Max. Payload (kg)		Stroke (mm)
		Horizontal	Vertical	
RCP6(S)-WSA16C-WA-56SP-20-①-②-③-④	20	50	-	50~1,100 (The increment of stroke is 50mm)
RCP6(S)-WSA16C-WA-56SP-10-①-②-③-④	10	70	15	
RCP6(S)-WSA16C-WA-56SP-5-①-②-③-④	5	100	50	

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

### Stroke and Max. Speed

(Unit: mm/s)

Lead (mm)	50~650 (Every 50mm)	700 (mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1,000 (mm)	1,050 (mm)	1,100 (mm)
20	720	715	645	590	535	490	450	415		
10	450 <240>	440 <240>	395 <240>	355 <240>	320 <240>	290 <240>	265 <240>	240	225	205
5	195 <170>	175 <170>	160	145	130	120	110	100		

Values in brackets < > are for vertical use.

### ① Stroke

Stroke (mm)	RCP6	RCP6S	Stroke (mm)	RCP6	RCP6S
50	○	○	600	○	○
100	○	○	650	○	○
150	○	○	700	○	○
200	○	○	750	○	○
250	○	○	800	○	○
300	○	○	850	○	○
350	○	○	900	○	○
400	○	○	950	○	○
450	○	○	1000	○	○
500	○	○	1050	○	○
550	○	○	1100	○	○

### 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.

### 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
High-precision specification *	HPR	See P.108
Non-motor end specification	NM	See P.110

\* Positioning repeatability is ±5µm for high-precision specification (HPR).  
High-precision specification option cannot be selected for lead 20.

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

## Actuator Specifications

Item	Description
Drive system	Ball screw φ16mm, rolled C10
Positioning repeatability (*1)	±0.01mm [±0.005mm]
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 642N·m, Mb: 642N·m, Mc: 1,610N·m
Dynamic allowable moment (*2)	Ma: 161N·m, Mb: 161N·m, Mc: 404N·m
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

\* Reference for overhang load length: Ma: 650mm or less, Mb, Mc: 650mm or less

(\*1) Values in [ ] are for high-precision (for lead 5/10) specification.

(\*2) Assumes a standard rated life of 5,000km. The service life will vary depending on operation and installation conditions.

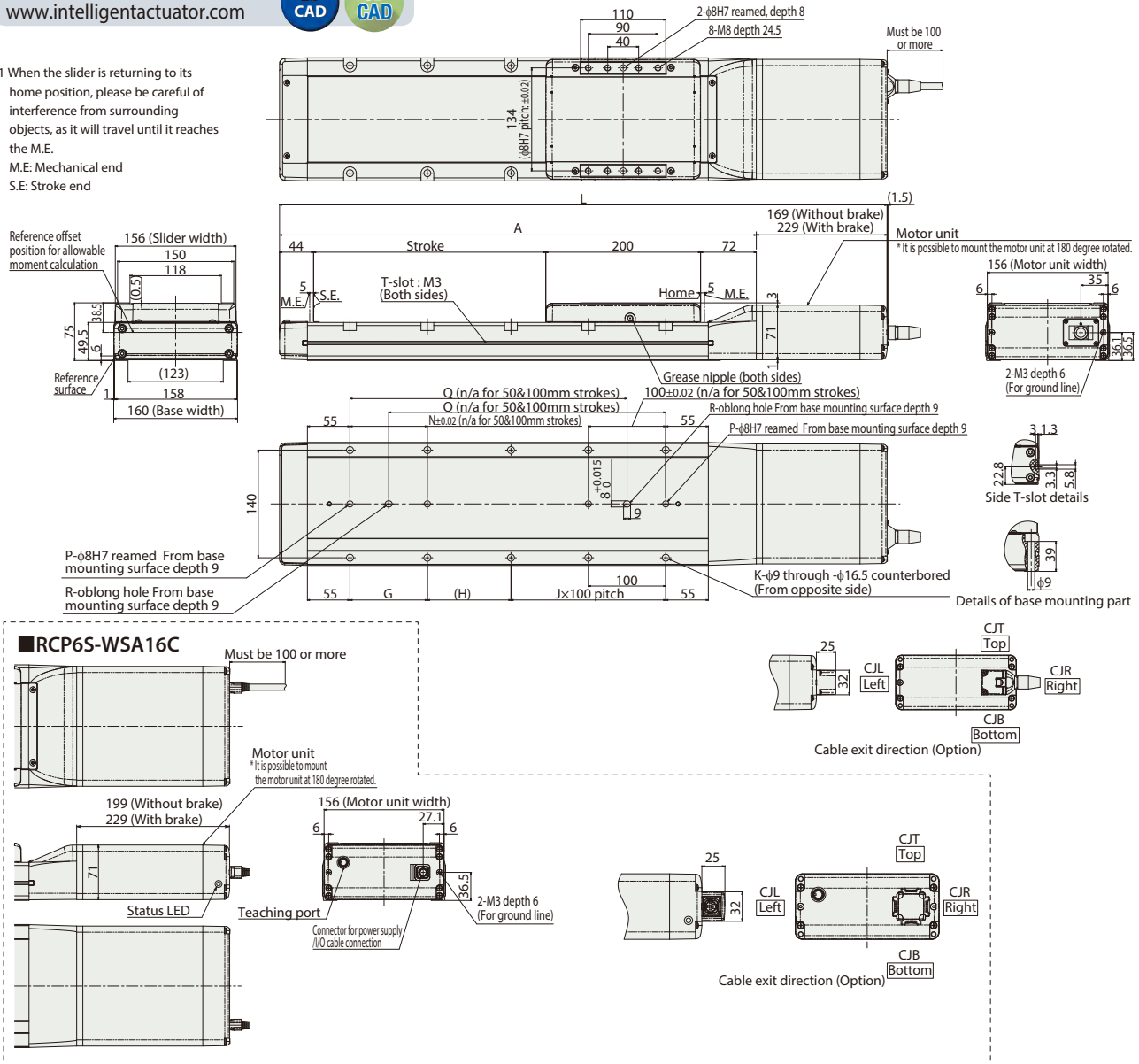
Please refer to our website for more information regarding the directions of the allowable moment and overhang load length.

Dimensions

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



\*1 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 M.E.  
M.E: Mechanical end  
S.E: Stroke end



■ Dimensions and Mass by Stroke

L	Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1,050	1,100
		RCP6 w/o brake	535	585	635	685	735	785	835	885	935	985	1,035	1,085	1,135	1,185	1,235	1,285	1,335	1,385	1,435	1,485	1,535
RCP6 w/ brake	595	645	695	745	795	845	895	945	995	1,045	1,095	1,145	1,195	1,245	1,295	1,345	1,395	1,445	1,495	1,545	1,595	1,645	
RCP6S w/o brake	565	615	665	715	765	815	865	915	965	1,015	1,065	1,115	1,165	1,215	1,265	1,315	1,365	1,415	1,465	1,515	1,565	1,615	
RCP6S w/ brake	595	645	695	745	795	845	895	945	995	1,045	1,095	1,145	1,195	1,245	1,295	1,345	1,395	1,445	1,495	1,545	1,595	1,645	
A	366	416	466	516	566	616	666	716	766	816	866	916	966	1,016	1,066	1,116	1,166	1,216	1,266	1,316	1,366	1,416	
G	-	-	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
H	158	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1,008	1,058	1,108	1,158	1,208	
J	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	
K	4	4	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	
N	-	-	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
P	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Q	-	-	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1,008	1,058	1,108	1,158	
R	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mass (kg)	RCP6 w/o brake	8.7	9.3	9.9	10.5	11.1	11.7	12.3	12.9	13.4	14.0	14.6	15.2	15.8	16.4	17.0	17.6	18.1	18.7	19.3	19.9	20.5	21.1
	RCP6 w/ brake	9.6	10.1	10.7	11.3	11.8	12.4	13.0	13.5	14.1	14.7	15.2	15.8	16.3	16.9	17.5	18.1	18.6	19.2	19.7	20.3	20.9	21.4
	RCP6S w/o brake	8.9	9.5	10.1	10.7	11.2	11.8	12.4	13.0	13.6	14.2	14.8	15.4	15.9	16.5	17.1	17.7	18.3	18.9	19.5	20.1	20.6	21.2
	RCP6S w/ brake	9.6	10.2	10.7	11.3	11.9	12.5	13.0	13.6	14.1	14.7	15.3	15.8	16.4	17.0	17.5	18.1	18.7	19.2	19.8	20.4	20.9	21.5

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	Control method		Maximum number of positioning points	Reference page	
							Network *Option				
PCON-CFB/CGFB		1	DC24V	● *Option	● *Option	-	DeviceNet	CompoNet	EtherNet/IP	512 (768 for network spec.)	Please see P.131