

RCP6(S)-WRA16R

Battery-less
AbsoluteMotor
Unit
TypeSide-mounted
MotorBody Width
160*
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 ControllerWA: Battery-less
Absolute60P: Stepper
Motor
60□ Size20: 20mm
10: 10mm
5: 5mm50: 50mm
+
800: 800mm
(50mm
increments)[RCP6]
P4: PCON-
CFB/CGFB
[RCP6S]
SE: SIO TypeN : None
P : 1m
S : 3m
M : 5m
X□□ : Specified Length
R□□ : Robot Cable

* Body width does not include the width of the side-mounted motor.
Please refer to the options table below.
*Please make sure to specify either ML or MR when ordering the side-mounted motor type.

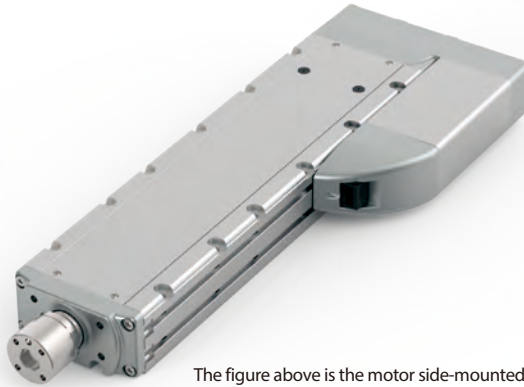
* RCP6 does not include a controller. RCP6S includes a built-in controller.

* 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.



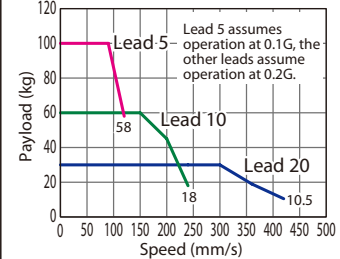
The figure above is the motor side-mounted to the left (ML).



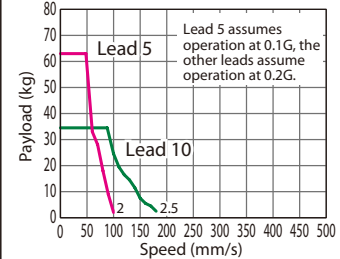
- (1) The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
- (2) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (RCP6 Tables of Payload by Speed/Acceleration) 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) For RCP6S (built-in controller type), please limit the duty cycle to 70% or less.
- (6) 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)-WRA16R Horizontal mount



RCP6(S)-WRA16R Vertical mount



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)-WRA16R-WA-60P-20-①-②-③-④	20	30	-	50~800 (The increment of stroke is 50mm)
RCP6(S)-WRA16R-WA-60P-10-①-②-③-④	10	60	34.5	
RCP6(S)-WRA16R-WA-60P-5-①-②-③-④	5	100	63	

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

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	420	400	340	295	260	225	200	180	
10		240 <180>	230 <180>	195	165	145	125	110	100	90	
5		120 <100>	115 <100>	95	80	70	60	55	50	45	

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 (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 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)

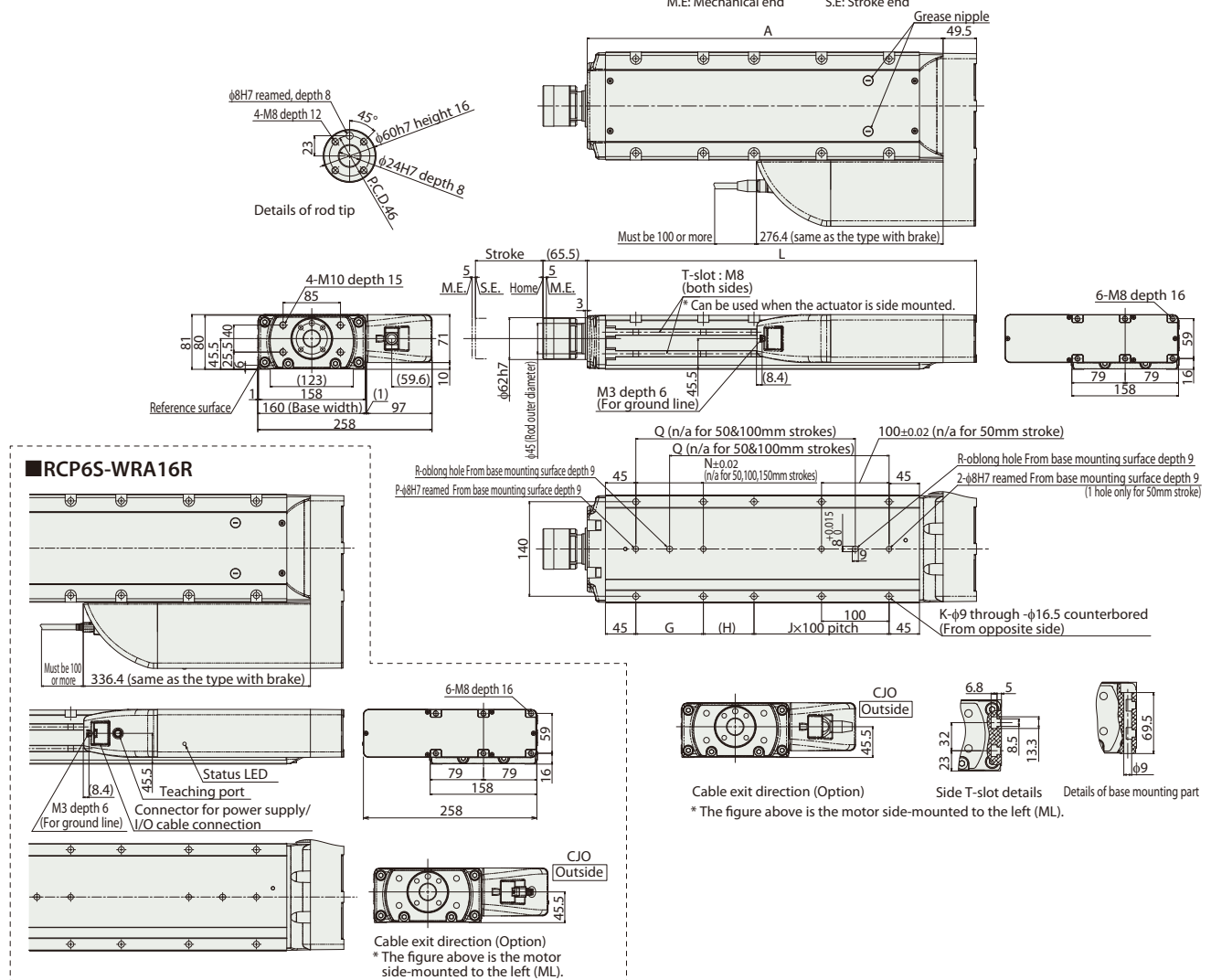
Dimensions

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

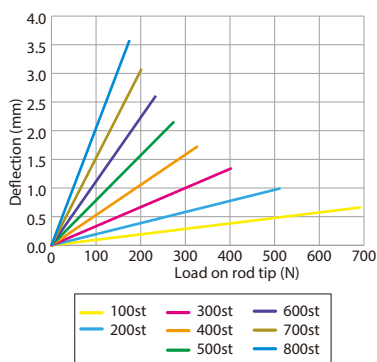
2D CAD

3D CAD

*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



■ Rod Deflection of RCP6(S)-WRA16R (Reference Values)



■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	326.5	376.5	426.5	476.5	526.5	576.5	626.5	676.5	726.5	776.5	826.5	876.5	926.5	976.5	1,026.5	1,076.5
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
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
3,000km load on rod tip (N) Load offset 100mm	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
5,000km Allowable dynamic Load offset 0mm	214	184	160	140	124	111	99	89	80	72	65	59	53	47	42	37
load on rod tip (N) Load offset 100mm	133	133	133	124	112	101	91	83	75	68	62	56	50	45	40	36
Allowable dynamic torque on rod tip (N·m)	20.0	20.0	20.0	18.6	16.8	15.2	13.7	12.4	11.3	10.2	9.2	8.4	7.5	6.8	6.0	5.3
Mass (kg) RCP6 w/o brake	13.1	14.2	15.3	16.5	17.6	18.7	19.9	21.0	22.2	23.3	24.5	25.6	26.7	27.9	29.0	30.1
w/ brake	13.3	14.4	15.6	16.7	17.9	19.0	20.1	21.3	22.4	23.5	24.7	25.8	27.0	28.1	29.3	30.4
RCP6S w/o brake	13.3	14.4	15.6	16.7	17.9	19.0	20.1	21.3	22.4	23.5	24.7	25.8	27.0	28.1	29.2	30.4
w/ brake	13.6	14.7	15.8	16.9	18.1	19.2	20.4	21.5	22.7	23.8	24.9	26.1	27.2	28.3	29.5	30.6

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