RCP6(S)W-RA4C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 40 mm | 24v Stepper Motor

■ Model Specification Items

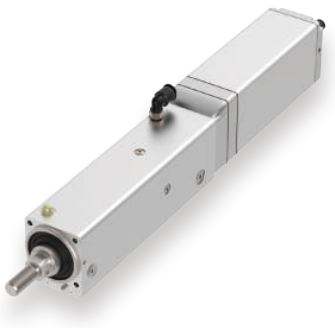
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RA4C	WA: Battery-less Absolute	35P: Stepper Motor 35□ Size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm ↓ 200:200mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



POINT Selection Notes

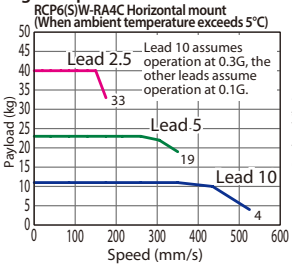
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.231 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

■ Correlation Diagrams of Speed and Payload

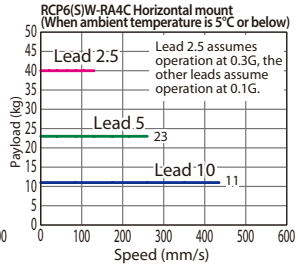
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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

RCP6(S)W-RA4C Horizontal mount (When ambient temperature exceeds 5°C)

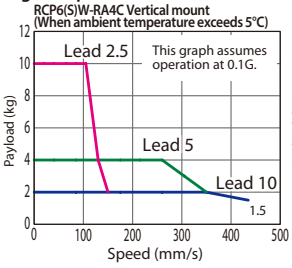


RCP6(S)W-RA4C Horizontal mount (When ambient temperature is 5°C or below)

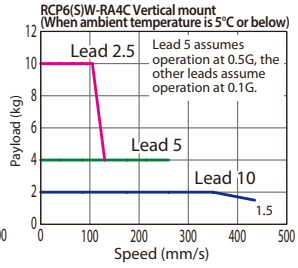


High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)W-RA4C Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RA4C Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA4C-WA-35P-10-①-②-③-④	10	11	2	77	50~200 (Every 50mm)
RCP6(S)W-RA4C-WA-35P-5-①-②-③-④	5	23	4	155	
RCP6(S)W-RA4C-WA-35P-2.5-①-②-③-④	2.5	40	10	310	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~200 (Every 50mm)
10	525 <435> [435]
5	350 [260]
2.5	175 <150> [130]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**150**	○	○
100	○	○	**200**	○	○

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

Actuator Specifications

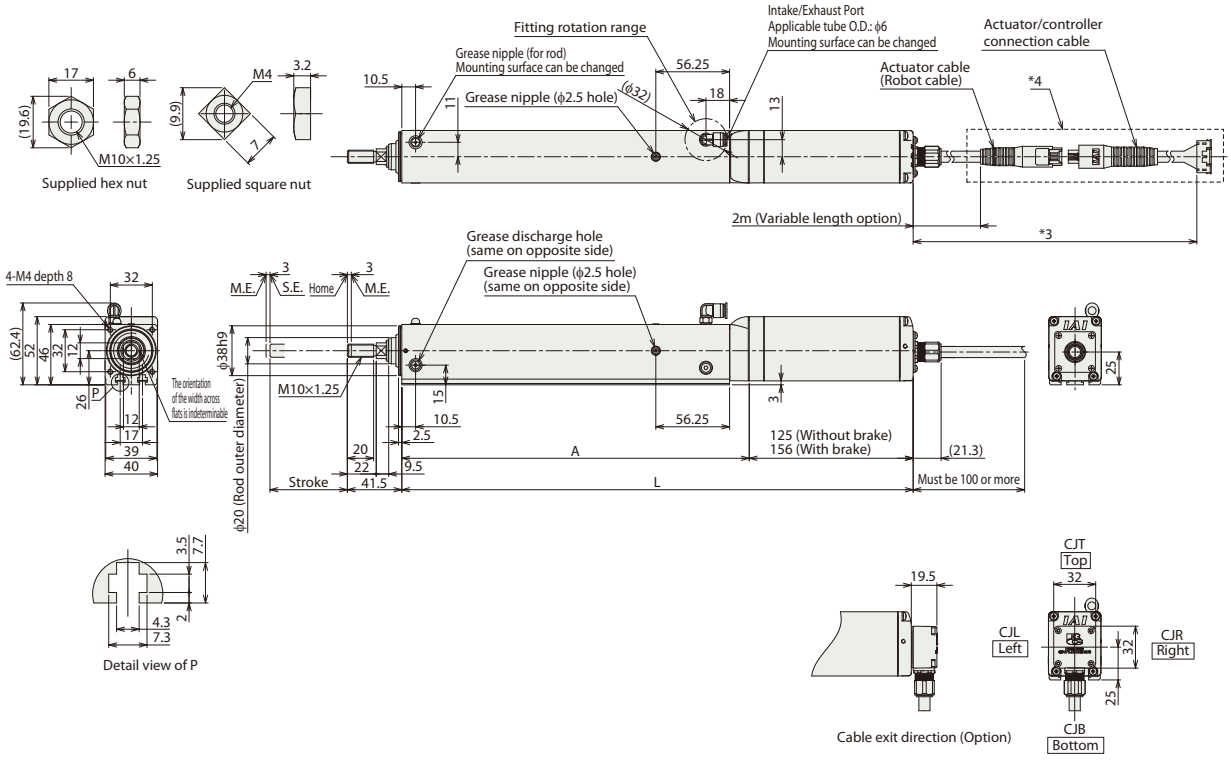
Item	Description
Drive system	Ball screw ϕ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ20mm
Allowable static torque on rod tip	1.0N·m
Max. angular displacement on rod tip (*1)	±1.0 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

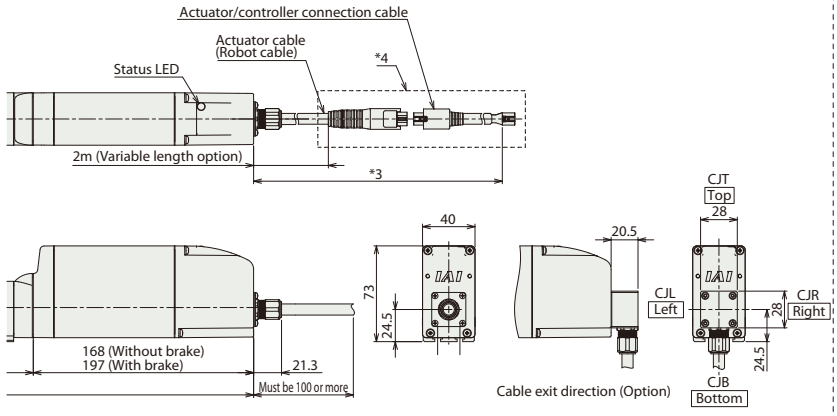
Dimensions

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
*2 The direction of width across flats varies depending on the product.



■ RCP6SW-RA4C



*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 4 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200
L	RCP6W	w/o brake	288	338	388	438
		w/ brake	319	369	419	469
	RCP6SW	w/o brake	331	381	431	481
		w/ brake	360	410	460	510
A			163	213	263	313
Mass (kg)	RCP6W	w/o brake	1.4	1.6	1.8	2.0
		w/ brake	1.5	1.7	1.9	2.1
	RCP6SW	w/o brake	1.6	1.8	2.0	2.2
		w/ brake	1.7	1.9	2.1	2.3

* Please refer to P.249 for more information on component materials.

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●		30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

Note:
· The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RA6C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 58 mm | 24v Stepper Motor

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RA6C	WA: Battery-less Absolute	42P: Stepper Motor 42□ Size	12 :12mm 6 : 6mm 3 : 3mm	50:50mm ~ 300:300mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

POINT Selection Notes

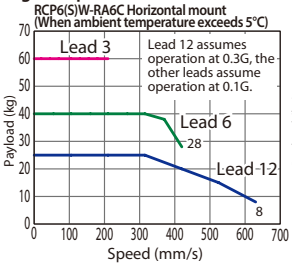
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.231 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 3/6. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

Correlation Diagrams of Speed and Payload

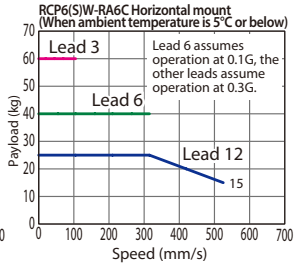
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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

RCP6(S)W-RA6C Horizontal mount (When ambient temperature exceeds 5°C)

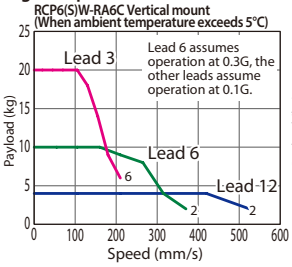


RCP6(S)W-RA6C Horizontal mount (When ambient temperature is 5°C or below)

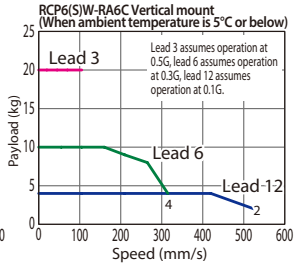


High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)W-RA6C Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RA6C Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA6C-WA-42P-12-①-②-③-④	12	25	4	93	50~300 (Every 50mm)
RCP6(S)W-RA6C-WA-42P-6-①-②-③-④	6	40	10	185	
RCP6(S)W-RA6C-WA-42P-3-①-②-③-④	3	60	20	370	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~300 (Every 50mm)
12	630 <525> [525]
6	420 <370> [315]
3	210 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**200**	○	○
100	○	○	**250**	○	○
150	○	○	**300**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

Actuator Specifications

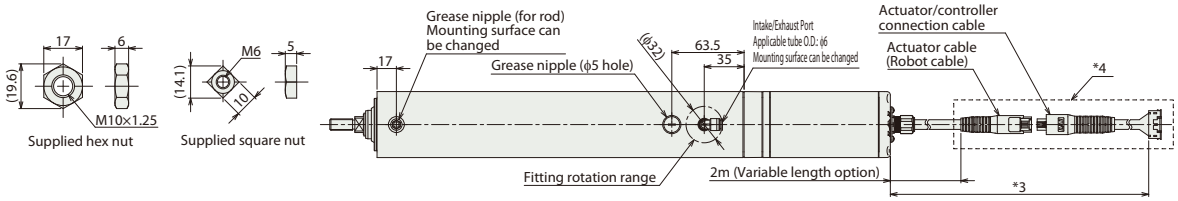
Item	Description
Drive system	Ball screw ϕ10mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ25mm
Allowable static torque on rod tip	1.5N·m
Max. angular displacement on rod tip (*1)	±1.0 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

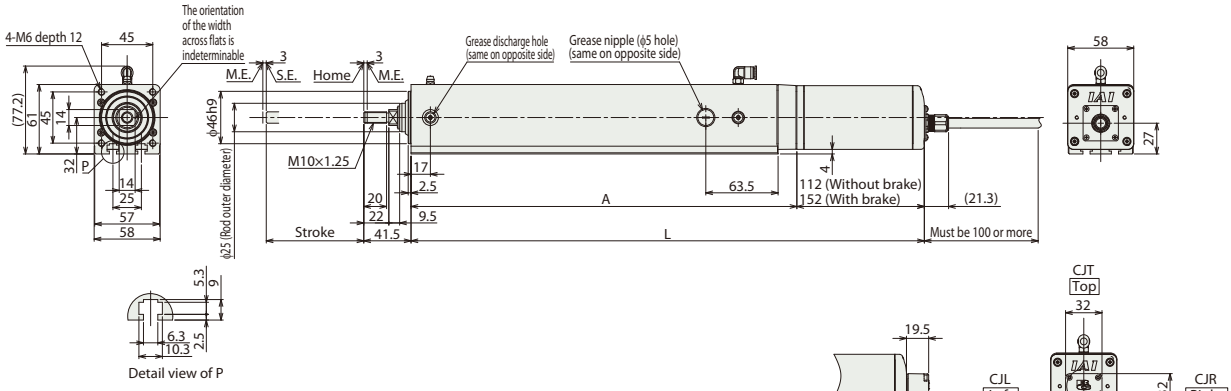
(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

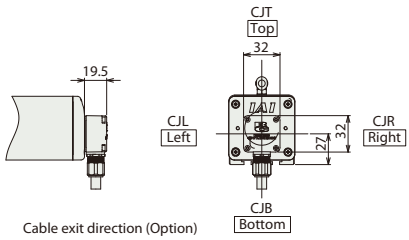
Dimensions

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

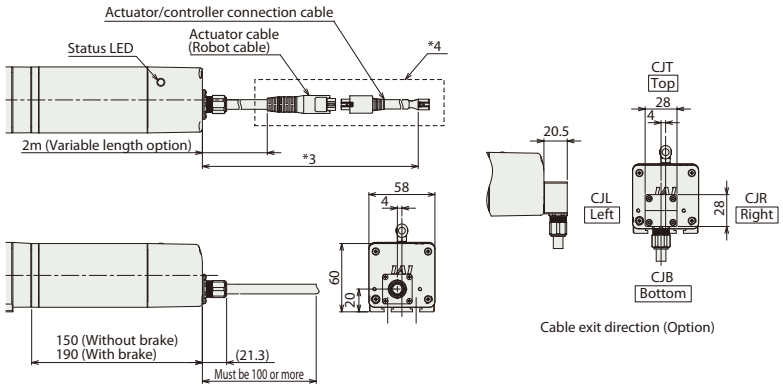
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 The direction of width across flats varies depending on the product.







■ RCP6SW-RA6C



*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 4 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300
L	RCP6W	w/o brake	301	351	401	451	501	551
		w/ brake	341	391	441	491	541	591
	RCP6SW	w/o brake	339	389	439	489	539	589
		w/ brake	379	429	479	529	579	629
A			189	239	289	339	389	439
Mass (kg)	RCP6W	w/o brake	2.5	2.9	3.3	3.6	4.0	4.4
		w/ brake	2.8	3.2	3.6	3.9	4.3	4.7
	RCP6SW	w/o brake	2.7	3.1	3.5	3.8	4.2	4.6
		w/ brake	2.9	3.3	3.7	4.0	4.4	4.8

* Please refer to P.249 and P.250 for more information on component materials.

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RA7C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 70 mm | 24v Stepper Motor

Model Specification Items

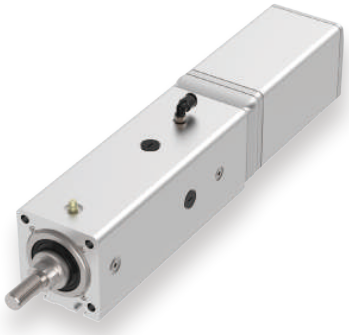
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RA7C	WA: Battery-less Absolute	56P: Stepper Motor 56□ Size	16 :16mm 8 : 8mm 4 : 4mm	50:50mm ~ 300:300mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



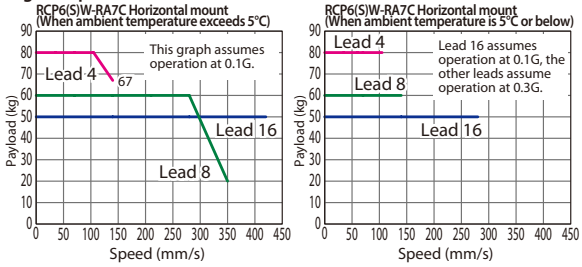
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.232 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 4/8/16. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

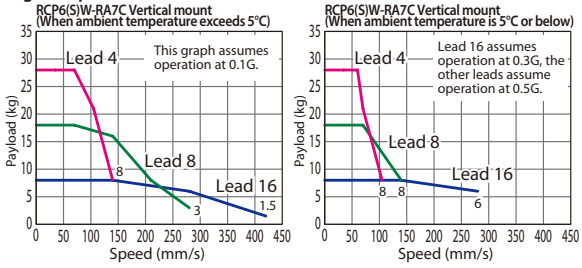
Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA7C-WA-56P-16-①-②-③-④	16	50	8	273	50~300 (Every 50mm)
RCP6(S)W-RA7C-WA-56P-8-①-②-③-④	8	60	18	547	
RCP6(S)W-RA7C-WA-56P-4-①-②-③-④	4	80	28	1,094	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~300 (Every 50mm)
16	420 [280]
8	350 <280> [140]
4	140 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**200**	○	○
100	○	○	**250**	○	○
150	○	○	**300**	○	○

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

Actuator Specifications

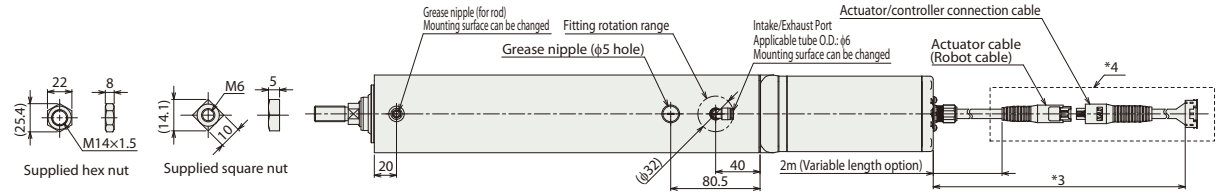
Item	Description
Drive system	Ball screw ϕ12mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ30mm
Allowable static torque on rod tip	2.5N·m
Max. angular displacement on rod tip (*1)	±0.8 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

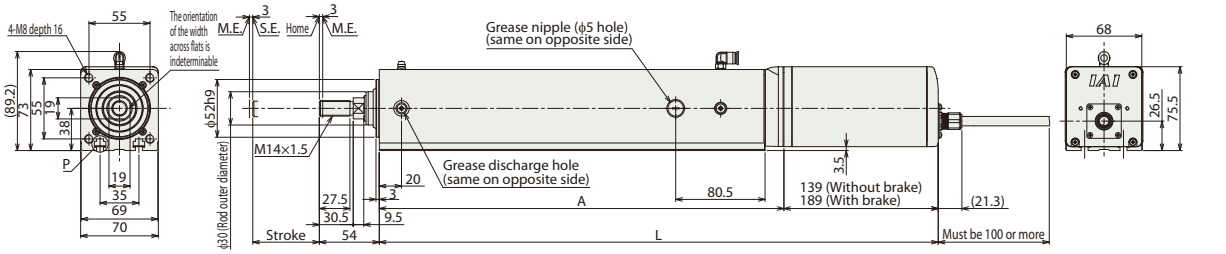
(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

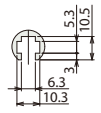
Dimensions

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

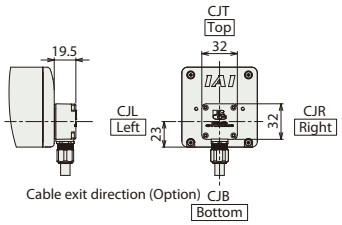
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 The direction of width across flats varies depending on the product.





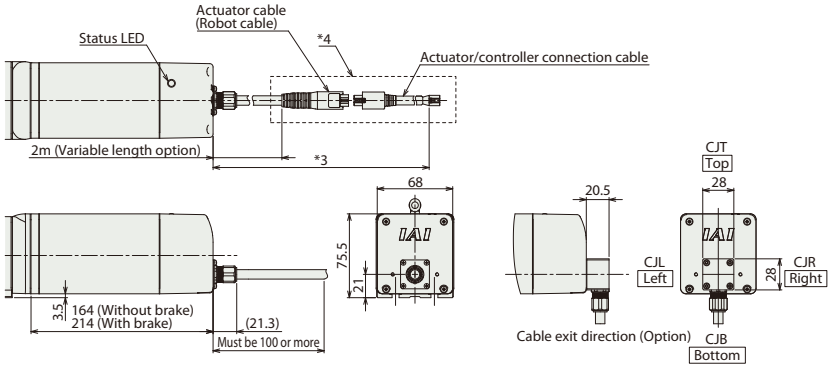


Detail view of P



Cable exit direction (Option)

■ RCP6SW-RA7C



Cable exit direction (Option)

*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 6 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300
L	RCP6W	w/o brake	353.5	403.5	453.5	503.5	553.5	603.5
		w/ brake	403.5	453.5	503.5	553.5	603.5	653.5
	RCP6SW	w/o brake	378.5	428.5	478.5	528.5	578.5	628.5
		w/ brake	428.5	478.5	528.5	578.5	628.5	678.5
A			214.5	264.5	314.5	364.5	414.5	464.5
Mass (kg)	RCP6W	w/o brake	4.5	5.1	5.7	6.3	6.8	7.4
		w/ brake	5.0	5.6	6.2	6.8	7.3	7.9
	RCP6SW	w/o brake	4.7	5.3	5.9	6.5	7.0	7.6
		w/ brake	5.1	5.7	6.3	6.9	7.4	8.0

* Please refer to P.250 for more information on component materials.

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RA8C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 85 mm | 24v Stepper Motor

■ Model Specification Items

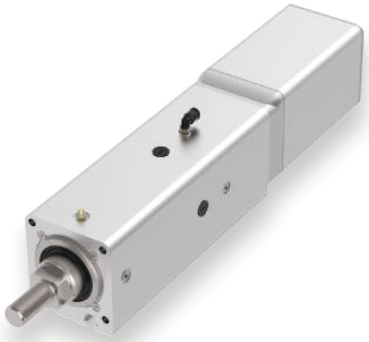
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RA8C	WA: Battery-less Absolute	60P: Stepper Motor 60□ Size	20 :20mm 10 :10mm 5 : 5mm	50:50mm ~ 300:300mm (Every 50mm)	[RCP6W] P4 : PCON-CFB/CGFB [RCP6SW] 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.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



POINT Selection Notes

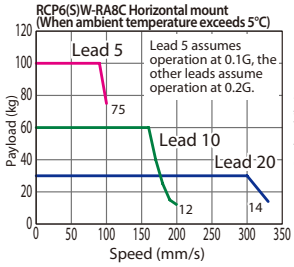
(1) The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.232 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) For RCP6SW (built-in controller type), please limit the duty cycle to 70% or less.
(6) The service life of an actuator varies depending on the payload when using vertically. Please refer to P. 206 for more information.
(7) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

■ Correlation Diagrams of Speed and Payload

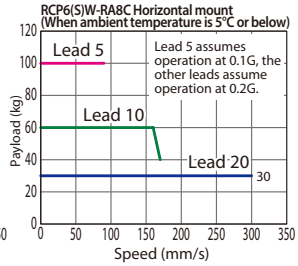
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

PCON connected.

RCP6(S)W-RA8C Horizontal mount (When ambient temperature exceeds 5°C)

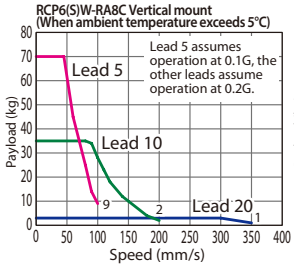


RCP6(S)W-RA8C Horizontal mount (When ambient temperature is 5°C or below)

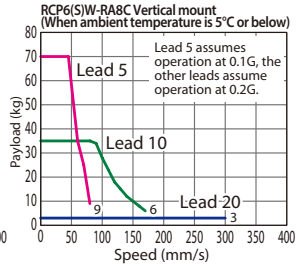


PCON connected.

RCP6(S)W-RA8C Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RA8C Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA8C-WA-60P-20-①-②-③-④	20	30	3	500	50~300 (Every 50mm)
RCP6(S)W-RA8C-WA-60P-10-①-②-③-④	10	60	35	1,000	
RCP6(S)W-RA8C-WA-60P-5-①-②-③-④	5	100	70	2,000	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~300 (Every 50mm)
20	350 <330> [300]
10	200 [170]
5	100 [80]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**200**	○	○
100	○	○	**250**	○	○
150	○	○	**300**	○	○

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

③ Cable Length

Cable Type	Cable Code	RCP6W	RCP6SW
Standard	**P**(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○
	X11 (11m) ~**X15** (15m)	○	○
	X16 (16m) ~**X18** (18m)	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○
	R04 (4m) ~**R05** (5m)	○	○
	R06 (6m) ~**R10** (10m)	○	○
	R11 (11m) ~**R15** (15m)	○	○
	R16 (16m) ~**R18** (18m)	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

Actuator Specifications

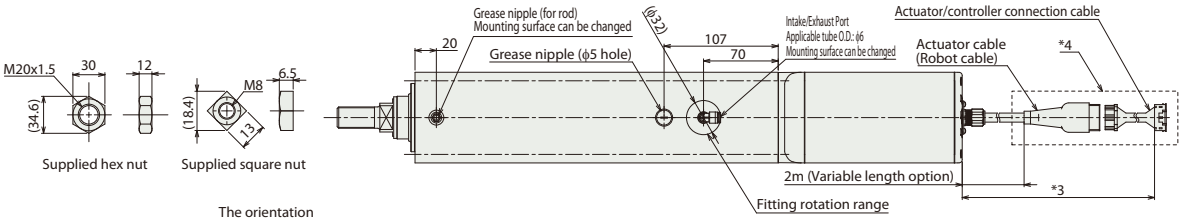
Item	Description
Drive system	Ball screw ϕ16mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ40mm
Allowable static torque on rod tip	5N·m
Max. angular displacement on rod tip (*1)	±0.8 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

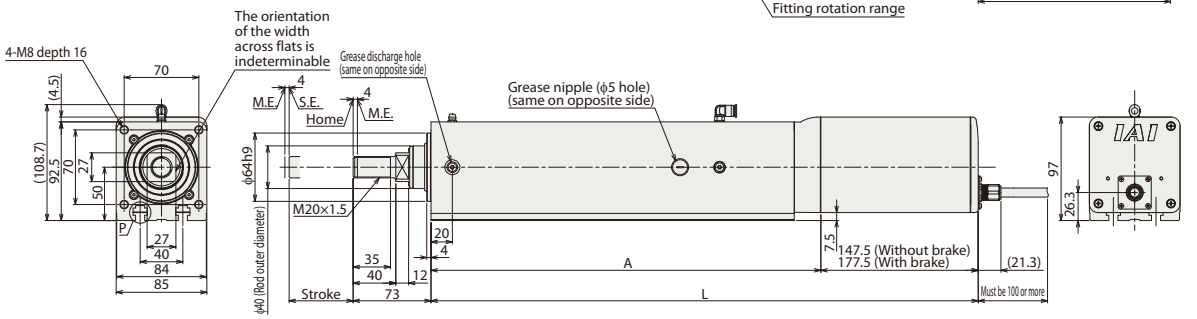
(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

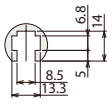
Dimensions

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

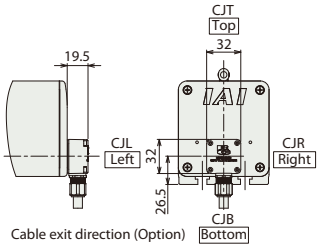
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 The direction of width across flats varies depending on the product.





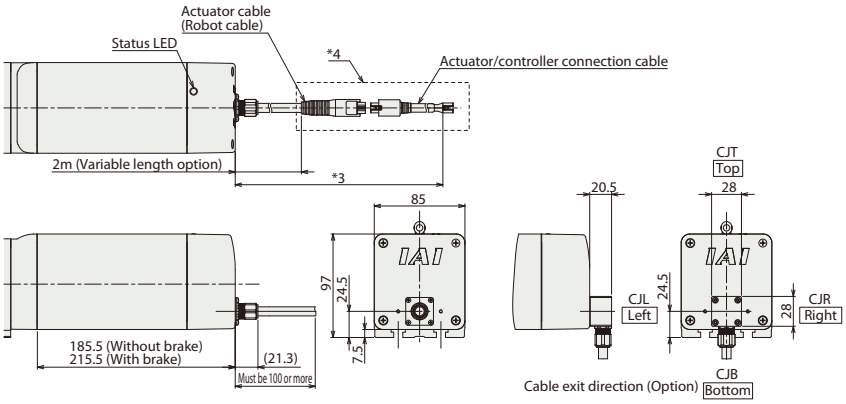


Detail view of P



Cable exit direction (Option)

■ RCP6SW-RA8C



Cable exit direction (Option)

*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 8 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300
L	RCP6W	w/o brake	413	463	513	563	613	663
		w/ brake	443	493	543	593	643	693
	RCP6SW	w/o brake	451	501	551	601	651	701
		w/ brake	481	531	581	631	681	731
A			265.5	315.5	365.5	415.5	465.5	515.5
Mass (kg)	RCP6W	w/o brake	8.0	8.8	9.7	10.5	11.4	12.2
		w/ brake	8.6	9.4	10.3	11.1	12.0	12.8
	RCP6SW	w/o brake	8.3	9.1	10.0	10.8	11.7	12.5
		w/ brake	8.9	9.7	10.6	11.4	12.3	13.1

* Please refer to P.250 for more information on component materials.

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.271 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-CFB/CGFB		1	DC24V	● * Option	● * Option	–	DeviceNet CompoNet EtherNet/IP CC-Link MECHATROLINK PROFIBUS EtherCAT PROFINET	512 (768 for network spec.)	See P.255

RCP6(S)W-RA4R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 40* mm | 24v Stepper Motor

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

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RA4R	WA: Battery-less Absolute	35P: Stepper Motor 35□ Size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm ~ 200:200mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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 ML, MR or MT when ordering the side-mounted motor type.

* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

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

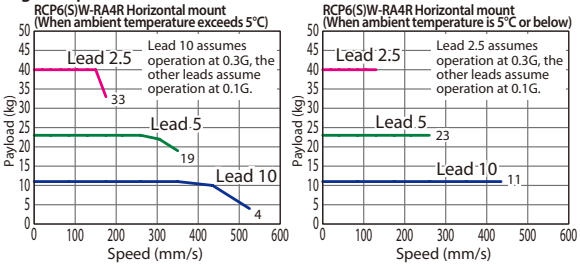
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.233 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

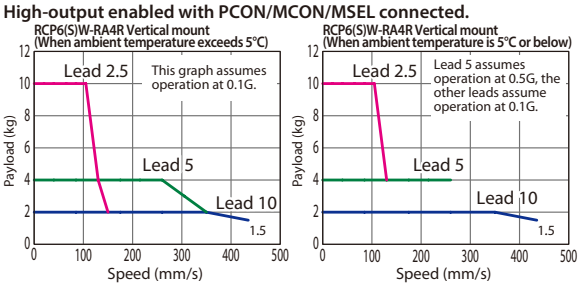
Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA4R-WA-35P-10-①-②-③-④	10	11	2	77	50~200 (Every 50mm)
RCP6(S)W-RA4R-WA-35P-5-①-②-③-④	5	23	4	155	
RCP6(S)W-RA4R-WA-35P-2.5-①-②-③-④	2.5	40	10	310	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~200 (Every 50mm)
10	525 <435> [435]
5	350 [260]
2.5	175 <150> [130]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**150**	○	○
100	○	○	**200**	○	○

② Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Motor side-mounted on top	**MT**	See P.201
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

Actuator Specifications

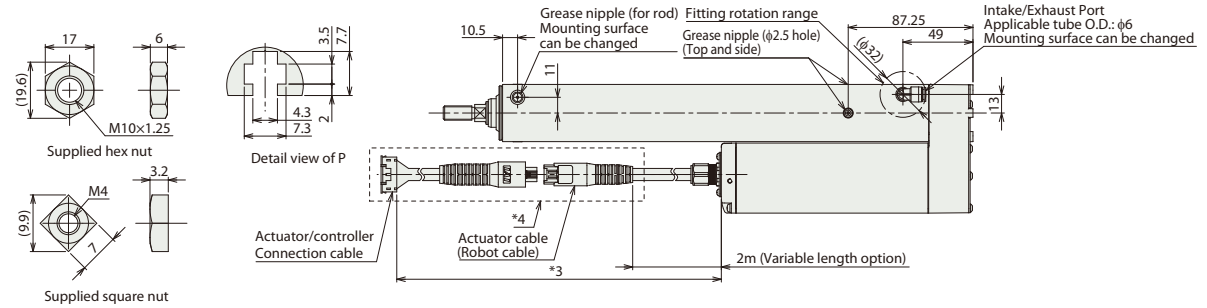
Item	Description
Drive system	Ball screw ϕ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ20mm
Allowable static torque on rod tip	1.0N·m
Max. angular displacement on rod tip (*1)	±1.0 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

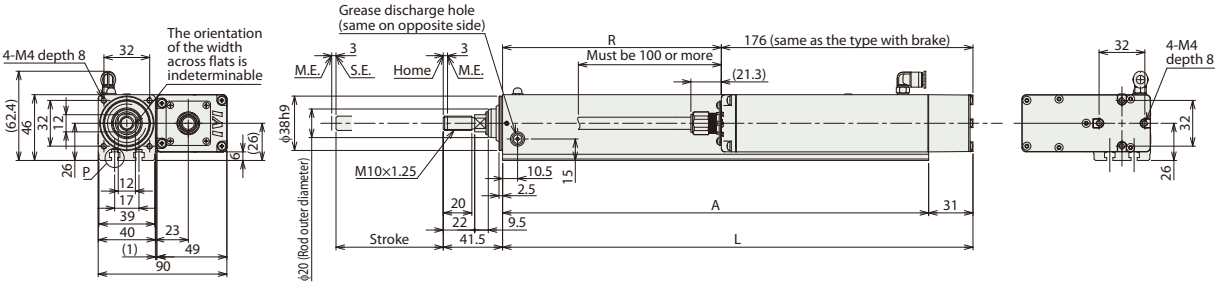
(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

Dimensions

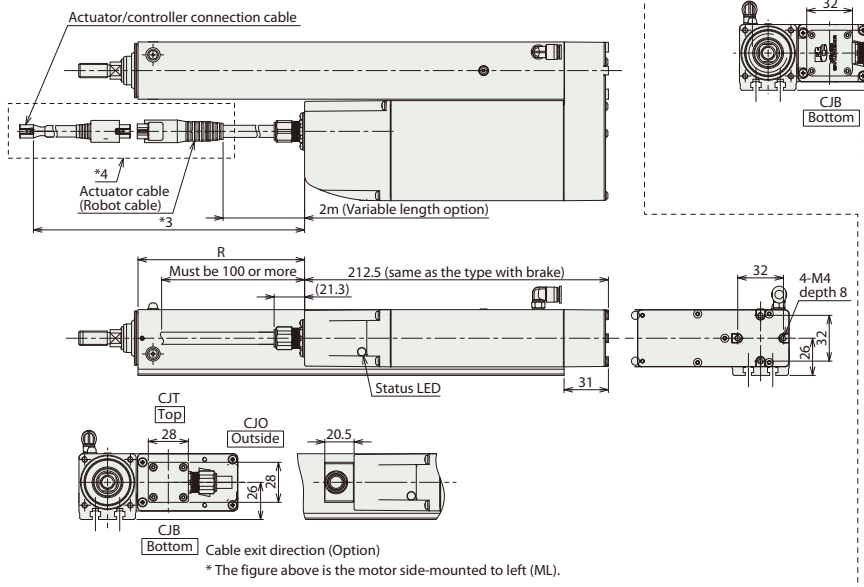
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

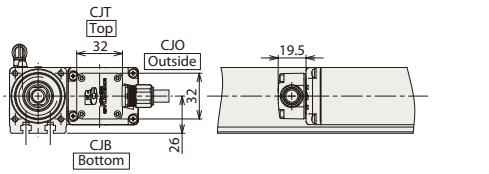
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 The direction of width across flats varies depending on the product.





■ RCP6SW-RA4R





*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 4 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200
L			179	229	279	329
A			148	198	248	298
R	RCP6W		3	53	103	153
	RCP6SW		-33.5	16.5	66.5	116.5
Mass (kg)	RCP6W	w/o brake	1.5	1.7	1.9	2.1
		w/ brake	1.6	1.8	2.0	2.2
	RCP6SW	w/o brake	1.7	1.9	2.1	2.3
		w/ brake	1.8	2.0	2.2	2.4

* If the length for R is negative in the table below, the length of the actuator body is shorter than the motor unit.

* Please refer to P.249 for more information on component materials.

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●		30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

Note:
· The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RA6R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 58* mm | 24v Stepper Motor

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

Model Specification Items

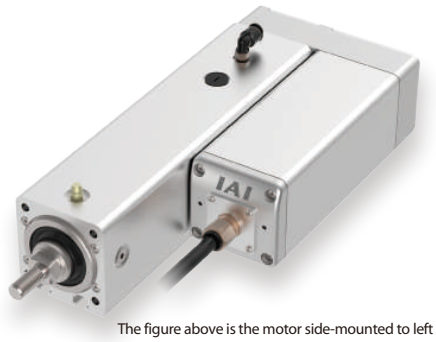
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RA6R	WA: Battery-less Absolute	42P: Stepper Motor 42□ Size	12 :12mm 6 : 6mm 3 : 3mm	50:50mm ~ 300:300mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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 ML, MR or MT when ordering the side-mounted motor type.

* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



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

POINT Selection Notes

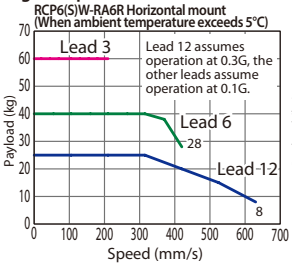
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.233 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 3/6. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

Correlation Diagrams of Speed and Payload

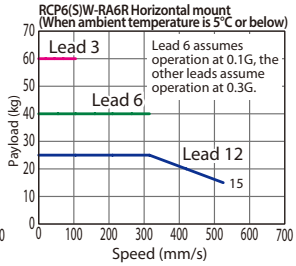
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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

RCP6(S)W-RA6R Horizontal mount (When ambient temperature exceeds 5°C)

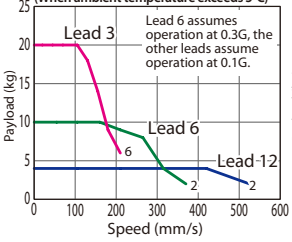


RCP6(S)W-RA6R Horizontal mount (When ambient temperature is 5°C or below)

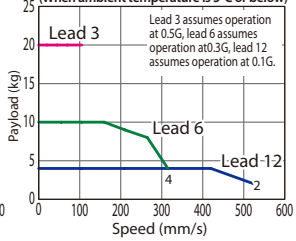


High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)W-RA6R Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RA6R Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA6R-WA-42P-12-①-②-③-④	12	25	4	93	50~300 (Every 50mm)
RCP6(S)W-RA6R-WA-42P-6-①-②-③-④	6	40	10	185	
RCP6(S)W-RA6R-WA-42P-3-①-②-③-④	3	60	20	370	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~300 (Every 50mm)
12	630 <525> [525]
6	420 <370> [315]
3	210 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	200	○	○
100	○	○	250	○	○
150	○	○	300	○	○

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	Not specified	See P.197
Actuator cable length 5m	AC5	See P.197
Actuator cable length 10m	AC10	See P.197
Actuator cable length 15m	AC15	See P.197
Brake	B	See P.197
Cable exit direction (Bottom)	CJB	See P.197
Cable exit direction (Left)	CJL	See P.197
Cable exit direction (Outside)	CJO	See P.197
Cable exit direction (Right)	CJR	See P.197
Cable exit direction (Top)	CJT	See P.197
Flange	FL	See P.198
Foot bracket	FT	See P.199
Motor side-mounted to left (standard)	ML	See P.201
Motor side-mounted to right	MR	See P.201
Motor side-mounted on top	MT	See P.201
Tip adapter (Internal thread)	NFA	See P.201
Non-motor end specification	NM	See P.202
T-slot nut bar	NTB	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	P(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	X06 (6m) ~X10 (10m)	○	○	○
	X11 (11m) ~X15 (15m)	○	○	○
	X16 (16m) ~X18 (18m)	○	○	○
Robot cable	R01 (1m) ~R03 (3m)	○	○	○
	R04 (4m) ~R05 (5m)	○	○	○
	R06 (6m) ~R10 (10m)	○	○	○
	R11 (11m) ~R15 (15m)	○	○	○
	R16 (16m) ~R18 (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

Actuator Specifications

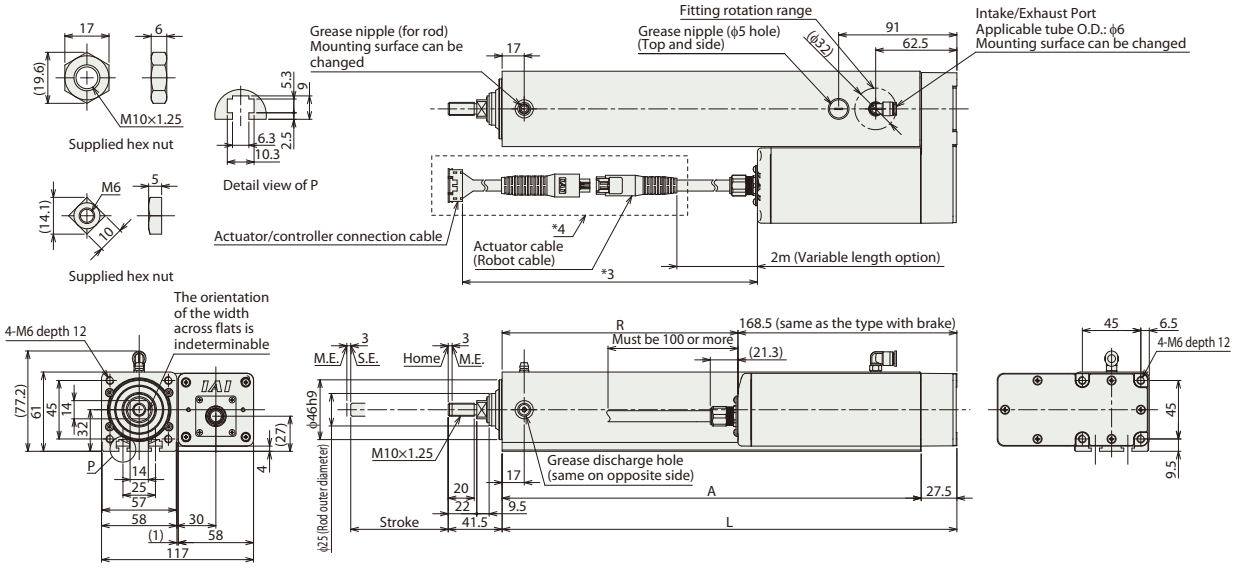
Item	Description
Drive system	Ball screw ϕ10mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ25mm
Allowable static torque on rod tip	1.5N·m
Max. angular displacement on rod tip (*1)	±1.0 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

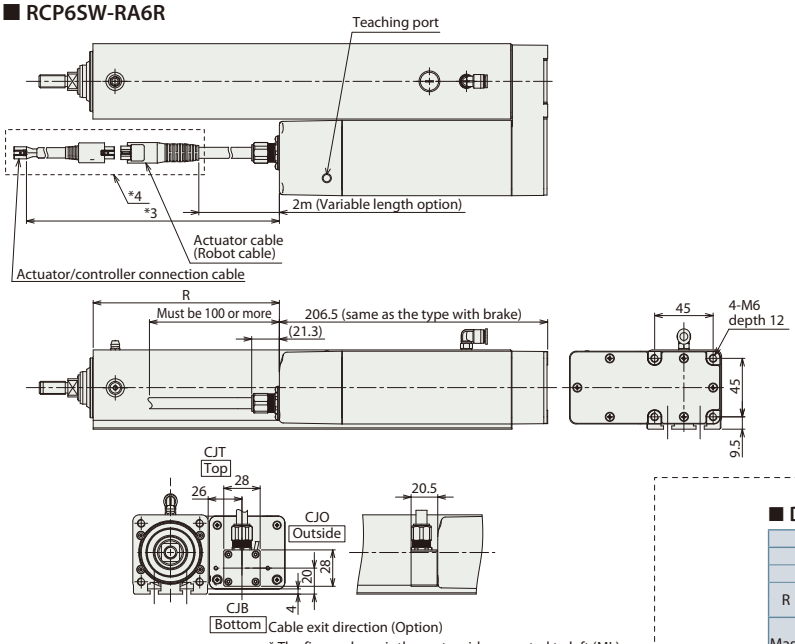
Dimensions

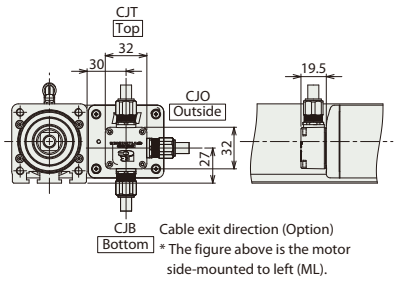
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 The direction of width across flats varies depending on the product.



■ RCP6SW-RA6R





*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 4 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300
L			200	250	300	350	400	450
A			172.5	222.5	272.5	322.5	372.5	422.5
R	RCP6W		31.5	81.5	131.5	181.5	231.5	281.5
	RCP6SW		-6.5	43.5	93.5	143.5	193.5	243.5
Mass (kg)	RCP6W	w/o brake	2.8	3.2	3.6	3.9	4.3	4.7
		w/ brake	2.9	3.3	3.7	4.0	4.4	4.8
	RCP6SW	w/o brake	3.0	3.4	3.8	4.1	4.5	4.9
		w/ brake	3.1	3.5	3.9	4.2	4.6	5.0

* If the length for R is negative in the table below, the length of the actuator body is shorter than the motor unit.

* Please refer to P.249 and P.250 for more information on component materials.

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, MECHATROLINK, CC-Link, EtherCAT, PROFIBUS, EtherNet/IP, CompoNet, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●		30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RA7R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 70* mm | 24v Stepper Motor

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

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RA7R	WA: Battery-less Absolute	56P: Stepper Motor 56□ Size	16 :16mm 8 : 8mm 4 : 4mm	50:50mm ~ 300:300mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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 ML, MR or MT when ordering the side-mounted motor type.

* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

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

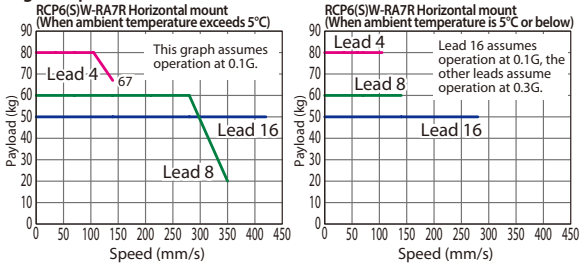
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.234 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 4/8/16. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

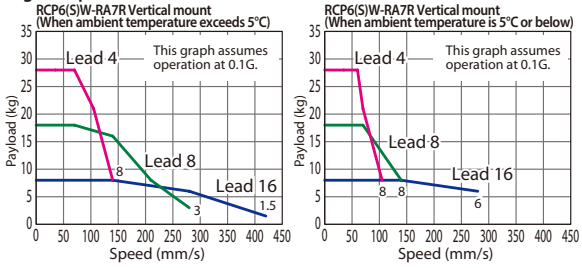
Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA7R-WA-56P-16-①-②-③-④	16	50	8	273	50~300 (Every 50mm)
RCP6(S)W-RA7R-WA-56P-8-①-②-③-④	8	60	18	547	
RCP6(S)W-RA7R-WA-56P-4-①-②-③-④	4	80	28	1094	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~300 (Every 50mm)
16	420 [280]
8	350 <280> [140]
4	140 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**200**	○	○
100	○	○	**250**	○	○
150	○	○	**300**	○	○

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Motor side-mounted on top	**MT**	See P.201
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

Actuator Specifications

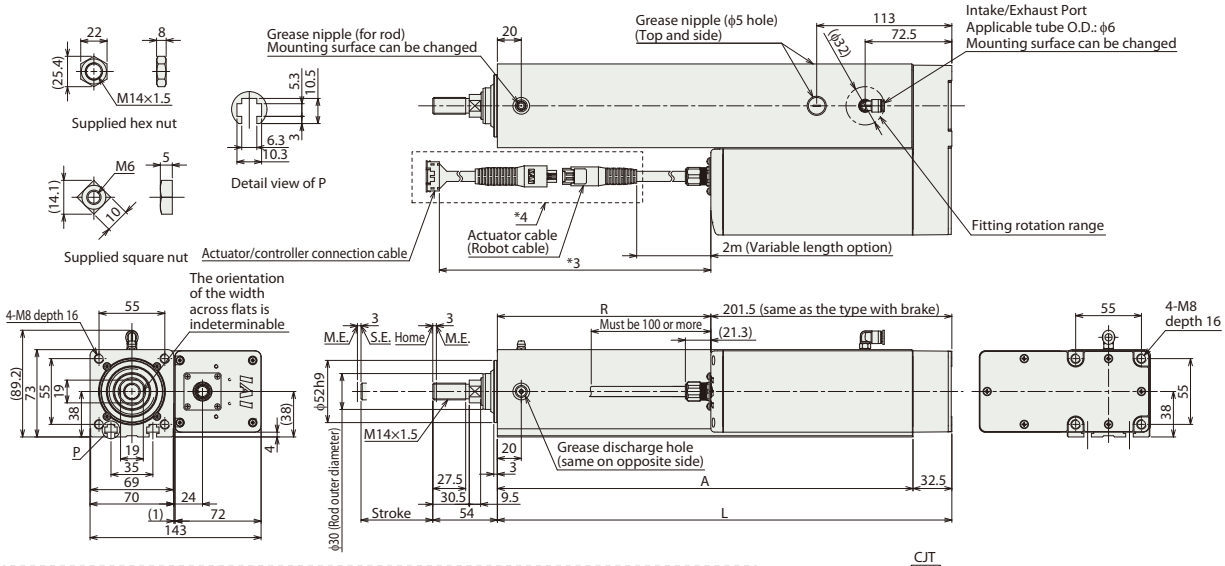
Item	Description
Drive system	Ball screw ϕ12mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ30mm
Allowable static torque on rod tip	2.5N·m
Max. angular displacement on rod tip (*1)	±0.8 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

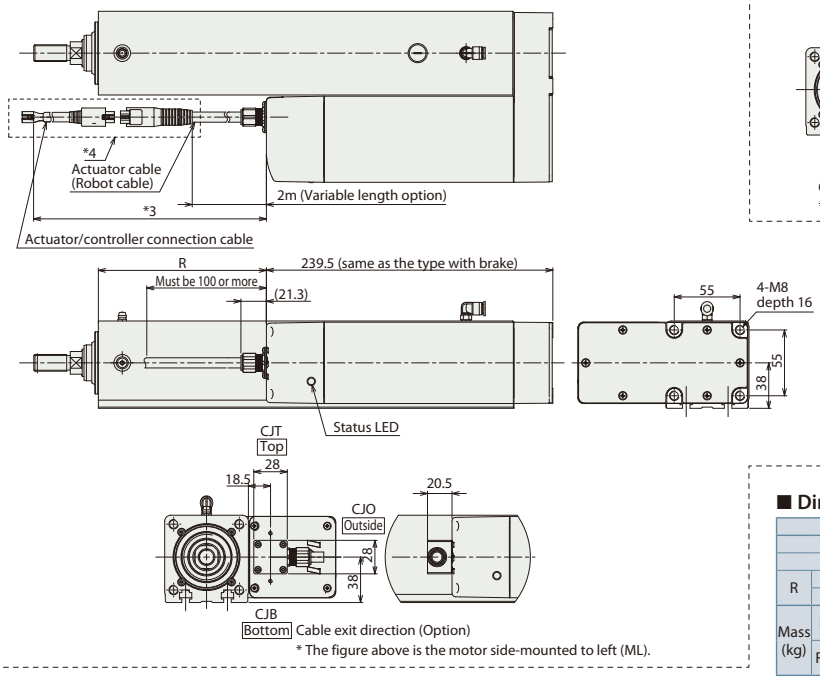
Dimensions

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
*2 The direction of width across flats varies depending on the product.



■ RCP6SW-RA7R



*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 6 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300
L			230	280	330	380	430	480
A			197.5	247.5	297.5	347.5	397.5	447.5
R	RCP6W		26.5	76.5	126.5	176.5	226.5	276.5
	RCP6SW		-9.5	40.5	90.5	140.5	190.5	240.5
Mass (kg)	RCP6W	w/o brake	5.2	5.8	6.4	7.0	7.5	8.1
		w/ brake	5.3	5.9	6.5	7.1	7.6	8.2
	RCP6SW	w/o brake	5.4	6.0	6.6	7.2	7.7	8.3
		w/ brake	5.5	6.1	6.7	7.3	7.8	8.4

* If the length for R is negative in the table below, the length of the actuator body is shorter than the motor unit.

* Please refer to P.250 for more information on component materials.

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RA8R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 85* mm | 24v Stepper Motor

■ Model Specification Items

□ — RA8R — WA — 60P — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller		WA: Battery-less Absolute	60P: Stepper Motor 60□ Size	20 :20mm 10 :10mm 5 : 5mm	50:50mm ~ 300:300mm (Every 50mm)	[RCP6W] P4 : PCON-CFB/CGFB [RCP6SW] 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 ML, MR or MT when ordering the side-mounted motor type.

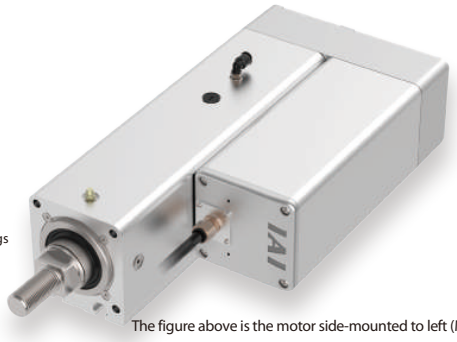
* Body width does not include the width of the side-mounted motor.

* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.19 for more information about the model specification items.

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



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

POINT Selection Notes

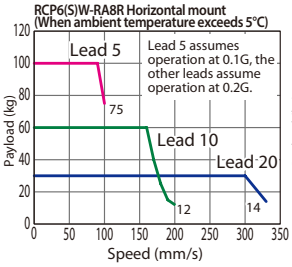
(1) The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.234 for more details.
(3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(4) Please refer to P205 for performing push-motion operation.
(5) For RCP6SW (built-in controller type), please limit the duty cycle to 70% or less.
(6) The service life of an actuator varies depending on the payload when using vertically. Please refer to P. 206 for more information.
(7) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

■ Correlation Diagrams of Speed and Payload

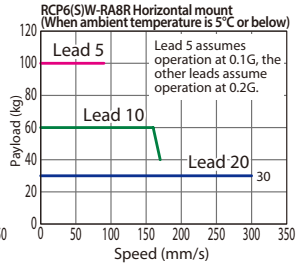
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

PCON connected.

RCP6(S)W-RA8R Horizontal mount (When ambient temperature exceeds 5°C)

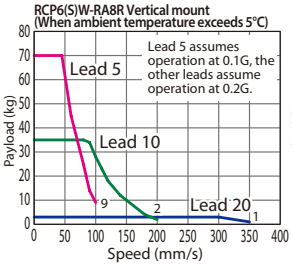


RCP6(S)W-RA8R Horizontal mount (When ambient temperature is 5°C or below)

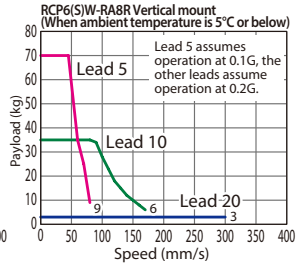


PCON connected.

RCP6(S)W-RA8R Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RA8R Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)	Max. Payload Vertical (kg)	Max. Push Force (N)*	Stroke (mm)
RCP6(S)W-RA8R-WA-60P-20-①-②-③-④	20	30	3	500	50~300 (Every 50mm)
RCP6(S)W-RA8R-WA-60P-10-①-②-③-④	10	60	35	1,000	
RCP6(S)W-RA8R-WA-60P-5-①-②-③-④	5	100	70	2,000	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~300 (Every 50mm)
20	350 <330> [300]
10	200 [170]
5	100 [80]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**200**	○	○
100	○	○	**250**	○	○
150	○	○	**300**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W	RCP6SW
Standard	**P**(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○
	X11 (11m) ~**X15** (15m)	○	○
	X16 (16m) ~**X18** (18m)	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○
	R04 (4m) ~**R05** (5m)	○	○
	R06 (6m) ~**R10** (10m)	○	○
	R11 (11m) ~**R15** (15m)	○	○
	R16 (16m) ~**R18** (18m)	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Motor side-mounted on top	**MT**	See P.201
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

Actuator Specifications

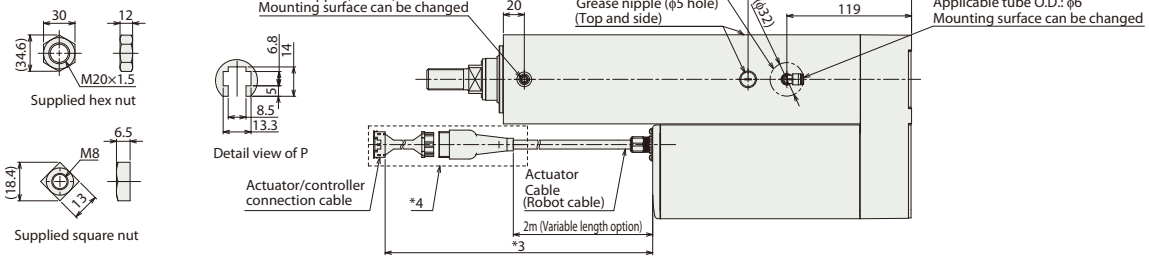
Item	Description
Drive system	Ball screw ϕ16mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ40mm
Allowable static torque on rod tip	5N·m
Max. angular displacement on rod tip (*1)	±0.8 deg.
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

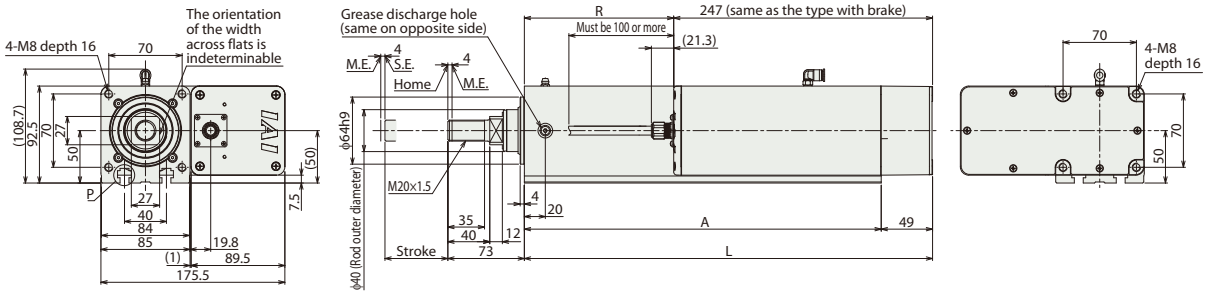
(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the allowable static torque is applied at the rod tip.

Dimensions

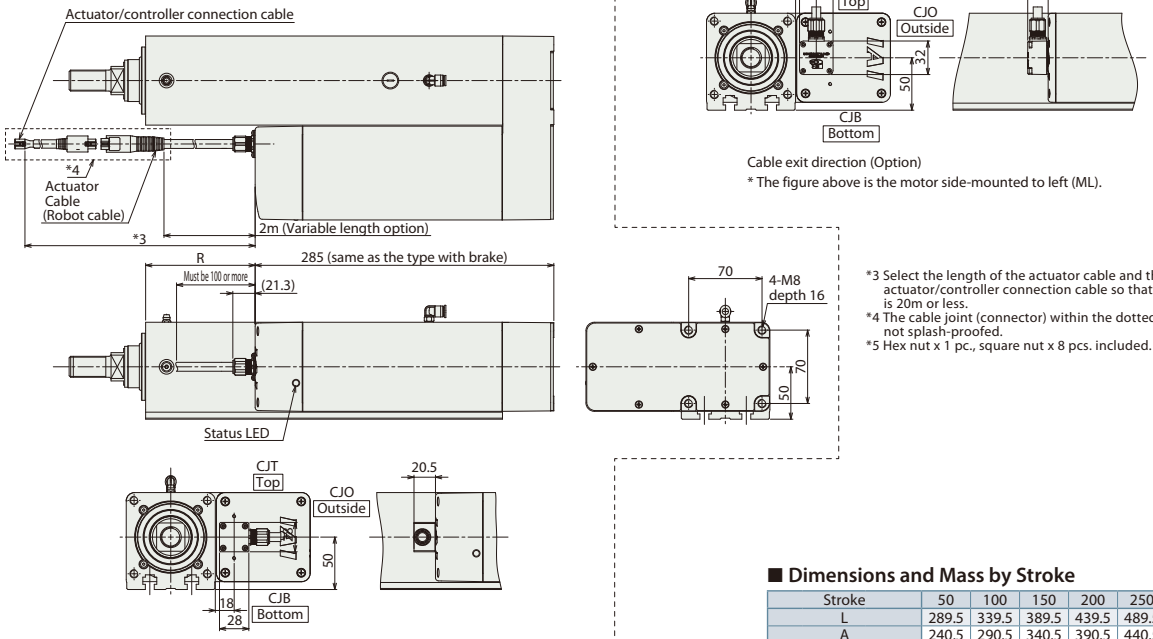
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 The direction of width across flats varies depending on the product.





■ RCP6SW-RA8R



*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.
*5 Hex nut x 1 pc., square nut x 8 pcs. included.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300
L			289.5	339.5	389.5	439.5	489.5	539.5
A			240.5	290.5	340.5	390.5	440.5	490.5
R	RCP6W		42.5	92.5	142.5	192.5	242.5	292.5
	RCP6SW		4.5	54.5	104.5	154.5	204.5	254.5
Mass (kg)	RCP6W	w/o brake	9.2	10.0	10.9	11.7	12.6	13.4
		w/ brake	9.5	10.3	11.2	12.0	12.9	13.7
	RCP6SW	w/o brake	9.5	10.3	11.2	12.0	12.9	13.7
		w/ brake	9.8	10.6	11.5	12.3	13.2	14.0

* Please refer to P.250 for more information on component materials.

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.271 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-CFB/CGFB		1	DC24V	● * Option	● * Option	–	DeviceNet CompoNet EtherNet/IP CC-Link MECHATROLINK PROFIBUS EtherCAT PROFINET	512 (768 for network spec.)	See P.255

RCP6(S)W-RRA4C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 45 mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA4C	WA: Battery-less Absolute	35P: Stepper Motor 35□ Size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm ~ 400:400mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.19 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

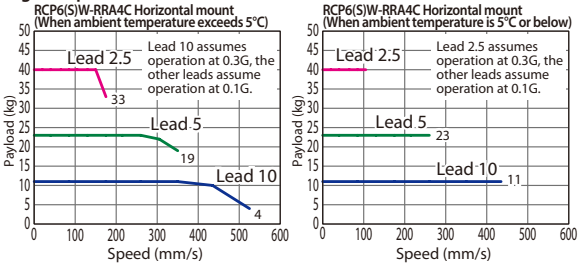
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.235 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

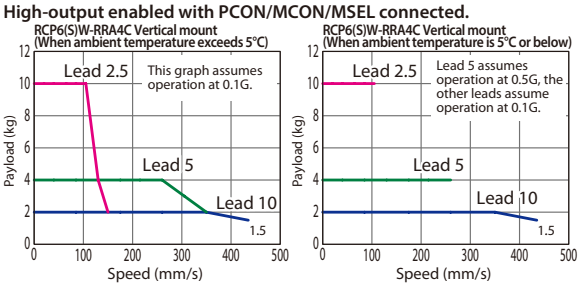
■ Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA4C-WA-35P-10-①-②-③-④	10	11	2	77	50~400 (Every 50mm)
RCP6(S)W-RRA4C-WA-35P-5-①-②-③-④	5	23	4	155	
RCP6(S)W-RRA4C-WA-35P-2.5-①-②-③-④	2.5	40	10	310	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~350 (Every 50mm)	400
10	525 <435> [435]	
5	350 [260]	340 [260]
2.5	175 <150> [105]	170 <150> [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**250**	○	○
100	○	○	**300**	○	○
150	○	○	**350**	○	○
200	○	○	**400**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Flange)	**FFA**	See P.197
Tip adapter (Internal thread)	**NFA**	See P.201
Tip adapter (Keyway)	**KFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

Actuator Specifications

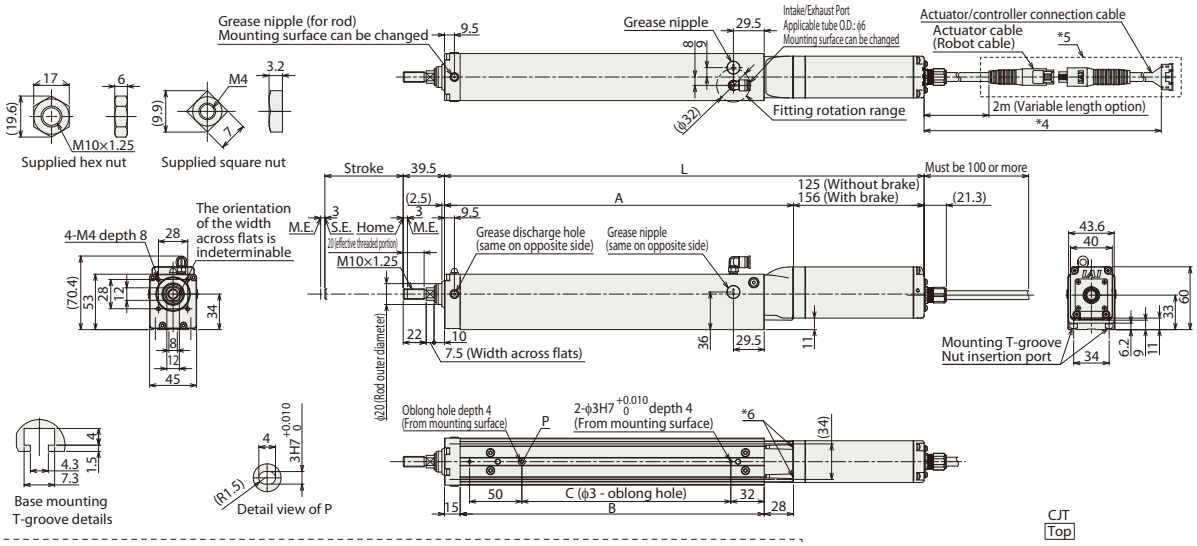
Item	Description
Drive system	Ball screw ϕ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ20mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

* Rod's angular displacement in rotational direction with no load applied to the rod.

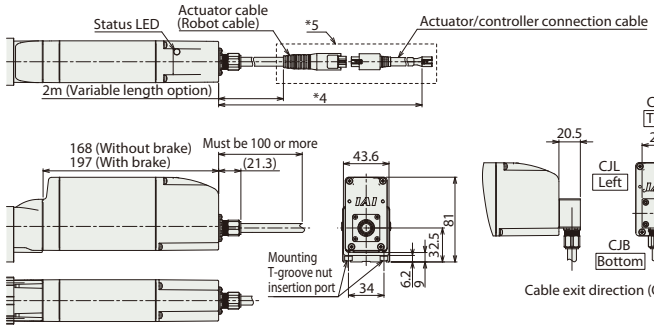
Dimensions

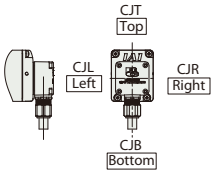
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.



■ RCP6SW-RRA4C

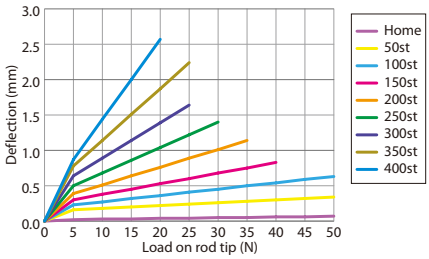




Cable exit direction (Option)

*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.
*6 Part of the gasket lifts up, but this does not affect splash-proof performance.
*7 Hex nut x 1 pc., square nut x 4 pcs. included.

■ Rod Deflection of RCP6(S)W-RRA4C (Reference Values)



* Please refer to P.251 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400
L	RCP6W	w/o brake	309	359	409	459	509	559	609	659
		w/ brake	340	390	440	490	540	590	640	690
	RCP6SW	w/o brake	352	402	452	502	552	602	652	702
		w/ brake	381	431	481	531	581	631	681	731
A			184	234	284	334	384	434	484	534
B			141	191	241	291	341	391	441	491
C			50	100	150	200	250	300	350	400
Allowable static load on rod tip (N)			63.4	50.7	42.1	36.0	31.3	27.6	24.6	22.2
Allowable dynamic load on rod tip (5,000km life) (N)		Load offset 0mm	28.9	22.2	17.9	14.8	12.6	10.8	9.4	8.2
		Load offset 100mm	17.9	15.5	13.4	11.6	10.2	9.0	8.0	7.1
Allowable static torque on rod tip (N•m)			6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3
Allowable dynamic torque on rod tip (N•m)			1.7	1.5	1.3	1.1	1.0	0.9	0.7	0.7
Mass (kg)	RCP6W	w/o brake	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9
		w/ brake	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
	RCP6SW	w/o brake	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1
		w/ brake	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Pulse train	Program	Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●		30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

Note:
· The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RRA6C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 65 mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA6C	WA: Battery-less Absolute	42P: Stepper Motor 42□ Size	12 :12mm 6 : 6mm 3 : 3mm	50:50mm ~ 400:400mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.19 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

POINT Selection Notes

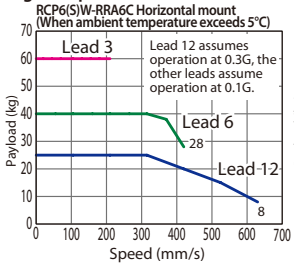
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.235 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 3/6. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

■ Correlation Diagrams of Speed and Payload

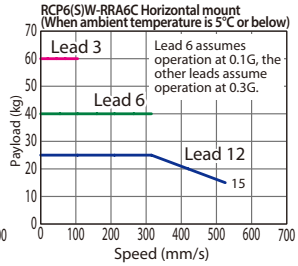
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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

RCP6(S)W-RRA6C Horizontal mount (When ambient temperature exceeds 5°C)

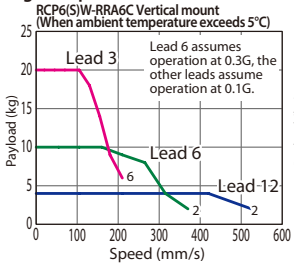


RCP6(S)W-RRA6C Horizontal mount (When ambient temperature is 5°C or below)

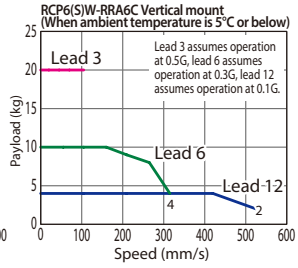


High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)W-RRA6C Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RRA6C Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA6C-WA-42P-12-①-②-③-④	12	25	4	93	50~400 (Every 50mm)
RCP6(S)W-RRA6C-WA-42P-6-①-②-③-④	6	40	10	185	
RCP6(S)W-RRA6C-WA-42P-3-①-②-③-④	3	60	20	370	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~400 (Every 50mm)
12	630 <525> [525]
6	420 <370> [315]
3	210 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**250**	○	○
100	○	○	**300**	○	○
150	○	○	**350**	○	○
200	○	○	**400**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Flange)	**FFA**	See P.197
Tip adapter (Internal thread)	**NFA**	See P.201
Tip adapter (Keyway)	**KFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

Actuator Specifications

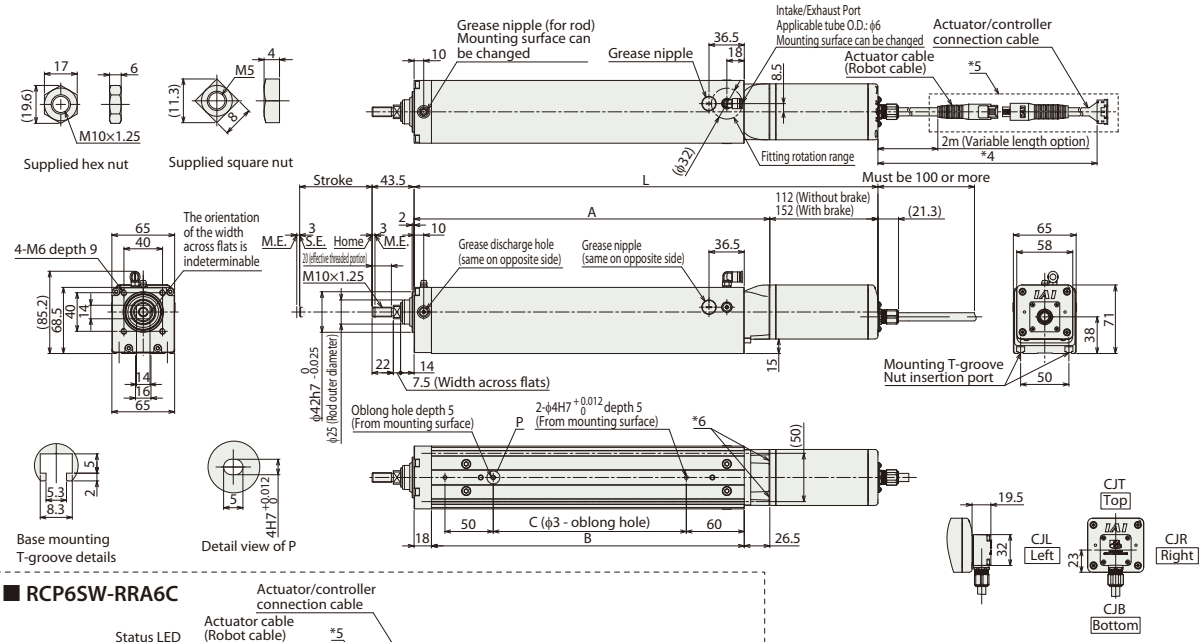
Item	Description
Drive system	Ball screw ϕ10mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ25mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

* Rod's angular displacement in rotational direction with no load applied to the rod.

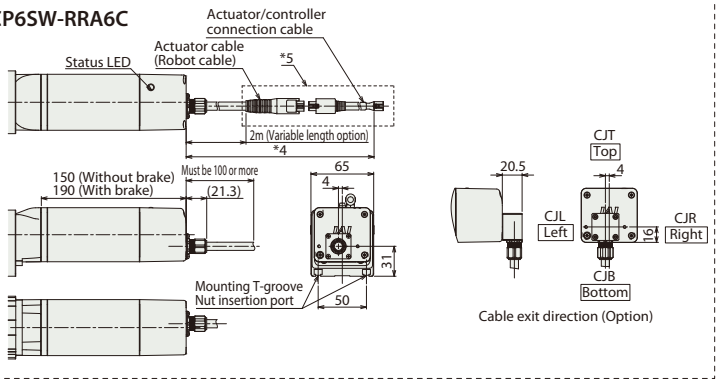
Dimensions

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
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.

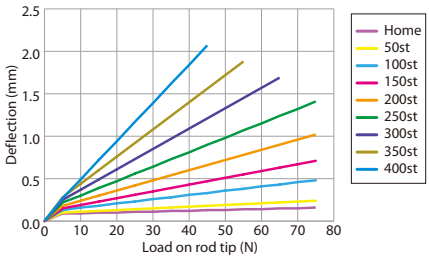


■ RCP6SW-RRA6C



*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.
*6 Part of the gasket lifts up, but this does not affect splash-proof performance.
*7 Hex nut x 1 pc., square nut x 4 pcs. included.

■ Rod Deflection of RCP6(S)W-RRA6C (Reference Values)



* Please refer to P.251 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400
L	RCP6W	w/o brake	330.5	380.5	430.5	480.5	530.5	580.5	630.5	680.5
		w/ brake	370.5	420.5	470.5	520.5	570.5	620.5	670.5	720.5
	RCP6SW	w/o brake	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5
		w/ brake	408.5	458.5	508.5	558.5	608.5	658.5	708.5	758.5
A			218.5	268.5	318.5	368.5	418.5	468.5	518.5	568.5
B			174	224	274	324	374	424	474	524
C			50	100	150	200	250	300	350	400
Allowable static load on rod tip (N)			144	117	99	85.4	75	66.7	59.9	54.3
Allowable dynamic load on rod tip (5,000km life) (N)		Load offset 0mm	58.1	46.4	38.3	32.4	27.9	24.4	21.5	19.2
		Load offset 100mm	38.8	34.0	29.7	26.2	23.2	20.8	18.7	16.8
Allowable static torque on rod tip (N•m)			14.5	11.8	10.0	8.7	7.6	6.8	6.2	5.6
Allowable dynamic torque on rod tip (N•m)			3.8	3.3	2.9	2.6	2.3	2.0	1.8	1.6
Mass (kg)	RCP6W	w/o brake	2.8	3.1	3.5	3.9	4.2	4.6	4.9	5.3
		w/ brake	3.0	3.3	3.7	4.1	4.4	4.8	5.1	5.5
	RCP6SW	w/o brake	2.9	3.2	3.6	4.0	4.3	4.7	5.0	5.4
		w/ brake	3.2	3.5	3.9	4.3	4.6	5.0	5.3	5.7

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RRA7C

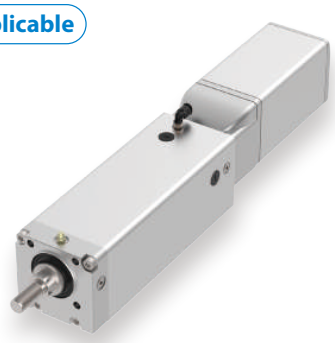
Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 78 mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA7C	WA: Battery-less Absolute	56P: Stepper Motor 56□ Size	16 :16mm 8 : 8mm 4 : 4mm	50:50mm ~ 500:500mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.19 for more information about the model specification items.

Radial Load Applicable



Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

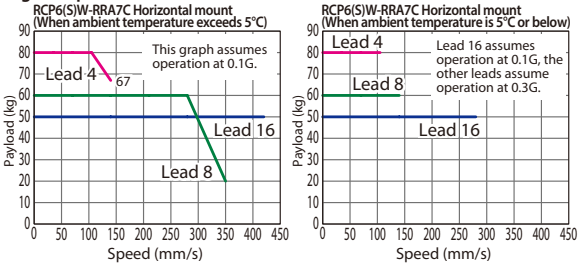
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.236 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 4/8/16. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

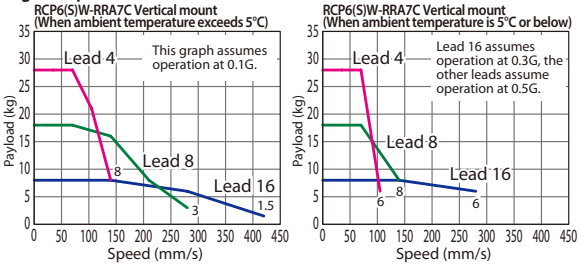
■ Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA7C-WA-56P-16-①-②-③-④	16	50	8	273	50~500 (Every 50mm)
RCP6(S)W-RRA7C-WA-56P-8-①-②-③-④	8	60	18	547	
RCP6(S)W-RRA7C-WA-56P-4-①-②-③-④	4	80	28	1,094	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~500 (Every 50mm)
16	420 [280]
8	350 <280> [140]
4	140 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**300**	○	○
100	○	○	**350**	○	○
150	○	○	**400**	○	○
200	○	○	**450**	○	○
250	○	○	**500**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Flange)	**FFA**	See P.197
Tip adapter (Internal thread)	**NFA**	See P.201
Tip adapter (Keyway)	**KFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

Actuator Specifications

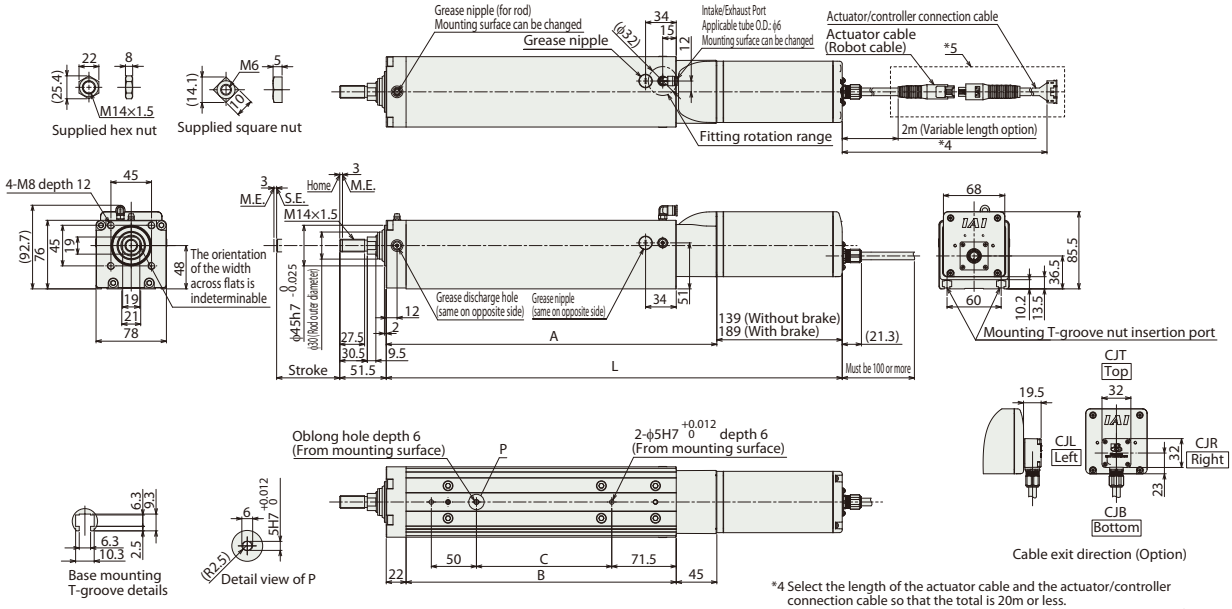
Item	Description
Drive system	Ball screw ϕ12mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ30mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

* Rod's angular displacement in rotational direction with no load applied to the rod.

Dimensions

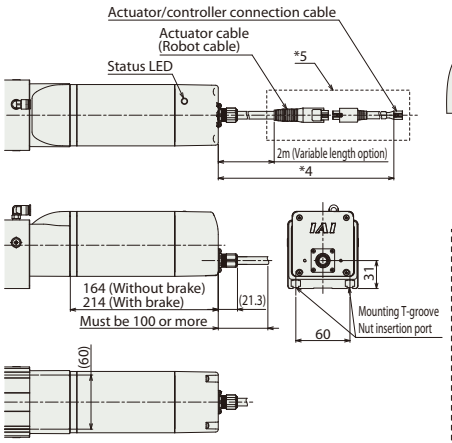
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.

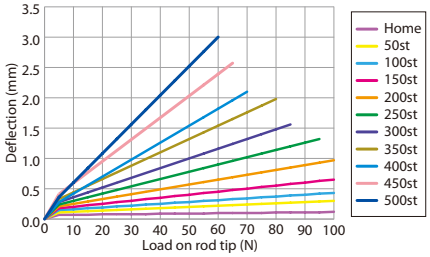


*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.
*6 Part of the gasket lifts up, but this does not affect splash-proof performance.
*7 Hex nut x 1 pc., square nut x 8 pcs. included.

■ RCP6SW-RRA7C



■ Rod Deflection of RCP6(S)W-RRA7C (Reference Values)



■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500
L	RCP6W	w/o brake	405.5	455.5	505.5	555.5	605.5	655.5	705.5	755.5	805.5	855.5
		w/ brake	455.5	505.5	555.5	605.5	655.5	705.5	755.5	805.5	855.5	905.5
	RCP6SW	w/o brake	430.5	480.5	530.5	580.5	630.5	680.5	730.5	780.5	830.5	880.5
		w/ brake	480.5	530.5	580.5	630.5	680.5	730.5	780.5	830.5	880.5	930.5
A			266.5	316.5	366.5	416.5	466.5	516.5	566.5	616.5	666.5	716.5
B			199.5	249.5	299.5	349.5	399.5	449.5	499.5	549.5	599.5	649.5
C			50	100	150	200	250	300	350	400	450	500
Allowable static load on rod tip (N)			175	147	126	111	98.6	88.7	80.6	73.8	68	63
Allowable dynamic load on rod tip (5,000km life) (N)		Load offset 0mm	75.7	62.6	53.1	46.0	40.5	36.1	32.5	29.4	26.9	24.7
		Load offset 100mm	49.8	45.1	40.5	36.5	33.1	30.2	27.7	25.5	23.6	21.9
Allowable static torque on rod tip (N•m)			17.6	14.7	12.7	11.2	9.9	9.0	8.2	7.5	6.94	6.45
Allowable dynamic torque on rod tip (N•m)			5.0	4.5	4.0	3.6	3.3	3.0	2.8	2.5	2.32	2.16
Mass (kg)	RCP6W	w/o brake	5.0	5.5	6.0	6.5	6.9	7.4	7.9	8.4	8.9	9.4
		w/ brake	5.4	5.9	6.4	6.9	7.3	7.8	8.3	8.8	9.3	9.8
	RCP6SW	w/o brake	5.2	5.7	6.2	6.7	7.1	7.6	8.1	8.6	9.1	9.6
		w/ brake	5.6	6.1	6.6	7.1	7.5	8.0	8.5	9.0	9.5	10.0

* Please refer to P.251 and P.252 for more information on component materials.

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RRA8C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 85 mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA8C	WA: Battery-less Absolute	60P: Stepper Motor 60□ Size	20 :20mm 10 :10mm 5 : 5mm	50:50mm ~ 700:700mm (Every 50mm)	[RCP6W] P4 : PCON-CFB/CGFB [RCP6SW] SE: SIO Type	N : None P : 1m S : 3m M: 5m X□□ : Specified Length R□□ : Robot Cable	Please refer to the options table below.

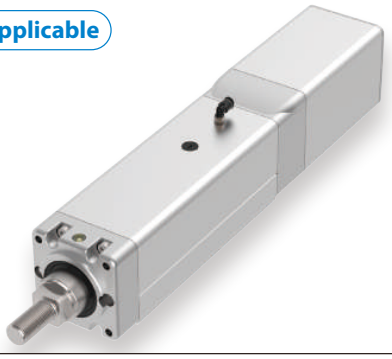
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.19 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



POINT Selection Notes

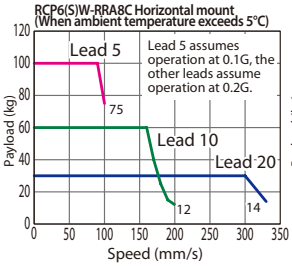
(1) The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.236 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P.205 for performing push-motion operation.
(5) For RCP6SW (built-in controller type), please limit the duty cycle to 70% or less.
(6) The service life of an actuator varies depending on the payload when using vertically. Please refer to P. 206 for more information.
(7) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

■ Correlation Diagrams of Speed and Payload

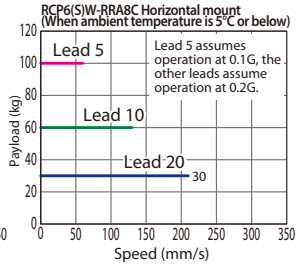
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

PCON connected.

RCP6(S)W-RRA8C Horizontal mount (When ambient temperature exceeds 5°C)

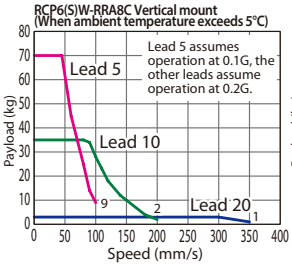


RCP6(S)W-RRA8C Horizontal mount (When ambient temperature is 5°C or below)

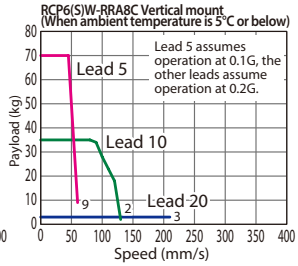


PCON connected.

RCP6(S)W-RRA8C Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RRA8C Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA8C-WA-60P-20-①-②-③-④	20	30	3	500	50~700 (Every 50mm)
RCP6(S)W-RRA8C-WA-60P-10-①-②-③-④	10	60	35	1,000	
RCP6(S)W-RRA8C-WA-60P-5-①-②-③-④	5	100	70	2,000	

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

■ Stroke and Max Speed

(Unit: mm/s)

Lead (mm)	50	100~450 (Every 50mm)	500	550	600	650	700
20	280 [210]	350<330> [210]		320 [210]	280 [210]	240 [210]	220 [210]
10	200 [130]		180 [130]	160 [130]	140 [130]	120 [120]	110 [110]
5	100 [60]		90 [60]	80 [60]	70 [60]	60 [60]	55 [55]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**400**	○	○
100	○	○	**450**	○	○
150	○	○	**500**	○	○
200	○	○	**550**	○	○
250	○	○	**600**	○	○
300	○	○	**650**	○	○
350	○	○	**700**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W	RCP6SW
Standard	**P**(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○
	X11 (11m) ~**X15** (15m)	○	○
	X16 (16m) ~**X18** (18m)	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○
	R04 (4m) ~**R05** (5m)	○	○
	R06 (6m) ~**R10** (10m)	○	○
	R11 (11m) ~**R15** (15m)	○	○
	R16 (16m) ~**R18** (18m)	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Tip adapter (Internal thread)	**NFA**	See P.201
Non-motor end specification	**NM**	See P.202

Actuator Specifications

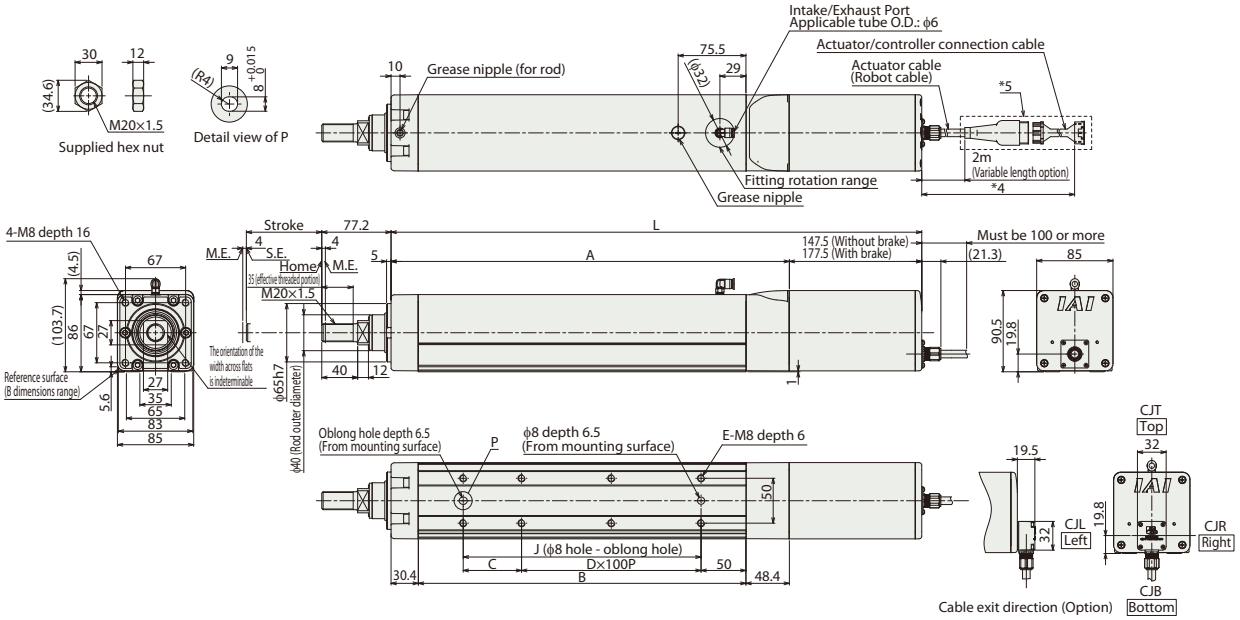
Item	Description
Drive system	Ball screw ϕ16mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ40mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

* Rod's angular displacement in rotational direction with no load applied to the rod.

Dimensions

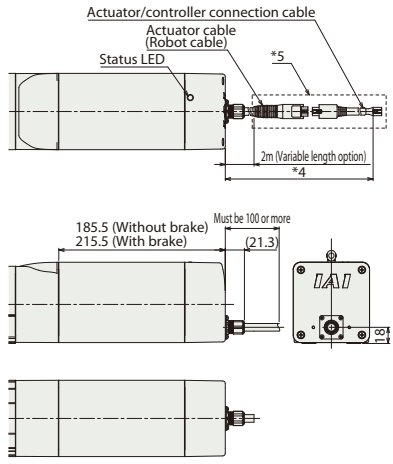
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.

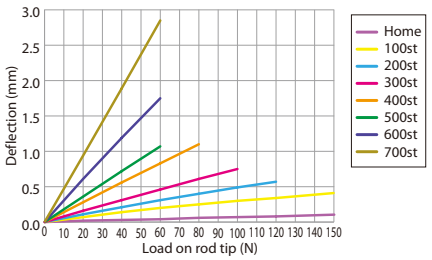


*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.

■ RCP6SW-RRA8C



■ Rod Deflection of RCP6(S)W-RRA8C (Reference Values)



■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700
L	RCP6W	w/o brake	441.3	491.3	541.3	591.3	641.3	691.3	741.3	791.3	841.3	891.3	941.3	991.3	1,041.3	1,091.3
		w/ brake	471.3	521.3	571.3	621.3	671.3	721.3	771.3	821.3	871.3	921.3	971.3	1,021.3	1,071.3	1,121.3
	RCP6SW	w/o brake	479.3	529.3	579.3	629.3	679.3	729.3	779.3	829.3	879.3	929.3	979.3	1,029.3	1,079.3	1,129.3
		w/ brake	509.3	559.3	609.3	659.3	709.3	759.3	809.3	859.3	909.3	959.3	1,009.3	1,059.3	1,109.3	1,159.3
A			293.8	343.8	393.8	443.8	493.8	543.8	593.8	643.8	693.8	743.8	793.8	843.8	893.8	943.8
B			215	265	315	365	415	465	515	565	615	665	715	765	815	865
C			115	65	115	65	115	65	115	65	115	65	115	65	115	65
D			0	1	1	2	2	3	3	4	4	5	5	6	6	7
E			4	6	6	8	8	10	10	12	12	14	14	16	16	18
J			115	165	215	265	315	365	415	465	515	565	615	665	715	765
Allowable static load on rod tip (N)			222	186	159	139	124	111	101	92.1	84.7	78.4	72.8	68	63.7	59.8
Allowable dynamic load on rod tip (5,000km life) (N)		Offset 0mm	93.0	76.3	64.7	56.0	49.2	43.8	39.3	35.6	32.4	29.7	27.3	25.2	23.3	21.7
		Offset 100mm	72.0	61.6	53.9	48.0	43.0	38.9	35.4	32.3	29.7	27.4	25.3	23.5	21.9	20.4
Allowable static torque on rod tip (N•m)			22.3	18.7	16.1	14.1	12.6	11.3	10.3	9.4	8.7	8.1	7.6	7.1	6.7	6.3
Allowable dynamic torque on rod tip (N•m)			7.2	6.2	5.4	4.8	4.3	3.9	3.5	3.2	3.0	2.7	2.5	2.4	2.2	2.0
Mass (kg)	RCP6W	w/o brake	6.8	7.3	7.8	8.3	8.8	9.2	9.7	10.2	10.7	11.2	11.7	12.1	12.6	13.1
		w/ brake	7.4	7.9	8.4	8.9	9.4	9.8	10.3	10.8	11.3	11.8	12.3	12.7	13.2	13.7
	RCP6SW	w/o brake	7.1	7.6	8.1	8.6	9.1	9.5	10.0	10.5	11.0	11.5	12.0	12.4	12.9	13.4
		w/ brake	7.7	8.2	8.7	9.2	9.7	10.1	10.6	11.1	11.6	12.1	12.6	13.0	13.5	14.0

* Please refer to P.252 for more information on component materials.

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.271 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-CFB/CGFB		1	DC24V	● * Option	● * Option	–	DeviceNet CompoNet EtherNet/IP CC-Link MECHATROLINK PROFIBUS EtherCAT PROFINET	512 (768 for network spec.)	See P.255

RCP6(S)W-RRA4R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 45* mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA4R	WA: Battery-less Absolute	35P: Stepper Motor 35□ Size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm ~ 400:400mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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 MT 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.19 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

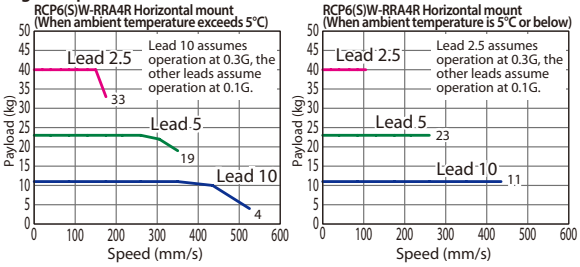
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.237 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

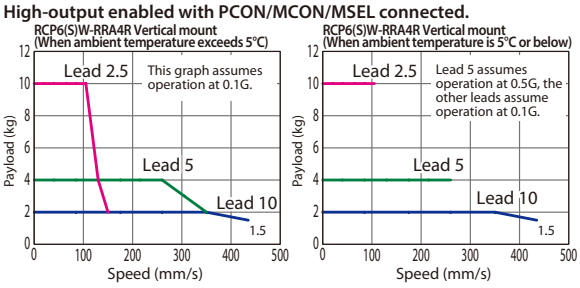
■ Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA4R-WA-35P-10-①-②-③-④	10	11	2	77	50~400 (Every 50mm)
RCP6(S)W-RRA4R-WA-35P-5-①-②-③-④	5	23	4	155	
RCP6(S)W-RRA4R-WA-35P-2.5-①-②-③-④	2.5	40	10	310	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~350 (Every 50mm)	400
10	525 <435> [435]	
5	350 [260]	340 [260]
2.5	175 <150> [105]	170 <150> [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**250**	○	○
100	○	○	**300**	○	○
150	○	○	**350**	○	○
200	○	○	**400**	○	○

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Flange)	**FFA**	See P.197
Tip adapter (Internal thread)	**NFA**	See P.201
Tip adapter (Keyway)	**KFA**	See P.201
Motor side-mounted on top	**MT**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

Actuator Specifications

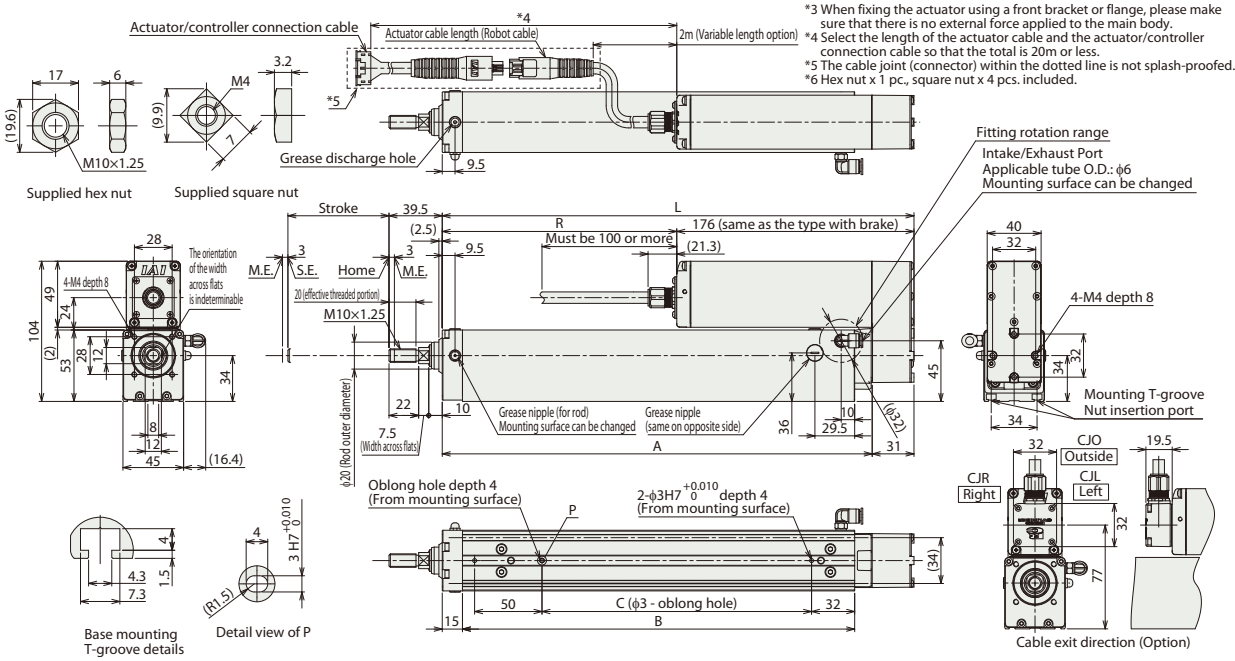
Item	Description
Drive system	Ball screw ϕ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ20mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

* Rod's angular displacement in rotational direction with no load applied to the rod.

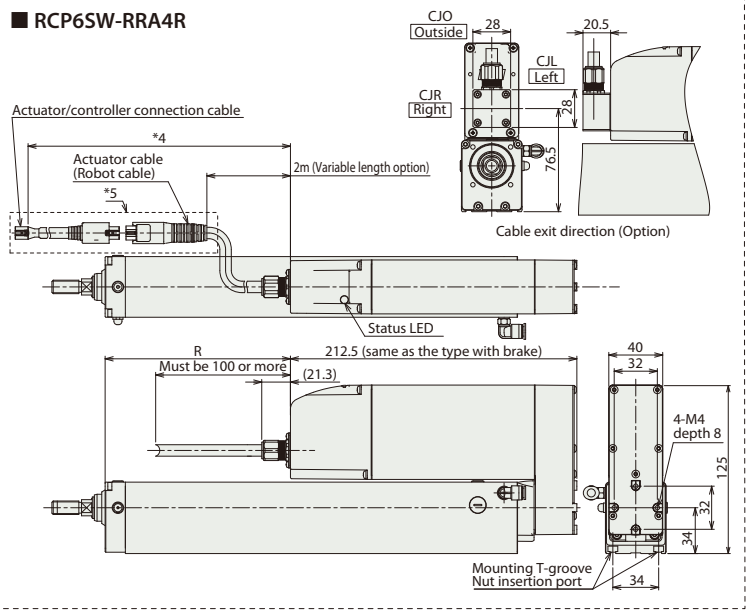
Dimensions

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

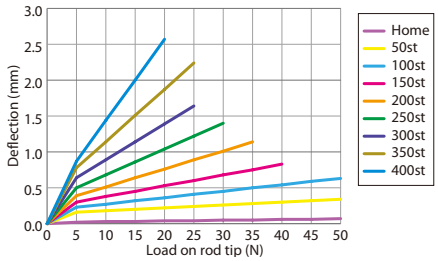
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.
*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.
*6 Hex nut x 1 pc., square nut x 4 pcs. included.



■ RCP6SW-RRA4R



■ Rod Deflection of RCP6(S)W-RRA4R (Reference Values)



■ Dimensions and Mass by Stroke

Stroke		50	100	150	200	250	300	350	400
L		200	250	300	350	400	450	500	550
A		169	219	269	319	369	419	469	519
B		141	191	241	291	341	391	441	491
C		50	100	150	200	250	300	350	400
R	RCP6W	24	74	124	174	224	274	324	374
	RCP6SW	-12.5	37.5	87.5	137.5	187.5	237.5	287.5	337.5
Allowable static load on rod tip (N)		63.4	50.7	42.1	36	31.3	27.6	24.6	22.2
Allowable dynamic load on rod tip (5,000km life) (N)	Offset 0mm	28.9	22.2	17.9	14.8	12.6	10.8	9.4	8.2
	Offset 100mm	17.9	15.5	13.4	11.6	10.2	9.0	8.0	7.1
Allowable static torque on rod tip (N•m)		6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3
Allowable dynamic torque on rod tip (N•m)		1.7	1.5	1.3	1.1	1.0	0.9	0.7	0.7
Mass (kg)	RCP6W w/o brake	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
	RCP6W w/ brake	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1
	RCP6SW w/o brake	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2
	RCP6SW w/ brake	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3

* If the length for R is negative in the table below, the length of the actuator body is shorter than the motor unit.

* Please refer to P.251 for more information on component materials.

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RRA6R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 65* mm | 24v Stepper Motor

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

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA6R	WA: Battery-less Absolute	42P: Stepper Motor 42□ Size	12 :12mm 6 : 6mm 3 : 3mm	50:50mm ~ 400:400mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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 MT when ordering the side-mounted motor type.

* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.19 for more information about the model specification items.

Radial Load Applicable

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

POINT Selection Notes

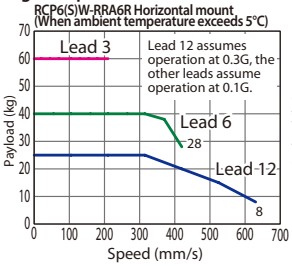
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.237 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 3/6. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

Correlation Diagrams of Speed and Payload

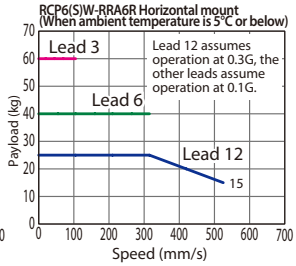
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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

RCP6(S)W-RRA6R Horizontal mount (When ambient temperature exceeds 5°C)

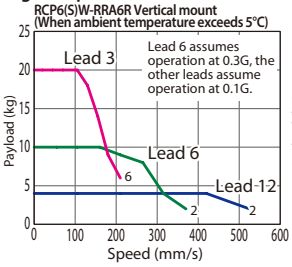


RCP6(S)W-RRA6R Horizontal mount (When ambient temperature is 5°C or below)

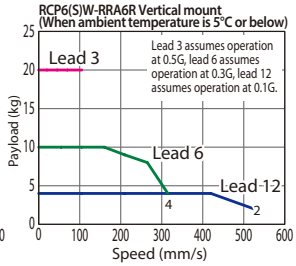


High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)W-RRA6R Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-RRA6R Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA6R-WA-42P-12-①-②-③-④	12	25	4	93	50~400 (Every 50mm)
RCP6(S)W-RRA6R-WA-42P-6-①-②-③-④	6	40	10	185	
RCP6(S)W-RRA6R-WA-42P-3-①-②-③-④	3	60	20	370	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~400 (Every 50mm)
12	630 <525> [525]
6	420 <370> [315]
3	210 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**250**	○	○
100	○	○	**300**	○	○
150	○	○	**350**	○	○
200	○	○	**400**	○	○

② Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Flange)	**FFA**	See P.197
Tip adapter (Internal thread)	**NFA**	See P.201
Tip adapter (Keyway)	**KFA**	See P.201
Motor side-mounted on top	**MT**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

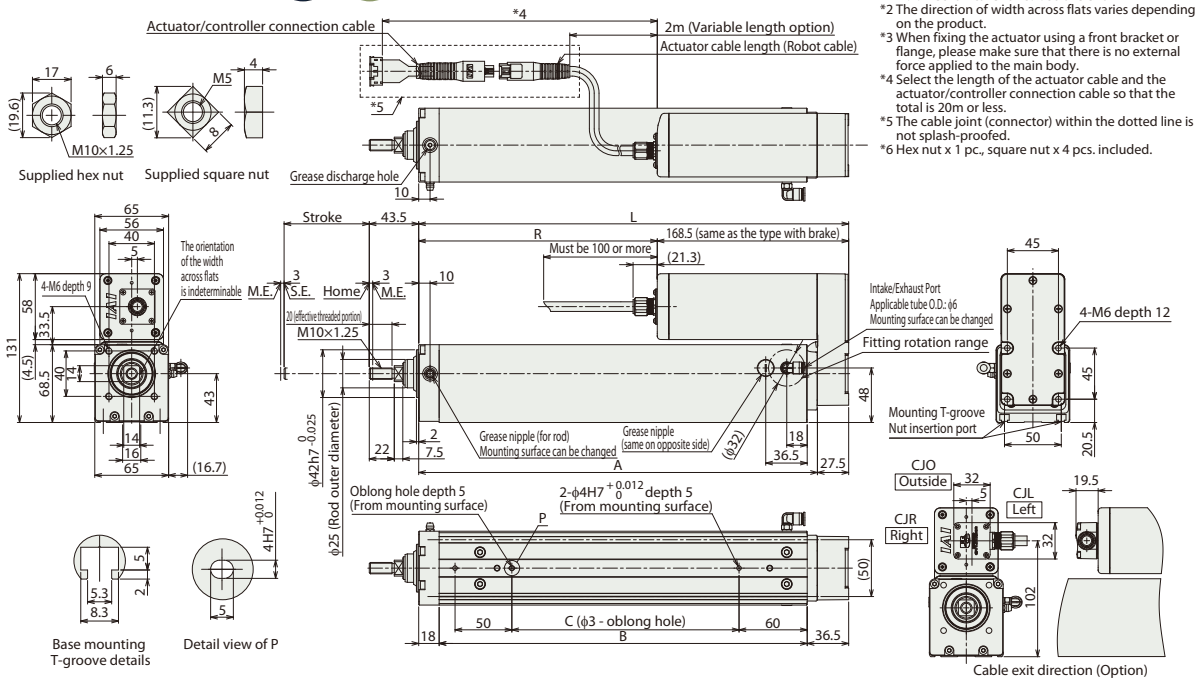
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ10mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ25mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

* Rod's angular displacement in rotational direction with no load applied to the rod.

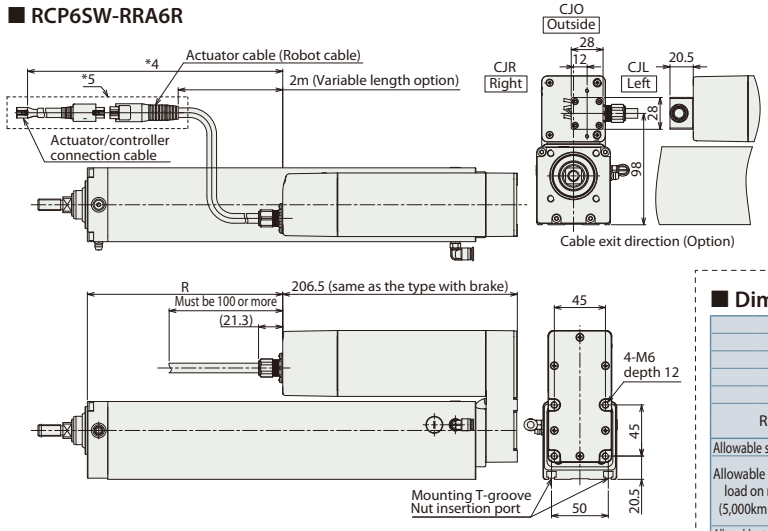
Dimensions

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

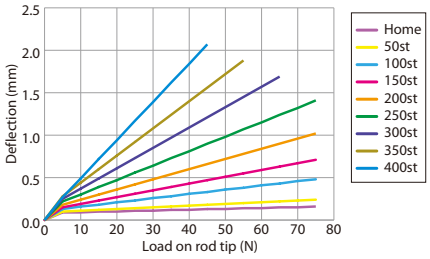


*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.
*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.
*6 Hex nut x 1 pc., square nut x 4 pcs. included.

■ RCP6SW-RRA6R



■ Rod Deflection of RCP6(S)W-RRA6R (Reference Values)



■ Dimensions and Mass by Stroke

Stroke		50	100	150	200	250	300	350	400
L		228.5	278.5	328.5	378.5	428.5	478.5	528.5	578.5
A		201	251	301	351	401	451	501	551
B		174	224	274	324	374	424	474	524
C		50	100	150	200	250	300	350	400
R	RCP6W	60	110	160	210	260	310	360	410
	RCP6SW	22	72	122	172	222	272	322	372
Allowable static load on rod tip (N)		144	117	99.0	85.4	75.0	66.7	59.9	54.3
Allowable dynamic load on rod tip (5,000km life) (N)	Offset 0mm	58.1	46.4	38.3	32.4	27.9	24.4	21.5	19.2
	Offset 100mm	38.8	34.0	29.7	26.2	23.2	20.8	18.7	16.8
Allowable static torque on rod tip (N·m)		14.5	11.8	10.0	8.7	7.6	6.8	6.2	5.6
Allowable dynamic torque on rod tip (N·m)		3.8	3.3	2.9	2.6	2.3	2.0	1.8	1.6
Mass (kg)	RCP6W w/o brake	3.1	3.4	3.8	4.2	4.5	4.9	5.2	5.6
	RCP6W w/ brake	3.2	3.5	3.9	4.3	4.6	5.0	5.3	5.7
	RCP6SW w/o brake	3.3	3.6	4.0	4.4	4.7	5.1	5.4	5.8
	RCP6SW w/ brake	3.4	3.7	4.1	4.5	4.8	5.2	5.5	5.9

* Please refer to P.251 for more information on component materials.

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RRA7R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 78* mm | 24v Stepper Motor

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA7R	WA: Battery-less Absolute	56P: Stepper Motor 56□ Size	16 :16mm 8 : 8mm 4 : 4mm	50:50mm ~ 500:500mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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 MT 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.19 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

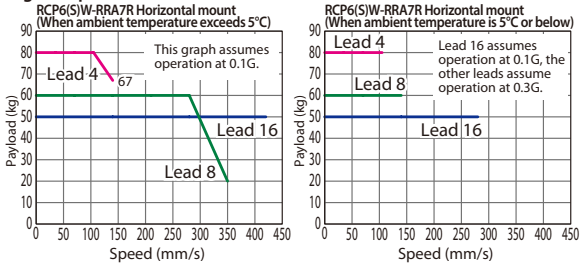
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.238 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 4/8/16. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

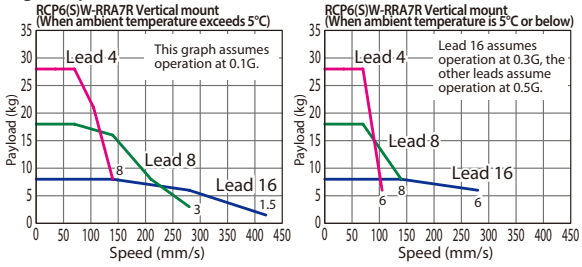
Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA7R-WA-56P-16-①-②-③-④	16	50	8	273	50~500 (Every 50mm)
RCP6(S)W-RRA7R-WA-56P-8-①-②-③-④	8	60	18	547	
RCP6(S)W-RRA7R-WA-56P-4-①-②-③-④	4	80	28	1,094	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~500 (Every 50mm)
16	420 [280]
8	350 <280> [140]
4	140 [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	300	○	○
100	○	○	350	○	○
150	○	○	400	○	○
200	○	○	450	○	○
250	○	○	500	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Flange)	**FFA**	See P.197
Tip adapter (Internal thread)	**NFA**	See P.201
Tip adapter (Keyway)	**KFA**	See P.201
Motor side-mounted on top	**MT**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

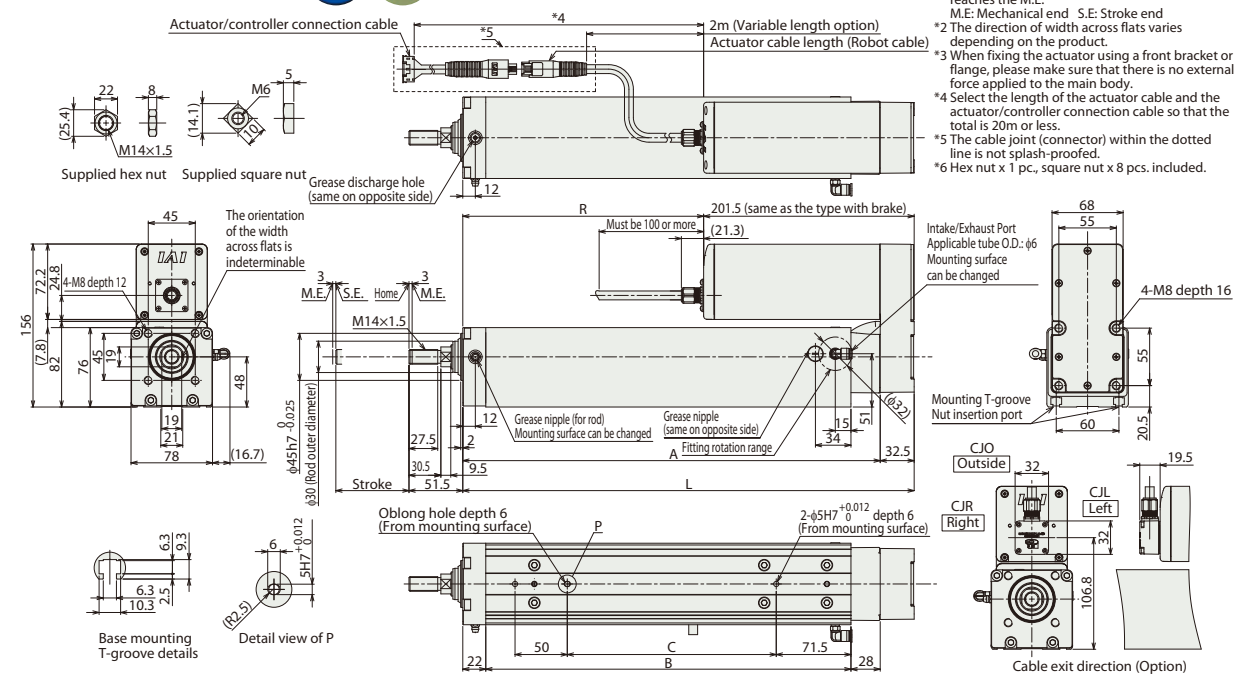
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ12mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ30mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

* Rod's angular displacement in rotational direction with no load applied to the rod.

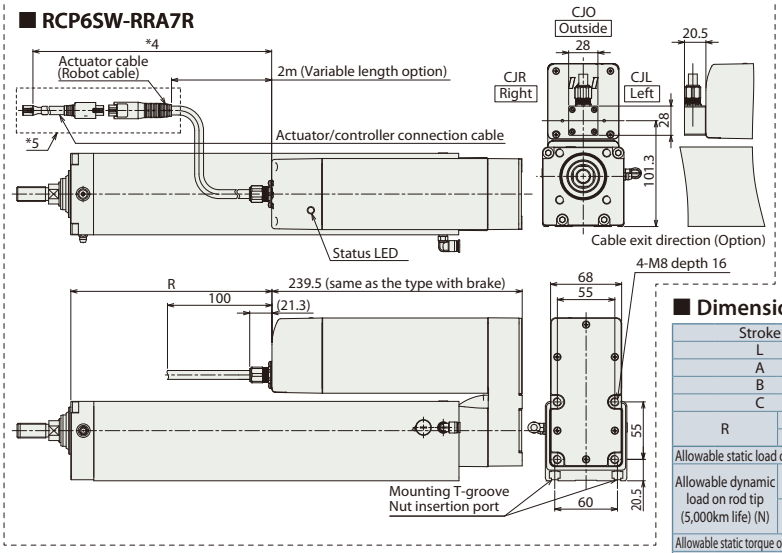
Dimensions

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

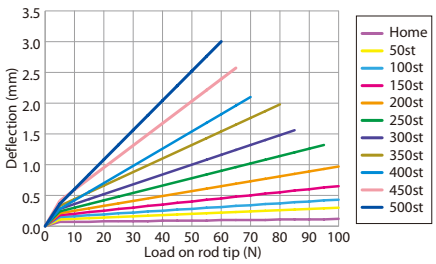


*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.
*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.
*6 Hex nut x 1 pc., square nut x 8 pcs. included.

■ RCP6SW-RRA7R



■ Rod Deflection of RCP6(S)W-RRA7R (Reference Values)



■ Dimensions and Mass by Stroke

Stroke		50	100	150	200	250	300	350	400	450	500
L		282	332	382	432	482	532	582	632	682	732
A		249.5	299.5	349.5	399.5	449.5	499.5	549.5	599.5	649.5	699.5
B		199.5	249.5	299.5	349.5	399.5	449.5	499.5	549.5	599.5	649.5
C		50	100	150	200	250	300	350	400	450	500
R	RCP6W	80.5	130.5	180.5	230.5	280.5	330.5	380.5	430.5	480.5	530.5
	RCP6SW	42.5	92.5	142.5	192.5	242.5	292.5	342.5	392.5	442.5	492.5
Allowable static load on rod tip (N)		175	147	126	111	98.6	88.7	80.6	73.8	68.0	63.0
Allowable dynamic load on rod tip (5,000km life) (N)	Offset 0mm	75.7	62.6	53.1	46.0	40.5	36.1	32.5	29.4	26.9	24.7
	Offset 100mm	49.8	45.1	40.5	36.5	33.1	30.2	27.7	25.5	23.6	21.9
Allowable static torque on rod tip (N·m)		17.6	14.7	12.7	11.2	9.9	9.0	8.2	7.5	6.94	6.45
Allowable dynamic torque on rod tip (N·m)		5.0	4.5	4.0	3.6	3.3	3.0	2.8	2.5	2.32	2.16
Mass (kg)	RCP6W w/o brake	5.6	6.1	6.6	7.1	7.5	8.0	8.5	9.0	9.5	10.0
	RCP6W w/ brake	5.7	6.2	6.7	7.2	7.6	8.1	8.6	9.1	9.6	10.1
	RCP6SW w/o brake	5.8	6.3	6.8	7.3	7.7	8.2	8.7	9.2	9.7	10.2
	RCP6SW w/ brake	5.9	6.4	6.9	7.4	7.8	8.3	8.8	9.3	9.8	10.3

* Please refer to P.251 and P.252 for more information on component materials.

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNETIII/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-RRA8R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 85* mm | 24v Stepper Motor

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

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	RRA8R	WA: Battery-less Absolute	60P: Stepper Motor 60□ Size	20 :20mm 10 :10mm 5 : 5mm	50:50mm ~ 700:700mm (Every 50mm)	[RCP6W] P4 : PCON-CFB/CGFB [RCP6SW] 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.18 for more information about the model specification items.

Radial Load Applicable

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

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

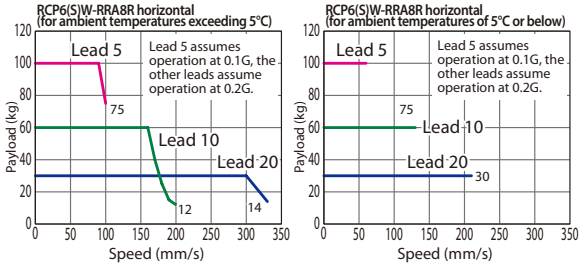
POINT Selection Notes

(1) The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.238 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) For RCP6SW (built-in controller type), please limit the duty cycle to 70% or less.
(6) The service life of an actuator varies depending on the payload when using vertically. Please refer to P. 206 for more information.
(7) Install the cable joint connector in locations where it will not be exposed to water, as it is not splash-proofed.

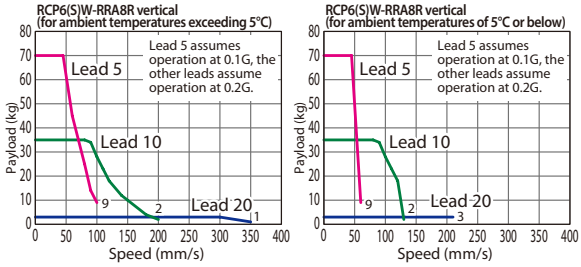
Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

PCON connected.



PCON connected.



Actuator Specifications

Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA8R-WA-60P-20-①-②-③-④	20	30	3	500	50~700 (Every 50mm)
RCP6(S)W-RRA8R-WA-60P-10-①-②-③-④	10	60	35	1,000	
RCP6(S)W-RRA8R-WA-60P-5-①-②-③-④	5	100	70	2,000	

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

Stroke and Max Speed

(Unit: mm/s)

Lead (mm)	50	100~450 (Every 50mm)	500	550	600	650	700
20	280 [210]	350 <330> [210]		320 [210]	280 [210]	240 [210]	220 [210]
10	200 [130]		180 [130]	160 [130]	140 [130]	120 [120]	110 [110]
5	100 [60]		90 [60]	80 [60]	70 [60]	60 [60]	55 [55]

Values in brackets < > are for vertical use.
Values in brackets [ ] are for ambient temperatures of 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**400**	○	○
100	○	○	**450**	○	○
150	○	○	**500**	○	○
200	○	○	**550**	○	○
250	○	○	**600**	○	○
300	○	○	**650**	○	○
350	○	○	**700**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W	RCP6SW
Standard	**P**(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○
	X11 (11m) ~**X15** (15m)	○	○
	X16 (16m) ~**X18** (18m)	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○
	R04 (4m) ~**R05** (5m)	○	○
	R06 (6m) ~**R10** (10m)	○	○
	R11 (11m) ~**R15** (15m)	○	○
	R16 (16m) ~**R18** (18m)	○	○

* Select the actuator cable and the cable connecting the actuator and controller so that their total length will not exceed 20m.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Tip adapter (Internal thread)	**NFA**	See P.201
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Non-motor end specification	**NM**	See P.202

* When selecting options, be sure to consult the Selection Notes (P.204).

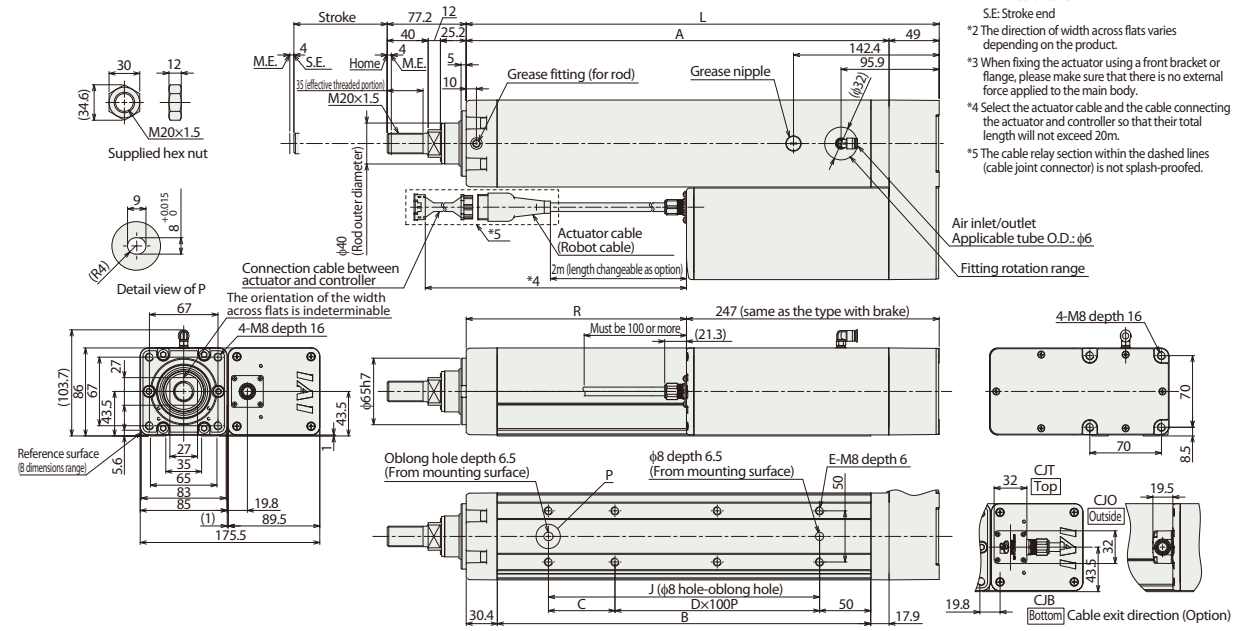
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ16mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ40mm
Rod non-rotation precision*	0 degrees
Allowable load and torque on rod tip	See P. 243
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

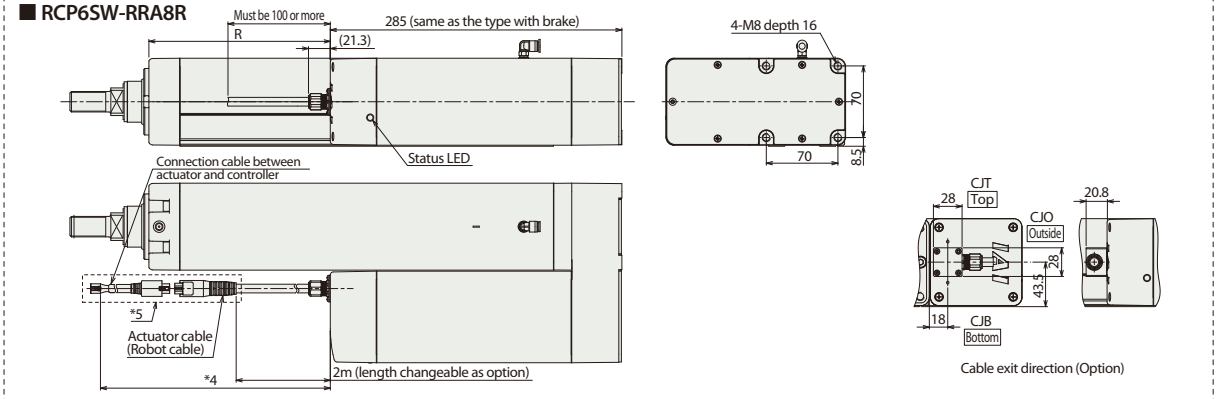
* Rod's angular displacement in rotational direction with no load applied to the rod.

Dimensions

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

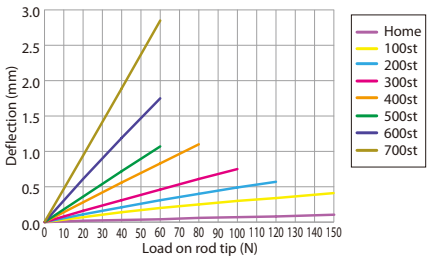


■ RCP6SW-RRA8R



*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
*2 The direction of width across flats varies depending on the product.
*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.
*4 Select the actuator cable and the cable connecting the actuator and controller so that their total length will not exceed 20m.
*5 The cable relay section within the dashed lines (cable joint connector) is not splash-proofed.

■ Rod Deflection of RCP6(S)W-RRA8R (Reference Values)



■ Dimensions and Mass by Stroke

Stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700
L		312.3	362.3	412.3	462.3	512.3	562.3	612.3	662.3	712.3	762.3	812.3	862.3	912.3	962.3
A		263.3	313.3	363.3	413.3	463.3	513.3	563.3	613.3	663.3	713.3	763.3	813.3	863.3	913.3
B		215	265	315	365	415	465	515	565	615	665	715	765	815	865
C		115	65	115	65	115	65	115	65	115	65	115	65	115	65
D		0	1	1	2	2	3	3	4	4	5	5	6	6	7
E		4	6	6	8	8	10	10	12	12	14	14	16	16	18
J		115	165	215	265	315	365	415	465	515	565	615	665	715	765
R	RCP6W	65.3	115.3	165.3	215.3	265.3	315.3	365.3	415.3	465.3	515.3	565.3	615.3	665.3	715.3
	RCP6SW	27.3	77.3	127.3	177.3	227.3	277.3	327.3	377.3	427.3	477.3	527.3	577.3	627.3	677.3
Allowable static load on rod tip (N)		222	186	159	139	124	111	101	92.1	84.7	78.4	72.8	68.0	63.7	59.8
Allowable dynamic load on rod tip (5,000km life) (N)	Load offset 0mm	93.0	76.3	64.7	56.0	49.2	43.8	39.3	35.6	32.4	29.7	27.3	25.2	23.3	21.7
	Load offset 100mm	72.0	61.6	53.9	48.0	43.0	38.9	35.4	32.3	29.7	27.4	25.3	23.5	21.9	20.4
Allowable static torque on rod tip (N·m)		22.3	18.7	16.1	14.1	12.6	11.3	10.3	9.4	8.7	8.1	7.6	7.1	6.7	6.3
Allowable dynamic torque on rod tip (N·m)		7.2	6.2	5.4	4.8	4.3	3.9	3.5	3.2	3.0	2.7	2.5	2.4	2.2	2.0
Mass (kg)	RCP6W w/o brake	8.0	8.5	9.0	9.5	10.0	10.4	10.9	11.4	11.9	12.4	12.9	13.3	13.8	14.3
	RCP6W w/ brake	8.3	8.8	9.3	9.8	10.3	10.7	11.2	11.7	12.2	12.7	13.2	13.6	14.1	14.6
	RCP6SW w/o brake	8.4	8.9	9.4	9.9	10.4	10.8	11.3	11.8	12.3	12.8	13.3	13.7	14.2	14.7
	RCP6SW w/ brake	8.6	9.1	9.6	10.1	10.6	11.0	11.5	12.0	12.5	13.0	13.5	13.9	14.4	14.9

* Please refer to P.252 for part materials.

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.271 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-CFB/CGFB		1	DC24V	● * Option	● * Option	–	DeviceNet CompoNet EtherNet/IP CC-Link MECHATROLINK PROFIBUS EtherCAT PROFINET	512 (768 for network spec.)	See P.255

RCP6(S)W-WRA10C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 100 mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	WRA10C	WA: Battery-less Absolute	35P: Stepper Motor 35□ Size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm ~ 500:500mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] SE: SIO Type	N : None P : 1m S : 3m M: 5m X□□ : Specified Length R□□ : Robot Cable	Please refer to the options table below.

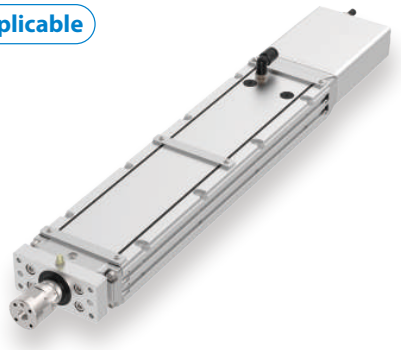
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.20 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



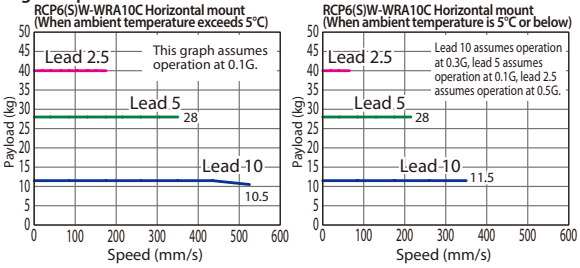
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.239 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.246 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(6) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

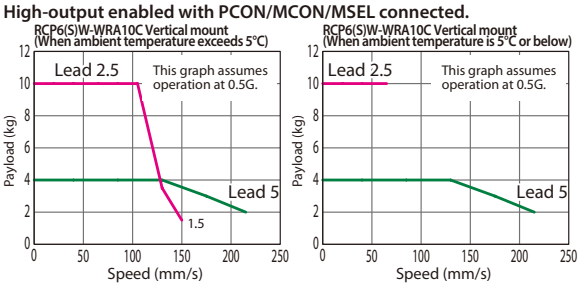
■ Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA10C-WA-35P-10-①-②-③-④	10	11.5	–	77	50~500 (Every 50mm)
RCP6(S)W-WRA10C-WA-35P-5-①-②-③-④	5	28	4	155	
RCP6(S)W-WRA10C-WA-35P-2.5-①-②-③-④	2.5	40	10	310	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~400 (Every 50mm)	450	500
10	525 [350]		490 [350]
5	350 <215> [215]	290 <215> [215]	240 <215> [215]
2.5	175 <150> [65]	145 [65]	120 [65]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**300**	○	○
100	○	○	**350**	○	○
150	○	○	**400**	○	○
200	○	○	**450**	○	○
250	○	○	**500**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

Actuator Specifications

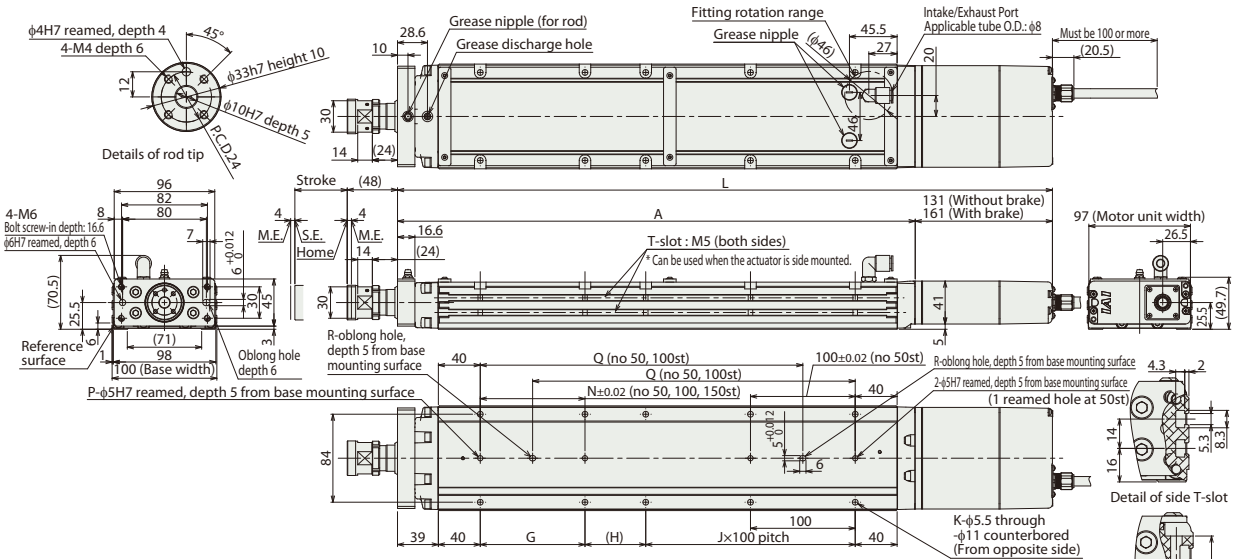
Item	Description
Drive system	Ball screw ϕ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ25mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

Dimensions

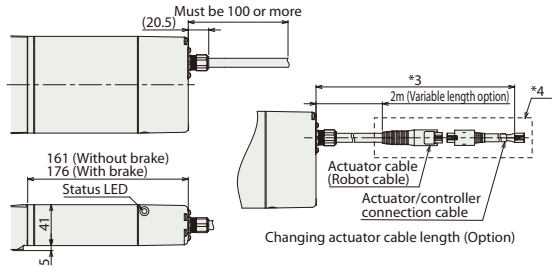
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

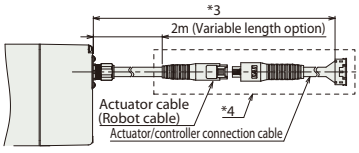
2D CAD 3D CAD

*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
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.

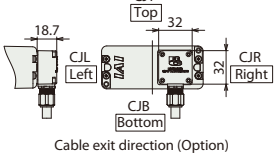


■ RCP6SW-WRA10C

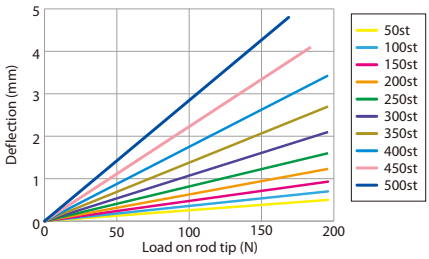




*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.



■ Rod Deflection of RCP6(S)W-WRA10C (Reference Values)



* Please refer to P.253 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500
L	RCP6W	w/o brake	375.3	425.3	475.3	525.3	575.3	625.3	675.3	725.3	775.3	825.3
		w/ brake	405.3	455.3	505.3	555.3	605.3	655.3	705.3	755.3	805.3	855.3
	RCP6SW	w/o brake	405.3	455.3	505.3	555.3	605.3	655.3	705.3	755.3	805.3	855.3
		w/ brake	420.3	470.3	520.3	570.3	620.3	670.3	720.3	770.3	820.3	870.3
A			244.3	294.3	344.3	394.3	444.3	494.3	544.3	594.3	644.3	694.3
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	Allowable dynamic load on rod tip (N)	Load offset 0mm	98	98	98	95	85	76	68	62	57	52
		Load offset 100mm	50	50	50	50	50	50	50	50	50	49
	Allowable dynamic torque on rod tip (N·m)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9
5,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	98	98	91	80	71	63	57	52	47	43
		Load offset 100mm	50	50	50	50	50	50	50	48	44	40
	Allowable dynamic torque on rod tip (N·m)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.4	4.0
Mass (kg)	RCP6W	w/o brake	3.7	4.1	4.6	5.0	5.5	5.9	6.4	6.8	7.3	7.7
		w/ brake	3.9	4.3	4.8	5.2	5.7	6.1	6.6	7.0	7.5	7.9
	RCP6SW	w/o brake	3.8	4.2	4.7	5.1	5.6	6.0	6.5	6.9	7.4	7.8
		w/ brake	4.0	4.4	4.9	5.3	5.8	6.2	6.7	7.1	7.6	8.0

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-WRA12C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 120 mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	WRA12C	WA: Battery-less Absolute	42P: Stepper Motor 42□ Size	12 :12mm 6 : 6mm 3 : 3mm	50:50mm ~ 500:500mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] SE: SIO Type	N : None P : 1m S : 3m M: 5m X□□ : Specified Length R□□ : Robot Cable	Please refer to the options table below.

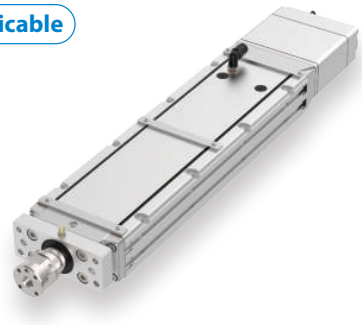
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.20 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



POINT Selection Notes

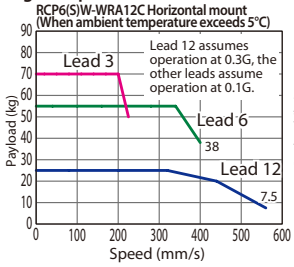
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.239 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.246 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 3/6. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(7) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

■ Correlation Diagrams of Speed and Payload

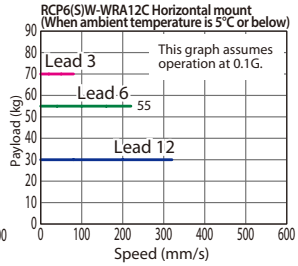
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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

RCP6(S)W-WRA12C Horizontal mount (When ambient temperature exceeds 5°C)

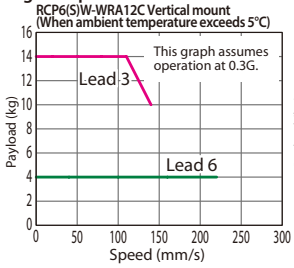


RCP6(S)W-WRA12C Horizontal mount (When ambient temperature is 5°C or below)

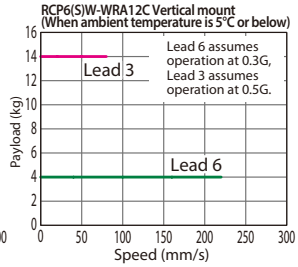


High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)W-WRA12C Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-WRA12C Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA12C-WA-42P-12-①-②-③-④	12	30	–	93	50~500 (Every 50mm)
RCP6(S)W-WRA12C-WA-42P-6-①-②-③-④	6	55	4	185	
RCP6(S)W-WRA12C-WA-42P-3-①-②-③-④	3	70	14	370	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~400 (Every 50mm)	450	500
12	560 [320]		
6	400 <220> [220]		375 <220> [220]
3	225 <140> [80]	220 <140> [80]	185 <140> [80]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**300**	○	○
100	○	○	**350**	○	○
150	○	○	**400**	○	○
200	○	○	**450**	○	○
250	○	○	**500**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

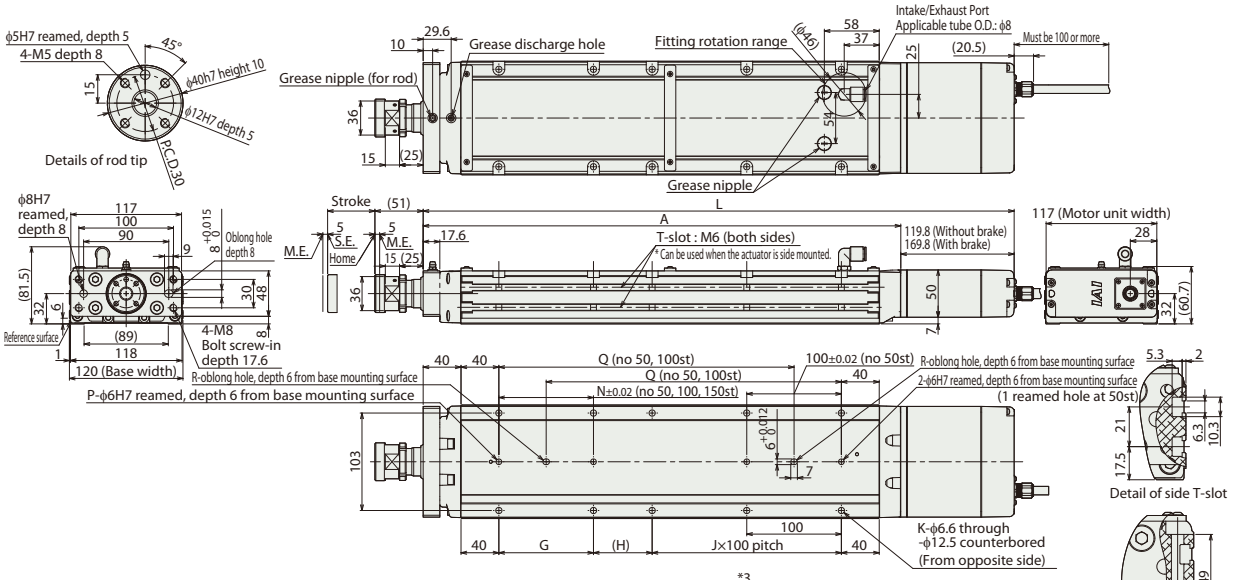
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ10mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ30mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

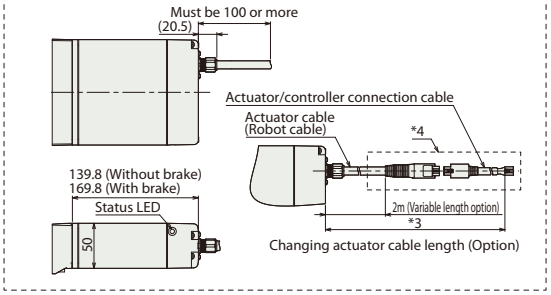
Dimensions

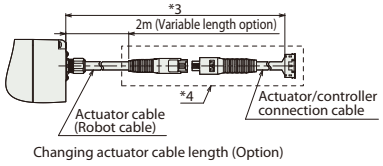
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.

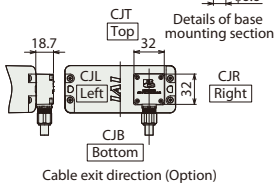


■ RCP6SW-WRA12C





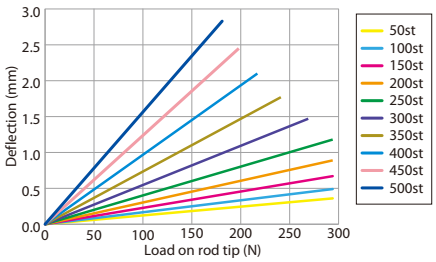
*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.



■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500
L	RCP6W	w/o brake	374.6	424.6	474.6	524.6	574.6	624.6	674.6	724.6	774.6	824.6
		w/ brake	424.6	474.6	524.6	574.6	624.6	674.6	724.6	774.6	824.6	874.6
	RCP6SW	w/o brake	394.6	444.6	494.6	544.6	594.6	644.6	694.6	744.6	794.6	844.6
		w/ brake	424.6	474.6	524.6	574.6	624.6	674.6	724.6	774.6	824.6	874.6
A			254.8	304.8	354.8	404.8	454.8	504.8	554.8	604.8	654.8	704.8
G			-	-	-	100	100	100	100	100	100	100
H			112	62	112	62	112	62	112	62	112	62
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			-	-	162	212	262	312	362	412	462	512
R			0	0	1	1	1	1	1	1	1	1
Allowable static load on rod tip (N)			294	294	294	294	294	269	241	218	198	181
Allowable static torque on rod tip (N•m)			20	20	20	20	20	20	20	20	20	20
3,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	147	147	137	121	107	96	87	79	72	65
		Load offset 100mm	100	100	100	100	99	90	82	75	68	63
	Allowable dynamic torque on rod tip (N•m)		10.0	10.0	10.0	10.0	9.9	9.0	8.2	7.5	6.8	6.3
5,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	147	133	115	101	90	80	72	65	59	54
		Load offset 100mm	100	100	100	92	83	75	68	62	56	51
	Allowable dynamic torque on rod tip (N•m)		10.0	10.0	10.0	9.2	8.3	7.5	6.8	6.2	5.6	5.1
Mass (kg)	RCP6W	w/o brake	5.2	5.8	6.5	7.1	7.8	8.4	9.1	9.7	10.4	11.0
		w/ brake	5.5	6.1	6.8	7.4	8.1	8.7	9.4	10.0	10.7	11.3
	RCP6SW	w/o brake	5.3	5.9	6.6	7.2	7.9	8.5	9.2	9.8	10.5	11.1
		w/ brake	5.6	6.2	6.9	7.5	8.2	8.8	9.5	10.1	10.8	11.4

■ Rod Deflection of RCP6(S)W-WRA12C (Reference Values)



* Please refer to P.254 for more information on component materials.

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Pulse train	Program	Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-WRA14C

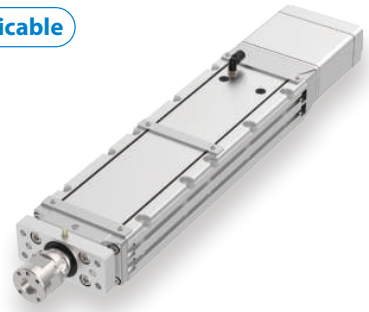
Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 140 mm | 24v Stepper Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	WRA14C	WA: Battery-less Absolute	56P: Stepper Motor 56□ Size	16 :16mm 8 : 8mm 4 : 4mm	50:50mm ~ 600:600mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.20 for more information about the model specification items.

Radial Load Applicable



Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

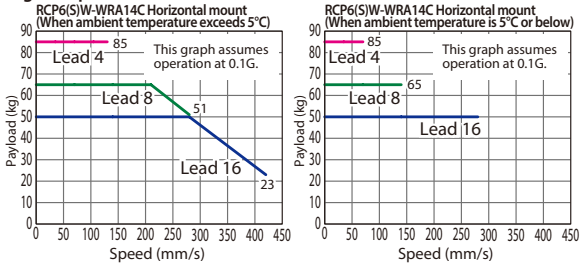
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.240 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.246 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 4/8/16. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(7) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

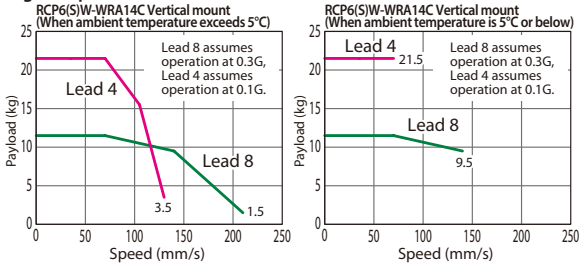
■ Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA14C-WA-56P-16-①-②-③-④	16	50	–	273	50~600 (Every 50mm)
RCP6(S)W-WRA14C-WA-56P-8-①-②-③-④	8	65	11.5	547	
RCP6(S)W-WRA14C-WA-56P-4-①-②-③-④	4	85	21.5	1,094	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~600 (Every 50mm)
16	420 [280]
8	280 <210> [140]
4	130 [70]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**350**	○	○
100	○	○	**400**	○	○
150	○	○	**450**	○	○
200	○	○	**500**	○	○
250	○	○	**550**	○	○
300	○	○	**600**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

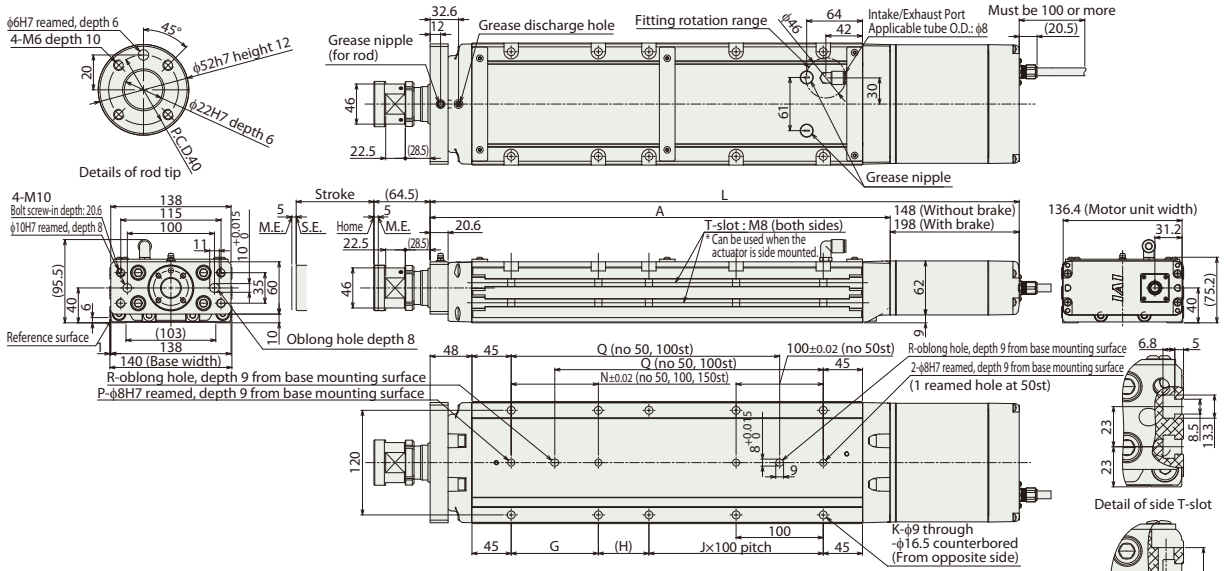
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ12mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ40mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

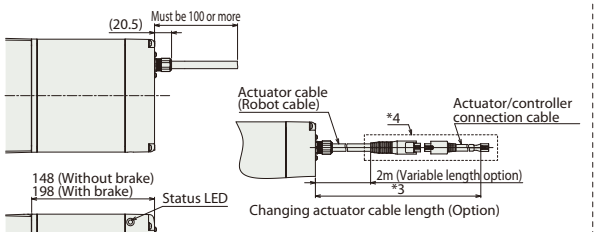
Dimensions

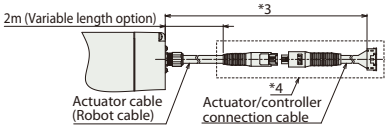
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.

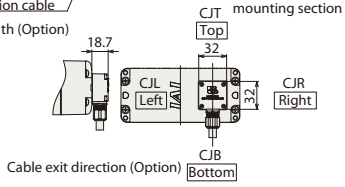


■ RCP6SW-WRA14C





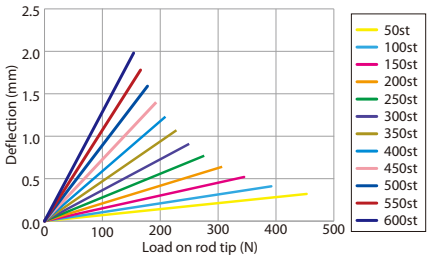
*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.



■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600
L		w/o brake	425.8	475.8	525.8	575.8	625.8	675.8	725.8	775.8	825.8	875.8	925.8	975.8
		w/ brake	475.8	525.8	575.8	625.8	675.8	725.8	775.8	825.8	875.8	925.8	975.8	1,025.8
A			277.8	327.8	377.8	427.8	477.8	527.8	577.8	627.8	677.8	727.8	777.8	827.8
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 150mm	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 150mm	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)	RCP6W	w/o brake	8.9	9.7	10.6	11.5	12.4	13.3	14.2	15.1	16.0	16.9	17.8	18.7
		w/ brake	9.4	10.2	11.1	12.0	12.9	13.8	14.7	15.6	16.5	17.4	18.3	19.2
	RCP6SW	w/o brake	9.0	9.8	10.7	11.6	12.5	13.4	14.3	15.2	16.1	17.0	17.9	18.8
		w/ brake	9.4	10.2	11.1	12.0	12.9	13.8	14.7	15.6	16.5	17.4	18.3	19.2

■ Rod Deflection of RCP6(S)W-WRA14C (Reference Values)



* Please refer to P.254 for more information on component materials.

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●		30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-WRA16C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 160 mm | 24v Stepper Motor

■ Model Specification Items

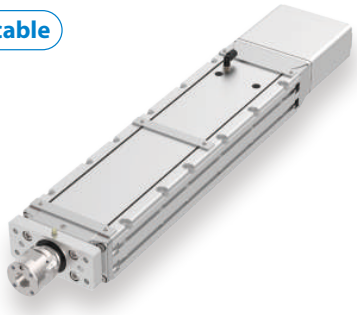
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	WRA16C	WA: Battery-less Absolute	60P: Stepper Motor 60□ Size	20 :20mm 10 :10mm 5 : 5mm	50:50mm ~ 800:800mm (Every 50mm)	[RCP6W] P4 : PCON-CFB/CGFB [RCP6SW] 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.20 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling



*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

POINT Selection Notes

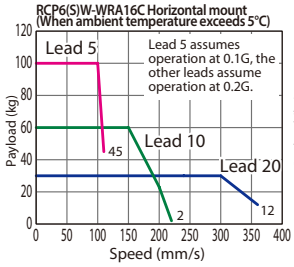
(1) The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.240 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.246 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) For RCP6SW (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. 206 for more information.
(7) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(8) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

■ Correlation Diagrams of Speed and Payload

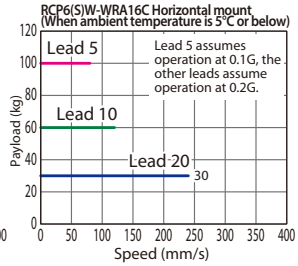
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

PCON connected.

RCP6(S)W-WRA16C Horizontal mount (When ambient temperature exceeds 5°C)

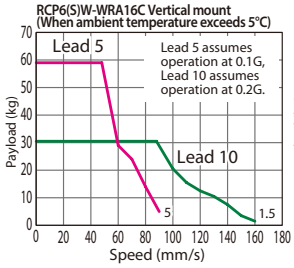


RCP6(S)W-WRA16C Horizontal mount (When ambient temperature is 5°C or below)

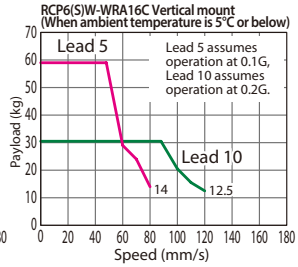


PCON connected.

RCP6(S)W-WRA16C Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-WRA16C Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA16C-WA-60P-20-①-②-③-④	20	30	–	500	50~800 (Every 50mm)
RCP6(S)W-WRA16C-WA-60P-10-①-②-③-④	10	60	30.5	1,000	
RCP6(S)W-WRA16C-WA-60P-5-①-②-③-④	5	100	59	2,000	

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

■ Stroke and Max Speed

(Unit: mm/s)

Lead (mm)	50	100~450 (Every 50mm)	500	550	600	650	700	750	800
20	280 [240]	360 [240]		340 [240]	295 [240]	260 [240]	225 [225]	200 [200]	180 [180]
10	220 <160> [120]		195 <160> [120]	165 <160> [120]	145 [120]	125 [120]	110 [110]	100 [100]	90 [90]
5	110 <90> [80]		95 <90> [80]	80 [80]	70 [70]	60 [60]	55 [55]	50 [50]	45 [45]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**450**	○	○
100	○	○	**500**	○	○
150	○	○	**550**	○	○
200	○	○	**600**	○	○
250	○	○	**650**	○	○
300	○	○	**700**	○	○
350	○	○	**750**	○	○
400	○	○	**800**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W	RCP6SW
Standard	**P**(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○
	X11 (11m) ~**X15** (15m)	○	○
	X16 (16m) ~**X18** (18m)	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○
	R04 (4m) ~**R05** (5m)	○	○
	R06 (6m) ~**R10** (10m)	○	○
	R11 (11m) ~**R15** (15m)	○	○
	R16 (16m) ~**R18** (18m)	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

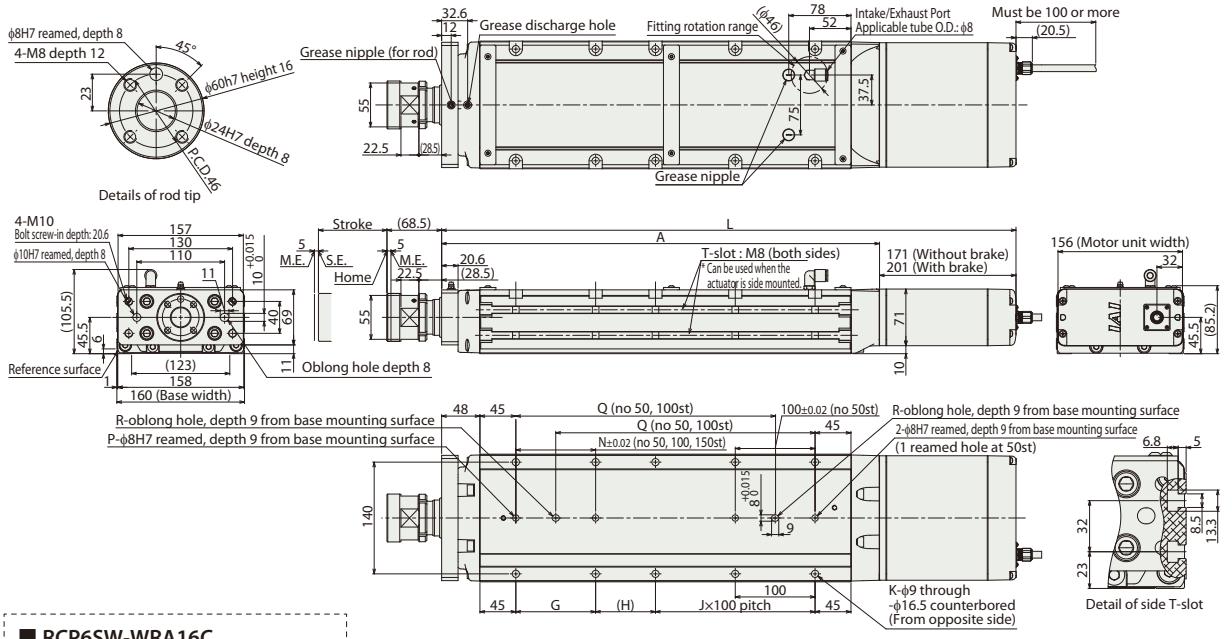
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ16mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ45mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

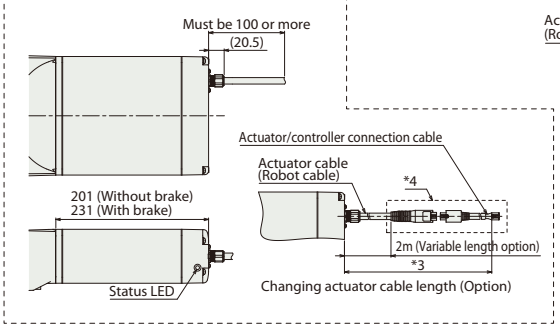
Dimensions

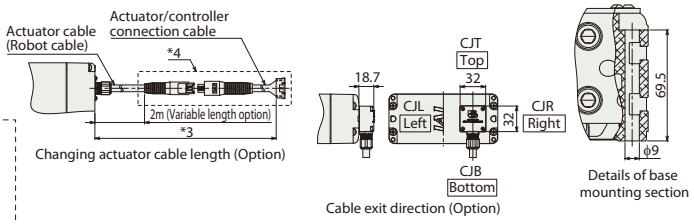
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.



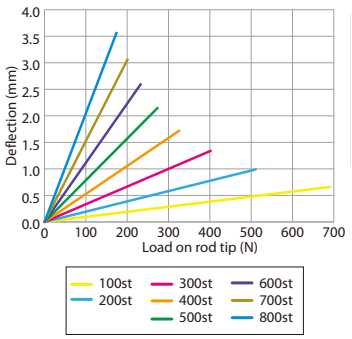
■ RCP6SW-WRA16C





*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.

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



* Please refer to P.254 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	RCP6W	w/o brake	469.8	519.8	569.8	619.8	669.8	719.8	769.8	819.8	869.8	919.8	969.8	1,019.8	1,069.8	1,119.8	1,169.8	1,219.8
		w/ brake	499.8	549.8	599.8	649.8	699.8	749.8	799.8	849.8	899.8	949.8	999.8	1,049.8	1,099.8	1,149.8	1,199.8	1,249.8
	RCP6SW	w/o brake	499.8	549.8	599.8	649.8	699.8	749.8	799.8	849.8	899.8	949.8	999.8	1,049.8	1,099.8	1,149.8	1,199.8	1,249.8
		w/ brake	529.8	579.8	629.8	679.8	729.8	779.8	829.8	879.8	929.8	979.8	1,029.8	1,079.8	1,129.8	1,179.8	1,229.8	1,279.8
A			298.8	348.8	398.8	448.8	498.8	548.8	598.8	648.8	698.8	748.8	798.8	848.8	898.8	948.8	998.8	1,048.8
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
3,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	255	220	191	168	149	134	120	109	99	90	81	74	67	61	55	50
		Load offset 150mm	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 on rod tip (N)	Load offset 0mm	214	184	160	140	124	111	99	89	80	72	65	59	53	47	42	37
		Load offset 150mm	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)	RCP6W	w/o brake	12.4	13.6	14.8	15.9	17.0	18.2	19.3	20.5	21.6	22.8	23.9	25.1	26.2	27.4	28.5	29.7
		w/ brake	12.9	14.1	15.3	16.4	17.5	18.7	19.8	21.0	22.1	23.3	24.4	25.6	26.7	27.9	29.0	30.2
	RCP6SW	w/o brake	12.5	13.7	14.9	16.0	17.1	18.3	19.4	20.6	21.7	22.9	24.0	25.2	26.3	27.5	28.6	29.8
		w/ brake	13.0	14.2	15.4	16.5	17.6	18.8	19.9	21.1	22.2	23.4	24.5	25.7	26.8	28.0	29.1	30.3

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.271 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-CFB/CGFB		1	DC24V	● * Option	● * Option	–	DeviceNet CompoNet EtherNet/IP CC-Link MECHATROLINK PROFIBUS EtherCAT PROFINET	512 (768 for network spec.)	See P.255

RCP6(S)W-WRA10R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 100* mm | 24v Stepper Motor

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

Model Specification Items

— WRA10R — WA — 35P — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller		WA: Battery-less Absolute	35P: Stepper Motor 35☐ Size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm ~ 500:500mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.

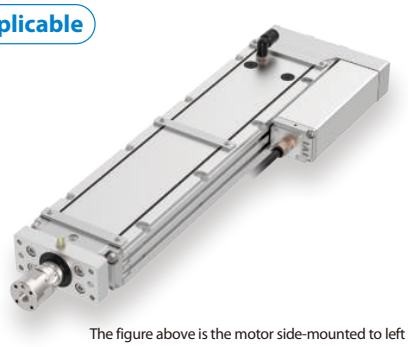
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.20 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



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

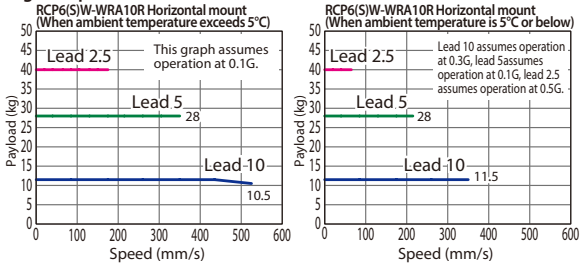
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.241 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.246 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(6) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

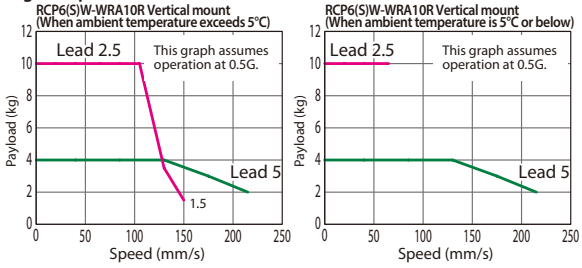
Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA10R-WA-35P-10-①-②-③-④	10	11.5	–	77	50~500 (Every 50mm)
RCP6(S)W-WRA10R-WA-35P-5-①-②-③-④	5	28	4	155	
RCP6(S)W-WRA10R-WA-35P-2.5-①-②-③-④	2.5	40	10	310	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~400 (Every 50mm)	450	500
10	525 [350]		490 [350]
5	350 <215> [215]	290 <215> [215]	240 <215> [215]
2.5	175 <150> [65]	145 [65]	120 [65]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**300**	○	○
100	○	○	**350**	○	○
150	○	○	**400**	○	○
200	○	○	**450**	○	○
250	○	○	**500**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

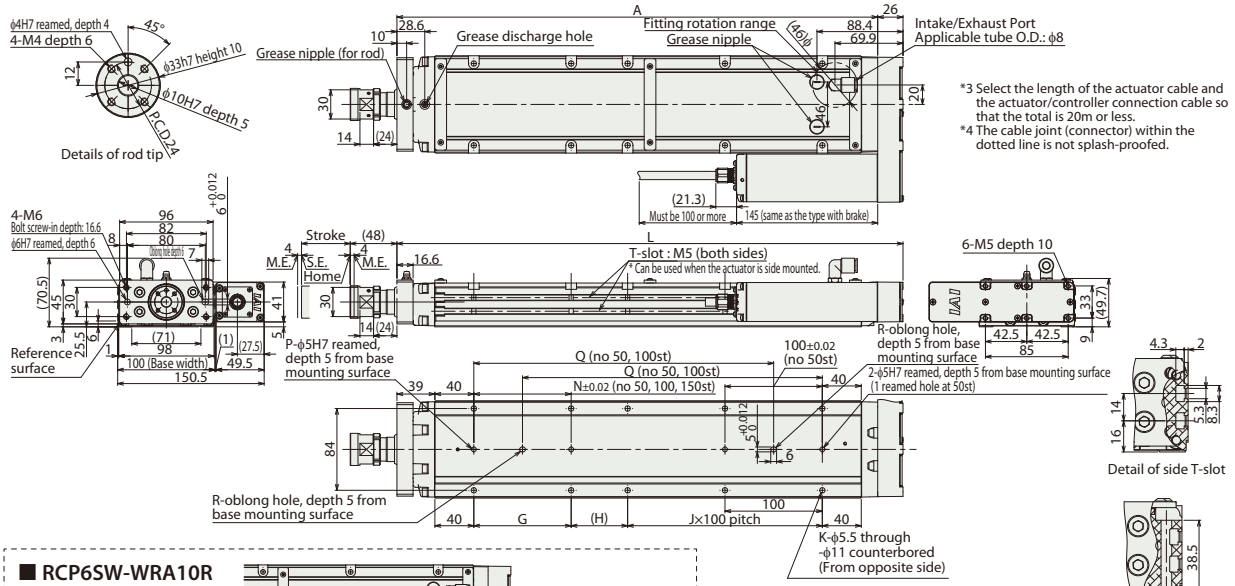
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ25mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

Dimensions

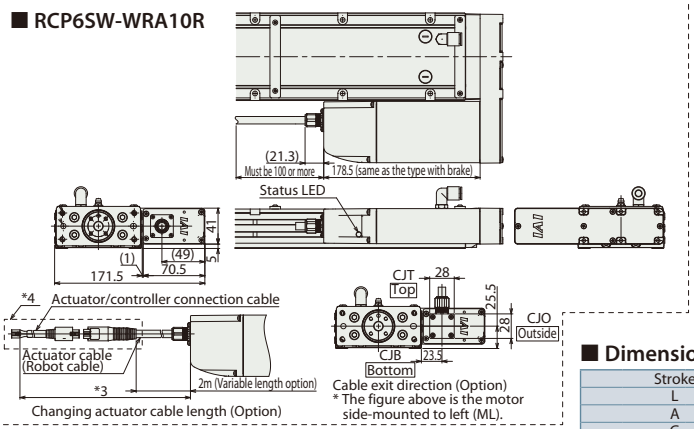
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

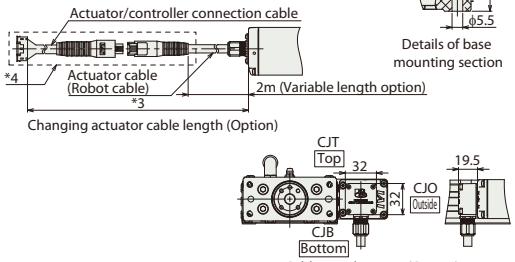
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.



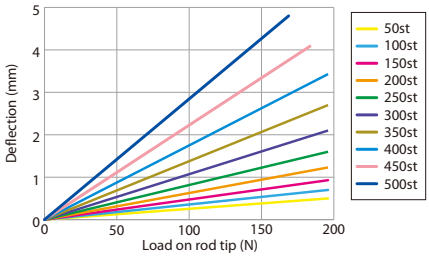
*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.

■ RCP6SW-WRA10R





■ Rod Deflection of RCP6(S)W-WRA10R (Reference Values)



* Please refer to P.253 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500
L			269.9	319.9	369.9	419.9	469.9	519.9	569.9	619.9	669.9	719.9
A			243.9	293.9	343.9	393.9	443.9	493.9	543.9	593.9	643.9	693.9
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	Allowable dynamic load on rod tip (N)	Load offset 0mm	98	98	98	95	85	76	68	62	57	52
		Load offset 100mm	50	50	50	50	50	50	50	50	50	49
	Allowable dynamic torque on rod tip (N•m)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9
5,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	98	98	91	80	71	63	57	52	47	43
		Load offset 100mm	50	50	50	50	50	50	48	44	44	40
	Allowable dynamic torque on rod tip (N•m)		5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.4	4.0
Mass (kg)	RCP6W	w/o brake	3.8	4.2	4.7	5.1	5.6	6.0	6.5	6.9	7.4	7.8
		w/ brake	3.9	4.3	4.8	5.2	5.7	6.1	6.6	7.0	7.5	7.9
	RCP6SW	w/o brake	4.0	4.4	4.9	5.3	5.8	6.2	6.7	7.1	7.6	8.0
		w/ brake	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.2	7.7	8.1

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.271 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-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-WRA12R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 120* mm | 24v Stepper Motor

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

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	WRA12R	WA: Battery-less Absolute	42P: Stepper Motor 42□ Size	12 :12mm 6 : 6mm 3 : 3mm	50:50mm ~ 500:500mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.

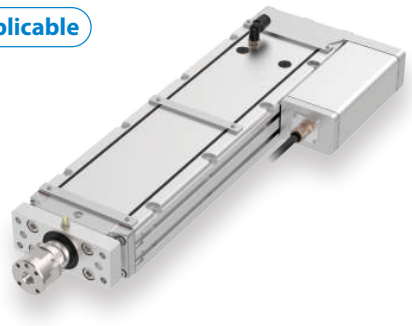
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.20 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



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

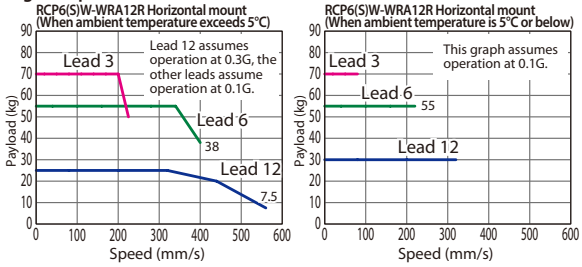
POINT Selection Notes

(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.241 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.246 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 3/6. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(7) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

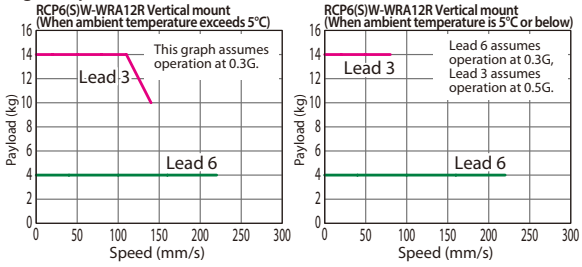
Correlation Diagrams of Speed and Payload

If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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



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



Actuator Specifications

Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA12R-WA-42P-12-①-②-③-④	12	30	–	93	50~500 (Every 50mm)
RCP6(S)W-WRA12R-WA-42P-6-①-②-③-④	6	55	4	185	
RCP6(S)W-WRA12R-WA-42P-3-①-②-③-④	3	70	14	370	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~400 (Every 50mm)	450	500
12	560 [320]		
6	400 <220> [220]		375 <220> [220]
3	225 <140> [80]	220 <140> [80]	185 <140> [80]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**300**	○	○
100	○	○	**350**	○	○
150	○	○	**400**	○	○
200	○	○	**450**	○	○
250	○	○	**500**	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

Actuator Specifications

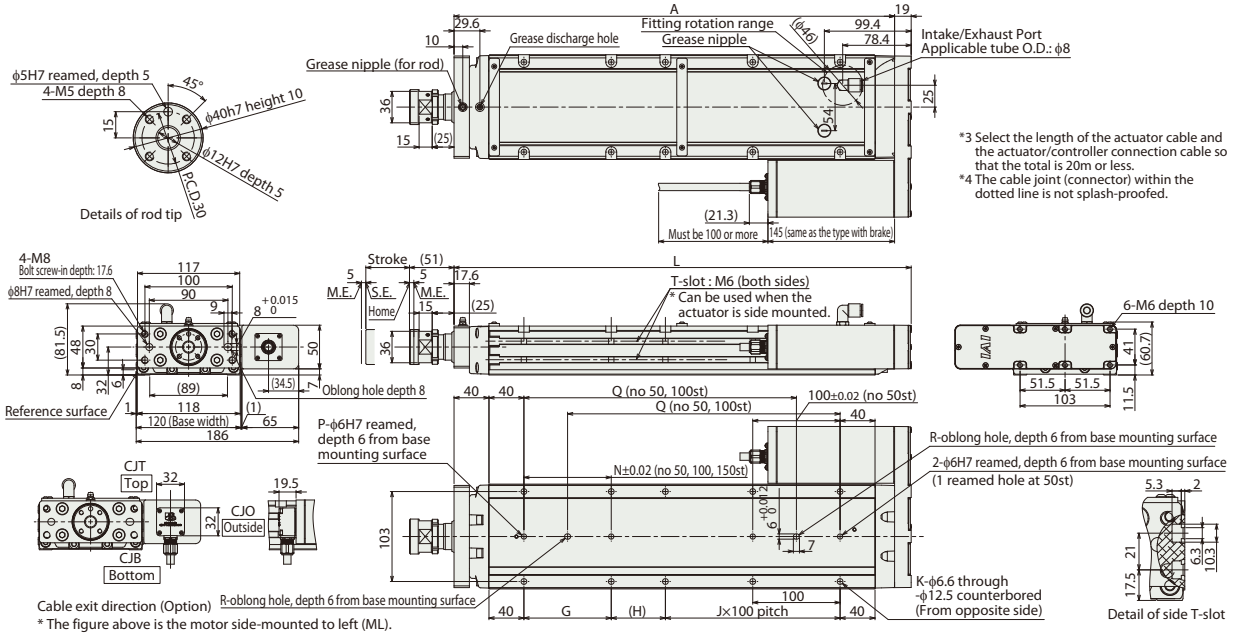
Item	Description
Drive system	Ball screw ϕ10mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ30mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	100mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
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

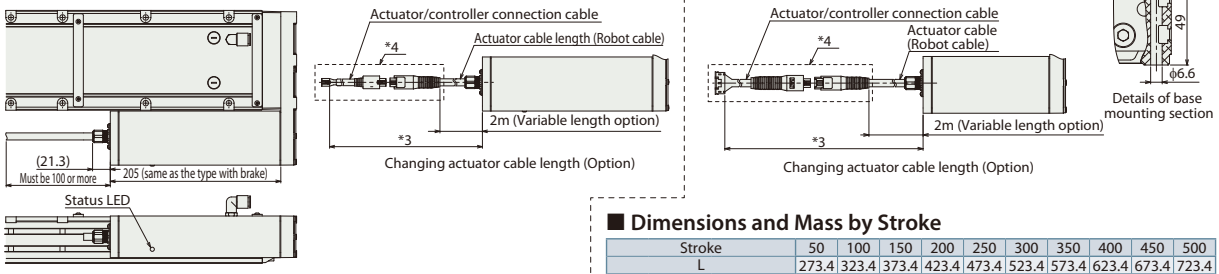
*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end S.E: Stroke end
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.



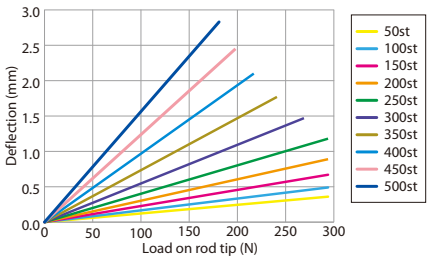
*3 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*4 The cable joint (connector) within the dotted line is not splash-proofed.

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

■ RCP6SW-WRA12R



■ Rod Deflection of RCP6(S)W-WRA12R (Reference Values)



* Please refer to P.254 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500
L			273.4	323.4	373.4	423.4	473.4	523.4	573.4	623.4	673.4	723.4
A			254.4	304.4	354.4	404.4	454.4	504.4	554.4	604.4	654.4	704.4
G			-	-	-	100	100	100	100	100	100	100
H			112	62	112	62	112	62	112	62	112	62
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			-	-	162	212	262	312	362	412	462	512
R			0	0	1	1	1	1	1	1	1	1
Allowable static load on rod tip (N)			294	294	294	294	294	269	241	218	198	181
Allowable static torque on rod tip (N•m)			20	20	20	20	20	20	20	20	20	20
3,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	147	147	137	121	107	96	87	79	72	65
		Load offset 100mm	100	100	100	100	99	90	82	75	68	63
	Allowable dynamic torque on rod tip (N•m)		10.0	10.0	10.0	10.0	9.9	9.0	8.2	7.5	6.8	6.3
5,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	147	133	115	101	90	80	72	65	59	54
		Load offset 100mm	100	100	100	92	83	75	68	62	56	51
	Allowable dynamic torque on rod tip (N•m)		10.0	10.0	10.0	9.2	8.3	7.5	6.8	6.2	5.6	5.1
Mass (kg)	RCP6W	w/o brake	5.4	6.0	6.7	7.3	8.0	8.6	9.3	9.9	10.6	11.2
		w/ brake	5.5	6.1	6.8	7.4	8.1	8.7	9.4	10.0	10.7	11.3
	RCP6SW	w/o brake	5.5	6.1	6.8	7.4	8.1	8.7	9.4	10.0	10.7	11.3
		w/ brake	5.6	6.2	6.9	7.5	8.2	8.8	9.5	10.1	10.8	11.4

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-WRA14R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 140* mm | 24v Stepper Motor

■ Model Specification Items

□ — WRA14R — WA — 56P — □ — □ — □ — □ — □ — □

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller		WA: Battery-less Absolute	56P: Stepper Motor 56□ Size	16 :16mm 8 : 8mm 4 : 4mm	50:50mm ~ 600:600mm (Every 50mm)	[RCP6W] P3 : PCON MCON MSEL P5 : RCM-P6PC [RCP6SW] 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.

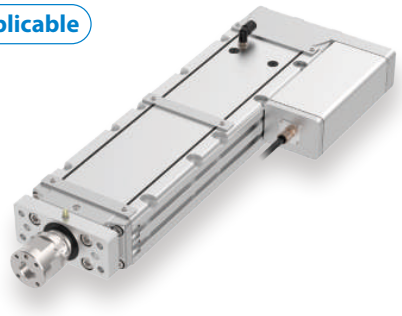
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.20 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/ side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



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

POINT Selection Notes

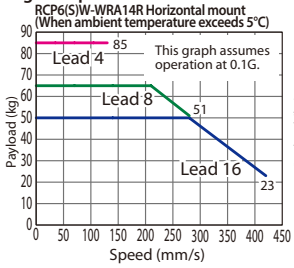
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.242 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.245 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) Depending on the ambient operating temperature, duty control is necessary for the RCP6SW (built-in controller type) with lead 4/8/16. Please refer to P.247 for more information.
(6) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(7) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

■ Correlation Diagrams of Speed and Payload

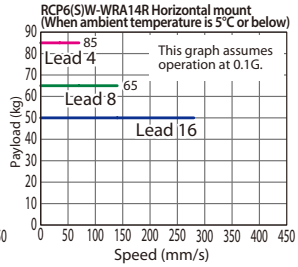
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

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

RCP6(S)W-WRA14R Horizontal mount (When ambient temperature exceeds 5°C)

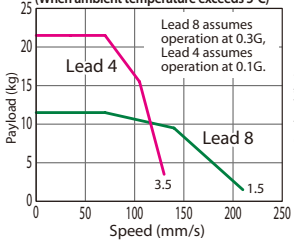


RCP6(S)W-WRA14R Horizontal mount (When ambient temperature is 5°C or below)

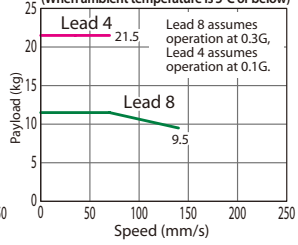


High-output enabled with PCON/MCON/MSEL connected.

RCP6(S)W-WRA14R Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-WRA14R Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

■ Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA14R-WA-56P-16-①-②-③-④	16	50	–	273	50~600 (Every 50mm)
RCP6(S)W-WRA14R-WA-56P-8-①-②-③-④	8	65	11.5	547	
RCP6(S)W-WRA14R-WA-56P-4-①-②-③-④	4	85	21.5	1,094	

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

■ Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~600 (Every 50mm)
16	420 [280]
8	280 <210> [140]
4	130 [70]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	350	○	○
100	○	○	400	○	○
150	○	○	450	○	○
200	○	○	500	○	○
250	○	○	550	○	○
300	○	○	600	○	○

③ Cable Length

Cable Type	Cable Code	RCP6W P3	RCP6W P5	RCP6SW SE
Standard	**P**(1m)	○	○	○
	S(3m)	○	○	○
	M(5m)	○	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○	○
	X11 (11m) ~**X15** (15m)	○	○	○
	X16 (16m) ~**X18** (18m)	○	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○	○
	R04 (4m) ~**R05** (5m)	○	○	○
	R06 (6m) ~**R10** (10m)	○	○	○
	R11 (11m) ~**R15** (15m)	○	○	○
	R16 (16m) ~**R18** (18m)	○	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

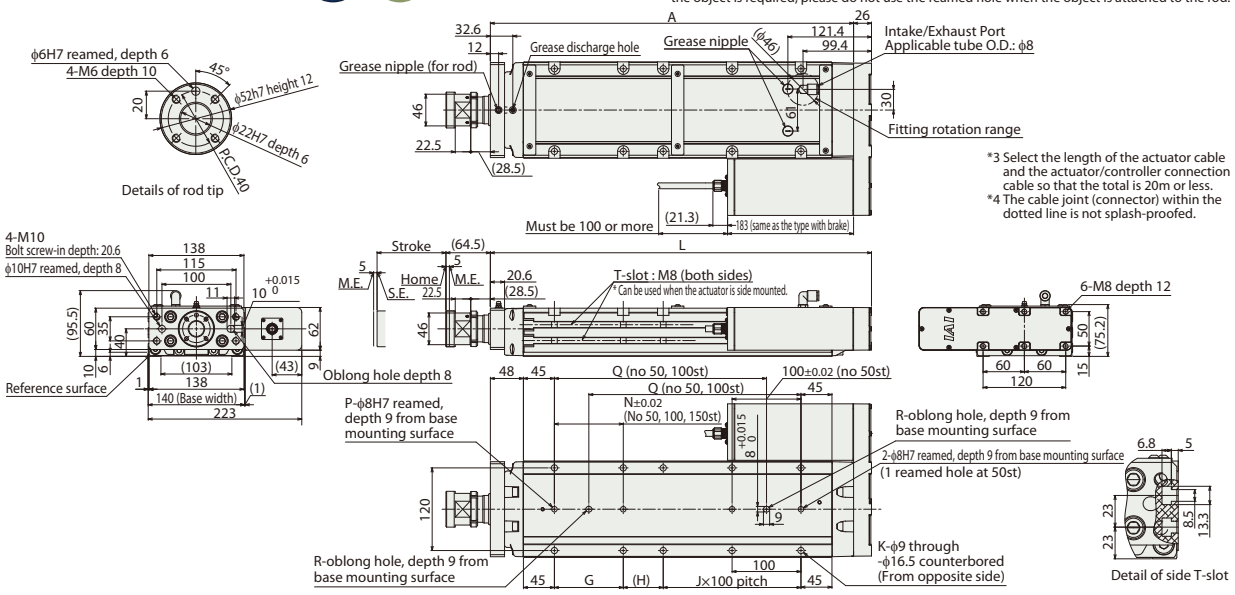
Actuator Specifications

Item	Description
Drive system	Ball screw ϕ12mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ40mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

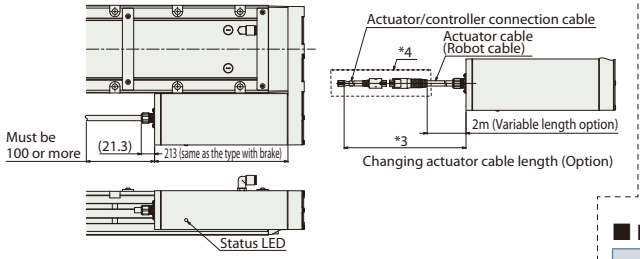
Dimensions

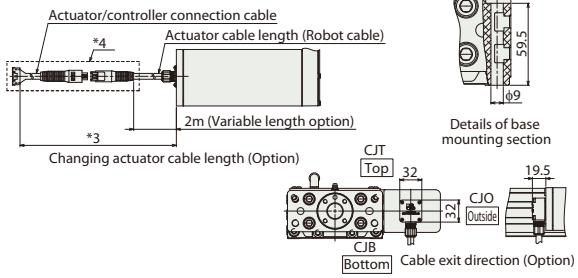
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

*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
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.

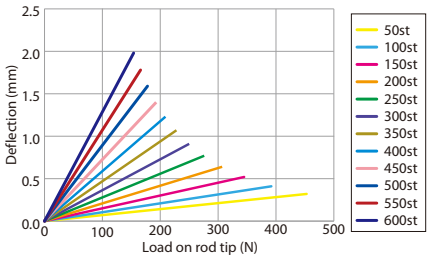


■ RCP6SW-WRA14R





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



* Please refer to P.254 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600
L			303.4	353.4	403.4	453.4	503.4	553.4	603.4	653.4	703.4	753.4	803.4	853.4
A			277.4	327.4	377.4	427.4	477.4	527.4	577.4	627.4	677.4	727.4	777.4	827.4
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)	RCP6W	w/o brake	9.4	10.2	11.1	12.0	12.9	13.8	14.7	15.6	16.5	17.4	18.3	19.2
		w/ brake	9.5	10.3	11.2	12.1	13.0	13.9	14.8	15.7	16.6	17.5	18.4	19.3
	RCP6SW	w/o brake	9.6	10.4	11.3	12.2	13.1	14.0	14.9	15.8	16.7	17.6	18.5	19.4
		w/ brake	9.7	10.5	11.4	12.3	13.2	14.1	15.0	15.9	16.8	17.7	18.6	19.5

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.271 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Control method: Pulse train	Control method: Program	Control method: Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
PCON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	See P.255
MCON-C/CG		8		This model is network-compatible only.				256	Please contact IAI for more information.
MCON-LC/LCG		6		–	–	●		256	Please contact IAI for more information.
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●	Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	30,000	Please contact IAI for more information.
RCM-P6PC		1	Usable within the RCP6S Gateway system.					768	See P.279

* For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.

RCP6(S)W-WRA16R

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Side-mounted Motor | Body Width 160* mm | 24v Stepper Motor

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

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
RCP6W: Separate Controller RCP6SW: Built-in Controller	WRA16R	WA: Battery-less Absolute	60P: Stepper Motor 60□ Size	20 :20mm 10 :10mm 5 : 5mm	50:50mm ~ 800:800mm (Every 50mm)	[RCP6W] P4 : PCON-CFB/CGFB [RCP6SW] 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.

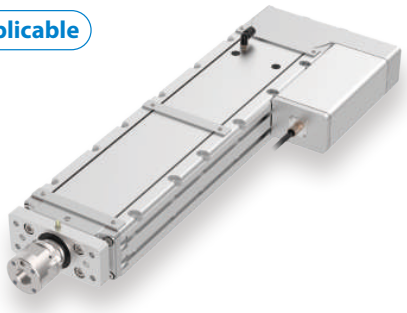
* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.20 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.



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

POINT Selection Notes

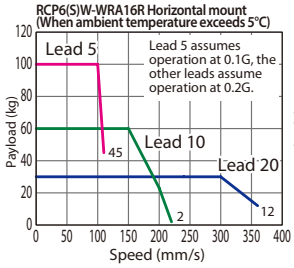
(1) The maximum acceleration/deceleration is 0.1G for lead 5 and 0.2G for lead 10/20.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.242 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.245 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) For RCP6SW (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. 206 for more information.
(7) The cable joint connector is not splash-proofed, so it should be located where there is no splash.
(8) The RCP6SW with built-in controller does not have a teaching tool connection port. Connect the teaching tool to the gateway unit and configure parameter data etc. via the gateway unit.

Correlation Diagrams of Speed and Payload

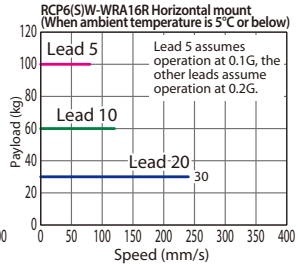
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

PCON connected.

RCP6(S)W-WRA16R Horizontal mount (When ambient temperature exceeds 5°C)

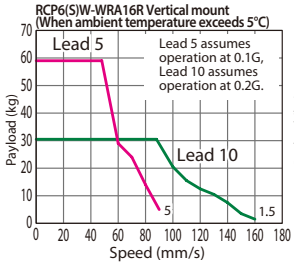


RCP6(S)W-WRA16R Horizontal mount (When ambient temperature is 5°C or below)

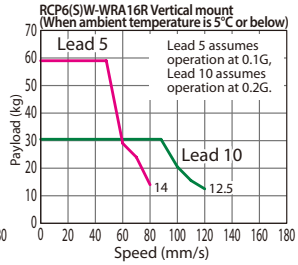


PCON connected.

RCP6(S)W-WRA16R Vertical mount (When ambient temperature exceeds 5°C)



RCP6(S)W-WRA16R Vertical mount (When ambient temperature is 5°C or below)



Actuator Specifications

Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w / limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-WRA16R-WA-60P-20-①-②-③-④	20	30	–	500	50~800 (Every 50mm)
RCP6(S)W-WRA16R-WA-60P-10-①-②-③-④	10	60	30.5	1,000	
RCP6(S)W-WRA16R-WA-60P-5-①-②-③-④	5	100	59	2,000	

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

Stroke and Max Speed

(Unit: mm/s)

Lead (mm)	50	100~450 (Every 50mm)	500	550	600	650	700	750	800
20	280 [240]	360 [240]		340 [240]	295 [240]	260 [240]	225 [225]	200 [200]	180 [180]
10	220 <160> [120]		195 <160> [120]	165 <160> [120]	145 [120]	125 [120]	110 [110]	100 [100]	90 [90]
5	110 <90> [80]		95 <90> [80]	80 [80]	70 [70]	60 [60]	55 [55]	50 [50]	45 [45]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

① Stroke

Stroke (mm)	RCP6W	RCP6SW	Stroke (mm)	RCP6W	RCP6SW
50	○	○	**450**	○	○
100	○	○	**500**	○	○
150	○	○	**550**	○	○
200	○	○	**600**	○	○
250	○	○	**650**	○	○
300	○	○	**700**	○	○
350	○	○	**750**	○	○
400	○	○	**800**	○	○

② Cable Length

Cable Type	Cable Code	RCP6W	RCP6SW
Standard	**P**(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	**X06** (6m) ~**X10** (10m)	○	○
	X11 (11m) ~**X15** (15m)	○	○
	X16 (16m) ~**X18** (18m)	○	○
Robot cable	**R01** (1m) ~**R03** (3m)	○	○
	R04 (4m) ~**R05** (5m)	○	○
	R06 (6m) ~**R10** (10m)	○	○
	R11 (11m) ~**R15** (15m)	○	○
	R16 (16m) ~**R18** (18m)	○	○

* Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
* Please refer to P. 267 and 283 for more information regarding the maintenance cables.

④ Options

Name	Option Code	Reference Page
Actuator cable length 2m	**Not specified**	See P.197
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Outside)	**CJO**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Motor side-mounted to left (standard)	**ML**	See P.201
Motor side-mounted to right	**MR**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar (Left)	**NTBL**	See P.202
T-slot nut bar (Right)	**NTBR**	See P.202

* Be sure to confirm with the "Selection Notes (P.204)" when selecting options.

Actuator Specifications

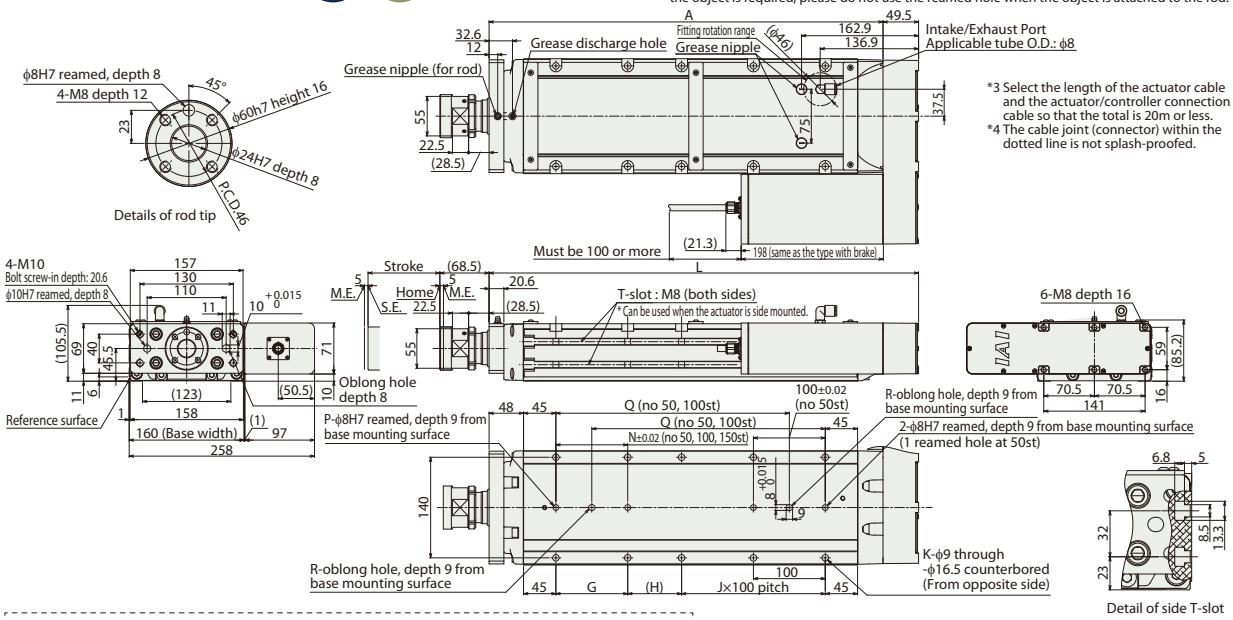
Item	Description
Drive system	Ball screw ϕ16mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ϕ45mm
Rod non-rotation precision	0 degrees
Allowable load and torque on rod tip	See P. 246
Rod tip overhang distance	150mm or less
Protective structure	IP65 (IEC 60529/JIS C 0920)
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

Dimensions

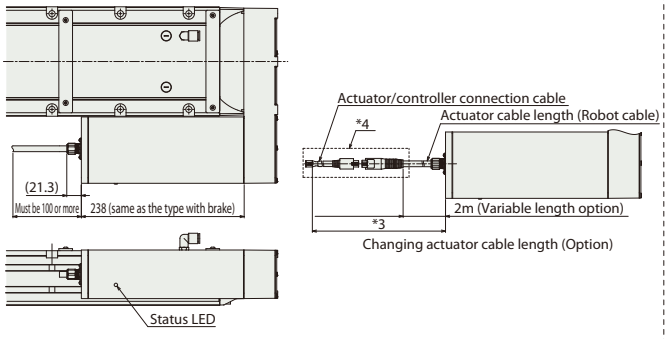
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

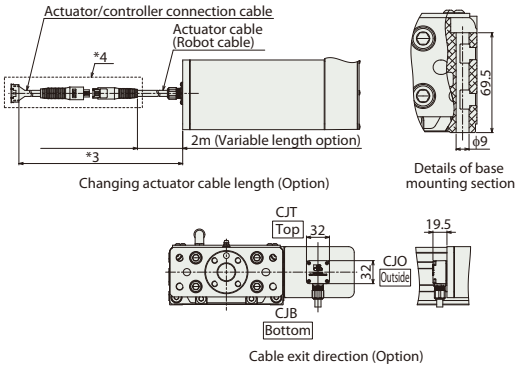
2D CAD 3D CAD

*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
*2 If the object attached to the rod has a long overhang length, or precise angular adjustment of the object is required, please do not use the reamed hole when the object is attached to the rod.

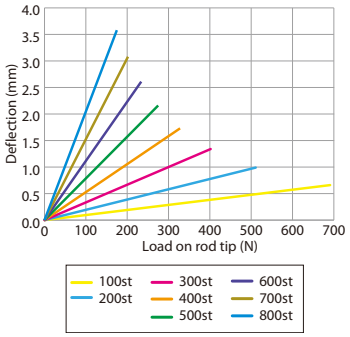


■ RCP6SW-WRA16R





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



* Please refer to P.254 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L			347.9	397.9	447.9	497.9	547.9	597.9	647.9	697.9	747.9	797.9	847.9	897.9	947.9	997.9	1,047.9	1,097.9
A			298.4	348.4	398.4	448.4	498.4	548.4	598.4	648.4	698.4	748.4	798.4	848.4	898.4	948.4	998.4	1,048.4
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
3,000km	Allowable dynamic load on rod tip (N)	Load offset 0mm	255	220	191	168	149	134	120	109	99	90	81	74	67	61	55	50
		Load offset 150mm	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 on rod tip (N)	Load offset 0mm	214	184	160	140	124	111	99	89	80	72	65	59	53	47	42	37
		Load offset 150mm	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)	RCP6W	w/o brake	13.5	14.7	15.9	17.0	18.1	19.3	20.4	21.6	22.7	23.9	25.0	26.2	27.3	28.5	29.6	30.8
		w/ brake	13.8	15.0	16.2	17.3	18.4	19.6	20.7	21.9	23.0	24.2	25.3	26.5	27.6	28.8	29.9	31.1
	RCP6SW	w/o brake	13.7	14.9	16.1	17.2	18.3	19.5	20.6	21.8	22.9	24.1	25.2	26.4	27.5	28.7	29.8	31.0
		w/ brake	14.0	15.2	16.4	17.5	18.6	19.8	20.9	22.1	23.2	24.4	25.5	26.7	27.8	29.0	30.1	31.3

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.271 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-CFB/CGFB		1	DC24V	● * Option	● * Option	–	DeviceNet CompoNet EtherNet/IP CC-Link MECHATROLINK PROFIBUS EtherCAT PROFINET	512 (768 for network spec.)	See P.255