IAI
Quality and Innovation

RCP3/RCA2 Actuator
Rod Type
First Step Guide Seventh Edition

Thank you for purchasing our product.
Make sure to read the Safety Guide and detailed Instruction Manual (CD/DVD) included with the product in addition to this First Step Guide to ensure correct use.
This Instruction Manual is original.

⚠ Warning : Operation of this equipment requires detailed installation and operation instructions which are provided on the CD/DVD Manual included in the box this device was packaged in. It should be retained with this device at all times.
A hard copy of Manual can be requested by contacting your nearest IAI Sales Office listed at the back cover of the Instruction Manual or on the First Step Guide.

Product Check

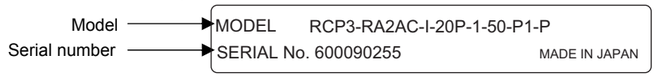
This product is comprised of the following parts if it is of standard configuration.
If you find any fault in the contained model or any missing parts, contact us or our distributor.

1. Parts (The option is excluded.)

No.	Part Name	Model	Quantity	Remarks
1	Actuator Main Body	Refer to "How to read the model plate", "How to read the model No."	1	
Accessories				
2	Motor · Encoder Cable (Note 1)		1	
3	First Step Guide		1	
4	Instruction Manual (CD/DVD)		1	
5	Safety Guide		1	

Note 1 Enclosed Motor · Encoder Cable differ depending on the applied controller.
Please refer to [Wiring] for the applicable cables.

2. How to read the model plate



3. How to read the Model No.

3.1 RCP3 Actuator

RCP3-RA2AC-I-20P-1-5-P1-P-B-**

<Series>
<Type>
[Thin and Small Type ROBO Cylinder]
Motor Coupling Type
RA2AC
RA2BC
Motor Reversing Type
RA2AR
RA2BR
<Encoder type>
I :Incremental
<Motor Type>
20P (20 □Size), 20SP (20 □Size) : RA2AC, RA2BC, RA2AR, RA2BR
<Lead>
RA2AC, RA2AR
1/2/4
1S/2S/4S
RA2BC, RA2BR
1/2/4/6
2S/4S/6S
<Stroke>
<Applicable Controller>
P1 : PSEL
PCON-C/CG
PCON-CY
PCON-SE
PCON-PL/PO
P3 : PMEC
PSEP
<Cable length>
N : None
P : 1m
S : 3m
M : 5m
X□□ : Specified Length
<Option>
B : Equipped with the Brake
ML : Motor Exiting from Left Side (Applicable to Motor Reversing Type)
MR : Motor Exiting from Right Side (Applicable to Motor Reversing Type)
NM : Reversed Home Specification
Identification for IAI use only (Note 1)

Note 1 This may be displayed for the manufacturing reason.
(This is not to indicate the manufacturing model code.)

[Refer to the catalog or Instruction Manual (CD/DVD) for specification details.]

3.2 RCA2 Actuator

RCA2-RN3N-I-10-4-30-A1-P-FL-**

<Series>
<Type>
[Thin and Small Type ROBO Cylinder]
Slim Type
(Motor Coupling Type)
RA2AC
(Motor Reversing Type)
RA2AR
Total Length Short Type
(Fixed Nut Setup Type)
RN3NA, RN4NA, RN3N, RN4N
Total Length Short Type
(Tapped Hole Setup Type)
RP3NA, RP4NA, RP3N, RP4N
Single Guide Type
GS3NA, GS4NA, GS3N, GS4N
Double Guide Type
GD3NA, GD4NA, GD3N, GD4N
Slide Unit Type
SD3NA, SD4NA, SD3N, SD4N
<Encoder type>
I :Incremental
<Motor Type>
5 (5W) : RA2AC, RA2AR
10 (10W) : RN3NA, RP3NA, GS3NA, GD3NA, SD3NA RN3N, RP3N, GS3N, GD3N, SD3N
20 (20W) : RN4NA, RP4NA, GS4NA, GD4NA, SD4NA RN4N, RP4N, GS4N, GD4N, SD4N
<Lead>
RN3NA, RP3NA, GS3NA, GD3NA, SD3NA
RN3N, RP3N, GS3N, GD3N, SD3N
(Lead Screw)
1S/2S/4S
RN3NA, RP3NA, GS3NA, GD3NA, SD3NA
RN3N, RP3N, GS3N, GD3N, SD3N
(Ball Screw)
1/2/4
<Stroke>
RN4NA, RP4NA, GS4NA, GD4NA, SD4NA
RN4N, RP4N, GS4N, GD4N, SD4N
(Lead Screw)
2S/4S/6S
RN4NA, RP4NA, GS4NA, GD4NA, SD4NA
RN4N, RP4N, GS4N, GD4N, SD4N
(Ball Screw)
2/4/6
<Applicable Controller>
A1 : ASEL
ACON-C/CG
ACON-CY
ACON-SE
ACON-PL/PO
A3 : AMEC
ASEP
<Cable length>
N : None
P : 1m
S : 3m
M : 5m
X□□ : Specified Length
<Option>
B : Brake-equipped (Note 2)
K2 : Connector Cable exit direction changed
LA : Power Saving Type
Identification for IAI use only (Note 1)

Note 1 This may be displayed for the manufacturing reason.
(This is not to indicate the manufacturing model code.)
Note 2 RN3N, RN4N, RP3N, RP4N, GS3N, SD3NA, SD4NA, GS4N, GD3N and GD4N are not applicable.

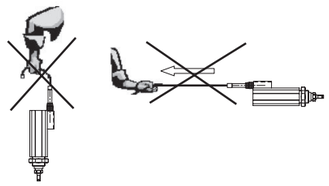
[Refer to the catalog or Instruction Manual (CD/DVD) for specification details.]

Precautions in Handling

Handle it with great care, and keep to the following instructions. Failure to do so may cause damage to the product.

1. Handling of the Packed Product
Take the greatest care in transporting the product, not to bump or drop it.
- When setting down the packed actuator keep it horizontal.
- Do not step on the package.
- Do not place any heavy article on top of the package that may deform the package.

2. Handling of the Unpacked Product
Do not transport the actuator by holding the cable or move it by pulling the cable.



- When the actuator is taken out from the package and handled, hold the base section.
- When carrying the actuator, do not bump or drop the actuator or otherwise cause the actuator to receive any impact or excessive force.
- Do not give any unnatural force to any of the sections in the actuator.

Installation Environment, Storage Environment

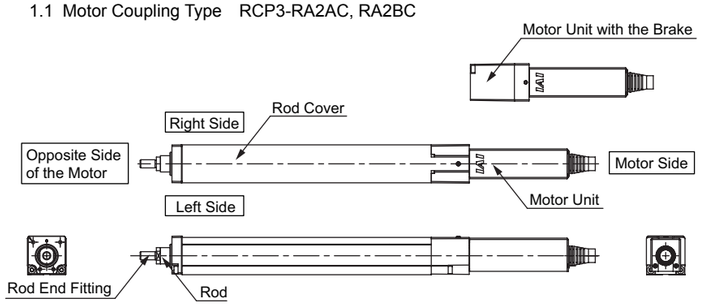
1. Installation Environment
An environment that satisfies the following conditions is required during installation.
Generally speaking, it should be an environment where a worker can work without any protective gear.
- There should be no direct sunlight
- Any radiant heat from a large heat source such as heat treatment furnace should not be directed at the machine main body.
- The ambient temperature should be 0 to 40°C.
- The relative humidity should be 85% or less. There should not be dew condensation.
- There should not be corrosive gas or flammable gas.
- It should be a normal assembling work environment where there is not too much dust. (For RA2A□ or RA2B□, when it is used under the condition where dust hangs in the air, the life is remarkably shortened.)
- Oil mist or cutting liquid should not be directed at the machine.
- Chemical liquid should not be splashed on it.
- An impact or vibration should not be transmitted to it.
- There should not be strong electromagnetic waves, ultraviolet rays or radiation.
- The working space required for maintenance or inspection should be secured.

2. Storage and Preservation Environment
The storage and preservation environment should comply with the same standards as those for the installation environment. In particular, when the machine is to be stored for a long time, pay close attention to environmental conditions so that no condensation forms. Unless specially specified, moisture absorbency protection is not included in the package when the machine is delivered. In the case that the machine is to be stored and preserved in an environment where condensation is anticipated, take the condensation preventive measures from outside of the entire package, or directly after opening the package.
In the storage and preservation for up to 1 month, it can endure in the temperature at 60°C at maximum.
For the storage and preservation longer than that, keep the temperature at 50°C at maximum.

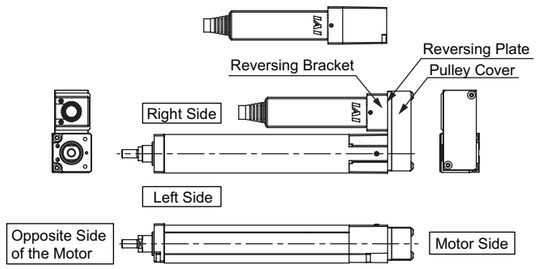
External Dimensions

1. Motor Unit Type

1.1 Motor Coupling Type RCP3-RA2AC, RA2BC



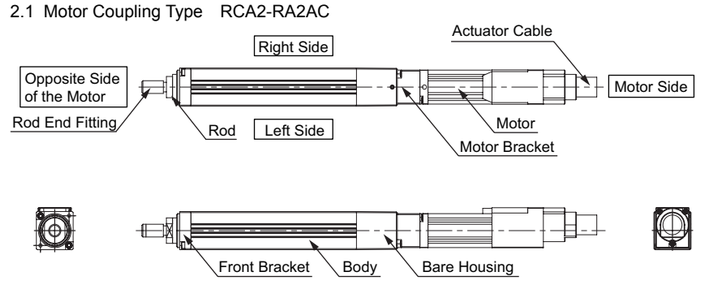
1.2 Motor Reversing Type RCP3-RA2AR, RA2BR



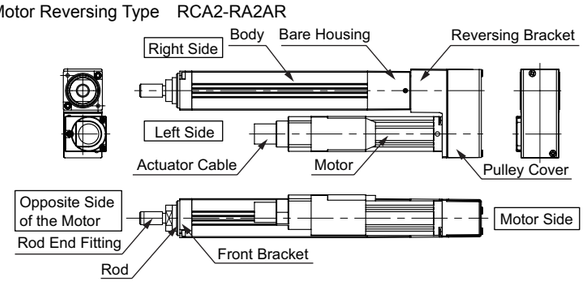
[Refer to the catalog or instruction manual (CD/DVD) for the details such as the appearance]

2. Slim Type

2.1 Motor Coupling Type RCA2-RA2AC



2.2 Motor Reversing Type RCA2-RA2AR



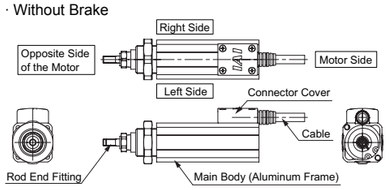
[Refer to the catalog or instruction manual (CD/DVD) for the details such as the appearance]

3. Total Length Short Type

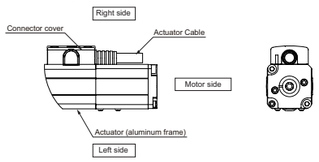
3.1 Fixed Nut Setup Type

RCA2-RN3NA, RN3N (Lead Screw, Ball Screw), RN4NA, RN4N (Lead Screw, Ball Screw)

· Without Brake



· Brake-equipped

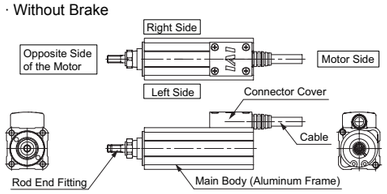


[Refer to the catalog or instruction manual (CD/DVD) for the details such as the appearance]

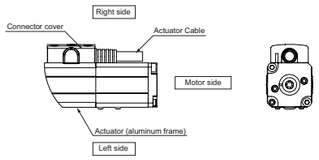
3.2 Tapped Hole Setup Type

RCA2-RP3NA, RP3N (Lead Screw, Ball Screw), RP4NA, RP4N (Lead Screw, Ball Screw)

· Without Brake



· Brake-equipped

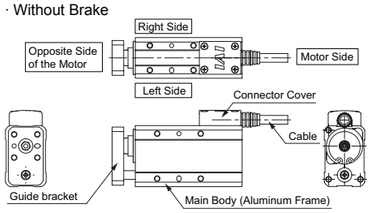


[Refer to the catalog or instruction manual (CD/DVD) for the details such as the appearance]

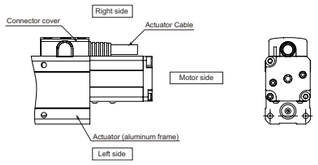
3.3 Single Guide Type

RCA2-GS3NA, GS3N (Lead Screw, Ball Screw), GS4NA, GS4N (Lead Screw, Ball Screw)

· Without Brake



· Brake-equipped

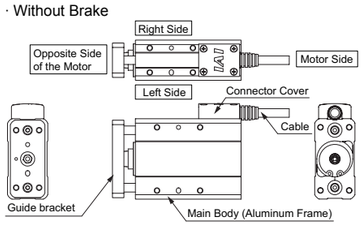


[Refer to the catalog or instruction manual (CD/DVD) for the details such as the appearance]

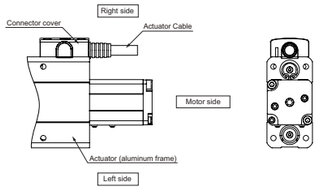
3.4 Double Guide Type

RCA2-GD3NA, GD3N (Lead Screw, Ball Screw), GD4NA, GD4N (Lead Screw, Ball Screw)

· Without Brake



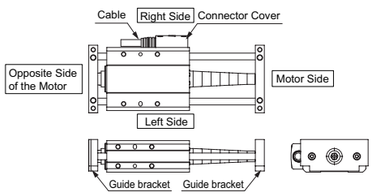
· Brake-equipped



[Refer to the catalog or instruction manual (CD/DVD) for the details such as the appearance]

3.5 Slide Unit Type

RCA2-SD3NA, SD3N (Lead Screw, Ball Screw), SD4NA, SD4N (Lead Screw, Ball Screw)



[Refer to the catalog or instruction manual (CD/DVD) for the details such as the appearance]

Attachment

1. Motor Unit Type

RCP3-RA2AC, RA2BC, RA2AR, RA2BR

1.1 Attachment

For the surface to which the actuator is attached, a machined surface or flat one with equivalent accuracy should be used.

[1] Main Body Attachment

This actuator is equipped with the setup tap which can be fixed at the rear side. (Be careful because the tap size varies depending on the actuator type. Refer to dimensional outline drawing in Instruction Manual (CD/DVD)).

Also, a reamed hole for the pilot pin is provided.

Tap Size and Max. Screw Depth	Bolt to be used	Tightening Torque		Reamed Hole (mm)
		In the case that steel is used for the base seating surface:	In the case that aluminum is used for the base seating surface:	
M3 Depth 5	M3	1.54N·m (0.16kgf·m)	0.83N·m (0.085kgf·m)	Depth 3 from the ϕ2H7 Base Surface

Description of the Set Screws

· For the base male set screw, use a hexagon socket head cap screw.
· For the bolt to be used, a high-tensile bolt complying with ISO-10.9 or more is recommended.
· Secure the following value or more for effective fitting length for bolts and screws.
· In the case that the threaded hole is made of steel: The same length as nominal diameter
· In the case that the threaded hole is made of aluminum: A length of maximum screwing depth

⚠ Note : Take care in selecting bolt length. Using a bolt with inappropriate length may cause damage to the tapped hole, insufficient attachment strength of the actuator or interference with the driving section, which may result in degradation of accuracy or unexpected accident.

[2] Attachment Surface

· The base has to have a structure with sufficient rigidity to prevent oscillation.
· For the surface to which the actuator is to be attached, a machined surface or flat one with equivalent accuracy should be used. The flatness of the surface should be within ±0.05mm/m.
· Secure the space where maintenance work can be performed.

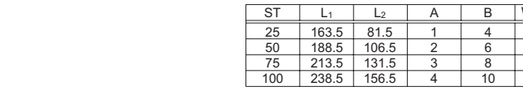
2. Slim Type

RCA2-RA2AC, RA2AR

2.1 Attachment

At the back of the body, there are tapped holes and a reamed hole provided for positioning. The locations of these holes are as shown in the figure below.

(In common for coupling type and reversed type)



ST	L_1	L_2	A	B	Weight
25	163.5	81.5	1	4	170
50	188.5	106.5	2	6	185
75	213.5	131.5	3	8	200
100	238.5	156.5	4	10	215

Description of the Set Screws

The recommended tightening torque is as indicated below:

Bolt to be used	Tightening Torque	
	In the case that steel is used for the bolt bearing surface:	In the case that aluminum is used for the bolt bearing surface:
M2	0.42N·m(0.043kgf·m)	0.25N·m(0.026kgf·m)

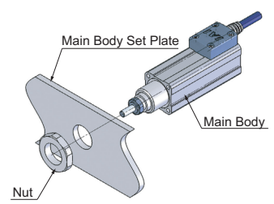
3. Total Length Short Type Fixed Nut Setup Type

RN3NA, RN3N (Lead Screw, Ball Screw), RN4NA, RN4N (Lead Screw, Ball Screw)

3.1 Main Body Attachment

Attach the main body, by means of fitting it into the through hole with diameter of 5 to 10mm on the smooth flat plate.

· Attach the main body to the main-body set-plate using the nut on the rod in the main body.
· The tolerance of the male screw root section for the main body is "h8", so use it as a spigot.



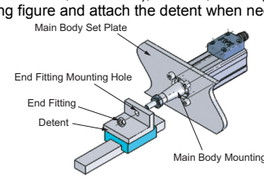
Type	M	Width across Flats	Max. Tightening Torque
RN3NA, RN3N (Lead Screw, Ball Screw)	M20×1.0	29	49.4
RN4NA, RN4N (Lead Screw, Ball Screw)	M24×1.0	32	76.8

⚠ Note : Do not fasten the bolt with the torque more than the max. tightening torque. Failure to do so may cause a damage to the actuator.

3.2 Attachment of the Detent

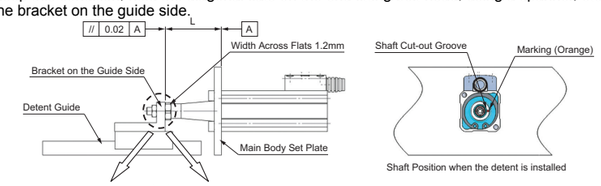
The total length short type rod (attachment type with fixing the nut) does not have the detent.

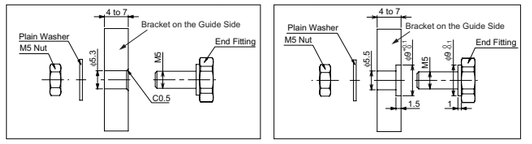
For the RN3NA, RN3N (lead screw, ball screw), RN4NA, RN4N (lead screw, ball screw) without the guide, refer to the following figure and attach the detent when necessary.



[Detent Attachment Procedure and Precautions]

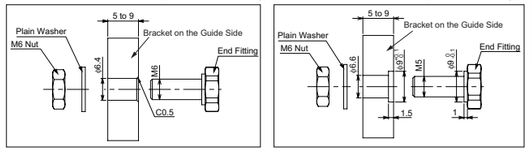
(1) The coaxial level for the main body mounting-hole on the main-body set-plate and end fitting mounting-hole in the bracket on the guide side, should be within the range of ±0.05. Also, the flatness should be within the range of ±0.02.
(2) Turn the rod end fitting by hand and bring out the screw shaft to the front.
(3) Fix the rod end fitting on the guide side. When it is fixed, confirm that the "L" size is complied and align the marking seal on the rear side with the shaft cut-out groove.
Keep this condition; hold the diagonal flats on the end fitting bolt head, using a spanner, etc, to fix the bracket on the guide side.





RN3 Bracket on the Guide Side(Without Back Facing)

RN3 Bracket on the Guide Side(With Back Facing)



RN4 Bracket on the Guide Side(Without Back Facing)

RN4 Bracket on the Guide Side(With Back Facing)

Tightening Torque of End Fitting

Type	Tightening Torque
RN3NA, RN3N (Lead Screw, Ball Screw)	3.1N·m
RN4NA, RN4N (Lead Screw, Ball Screw)	5.2N·m

Type	Lead	Bracket on the Guide Side	L
RN3NA, RN3N (Lead Screw, Ball Screw)	1	Without Back Facing	25.0±0.1
		With Back Facing	24.0±0.1
	2, 4	Without Back Facing	25.3±0.1
		With Back Facing	24.3±0.1
RN4NA, RN4N (Lead Screw, Ball Screw)	1	Without Back Facing	27.0±0.1
		With Back Facing	26.0±0.1
	2, 4, 6	Without Back Facing	27.3±0.1
		With Back Facing	26.3±0.1

⚠ Note : Do not join the detent to the actuator main body using the floating joint, etc. If so, the radial load might be given to the screw shaft due to the eccentricity, which might cause an actuator malfunction or early damage.

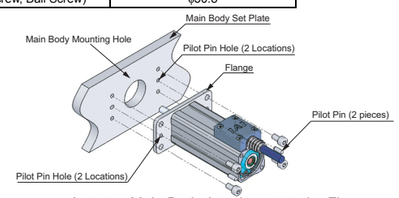
3.3 Flange Attachment

Prepare the flange shaped plate and attach the main body from the rear side.

· Attach it onto the flange using the nut on the rod in the main body.
· Set the main body set plate onto the flange using the screws.
In the case that positioning is required, insert the pilot pin.

(Note) Make a hole on the main body set plate, larger than the nut size to escape the nut.

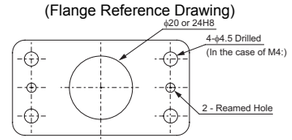
Type	L
RN3NA, RN3N (Lead Screw, Ball Screw)	ϕ34
RN4NA, RN4N (Lead Screw, Ball Screw)	ϕ30.8



Actuator Main Body Attachment to the Flange

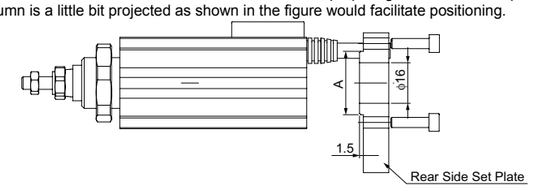
Type	M	Width across Flats	Max. Tightening Torque
RN3NA, RN3N (Lead Screw, Ball Screw)	M20×1.0	29	49.4
RN4NA, RN4N (Lead Screw, Ball Screw)	M24×1.0	32	76.8

(Flange Reference Drawing)



3.4 Attachment from the Rear Side

In the case that the actuator is attached from the rear side, preparing the rear side set plate where the round column is a little bit projected as shown in the figure would facilitate positioning.



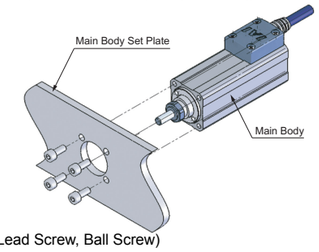
	RN3 (Lead Screw, Ball Screw)	RN4 (Lead Screw, Ball Screw)
A	ϕ25 -0.2 -0.3	ϕ30 -0.2 -0.3

4. Total Length Short Type Tapped Hole Setup Type
RP3NA, RP3N (Lead Screw, Ball Screw), RP4NA, RP4N (Lead Screw, Ball Screw)

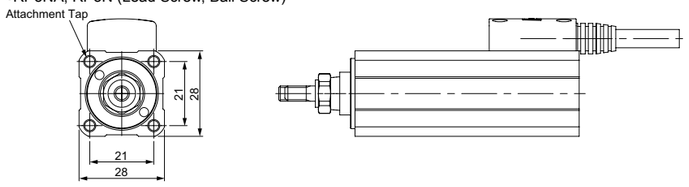
4.1 Main Body Attachment

Attach the main body, by means of fitting it into the through hole with diameter of 5 to 10mm on the smooth flat plate.

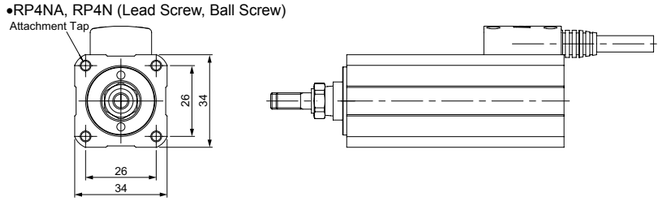
- Attach the main body set plate using the main body tapped hole.
- Attach the main body to the main-body set-plate using the nut on the rod in the main body.



•RP3NA, RP3N (Lead Screw, Ball Screw)



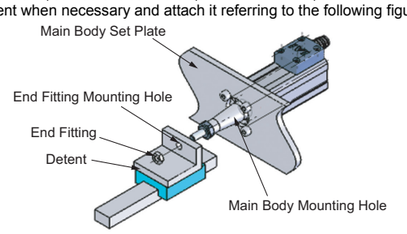
•RP4NA, RP4N (Lead Screw, Ball Screw)



Type	Tapped Hole Size	Tightening Torque	
		In the case of the steel plate:	In the case of the aluminum plate:
RP3NA, RP3N (Lead Screw, Ball Screw) RP4NA, RP4N (Lead Screw, Ball Screw)	M4 Depth 8	3.6N·m	1.8N·m

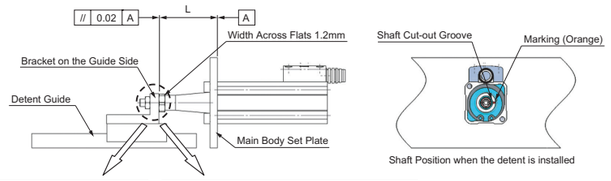
4.2 Attachment of the Detent

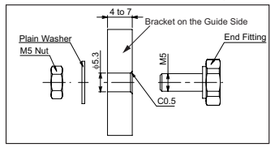
The total length short type rod (attachment type with fixing the nut) does not have the detent.
In the case of RP3NA, RP3N (lead screw, ball screw), RP4NA, RP4N (lead screw, ball screw) without the guide, prepare the detent when necessary and attach it referring to the following figure.



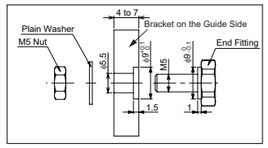
[Detent Attachment Procedure and Precautions]

(1) The coaxial level for the main body mounting-hole on the main-body set-plate and end fitting mounting-hole in the bracket on the guide side, should be within the range of □0.05. Also, the flatness should be within the range of □0.02.
(2) Turn the rod end fitting by hand and bring out the screw shaft to the front.
(3) Fix the rod end fitting on the guide side. When it is fixed, confirm that the “L” size is complied and align the marking seal on the rear side with the shaft cut-out groove.
Keep this condition; hold the diagonal flats on the end fitting bolt head, using a spanner, etc, to fix the bracket on the guide side.

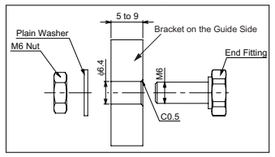




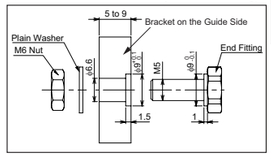
RP3 Bracket on the Guide Side(Without Back Facing)



RP3 Bracket on the Guide Side(With Back Facing)



RP4 Bracket on the Guide Side(Without Back Facing)



RP4 Bracket on the Guide Side(With Back Facing)

Tightening Torque of End Fitting

Type	Tightening Torque
RP3NA, RP3N (Lead Screw, Ball Screw)	3.1N·m
RP4NA, RP4N (Lead Screw, Ball Screw)	5.2N·m

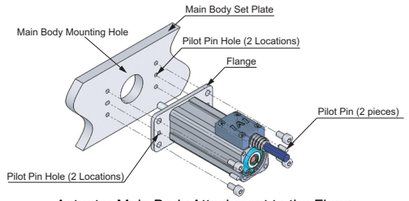
Type	Lead	Bracket on the Guide Side	L
RP3NA, RP3N (Lead Screw, Ball Screw) RP4NA, RP4N (Lead Screw, Ball Screw)	1	Without Back Facing	11.5±0.1mm
		With Back Facing	10.5±0.1mm
RP3NA, RP3N (Lead Screw, Ball Screw) RP4NA, RP4N (Lead Screw, Ball Screw)	2, 4, 6	Without Back Facing	11.8±0.1mm
		With Back Facing	10.8±0.1mm

⚠ Note : Do not join the detent to the actuator main body using the floating joint, etc. If so, the radial load might be given to the screw shaft due to the eccentricity, which might cause an actuator malfunction or early damage.

4.3 Flange Attachment

Prepare the flange shaped plate and attach the main body from the rear side.

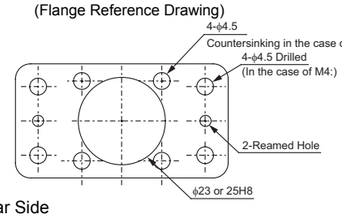
- Attach the actuator onto the flange using the M4 countersunk screw and the tapped hole in the main body.
- Set the main body set plate onto the flange using the screws.
In the case that positioning is required, insert the pilot pin.



Actuator Main Body Attachment to the Flange

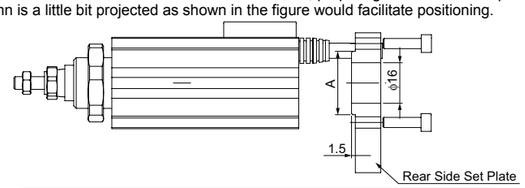
Type	Tapped Hole Size	Tightening Torque	
		In the case of the steel flange:	In the case of the aluminum flange:
RP3NA, RP3N (Lead Screw, Ball Screw) RP4NA, RP4N (Lead Screw, Ball Screw)	M4 Depth 8	3.6N·m	1.8N·m

(Flange Reference Drawing)



4.4 Attachment from the Rear Side

In the case that the actuator is attached from the rear side, preparing the rear side set plate where the round column is a little bit projected as shown in the figure would facilitate positioning.



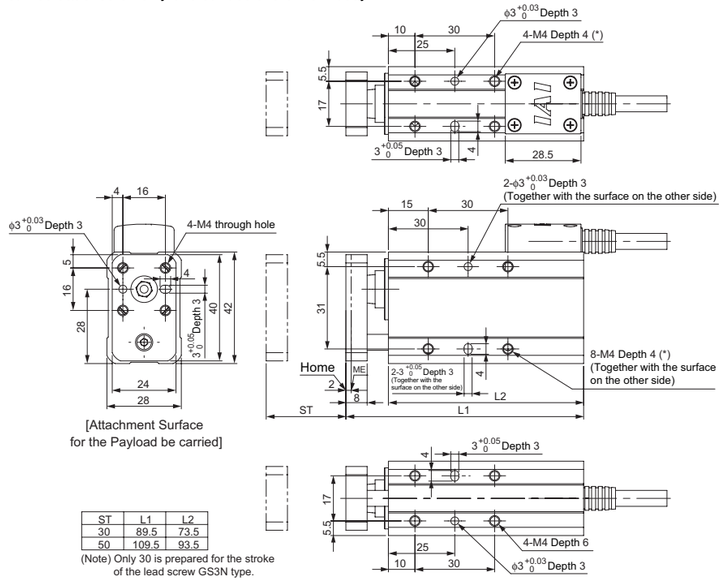
	RP3 (Lead Screw, Ball Screw)	RP4 (Lead Screw, Ball Screw)
A	ϕ25 -0.2 -0.3	ϕ30 -0.2 -0.3

5. Single Guide Type
GS3NA, GS3N (Lead Screw, Ball Screw), GS4NA, GS4N (Lead Screw, Ball Screw)

For the surface to which the actuator main body is attached, a machined surface or flat one with equivalent accuracy should be used.

- Because the screw effective depth varies depending on the machine type and attachment surface, determine the screw length to be used referring to the figure.
- Each attachment surface has a round hole for the pilot pin and slot, use them when necessary.

•GS3NA, GS3N (Lead Screw, Ball Screw)
Four surfaces of the main body have the structure available for actuator setup. Anything to be carried can be attached on only one surface of the main body.

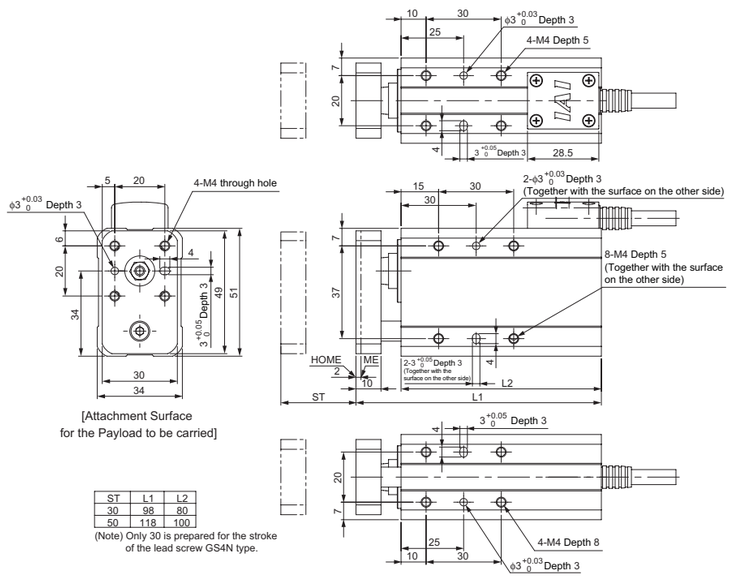


ST	L1	L2
30	89.5	73.5
50	109.5	93.5

(Note) Only 30 is prepared for the stroke of the lead screw GS3N type.

⚠ Note : The tapped hole in the attachment section is partly a through hole. Never use the screw longer than the screw effective length. Failure to do so may cause damage to inner mechanism or electrical component.

•GS4NA, GS4N (Lead Screw, Ball Screw)
Four surfaces of the main body have the structure available for actuator setup. Anything to be carried can be attached on only one surface of the main body.



ST	L1	L2
30	98	80
50	118	100

(Note) Only 30 is prepared for the stroke of the lead screw GS4N type.

⚠ Note : The tapped hole in the attachment section is partly a through hole. Never use the screw longer than the screw effective length. Failure to do so may cause damage to inner mechanism or electrical component.

6. Double Guide Type

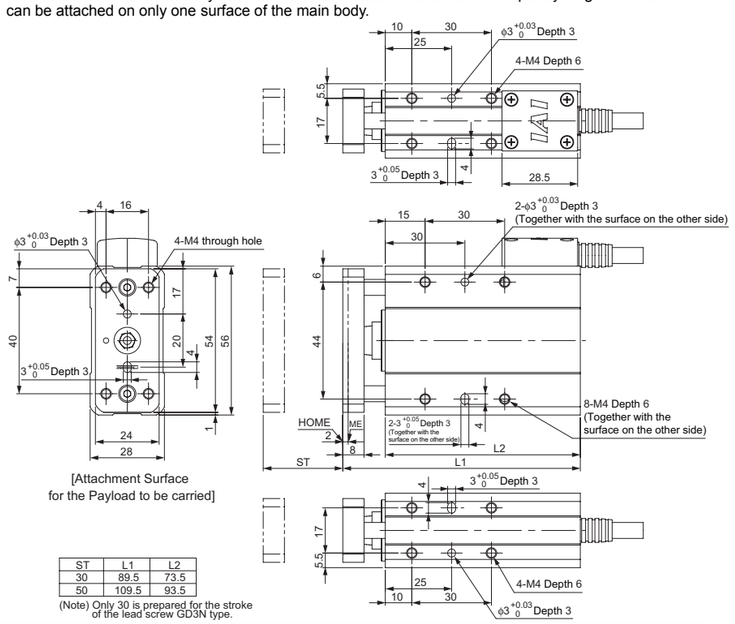
GD3NA, GD3N (Lead Screw, Ball Screw), GD4NA, GD4N (Lead Screw, Ball Screw)

For the surface to which the actuator main body is attached, a machined surface or flat one with equivalent accuracy should be used.

· Because the screw effective depth varies depending on the machine type and attachment surface, determine the screw length to be used referring to the figure.
· Each attachment surface has a round hole for the pilot pin and slot, use them when necessary.

•GD3NA, GD3N (Lead Screw, Ball Screw)

Four surfaces of the main body have the structure available for actuator setup. Anything to be carried can be attached on only one surface of the main body.



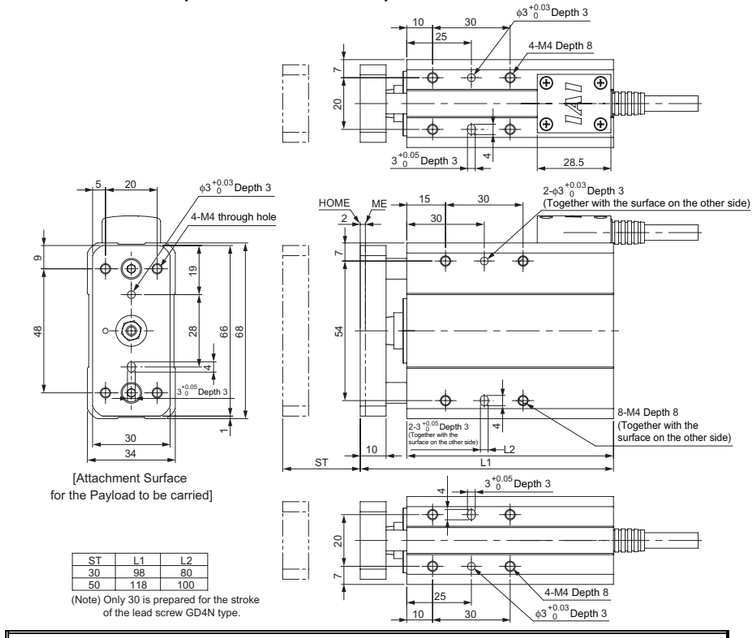
ST	L1	L2
30	89.5	73.5
50	109.5	93.5

(Note) Only 30 is prepared for the stroke of the lead screw GD3N type.

⚠ Note : The tapped hole in the attachment section is partly a through hole. Never use the screw longer than the screw effective length. Failure to do so may cause damage to inner mechanism or electrical component.

•GD4NA, GD4N (Lead Screw, Ball Screw)

Four surfaces of the main body have the structure available for actuator setup. Anything to be carried can be attached on only one surface of the main body.



ST	L1	L2
30	98	80
50	118	100

(Note) Only 30 is prepared for the stroke of the lead screw GD4N type.

⚠ Note : The tapped hole in the attachment section is partly a through hole. Never use the screw longer than the screw effective length. Failure to do so may cause damage to inner mechanism or electrical component.

7. Slide Unit Type

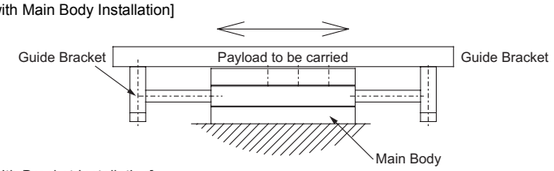
SD3NA, SD3N (Lead Screw, Ball Screw), SD4NA, SD4N (Lead Screw, Ball Screw)

For the surface to which the main body or guide bracket is attached, a machined surface or flat one with equivalent accuracy should be used.

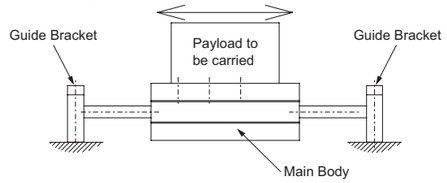
· Because the screw effective depth varies depending on the machine type and attachment surface, determine the screw length to be used referring to the figure.
· Each attachment surface has a round hole for the pilot pin and slot, use them when necessary.

For the attachment of the slide unit type, there are two methods; installing the main body and installing the guide bracket.

[Method with Main Body Installation]



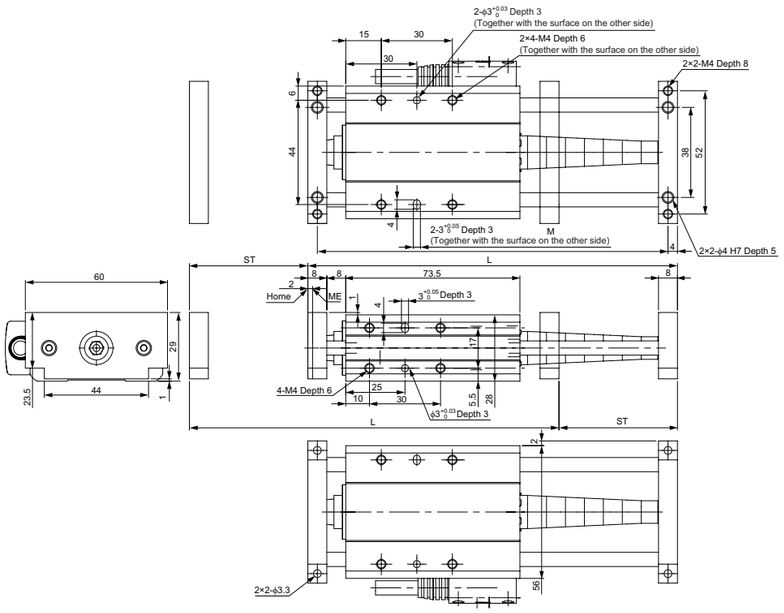
[Method with Bracket Installation]



⚠ Note : When the method with the bracket attachment is used, the actuator cannot be installed vertically.

•SD3NA, SD3N (Lead Screw, Ball Screw)

Three surfaces of the main body have the structure available for actuator setup.

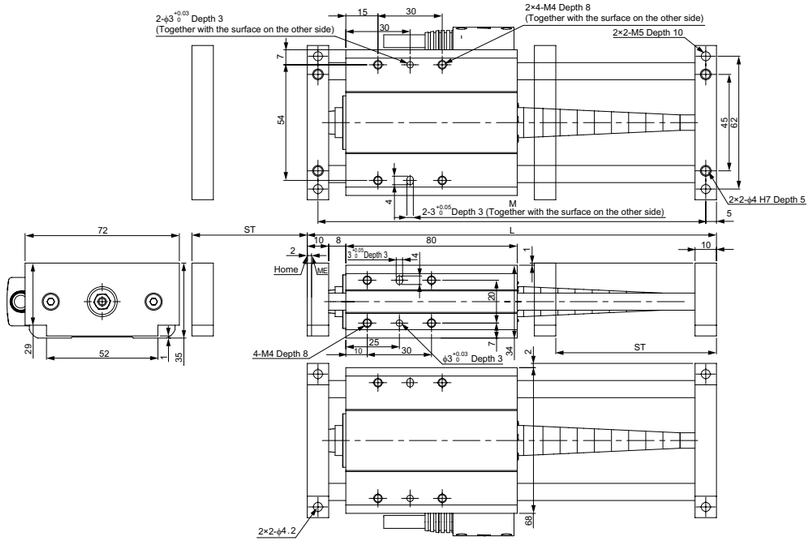


Stroke	L	M
25	131	123
50	156	148

⚠ Note : The tapped hole in the attachment section is partly a through hole. Never use the screw longer than the screw effective length. Failure to do so may cause damage to inner mechanism or electrical component.

•SD4NA, SD4N (Lead Screw, Ball Screw)

Three surfaces of the main body have the structure available for actuator setup.



Stroke	L	M
25	141	131
50	166	156
75	191	181

⚠ Note : The tapped hole in the attachment section is partly a through hole. Never use the screw longer than the screw effective length. Failure to do so may cause damage to inner mechanism or electrical component.

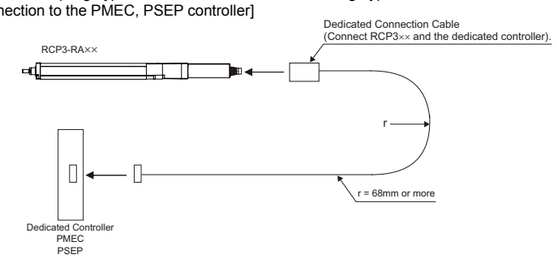
Wiring

For the controller, only the dedicated controller manufactured by our company can be used.
For the connection between the actuator and controller, use the attached dedicated connection cable.

1. RCP3 Actuator Connection

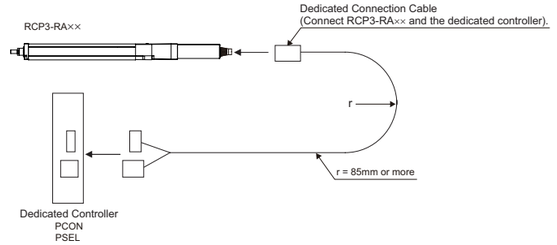
Motor Coupling Type RA2AC/RA2BC, Motor Reversing Type RA2AR/RA2BR

[Connection to the PMEC, PSEP controller]



Dedicated Connection Cable CB-APSEP-MPA***
*** shows the cable length. The max. length should be 20m.
Example) 080 = 8m

[Connection to the PCON, PSEL controller]

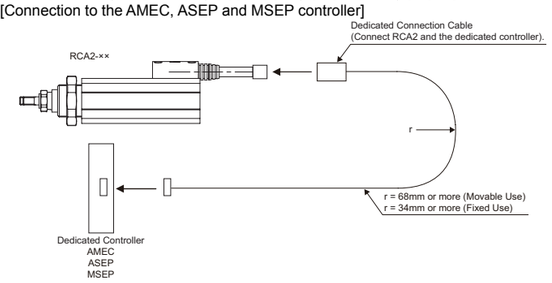


Dedicated Connection Cable CB-PCS-MPA***
*** shows the cable length. The max. length should be 20m.
Example) 080 = 8m

2. RCA2 Actuator Connection

RN3N/RN4N, RP3N/RP4N, GS3N/GS4N, GD3N/GD4N, SD3N/SD4N

[Connection to the AMEC, ASEP and MSEP controller]

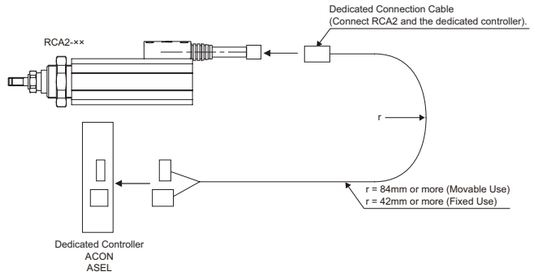


Dedicated Connection Cable CB-APSEP-MPA***

*** shows the cable length. The max. length should be 20m.

Example) 080 = 8m

[Connection to the ACON, ASEL controller]



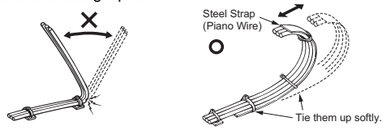
Dedicated Connection Cable CB-ACS-MPA***

*** shows the cable length. The max. length should be 20m.

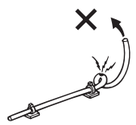
Example) 080 = 8m

[Prohibited Items in the Cable Processing]

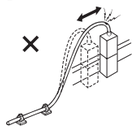
- Do not pull or bend forcibly the cable so as not to give any extra load or tension to the cable.
- Do not process the cable to extend or shortening by means of cutting out, combination or connecting with another cable.
- Do not let the cable flex at a single point.



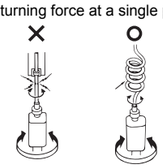
- Do not let the cable bend, kink or twist.



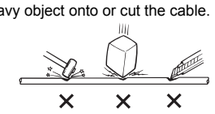
- Do not pull the cable with a strong force.



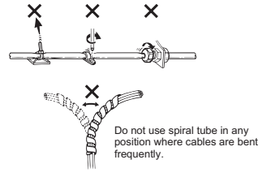
- Do not let the cable receive a turning force at a single point.



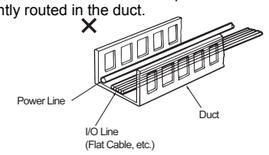
- Do not pinch, drop a heavy object onto or cut the cable.



- When fixing the cable, provide a moderate slack and do not tension it too tight.

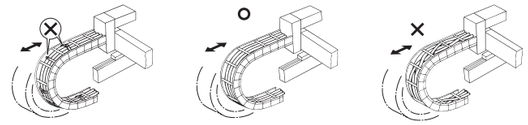


- Separate the I/O line, communication line and power line from each other. Arrange so that such lines are independently routed in the duct.



Follow the instructions below when using a cable track.

- If there is an indication to the cable for the space factor in a cable track, refer to the wiring instruction given by the supplier when storing the cable in the cable track.
- Avoid the cables to get twined or twisted in the cable track, and also to have the cables move freely and do not tie them up. (Arrange the wiring so the cables are not to be pulled when bent.) Do not pile up cables. It may cause faster abrasion of the sheaths or cable breakage.



⚠ Note :

- When the cable is connected or disconnected, make sure to turn off the power to the controller. When the cable is connected or disconnected with the controller power turned ON, it might cause a malfunction of the actuator and result in a serious injury or damage to the machinery.
- When the connector connection is not correct, it would be dangerous because of a malfunction of the actuator. Make sure to confirm that the connector is connected correctly.

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