IAI
Quality and Innovation

Products designed for use in secondary battery production processes

RCS4B Actuator

Slider Type / Radial Cylinder Type / Wide Slider Type / Wide Radial Cylinder Type

First Step Guide First Edition

Thank you for purchasing our product.
Make sure to read the Safety Guide and detailed Instruction Manual as well as this First Step Guide to ensure correct use.
This Instruction Manual is original.

⚠ Warning: Read the instruction manual carefully and follow the instruction manual when handling this equipment.
Please downloaded the user's manual from our website.
You can download it free of change. User registration is required for first time users.
URL:www.iai-robot.co.jp/data_dl/CAD_MANUAL/
Keep a printout of the introduction manual near the equipment in which this product is installed so that it can be checked at all times, or display it on your computer, tablet terminal, etc. so that you can check it immediately.
If you need a bound copy of the instruction manual, order it from the nearest sales office listed in the First Step Guide or at the end of the instruction manual. It will be provided for a fee.

- Using or copying all or part of this Instruction Manual without permission is prohibited.
- The company names, names of products and trademarks of each company shown in the sentences are registered trademarks.

Product Check

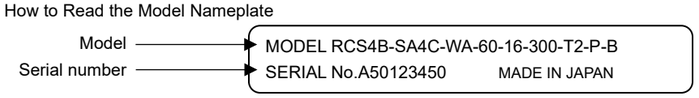
This product is comprised of the following parts if it is of standard configuration.
If you find any fault in the contained model or any missing parts, contact us or our distributor.

1. Parts (The option is excluded.)

No.	Part Name	Model	Quantity	Remarks
1	Actuator Main Body	Refer to [3. How to Read the Model Number]	1	
Accessories				
2	Motor cable (Note 1)		1	
3	Encoder cable (Note 1)		1	
4	Cross Recessed Pan Head Screw with Captive Washer	M3 × 6	2	
5	Zip ties Quantity	For clamping connector cover	2	
3	Safety Guide	M0194	1	

Note 1 Please refer to the wiring layout for the enclosed motor cable and encoder cable.

2. How to Read the Model Nameplate



3. How to Read the Model Number

Available options should differ depending on types and conditions. Refer to the catalog for details.

3.1 Slider Type

RCS4B-SA4C-WA-60-16-300-T2-P-B-**

<Series>
RCS4B

<Type>
Motor Straight Type
SA4C
SA6C
SA7C
SA8C
Motor Reversed Type
SA4R
SA6R
SA7R
SA8R

<Encoder Type>
WA : Battery-less Absolute

<Motor Wattage>
60 : 60W
100 : 100W
200 : 200W
400 : 400W

<Ball Screw Lead>
SA4C, SA4R
2.5/5/10/16
SA6C, SA6R
3/6/12/20
SA7C, SA7R
4/8/16/24
SA8C, SA8R
5/10/20/30

<Stroke>
Refer to [Instruction Manual ME3850 1.2 Mechanical Specifications].

<Compatible Controller>
T2 : SCON
MSCON
SSEL
XSEL-P/Q
XSEL-RA/SA
T4 : RCON
RSEL
SCON2
XSEL2

<Cable Length>
N : None
P : 1m
S : 3m
M : 5m
X□□ : Length Specification
R□□ : Robot Cable

<Option>
B : With brake
CJT : Cable Exit Direction Changed (Top)
CJR : Cable Exit Direction Changed (Right)
CJL : Cable Exit Direction Changed (Left)
CJB : Cable Exit Direction Changed (Bottom)
CJO : Cable Exit Direction Changed (Outward)
GU : Grease Supply Inlet Added Specification
HPR : High Precision Specification
ML : Motor Left Reversed Direction
MR : Motor Right Reversed Direction
NM : Reversed-home Specification
RP : Rear Attachment Plate
SR : Slider Roller Specification
SS : Slider Spacer
SVL : Stainless Steel Suction Joint Mounted Specification (Left)
SVR : Stainless Steel Suction Joint

IAI specific identification symbol (Note 1)

3.2 Radial Cylinder Type

RCS4B-RRA4C-WA-60-2.5-60-T2-N-B-**

<Series>
RCS4B

<Type>
Motor Straight Type
RRA4C : Body Width 40mm
RRA6C : Body Width 60mm
RRA7C : Body Width 70mm
RRA8C : Body Width 90mm
Motor Reversed Type
RRA4R : Body Width 40mm
RRA6R : Body Width 60mm
RRA7R : Body Width 70mm
RRA8R : Body Width 90mm

<Encoder Type>
WA : Battery-less Absolute

<Motor Wattage>
60 : 60W
100 : 100W
200 : 200W
400 : 400W

<Ball Screw Lead>
2.5 : Lead 2.5mm
3 : Lead 3mm
4 : Lead 4mm
5 : Lead 5mm
6 : Lead 6mm
8 : Lead 8mm
10 : Lead 10mm
12 : Lead 12mm
16 : Lead 16mm
20 : Lead 20mm
24 : Lead 24mm
30 : Lead 30mm

<Stroke>
Refer to [Instruction Manual ME3851 1.2 Mechanical Specifications].

<Compatible Controller>
T2 : SCON
MSCON
SSEL
XSEL-P/Q
XSEL-RA/SA
T4 : RCON
RSEL
SCON2
XSEL2

<Cable Length>
N : None
P : 1m
S : 3m
M : 5m
X□□ : Length Specification
R□□ : Robot Cable

<Option>
B : With brake
CJB : Cable Exit Direction Changed (Bottom)
CJL : Cable Exit Direction Changed (Left)
CJO : Cable Exit Direction Changed (Outward)
CJR : Cable Exit Direction Changed (Right)
CJT : Cable Exit Direction Changed (Top)
FFA : Tip Adaptor (Flange)
FL : Flange
GU : Grease Supply Inlet Added Specification
KFA : Tip Adaptor (Keyway)
ML : Motor Left Reversed Direction
MR : Motor Right Reversed Direction
NFA : Tip Adaptor (Internal Thread)
NM : Reversed-home Specification
RP : Rear Attachment Plate
SVT : Stainless Steel Suction Joint Mounted Specification (Top)

IAI specific identification symbol (Note 1)

3.3 Wide Slider Type

RCS4B-WSA10C-WA-60-16-300-T2-P-B-**

<Series>
Standard Specification
RCS4B

<Type>
Motor Straight Type
WSA10C
WSA12C
WSA14C
WSA16C
Motor Reversed Type
WSA10R
WSA12R
WSA14R
WSA16R

<Encoder Type>
WA : Battery-less Absolute

<Motor Wattage>
60 : 60W
100 : 100W
200 : 200W
400 : 400W

<Ball Screw Lead>
WSA10C, WSA10R
2.5/5/10/16
WSA12C, WSA12R
3/6/12/20
WSA14C, WSA14R
4/8/16/24
WSA16C, WSA16R
5/10/20/30

<Stroke>
Refer to [Instruction Manual ME3852 1.2 Mechanical Specifications].

<Compatible Controller>
T2 : SCON
MSCON
SSEL
XSEL-P/Q
XSEL-RA/SA
T4 : RCON
RSEL
SCON2
XSEL2

<Cable Length>
N : None
P : 1m
S : 3m
M : 5m
X□□ : Length Specification
R□□ : Robot Cable

<Option>
B : With brake
CJT : Cable Exit Direction Changed (Top)
CJR : Cable Exit Direction Changed (Right)
CJL : Cable Exit Direction Changed (Left)
CJB : Cable Exit Direction Changed (Bottom)
CJO : Cable Exit Direction Changed (Outward)
HPR : High Precision Specification
ML : Motor Left Reversed Direction
MR : Motor Right Reversed Direction
NM : Reversed-home Specification
SR : Slider Roller Specification
SS : Slider Spacer
SVL : Stainless Steel Suction Joint Mounted Specification (Left)
SVR : Stainless Steel Suction Joint Mounted Specification (Right)

IAI specific identification symbol (Note 1)

3.4 Wide Radial Cylinder Type

RCS4B-WRA10C-WA-60-2.5-50-T2-N-B-**

<Series>
RCS4B

<Type>
Coupling Type
WRA10C: Body Width 100mm
WRA12C: Body Width 120mm
WRA14C: Body Width 140mm
WRA16C: Body Width 160mm
Motor Reversed Type
WRA10R: Body Width 100mm
WRA12R: Body Width 120mm
WRA14R: Body Width 140mm
WRA16R: Body Width 160mm

<Encoder Type>
WA : Battery-less absolute

<Motor type>
60 : 60W
100: 100W
200: 200W
400: 400W

<Ball screw Lead>
2.5: Lead 2.5mm
3: Lead 3mm
4: Lead 4mm
5: Lead 5mm
6: Lead 6mm
8: Lead 8mm
10: Lead 10mm
12: Lead 12mm
16: Lead 16mm
20: Lead 20mm
24: Lead 24mm
30: Lead 30mm

<Stroke>
Refer to [Instruction Manual ME3853 1.2 Mechanical Specifications].

<Compatible Controller>
T2: SCON
MSCON
SSEL
XSEL-P/Q
XSEL-RA/SA
T4: RCON
RSEL
SCON2
XSEL2

<Cable length>
N: None
P: 1m
S: 3m
M: 5m
X□□: Length specification
R□□: Robot cable

<Option>
B : With brake
CJB : Cable Eject Direction Changed (Bottom)
CJL : Cable Eject Direction Changed (Left)
CJO : Cable Eject Direction Changed (Outside)
CJR : Cable Eject Direction Changed (Right)
CJT : Cable Eject Direction Changed (Top)
FL : Flange
GU : Grease Supply Inlet Added Specification
ML : Motor Left reversed Direction
MR : Motor Right reversed Direction
NM : Home reversed specification
NTBL : T-Slot Nut Bar (Left)
NTBR : T-Slot Nut Bar (Right)
SVT : Stainless Steel Suction Joint Mounted Specification (Top)

Identification for IAI use only (Note 1)

Precautions in Handling

1. Handling the Packed Unit

Take the greatest care in transporting the product, not to bump or drop it.

- An operator should never attempt to carry a heavy package on his own.
- When setting down the package temporarily, keep it horizontal.
- Do not step on the package.
- Do not place on the package a heavy object that may cause the box deformation or apply stress on it.

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 the stainless sheet is attached, never hold the stainless sheet section.
- When transporting the actuator, be careful not to hit it against other objects. In particular, pay attention to the side cover.
- Do not give any unnatural force to any of the sections in the actuator. In particular, pay attention not to apply any force on the stainless steel sheet if the actuator is equipped with the stainless steel sheet.

Installation and Storage/Preservation Environment

1. Installation Environment

Please attempt to avoid installing the product to such places as listed below.
Also, make sure to keep enough space necessary for maintenance work.

- Place where exposed to radiant heat from a huge heat source such as heat treatment
- Place where the ambient temperature goes out of the applicable range from 10 to 40°C
- Place where condensation would occur due to sudden temperature change
- Place where the relative humidity exceeds 85% RH
- Dustproof/splash proof type RCP5W possesses the protection structure against dust and water equivalent to IP65.
- Place where exposed to the direct sunlight
- Place where corrosive gas or flammable gas exist
- Place where it contains a lot of dust, salt or iron (Outside of an ordinary assembly plant)
- Place where water, oil (includes oil mist and cutting fluid) or chemical is splashed
- Place where the product main body receives vibration or hit impact
- Place with an altitude of 2,000m or more

Make sure to have a treatment for blocking when using in the following conditions:

- Place where noise is generated by such facts as static electricity
- Place where exposed to the influence of strong electric or magnetic field
- Place where exposed to the influence of ultraviolet or radiant rays

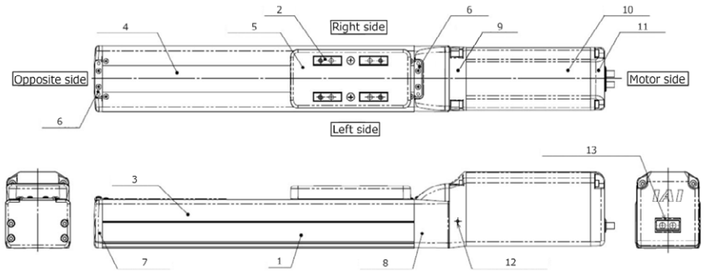
2. Storage and Preservation Environment

- 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 dew 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 dew condensation is anticipated, take the condensation preventive measures from outside of the entire package, or directly after opening the package.
- For storage and preservation temperature, the machine withstands temperatures up to 60°C for a short time, but in the case of the storage and preservation period of 1 month or more, control the temperature to 50°C or less.
- The product should be settled in the horizontal orientation while in storage and reservation. In the case it is stored in the packaged condition, follow the posture instruction if any displayed on the package.

Part Names

1. Slider Type

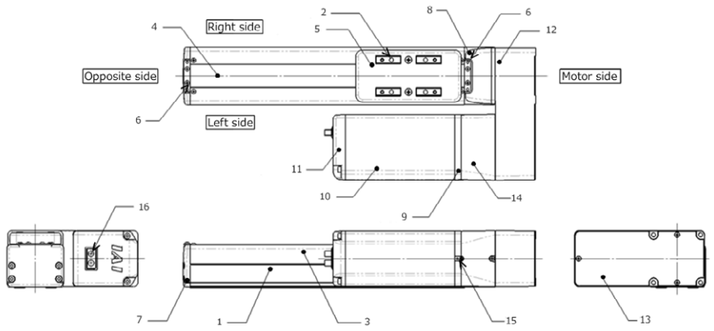
1.1 Motor Straight Type: RCS4B-SA4C/SA6C/SA7C/SA8C



[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Slider	Aluminum Alloy	White Anodizing Treatment
3	Side cover	Aluminum Alloy	White Anodizing Treatment
4	Stainless steel sheet	Stainless Steel	—
5	Slider cover	Plastic	—
6	Sheet retainer	Aluminum Alloy	—
7	Front bracket	Aluminum die-casting	Decorative Surface Coating
8	Rear bracket	Aluminum die-casting	Decorative Surface Coating
9	Motor bracket	Aluminum die-casting	Decorative Surface Coating
10	Motor cover	Aluminum Alloy	White Anodizing Treatment
11	End cover	Aluminum die-casting	Decorative Surface Coating
12	Screw hole for ground line attachment	—	—
13	Actuator cable Assy	—	—

1.2 Motor Reversing Type: RCS4B-SA4R/SA6R/SA7R/SA8R

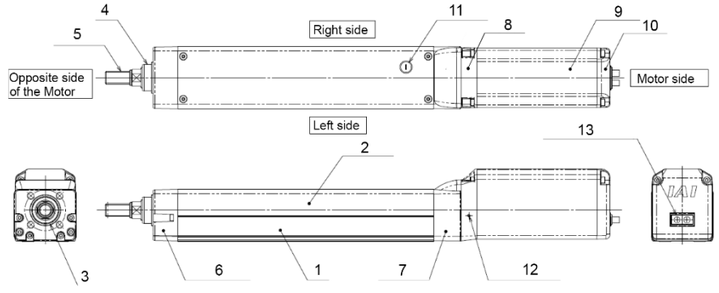


[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Slider	Aluminum Alloy	White Anodizing Treatment
3	Side cover	Aluminum Alloy	White Anodizing Treatment
4	Stainless steel sheet	Stainless Steel	—
5	Slider cover	Plastic	—
6	Sheet retainer	Aluminum Alloy	—
7	Front bracket	Aluminum die-casting	Decorative Surface Coating
8	Rear bracket	Aluminum die-casting	Decorative Surface Coating
9	Motor bracket	Aluminum die-casting	Decorative Surface Coating
10	Motor cover	Aluminum Alloy	White Anodizing Treatment
11	End cover	Aluminum die-casting	Decorative Surface Coating
12	Reverse bracket	Aluminum die-casting	Decorative Surface Coating
13	Pulley cover	Aluminum Alloy	White Anodizing Treatment
14	Coupling cover	Plastic	—
15	Screw hole for ground line attachment	—	—
16	Actuator cable Assy	—	—

2. Radial Cylinder Type

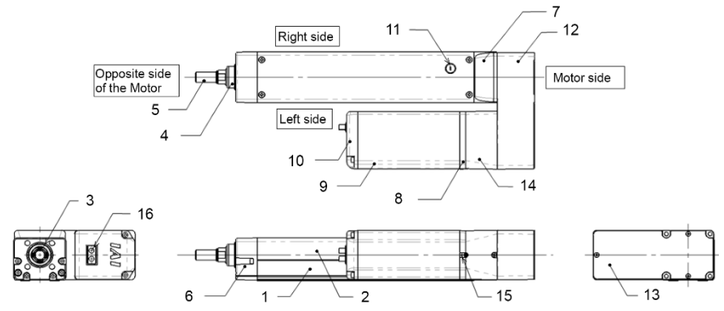
2.1 Motor Straight Type: RCS4B-RRA4C/RRA6C/RRA7C/RRA8C



[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Frame cover	Aluminum alloy	White Anodizing Treatment
3	Bearing	Plastic Bearing	—
4	Rod	Φ30 Aluminum Alloy	Hard Anodizing Treatment
5	Rod Tip Fitting	Stainless Stee	—
6	Front bracket	Aluminum die-casting	Decorative Surface Coating
7	Rear bracket	Aluminum die-casting	Decorative Surface Coating
8	Motor bracket	Aluminum die-casting	Decorative Surface Coating
9	Motor cover	Aluminum Alloy	White Anodizing Treatment
10	End cover	Aluminum die-casting	Decorative Surface Coating
11	Hole Cap	Rubber	—
12	Screw hole for ground line attachment	—	—
13	Actuator cable Assy	—	—

2.2 Motor Reversing Type: RCS4B-RRA4R/RRA6R/RRA7R/RRA8R

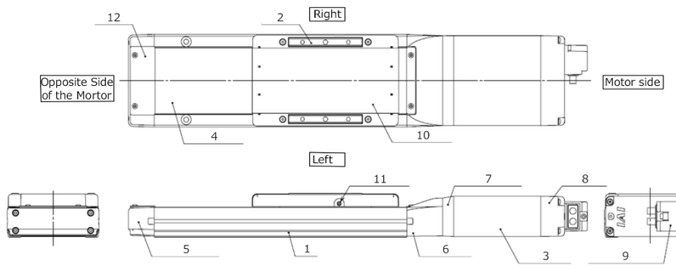


[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Frame cover	Aluminum alloy	White Anodizing Treatment
3	Bearing	Plastic Bearing	—
4	Rod	Φ30 Aluminum Alloy	Hard Anodizing Treatment
5	Rod Tip Fitting	Stainless Stee	—
6	Front bracket	Aluminum die-casting	Decorative Surface Coating
7	Rear bracket	Aluminum die-casting	Decorative Surface Coating
8	Motor bracket	Aluminum die-casting	Decorative Surface Coating
9	Motor cover	Aluminum Alloy	White Anodizing Treatment
10	End cover	Aluminum die-casting	Decorative Surface Coating
11	Hole Cap	Rubber	—
12	Reverse bracket	Aluminum die-casting	Decorative Surface Coating
13	Pulley cover	Aluminum Alloy	White Anodizing Treatment
14	Coupling cover	Plastic	—
15	Screw hole for ground line attachment	—	—
16	Actuator cable Assy	—	—

3. Wide Slider Type

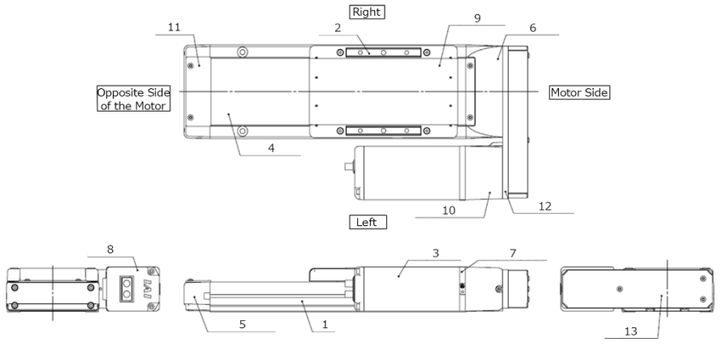
3.1 Motor Straight Type: RCS4B-WSA10C / WSA12C / WSA14C / WSA16C



[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Slider	Aluminum Alloy	White Anodizing Treatment
3	Motor cover	Aluminum Alloy	White Anodizing Treatment
4	Stainless steel sheet	Stainless Steel	—
5	Front bracket	Aluminum die-casting	Decorative Surface Coating
6	Rear bracket	Aluminum die-casting	Decorative Surface Coating
7	Motor bracket	Aluminum die-casting	Decorative Surface Coating
8	Motor end covert	Aluminum die-casting	Decorative Surface Coating
9	Connector bracket	Aluminum die-casting	Decorative Surface Coating
10	Slider cover	Plastic	—
11	Grease nipple	Stainless Steel	—
12	Sheet retainer	Aluminum Alloy	White Anodizing Treatment

3.2 Motor Reversing Type: RCS4B-WSA10R / WSA12R / WSA14R / WSA16R

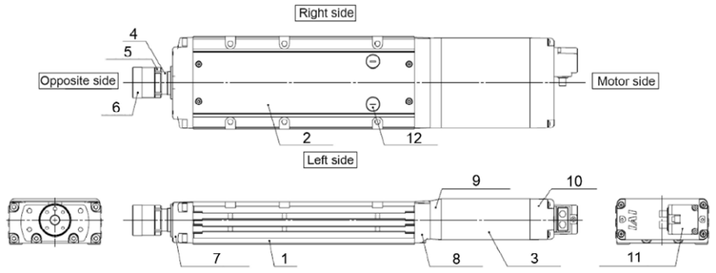


[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Slider	Aluminum Alloy	White Anodizing Treatment
3	Motor cover	Aluminum Alloy	White Anodizing Treatment
4	Stainless steel sheet	Stainless Steel	—
5	Front bracket	Aluminum die-casting	Decorative Surface Coating
6	Rear bracket	Aluminum die-casting	Decorative Surface Coating
7	Motor bracket	Aluminum die-casting	Decorative Surface Coating
8	Motor end covert	Aluminum die-casting	Decorative Surface Coating
9	Slider cover	Plastic	—
10	Coupling cover	Plastic	—
11	Sheet retainer	Aluminum Alloy	White Anodizing Treatment
12	Reverse plate	Rolled Steel (WRA16R is aluminum die-cast)	Electroless Nickel Plating
13	Pully cover	Stainless Steel	—

4. Wide Radial Cylinder Type

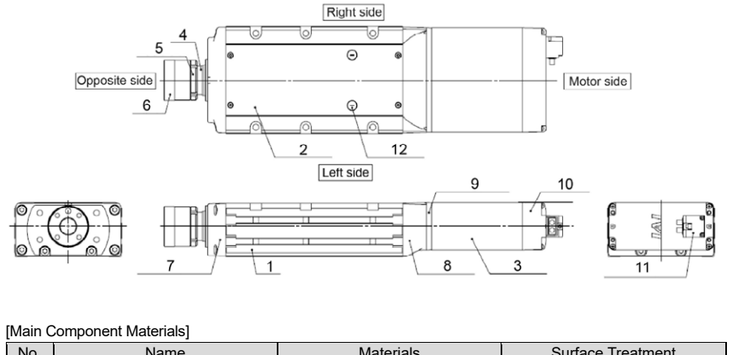
4.1 Motor Straight Type: RCS4B-WRA10C / WRA12C / WRA14C / WRA16C



[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Frame cover	Aluminum Alloy	White Anodizing Treatment
3	Motor cover	Aluminum Alloy	White Anodizing Treatment
4	Rod	Stainless Steel	—
5	Lock nut	Stainless Steel	—
6	Tip bracket	Stainless Steel	—
7	Front bracket	Aluminum die-casting	Decorative Surface Coating
8	Rear bracket	Aluminum die-casting	Decorative Surface Coating
9	Motor bracket	Aluminum die-casting	Decorative Surface Coating
10	End cover	Aluminum die-casting	Decorative Surface Coating
11	Connector bracket	Aluminum die-casting	Decorative Surface Coating
12	Hole Cap	Rubber	—

4.2 Motor Reversing Type: RCS4B-WRA10R / WRA12R / WRA14R / WRA16R



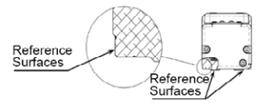
[Main Component Materials]

No.	Name	Materials	Surface Treatment
1	Base	Aluminum Alloy	White Anodizing Treatment
2	Frame cover	Aluminum Alloy	White Anodizing Treatment
3	Motor cover	Aluminum Alloy	White Anodizing Treatment
4	Rod	Stainless Steel	—
5	Lock nut	Stainless Steel	—
6	Tip bracket	Stainless Steel	—
7	Front bracket	Aluminum die-casting	Decorative Surface Coating
8	Rear bracket	Aluminum die-casting	Decorative Surface Coating
9	Motor bracket	Aluminum die-casting	Decorative Surface Coating
10	End cover	Aluminum die-casting	Decorative Surface Coating
11	Connector bracket	Aluminum die-casting	Decorative Surface Coating
12	Hole Cap	Rubber	—

Attachment

Refer to the Instruction Manual for the attachments of the actuator and loads.

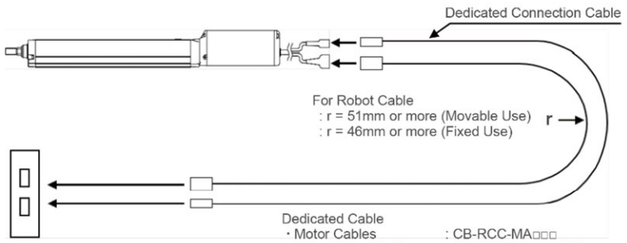
[Precautions for Attachments]

No.	Item	Precautions
1	Installation	• Installing the slider type and wide slider type in the horizontally oriented wall mount or ceiling mount may cause the stainless steel sheet to be loosened or be off the right position. Continued use of the actuator with this condition may result in the breakage of the stainless steel sheet. Adjust the sheet tension accordingly in the regular inspection. (Refer to the maintenance section on the Instruction Manual for the procedure of stainless steel sheet tension adjustment.) • Avoid using the actuator with no brake in the vertical orientation.
2	Attachment Surface	• The base has to have a structure with sufficient rigidity to prevent oscillation. • The side and the bottom surfaces of the base of the actuator are the reference for the slider drive. If accuracy for its run is required, use these surfaces as a reference of the installation.  • The actuator mounting surface and other surfaces that are used as a reference should be flat enough with an accuracy of machining or equivalent treatment, and the flatness of the mounting surface needs to be 0.05mm/m or less. • Secure the space where maintenance work can be performed.
3	Bolt to be used	• For the bolts to be used, a high-tensile bolt complying with ISO-10.9 or more is recommended. • If using the tapped holes, use screws with the thread length dimension being less than the effective depth of the holes. • In case the tapped hole is a through hole, be careful so the screw tip does not exceed the surface of the tapped hole. • For the actuator mounting, use a bolt with the dimension of its effective mating length to the tapped hole is as stated below. If tapped hole on steel → thread length same as nominal diameter If tapped hole on aluminum → thread length 1.8 times longer than nominal diameter However, there are some models specifying the effective length of thread engagement. Refer to the instruction manual.
4	Tightening Torque	• Please follow the specification values stated in the Instruction Manual for the load moment and the overhung length of the slider type, table type and wide slider type. Failure to do so may cause abnormal vibration or noise, and also may remarkably shorten the product life.
5	Load Moment and Overhung length	• Follow the specific values described in the instruction manual for the rod tip dynamic allowable load and the load offset distance for the rod type, radial cylinder and wide radial cylinder. Failure to do so may cause abnormal vibration or noise, and also may remarkably shorten the product life.
6	Stainless Steel Sheet	• Do not attempt to hold the stainless steel sheet directly with hand on slider type and wide slider type. Please, also, be careful not to make a dent on the stainless steel sheet. Stainless sheet is easy to get dented because it is thin. Using it with a dent on may cause a breakage. • If there is dust or metal contamination attached on the stainless steel sheet, please wipe it off the sheet surface. Operation with the stainless sheet that has foreign matters on its surface may cause problems such as sheet damage, waviness, etc. inside the slider. • Please do not operate the unit in the ambient with dust or metal contamination.

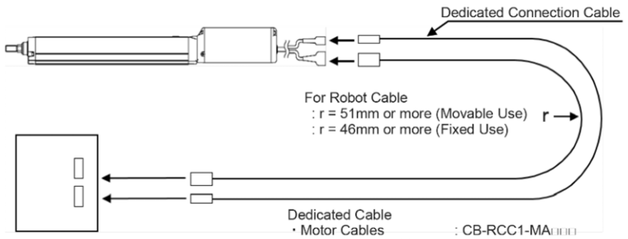
Wiring

For the controller, only the dedicated controller manufactured by our company can be used.
For the connection between the actuator of RCS4 standard specification and controller, use any of the dedicated connection cable shown in the table below.

RCS4B-xx: Compatible Controller T2

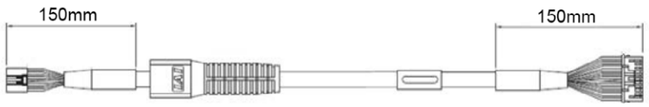


RCS4B-xx：Compatible Controller T4

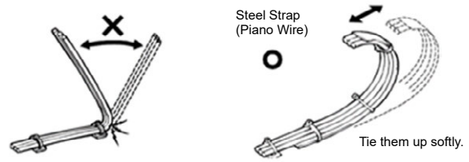


[Prohibited Items in the Cable Processing]

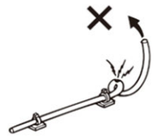
- Applying force to the actuator cable extending from the motor unit may cause malfunction. Secure the actuator cable so that it does not move.
- Make sure to turn the power off in the process of power line or cable connection or disconnection.
- Do not attempt to cut a dedicated cable with connectors on both ends to extend, shorten or rejoint it.
- Hold the dedicated cable to avoid mechanical force being applied to the terminals and connectors.
- Use a cable pipe or duct to have an appropriate protection when there is a possibility of mechanical damage on a dedicated cable.
- In case a dedicated cable is to be used at a moving part, make sure to lay out the cable without applying any force to pull the connector or extreme bend on the cable. Do not attempt to use the cable with a bending radius below the allowable value.
- Make certain that the connectors are plugged properly. Insufficient connection may cause an operation error, thus it is extremely risky.
- Do not lay out the cables to where the machine runs over them.
- Pay attention to the cable layout so it would not hit peripherals during an operation. In case it does, have an appropriate protection such as a cable carrier.
- When a cable is used hanging on the ceiling, prevent an environment that the cable swings with acceleration or wind velocity.
- Make sure there is not too much friction inside the cable storage equipment.
- Do not apply radiated heat to power line or cables.
- Do not bend the cable in the area from the connector tip inward to 150mm on both ends.



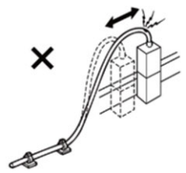
- Have a sufficient radius for bending, and avoid a bend concentrating on one point.



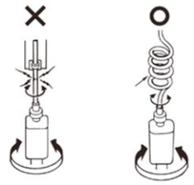
- Do not let the cable bend, kink or twist.



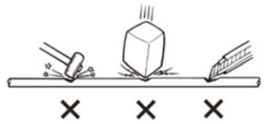
- Do not pull the cable with a strong force.



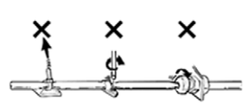
- Do not let the cable receive a turning force at a single point.

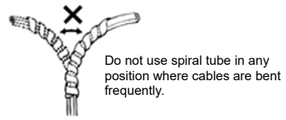


- Do not pinch, drop a heavy object onto or cut the cable.

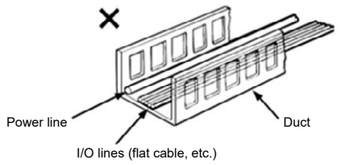


- When a cable is fastened to affix, make sure to have an appropriate force and do not tighten too much.





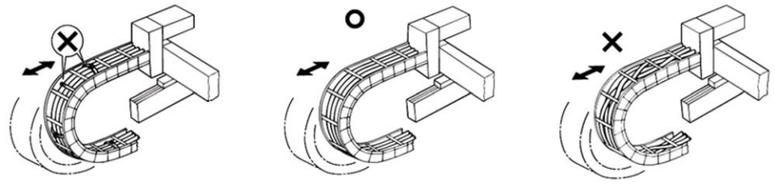
- PIO line, communication line, power and driving lines are to be put separately from each other and do not tie them together. Arrange so that such lines are independently routed in the duct.



[Follow the instructions below when using the cable carriers.]

- If there is an indication to the cable for the space factor in the cable carriers, refer to the wiring instruction given by the supplier when storing the cable in the cable carriers.

- Avoid the cables to get twined or twisted in the cable carriers, and also to have the cables move freely and do not tie them up. (Avoid tension being applied when the cables are 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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