IAI
Quality and Innovation

Cleanroom Specification/
Dust/Splash-Proof Specification

Mini ROBO Cylinder®

www.intelligentactuator.com

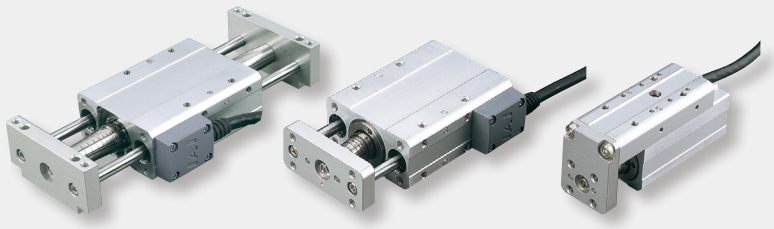
Next-generation cylinder that has achieved miniaturization

Mini ROBO Cylinder®

Now with Additional Cleanroom Specification and Dust-proof/Splash-Proof Specification!

01 Mini ROBO Cylinder® Introduction

The newly developed motor allows for a far more compact size, comparable in size to an air cylinder. Models are available with the same shape as a typical air cylinder. This ROBO Cylinder can be used in applications where limited space previously required air cylinders.



02 Additional Cleanroom Specification and Dust-Proof/ Splash-Proof Specification Series

Cleanroom specification and dust-proof/splash-proof specification types have been added. Select the type best suited to your environment.

Two standards represent cleanliness:

Clean Class 100

1. Fed.Std.209D Standard

Displays the number of particles in 1ft3 with reference to particles of 0.5μm or more.
<Display method> Class 1, 10, 100, 1,000, 10,000, 100,000

Clean Class 3.5

2. JIS B9920 (ISO 14644-1) Standard

The number of particles 0.1μm or larger in 1m3 is expressed in exponents when expressed in powers of 10.

IP52

What is IP? IP 5 2

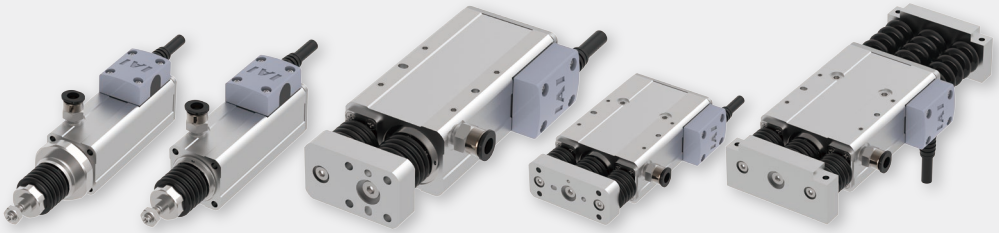
It is the IEC standard regulated grade for the degree of waterproofing and dustproofing.

2nd Display Number ... Protection from water ingress
2: No harmful effects from water drops falling within 15° from the vertical.

1st Display Number ...
Protection from the human body or solid foreign matter
5: Dust that will affect operation will not enter the main body.

03 Abundant Variation

Cleanroom, dust-proof and splash-proof models have been added to 5 types, with 3 sizes of each type, for a total of 15 models.



Product Lineup

Shape		Name	External view	Model		Body width	Max. payload (horizontal)	Reference page
				Series name	Type name			
Without guide	Overall length short type	Nut fixing type		RCA2CR RCA2W	RN3NB	28mm	3kg	3
					RN4NB	34mm	6kg	5
				RCS2CR RCS2W	RN5NB	46mm	20kg	7
		Tapped mounting hole type		RCA2CR RCA2W	RP3NB	28mm	3kg	9
					RP4NB	34mm	6kg	11
				RCS2CR RCS2W	RP5NB	46mm	20kg	13
With guide	Overall length short type	Single guide type		RCA2CR RCA2W	GS3NB	28mm	3kg	15
					GS4NB	34mm	6kg	17
				RCS2CR RCS2W	GS5NB	46mm	20kg	19
		Double guide type		RCA2CR RCA2W	GD3NB	28mm	3kg	21
					GD4NB	34mm	6kg	23
				RCS2CR RCS2W	GD5NB	46mm	20kg	25
		Slide unit type		RCA2CR RCA2W	SD3NB	60mm	3kg	27
					SD4NB	72mm	6kg	29
				RCS2CR RCS2W	SD5NB	94mm	20kg	31

RCA2CR-RN3NB
RCA2W-RN3NB

Cleanroom | Dust/Splash-proof | Mini | Motor Unit Type | Built-in Motor | Body Width 28 mm | 24V AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification	RN3NB	I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	10 : 10W Servo motor	4 : Ball screw 4mm 2 : Ball screw 2mm 1 : Ball screw 1mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

* Does not include a controller.

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

Energy saver

POINT Selection Notes

(1) The feed screw of this product has no rotation stopper. A rotation stop mechanism such as a guide on the tip of the feed screw must be added. (Without a rotation stopper the feed screw will idle and cannot move back and forth.) Also, do not use floating joints when connecting the rotation stop mechanism to the rod. Please refer to P.35 for more information about the mounting method and criteria.
(2) The value of the horizontal payload assumes that there is an external guide.
(3) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 1 and vertical use). The indicated values are the upper limits for the allowable acceleration.
(4) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.
(5) Do not apply external force to the rod in a direction other than the rod moving direction.
(6) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-RN3NB-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2CR/W-RN3NB-I-10-2-①-②-③-④			2	1.5	0.5	85.5		
RCA2CR/W-RN3NB-I-10-1-①-②-③-④			1	3	1	170.9		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
4	200	
2	100	
1	50	

(Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ4mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	8kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	1mm Lead: 3000km or 50 million cycles, 2mm Lead, 4mm: 5000km or 50 million cycles	

Dimensions

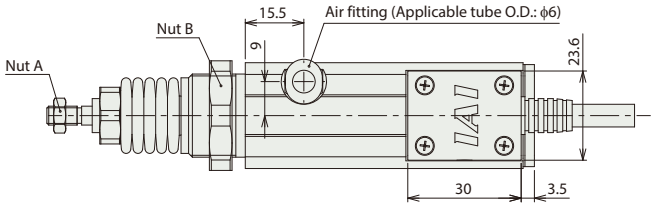
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

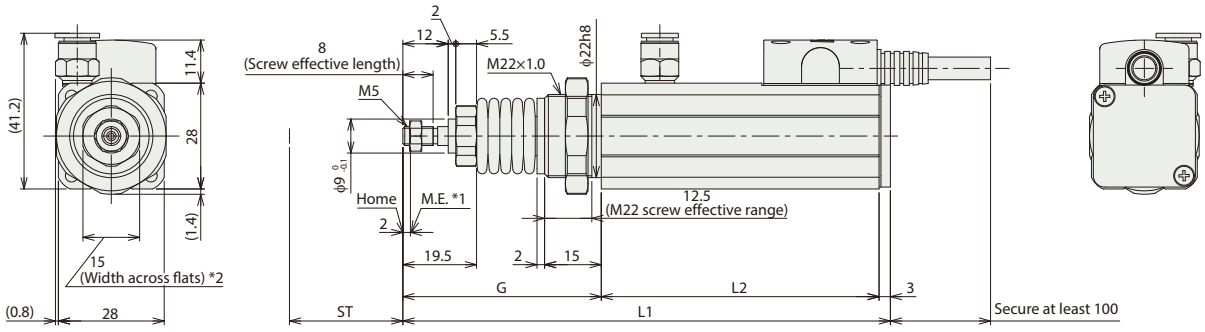
2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
*2 The direction of width across flats surface varies depending on the product.

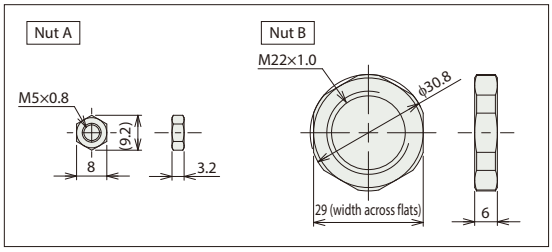
Notes

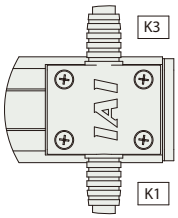
The feed screw of this product has no rotation stopper, so an external rotation stopper should be added.



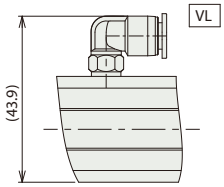


ST: Stroke
M.E: Mechanical end





Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	129	155
L2	73.5	93.5
G	52.5	58.5
Mass (kg)	0.30	0.34

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCA2CR-RN4NB
RCA2W-RN4NB

Cleanroom | Dust/Splash-proof | Mini | Motor Unit Type | Built-in Motor | Body Width 34 mm | 24v AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification	RN4NB	I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	20 : 20W Servo motor	6 : Ball screw 6mm 4 : Ball screw 4mm 2 : Ball screw 2mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

* Does not include a controller.

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

Energy saver

POINT Selection Notes

(1) The feed screw of this product has no rotation stopper. A rotation stop mechanism such as a guide on the tip of the feed screw must be added. (Without a rotation stopper the feed screw will idle and cannot move back and forth.) Also, do not use floating joints when connecting the rotation stop mechanism to the rod. Please refer to P.35 for more information about the mounting method and criteria.
(2) The value of the horizontal payload assumes that there is an external guide.
(3) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 2 and vertical use). The indicated values are the upper limits for the allowable acceleration.
(4) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.
(5) Do not apply external force to the rod in a direction other than the rod moving direction.
(6) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-RN4NB-I-20-6-①-②-③-④	20	Ball screw	6	2	0.5	33.8	±0.02	30 50
RCA2CR/W-RN4NB-I-20-4-①-②-③-④			4	3	0.75	50.7		
RCA2CR/W-RN4NB-I-20-2-①-②-③-④			2	6	1.5	101.5		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
6	270<220>	300
4	200	
2	100	

*Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ6mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	4kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

Dimensions

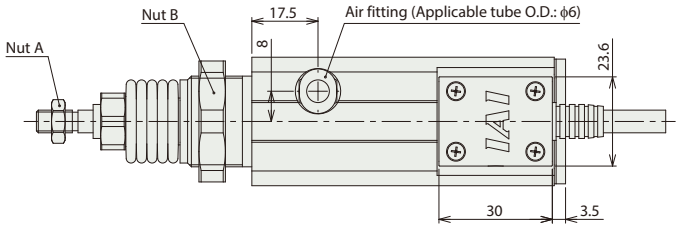
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

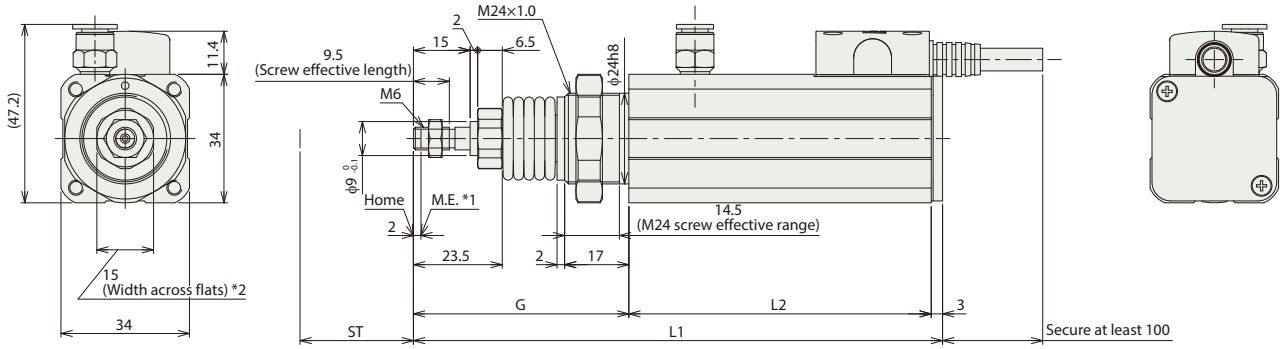
2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
*2 The direction of width across flats surface varies depending on the product.

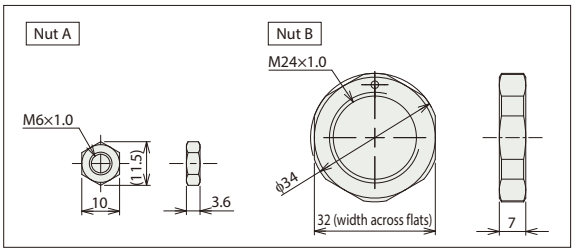
Notes

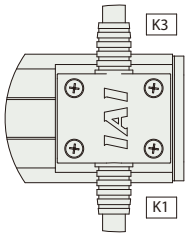
The feed screw of this product has no rotation stopper, so an external rotation stopper should be added.



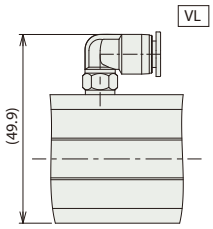


ST: Stroke
M.E: Mechanical end





Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	140	166
L2	80	100
G	57	63
Mass (kg)	0.44	0.50

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, MECHATROLINK, CC-Link, EtherCAT, PROFIBUS, EtherNet/IP, PROFINET, CompoNet, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCS2CR-RN5NB
RCS2W-RN5NB

Cleanroom | Dust/Splash-proof | Mini | Motor Unit Type | Built-in Motor | Body Width 34 mm | 200V AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCS2CR: Cleanroom specification RCS2W: Dust-proof/splash-proof specification	RN5NB	I: Incremental	60 : 60W Servo motor	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm 75:75mm	T2:SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X□□: Special Length R□□: Robot cable	Refer to Options table below.

* Does not include a controller.

CE RoHS

* CE is an available option.

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

POINT Selection Notes

(1) The feed screw of this product has no rotation stopper. A rotation stop mechanism such as a guide on the tip of the feed screw must be added. (Without a rotation stopper the feed screw will idle and cannot move back and forth.) Also, do not use floating joints when connecting the rotation stop mechanism to the rod. Please refer to P.35 for more information about the mounting method and criteria.

(2) The value of the horizontal payload assumes that there is an external guide.

(3) The value of payload is when operating at an acceleration of 0.3G horizontally (0.2G for lead 2.5) and 0.2G vertically. The indicated values are the upper limits for the allowable acceleration.

(4) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(5) Do not apply external force to the rod in a direction other than the rod moving direction.

(6) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCS2CR/W-RN5NB-I-60-10-①-T2-②-③	60	Ball screw	10	5	1.5	89	±0.02	50 75
RCS2CR/W-RN5NB-I-60-5-①-T2-②-③			5	10	3	178		
RCS2CR/W-RN5NB-I-60-2.5-①-T2-②-③			2.5	20	6	356		

Legend: ① Stroke ② Cable Length ③ Option

■ Stroke and Max Speed

Lead \ Stroke	50 (mm)	75 (mm)
10	280<230>	380<330>
5	250<230>	250
2.5	125	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
50	○	○
75	○	○

② Cable Length

Type	Cable code
Standard	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)
Robot cable	**R01**(1m) ~ **R03**(3m)
	R04(4m) ~ **R05**(5m)
	R06(6m) ~ **R10**(10m)
	R11(11m) ~ **R15**(15m)
	R16(16m) ~ **R20**(20m)

③ Options

Name	Option code	Reference page
CE compliant specification	**CE**	See P.36
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ8mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	1kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

Dimensions

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2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
*2 The direction of width across flats surface varies depending on the product.

Notes

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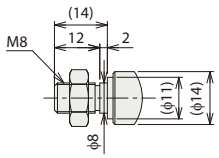
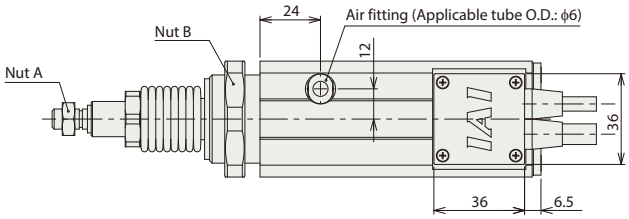
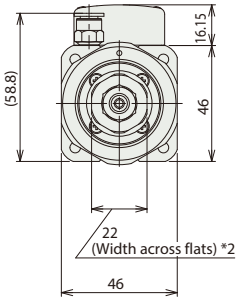
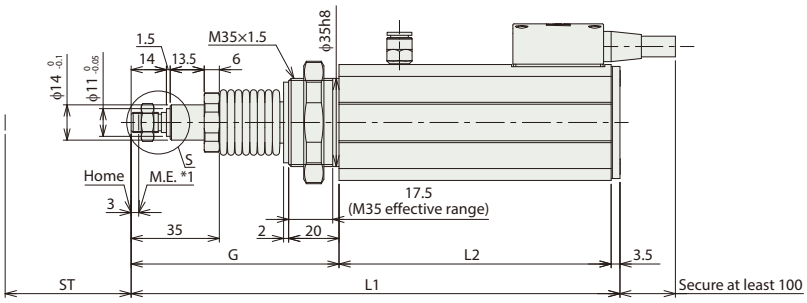
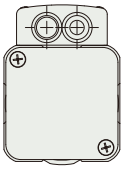


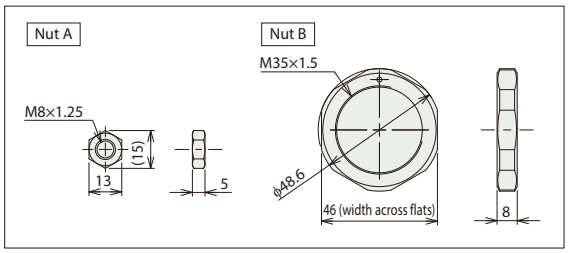
Detailed view of S

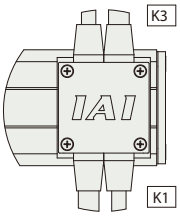




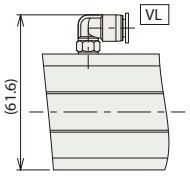








Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2000mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

Dimensions and Mass by Stroke

Stroke (ST)	50	75
L1	194	225
L2	108	133
G	82.5	88.5
Mass (kg)	1.06	1.18

Applicable Controllers

The RCS2CR/RCS2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method				Maximum number of positioning points	Reference page
				Positioner	Pulse-train	Program	Network * Option		
SCON-CB/CGB		1	Single phase 100/200VAC	●	●	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG		1		–	–	●		512 (768 for network spec.)	Please contact IAI for more information.
SSEL-CS		2		●	–	●		20000	Please contact IAI for more information.
XSEL-P/Q		6	Single phase 200VAC Three-phase 200VAC	–	–	●		20000	Please contact IAI for more information.

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

* Cannot be connected to XSEL-P/Q 5th/6th axes or XSEL-RA/SA.

RCA2CR-RP3NB
RCA2W-RP3NB

Cleanroom | Dust/Splash-proof | Mini | Motor Unit Type | Built-in Motor | Body Width 28 mm | 24V AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification	RP3NB	I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	10 : 10W Servo motor	4 : Ball screw 4mm 2 : Ball screw 2mm 1 : Ball screw 1mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

* Does not include a controller.

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

Energy saver

POINT Selection Notes

(1) The feed screw of this product has no rotation stopper. A rotation stop mechanism such as a guide on the tip of the feed screw must be added. (Without a rotation stopper the feed screw will idle and cannot move back and forth.) Also, do not use floating joints when connecting the rotation stop mechanism to the rod. Please refer to P.35 for more information about the mounting method and criteria.
(2) The value of the horizontal payload assumes that there is an external guide.
(3) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 1 and vertical use). The indicated values are the upper limits for the allowable acceleration.
(4) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.
(5) Do not apply external force to the rod in a direction other than the rod moving direction.
(6) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-RP3NB-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2CR/W-RP3NB-I-10-2-①-②-③-④			2	1.5	0.5	85.5		
RCA2CR/W-RP3NB-I-10-1-①-②-③-④			1	3	1	170.9		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
4	200	
2	100	
1	50	

(Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ4mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	8kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	1mm Lead: 3000km or 50 million cycles, 2mm Lead, 4mm: 5000km or 50 million cycles	

Dimensions

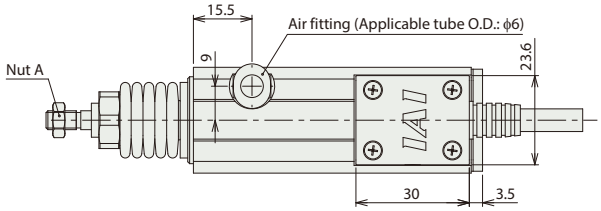
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

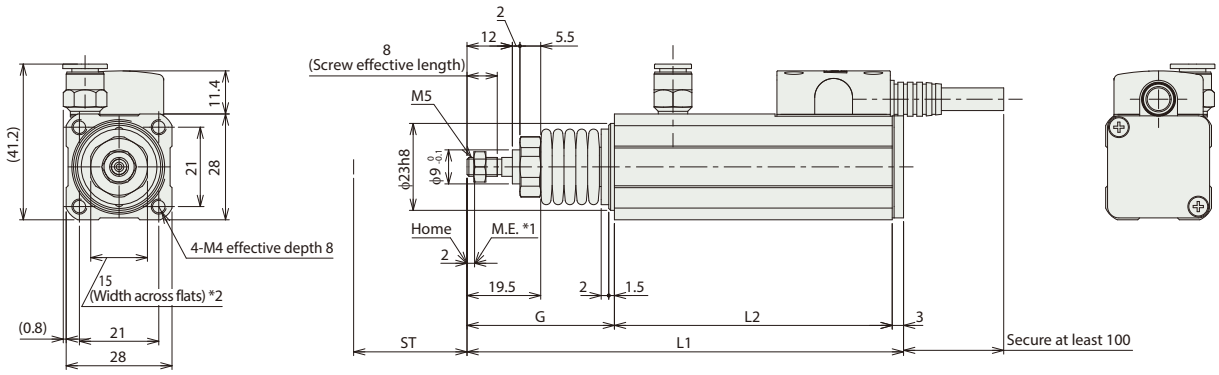
2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
*2 The direction of width across flats surface varies depending on the product.

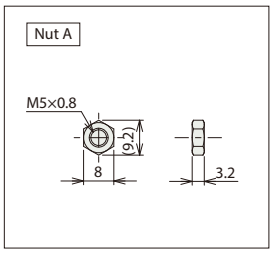
Notes

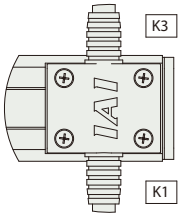
The feed screw of this product has no rotation stopper, so an external rotation stopper should be added.



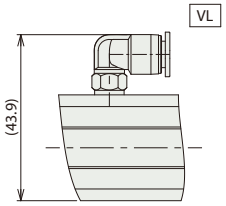


ST: Stroke
M.E: Mechanical end





Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	115.5	141.5
L2	73.5	93.5
G	39	45
Mass (kg)	0.25	0.29

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, MECHATROLINK, CC-Link, EtherCAT, PROFIBUS, EtherNet/IP, PROFINET, CompoNet, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCA2CR-RP4NB
RCA2W-RP4NB

Cleanroom | Dust/Splash-proof | Mini | Motor Unit Type | Built-in Motor | Body Width 34 mm | 24v AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
□	RP4NB	I	20	□	□	□	□	□
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification		I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	20 : 20W Servo motor	6 : Ball screw 6mm 4 : Ball screw 4mm 2 : Ball screw 2mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

* Does not include a controller.

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

Energy saver

POINT Selection Notes

(1) The feed screw of this product has no rotation stopper. A rotation stop mechanism such as a guide on the tip of the feed screw must be added. (Without a rotation stopper the feed screw will idle and cannot move back and forth.) Also, do not use floating joints when connecting the rotation stop mechanism to the rod. Please refer to P.35 for more information about the mounting method and criteria.
(2) The value of the horizontal payload assumes that there is an external guide.
(3) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 2 and vertical use). The indicated values are the upper limits for the allowable acceleration.
(4) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.
(5) Do not apply external force to the rod in a direction other than the rod moving direction.
(6) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-RP4NB-I-20-6-①-②-③-④	20	Ball screw	6	2	0.5	33.8	±0.02	30 50
RCA2CR/W-RP4NB-I-20-4-①-②-③-④			4	3	0.75	50.7		
RCA2CR/W-RP4NB-I-20-2-①-②-③-④			2	6	1.5	101.5		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
6	270<220>	300
4	200	
2	100	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ6mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	4kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

Dimensions

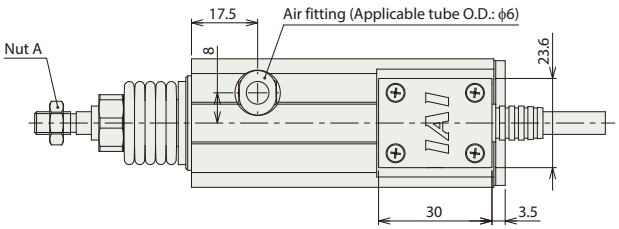
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

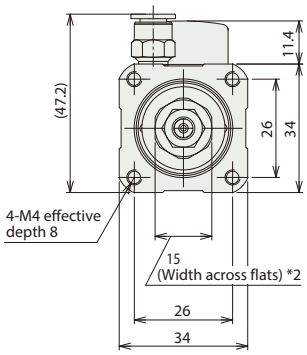
2D CAD 3D CAD

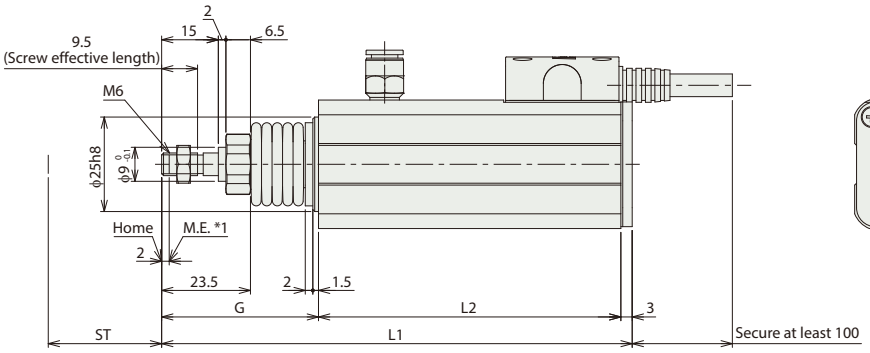
*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
*2 The direction of width across flats surface varies depending on the product.

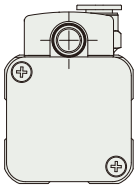
Notes

The feed screw of this product has no rotation stopper, so an external rotation stopper should be added.

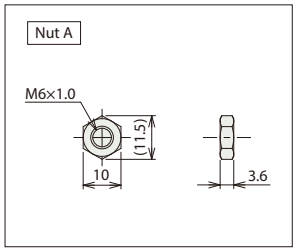


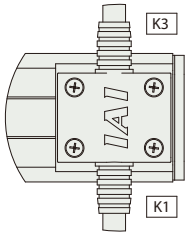




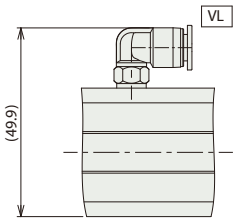


ST: Stroke
M.E: Mechanical end





Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	124.5	150.5
L2	80	100
G	41.5	47.5
Mass (kg)	0.36	0.42

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method				Maximum number of positioning points	Reference page
				Positioner	Pulse-train	Program	Network * Option		
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCS2CR-RP5NB
RCS2W-RP5NB

Cleanroom | Dust/Splash-proof | Mini | Motor Unit Type | Built-in Motor | Body Width 46 mm | 200V AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCS2CR: Cleanroom specification RCS2W: Dust-proof/splash-proof specification	RP5NB	I: Incremental	60 : 60W Servo motor	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm 75:75mm	T2:SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X □□: Special Length R □□: Robot cable	Refer to Options table below.

* Does not include a controller.

CE RoHS

* CE is an available option.

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

POINT Selection Notes

(1) The feed screw of this product has no rotation stopper. A rotation stop mechanism such as a guide on the tip of the feed screw must be added. (Without a rotation stopper the feed screw will idle and cannot move back and forth.) Also, do not use floating joints when connecting the rotation stop mechanism to the rod. Please refer to P.35 for more information about the mounting method and criteria.

(2) The value of the horizontal payload assumes that there is an external guide.

(3) The value of payload is when operating at an acceleration of 0.3G horizontally (0.2G for lead 2.5) and 0.2G vertically. The indicated values are the upper limits for the allowable acceleration.

(4) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(5) Do not apply external force to the rod in a direction other than the rod moving direction.

(6) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCS2CR/W-RP5NB-I-60-10-①-T2-②-③	60	Ball screw	10	5	1.5	89	±0.02	50 75
RCS2CR/W-RP5NB-I-60-5-①-T2-②-③			5	10	3	178		
RCS2CR/W-RP5NB-I-60-2.5-①-T2-②-③			2.5	20	6	356		

Legend: ① Stroke ② Cable Length ③ Option

■ Stroke and Max Speed

Lead \ Stroke	50 (mm)	75 (mm)
10	280<230>	380<330>
5	250<230>	250
2.5	125	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
50	○	○
75	○	○

② Cable Length

Type	Cable code
Standard	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)
Robot cable	**R01**(1m) ~ **R03**(3m)
	R04(4m) ~ **R05**(5m)
	R06(6m) ~ **R10**(10m)
	R11(11m) ~ **R15**(15m)
	R16(16m) ~ **R20**(20m)

③ Options

Name	Option code	Reference page
CE compliant specification	**CE**	See P.36
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

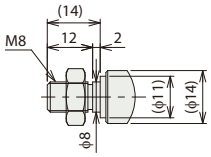
Actuator Specifications

Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ8mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	1kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

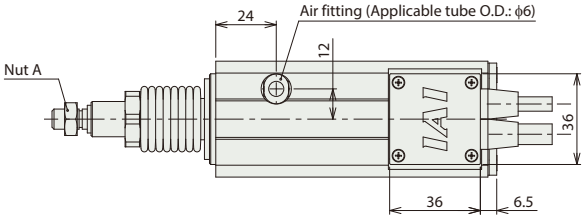
Dimensions

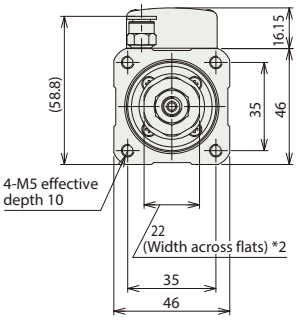
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

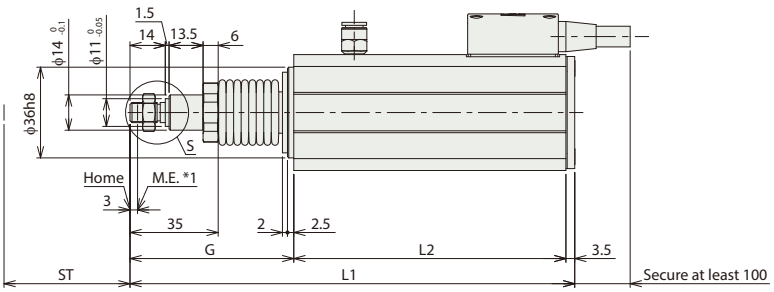
*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
*2 The direction of width across flats surface varies depending on the product.

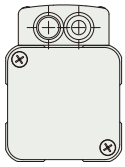


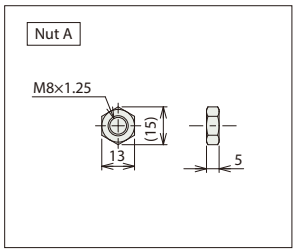
Detailed view of S

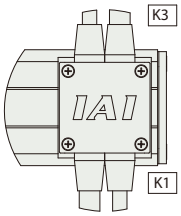




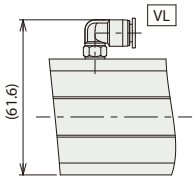








Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2000mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

Dimensions and Mass by Stroke

Stroke (ST)	50	75
L1	176.5	207.5
L2	108	133
G	65	71
Mass (kg)	0.91	1.08

Applicable Controllers

The RCS2CR/RCS2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
SCON-CB/CGB		1	Single phase 100/200VAC	●	●	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET Note: The type of compatible networks will vary depending on the controller. Please refer to the reference page for more information.	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG		1		–	–	●		512 (768 for network spec.)	Please contact IAI for more information.
SSEL-CS		2		●	–	●		20000	Please contact IAI for more information.
XSEL-P/Q		6	Single phase 200VAC Three-phase 200VAC	–	–	●		20000	Please contact IAI for more information.

* Cannot be connected to XSEL-P/Q 5th/6th axes or XSEL-RA/SA.

RCA2CR-GS3NB
RCA2W-GS3NB

Cleanroom | Dust/Splash-proof | Mini | Single with Guide | Motor Unit Type | Built-in Motor | Body Width 28 mm | 24v AC Servo Motor

■ Model Specification Items

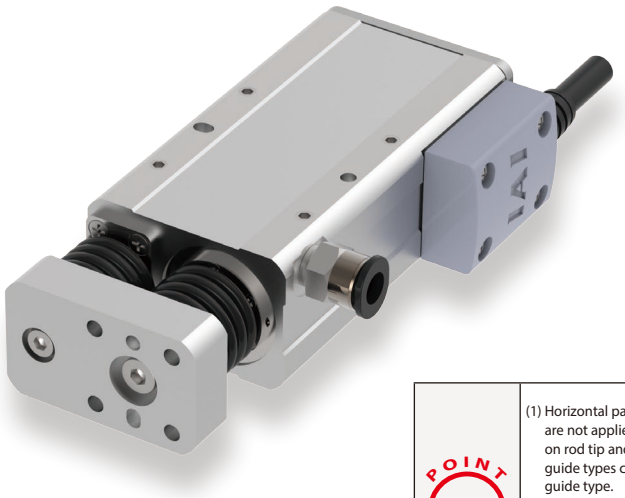
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification	GS3NB	I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	10 : 10W Servo motor	4 : Ball screw 4mm 2 : Ball screw 2mm 1 : Ball screw 1mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

* Does not include a controller.

Energy saver

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information). Single guide types cannot be used if force will be applied in the direction of rotation. Use a double guide type.

(2) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 1 and vertical use). The indicated values are the upper limits for the allowable acceleration.

(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(4) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-GS3NB-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2CR/W-GS3NB-I-10-2-①-②-③-④			2	1.5	0.5	85.5		
RCA2CR/W-GS3NB-I-10-1-①-②-③-④			1	3	1	170.9		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
4	200	
2	100	
1	50	

(Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

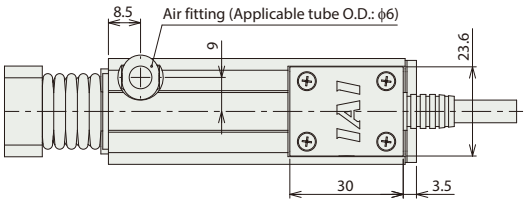
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ4mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	8kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	1mm Lead: 3000km or 50 million cycles, 2mm Lead, 4mm: 5000km or 50 million cycles	

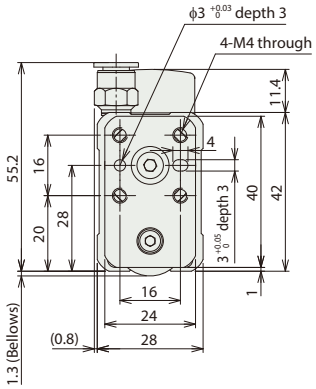
Dimensions

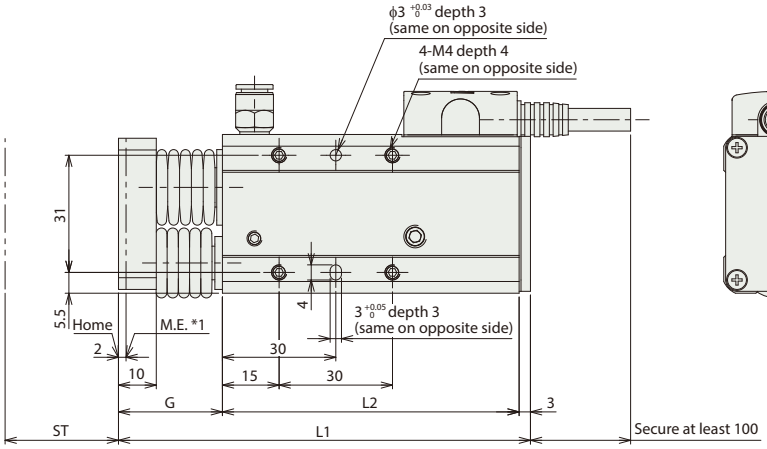
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

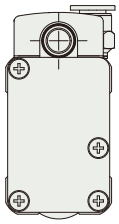
2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
* Ensure the screw depth does not exceed that listed in the table.

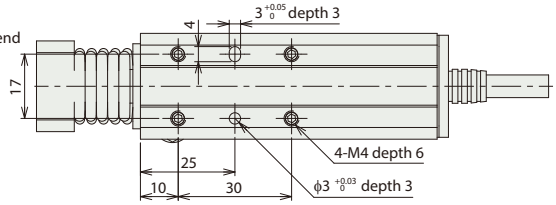


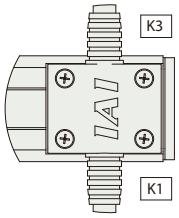




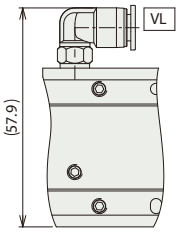


ST: Stroke
M.E: Mechanical end





Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	109	135
L2	78.5	98.5
G	27.5	33.5
Mass (kg)	0.34	0.39

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method				Maximum number of positioning points	Reference page
				Positioner	Pulse-train	Program	Network * Option		
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNETⅢ/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCA2CR-GS4NB
RCA2W-GS4NB

Cleanroom | Dust/Splash-proof | Mini | Single with Guide | Motor Unit Type | Built-in Motor | Body Width 34 mm | 24v AC Servo Motor

■ Model Specification Items

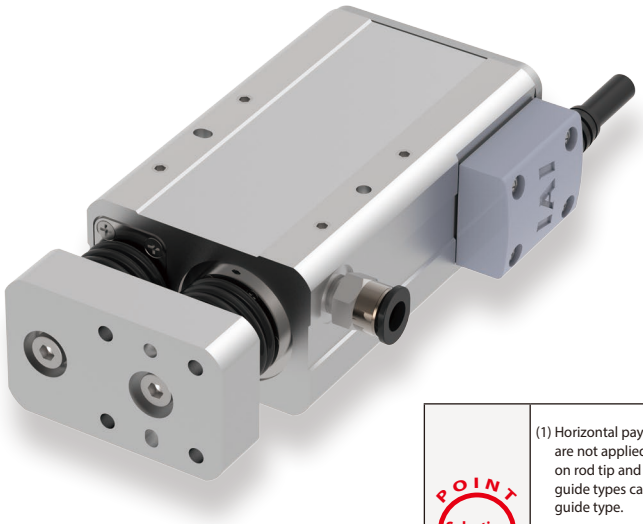
Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification	GS4NB	I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	20 : 20W Servo motor	6 : Ball screw 6mm 4 : Ball screw 4mm 2 : Ball screw 2mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

* Does not include a controller.

Energy saver

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information). Single guide types cannot be used if force will be applied in the direction of rotation. Use a double guide type.

(2) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 2 and vertical use). The indicated values are the upper limits for the allowable acceleration.

(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(4) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-GS4NB-I-20-6-①-②-③-④	20	Ball screw	6	2	0.5	33.8	±0.02	30 50
RCA2CR/W-GS4NB-I-20-4-①-②-③-④			4	3	0.75	50.7		
RCA2CR/W-GS4NB-I-20-2-①-②-③-④			2	6	1.5	101.5		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
6	270<220>	300
4	200	
2	100	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

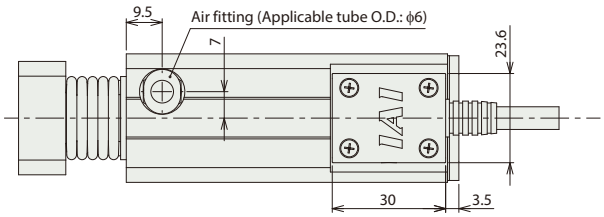
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ6mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	4kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

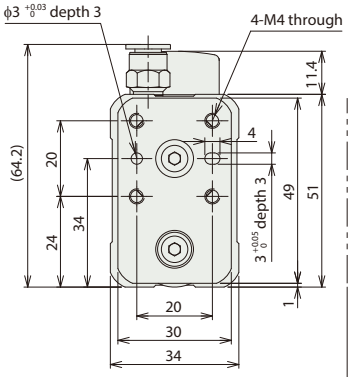
Dimensions

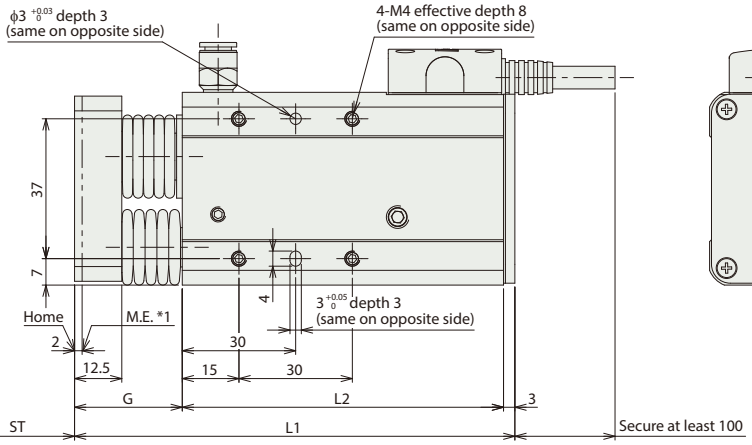
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

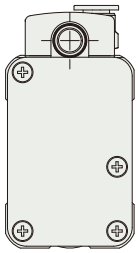
2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end
* Ensure the screw depth does not exceed that listed in the table.

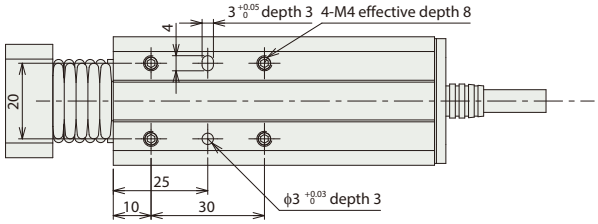


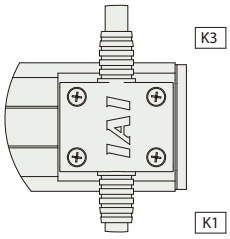




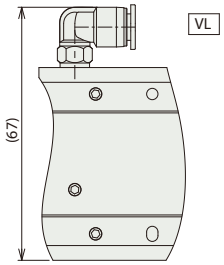


ST: Stroke
M.E: Mechanical end





Cable exit direction option



L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	116.5	142.5
L2	85	105
G	28.5	34.5
Mass (kg)	0.64	0.70

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, MECHATROLINK, CC-Link, EtherCAT, PROFIBUS, EtherNet/IP, PROFINET, CompoNet, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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 the reference page for more information.	256	Please contact IAI for more information.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

RCS2CR-GS5NB
RCS2W-GS5NB

Cleanroom | Dust/Splash-proof | Mini | Single with Guide | Motor Unit Type | Built-in Motor | Body Width 46 mm | 200V AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCS2CR: Cleanroom specification RCS2W: Dust-proof/splash-proof specification	GS5NB	I: Incremental	60 : 60W Servo motor	10 :10mm 5 :5mm 2.5 :2.5mm	50:50mm 75:75mm	T2:SCON SSEL XSEL-P/Q	N : None P : 1m S : 3m M : 5m X□□: Special Length R□□: Robot cable	Refer to Options table below.

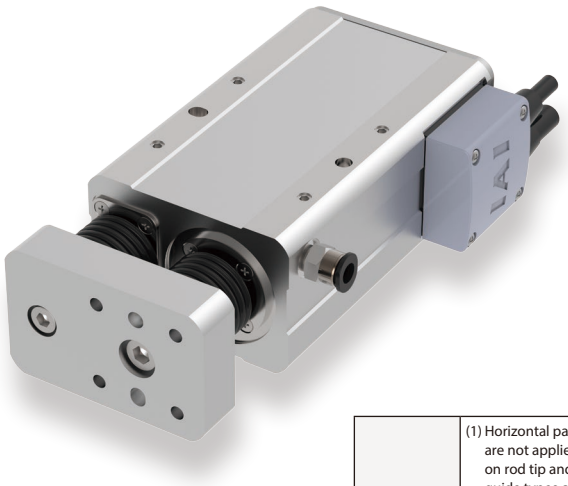
* Does not include a controller.

CE RoHS

* CE is an available option.

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information). Single guide types cannot be used if force will be applied in the direction of rotation. Use a double guide type.

(2) The value of payload is when operating at an acceleration of 0.3G horizontally (0.2G for lead 2.5) and 0.2G vertically. The indicated values are the upper limits for the allowable acceleration.

(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(4) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCS2CR/W-GS5NB-I-60-10-①-T2-②-③	60	Ball screw	10	5	1.5	89	±0.02	50 75
RCS2CR/W-GS5NB-I-60-5-①-T2-②-③			5	10	3	178		
RCS2CR/W-GS5NB-I-60-2.5-①-T2-②-③			2.5	20	6	356		

Legend: ① Stroke ② Cable Length ③ Option

■ Stroke and Max Speed

Lead \ Stroke	50 (mm)	75 (mm)
10	280<230>	380<330>
5	250<230>	250
2.5	125	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
50	○	○
75	○	○

② Cable Length

Type	Cable code
Standard	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)
Robot cable	**R01**(1m) ~ **R03**(3m)
	R04(4m) ~ **R05**(5m)
	R06(6m) ~ **R10**(10m)
	R11(11m) ~ **R15**(15m)
	R16(16m) ~ **R20**(20m)

③ Options

Name	Option code	Reference page
CE compliant specification	**CE**	See P.36
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

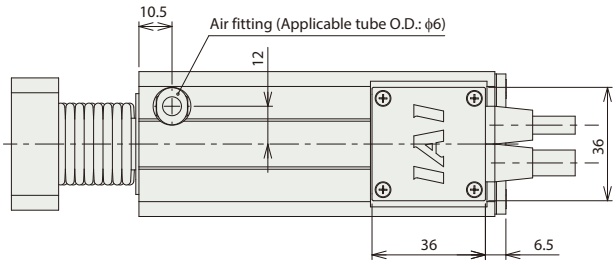
Actuator Specifications

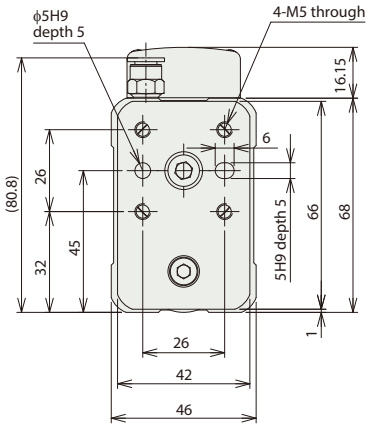
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ8mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	1kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

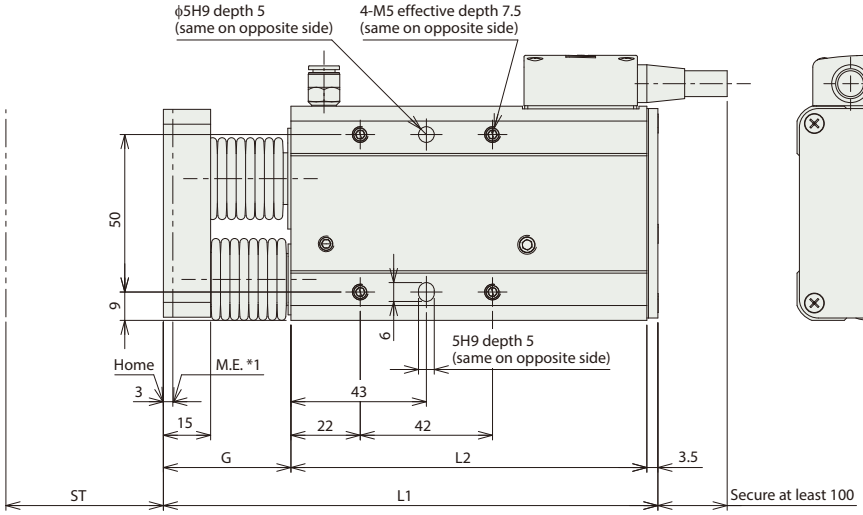
Dimensions

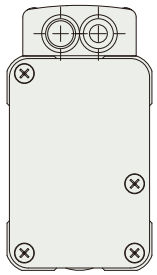
CAD drawings can be downloaded from our website.
www.intelligentactuator.com

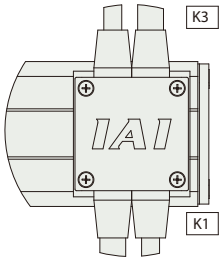
*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end



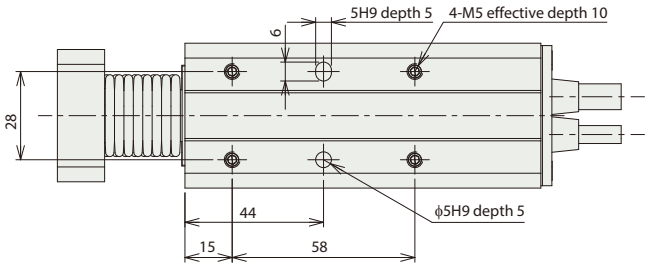


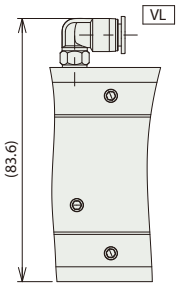






Cable exit direction option





L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2000mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

Dimensions and Mass by Stroke

Stroke (ST)	50	75
L1	157	188
L2	113	138
G	40.5	46.5
Mass (kg)	1.38	1.48

Applicable Controllers

The RCS2CR/RCS2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
SCON-CB/CGB		1	Single phase 100/200VAC	●	●	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG		1		–	–	●		512 (768 for network spec.)	Please contact IAI for more information.
SSEL-CS		2		●	–	●		20000	Please contact IAI for more information.
XSEL-P/Q		6	Single phase 200VAC Three-phase 200VAC	–	–	●		20000	Please contact IAI for more information.

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

* Cannot be connected to XSEL-P/Q 5th/6th axes or XSEL-RA/SA.

RCA2CR-GD3NB
RCA2W-GD3NB

Cleanroom | Dust/Splash-proof | Mini | Double With guide | Motor Unit Type | Built-in Motor | Body Width 28 mm | 24v AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
□	GD3NB	I	10	□	□	□	□	□
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification		I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	10 : 10W Servo motor	4 : Ball screw 4mm 2 : Ball screw 2mm 1 : Ball screw 1mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

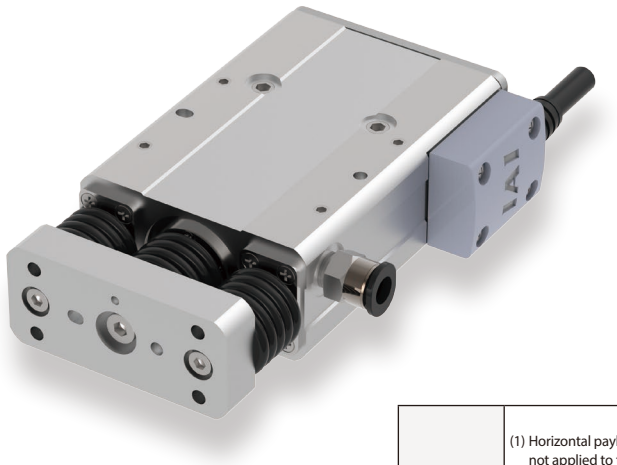
* Does not include a controller.

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

Energy saver



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information).
(2) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 1 and vertical use). The indicated values are the upper limits for the allowable acceleration.
(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.
(4) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-GD3NB-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25	42.7	±0.02	30 50
RCA2CR/W-GD3NB-I-10-2-①-②-③-④			2	1.5	0.5	85.5		
RCA2CR/W-GD3NB-I-10-1-①-②-③-④			1	3	1	170.9		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
4	200	
2	100	
1	50	

(Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

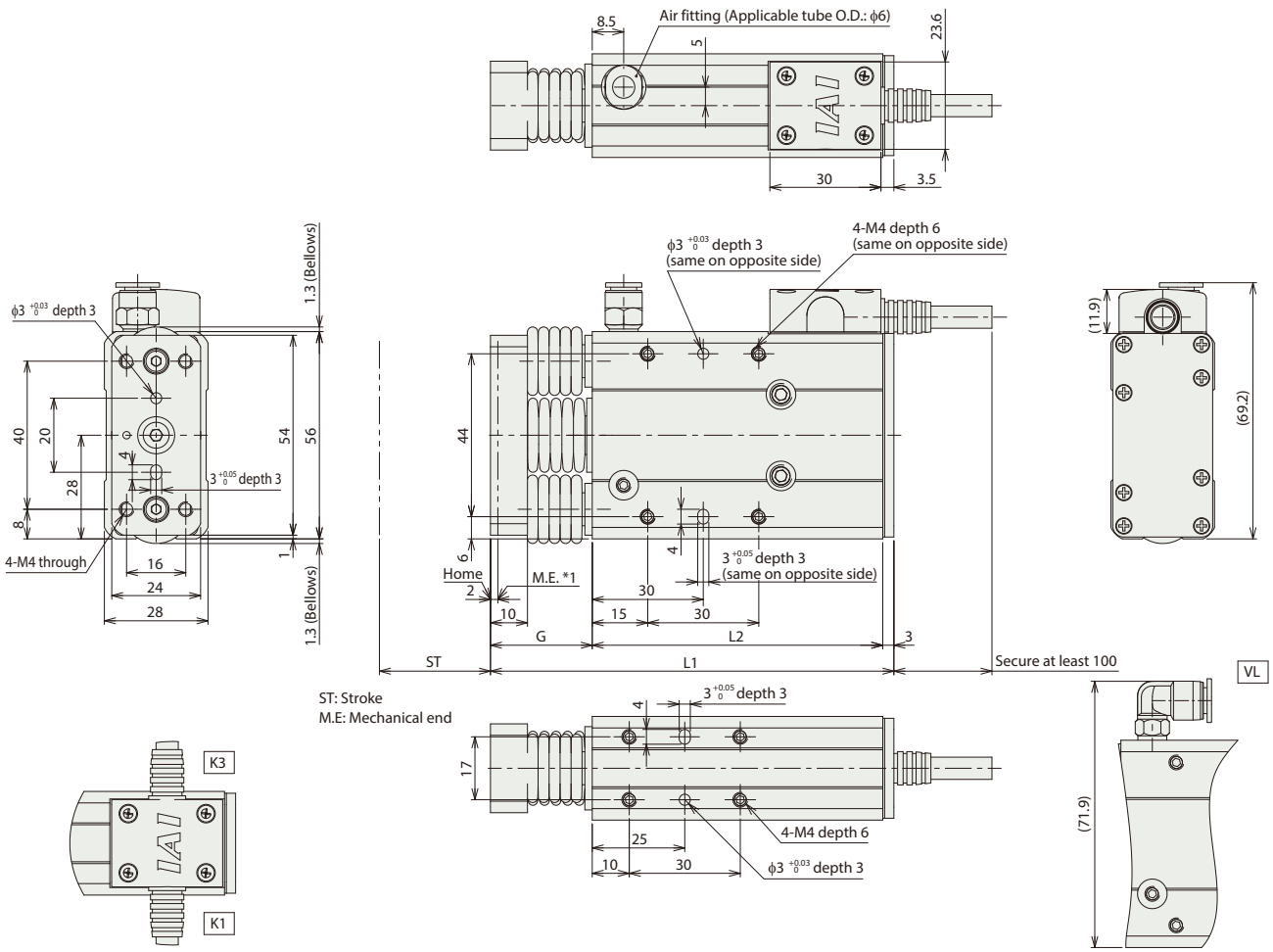
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ4mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	8kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	1mm Lead: 3000km or 50 million cycles, 2mm Lead, 4mm: 5000km or 50 million cycles	

Dimensions

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

2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end



Cable exit direction option

L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	109	135
L2	78.5	98.5
G	27.5	33.5
Mass (kg)	0.44	0.54

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCA2CR-GD4NB
RCA2W-GD4NB

Cleanroom | Dust/Splash-proof | Mini | Double With guide | Motor Unit Type | Built-in Motor | Body Width 34 mm | 24v AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
□	GD4NB	I	20	□	□	□	□	□
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification		I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	20 : 20W Servo motor	6 : Ball screw 6mm 4 : Ball screw 4mm 2 : Ball screw 2mm	30:30mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

* Does not include a controller.

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.

Energy saver

POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information).

(2) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 2 and vertical use). The indicated values are the upper limits for the allowable acceleration.

(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(4) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-GD4NB-I-20-6-①-②-③-④	20	Ball screw	6	2	0.5	33.8	±0.02	30 50
RCA2CR/W-GD4NB-I-20-4-①-②-③-④			4	3	0.75	50.7		
RCA2CR/W-GD4NB-I-20-2-①-②-③-④			2	6	1.5	101.5		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	30 (mm)	50 (mm)
6	270<220>	300
4	200	
2	100	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
30	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
Energy saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

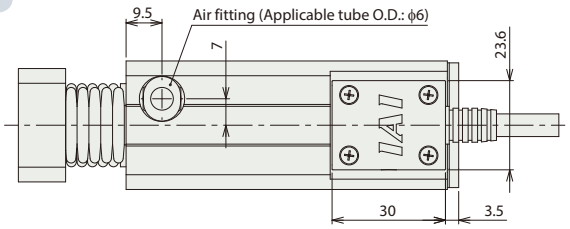
Actuator Specifications

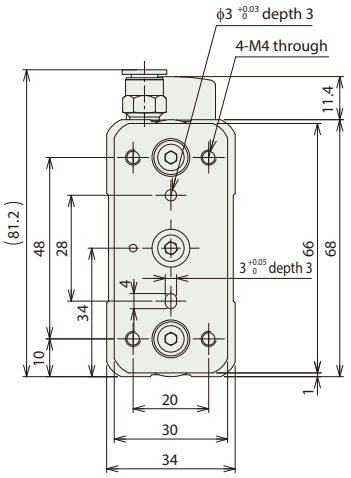
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ6mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	4kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

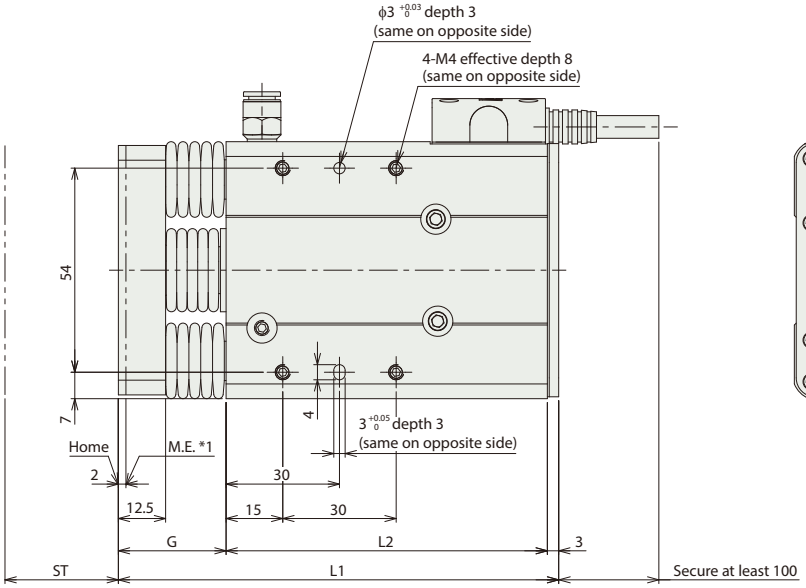
Dimensions

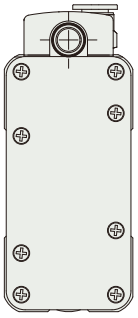
CAD drawings can be downloaded from our website.
www.intelligentactuator.com
2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end

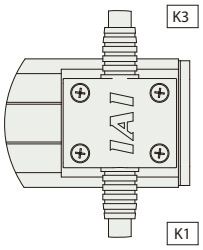




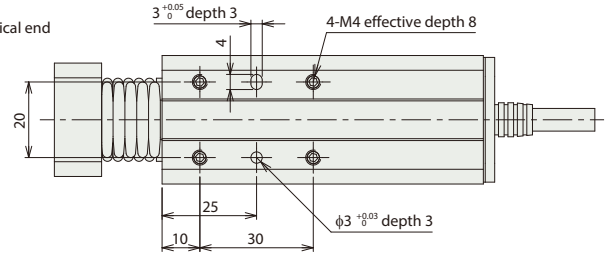


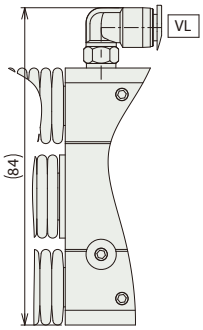


ST: Stroke
M.E: Mechanical end



Cable exit direction option





L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	30	50
L1	116.5	142.5
L2	85	105
G	28.5	34.5
Mass (kg)	0.72	0.86

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCS2CR-GD5NB
RCS2W-GD5NB

Cleanroom | Dust/Splash-proof | Mini | Double With guide | Motor Unit Type | Built-in Motor | Body Width 46 mm | 200V AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
□	GD5NB	I	60	□	□	T2	□	□
RCS2CR: Cleanroom specification RCS2W: Dust-proof/splash-proof specification		I: Incremental	60: 60W Servo motor	10: 10mm 5: 5mm 2.5: 2.5mm	50:50mm 75:75mm	T2:SCON SSEL XSEL-P/Q	N: None P: 1m S: 3m M: 5m X□□: Special Length R□□: Robot cable	Refer to Options table below.

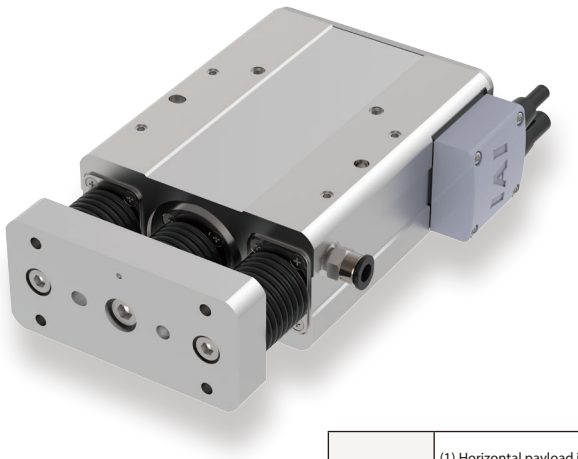
* Does not include a controller.

CE RoHS

* CE is an available option.

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information).

(2) The value of payload is when operating at an acceleration of 0.3G horizontally (0.2G for lead 2.5) and 0.2G vertically. The indicated values are the upper limits for the allowable acceleration.

(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(4) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCS2CR/W-GD5NB-I-60-10-①-T2-②-③	60	Ball screw	10	5	1.5	89	±0.02	50 75
RCS2CR/W-GD5NB-I-60-5-①-T2-②-③			5	10	3	178		
RCS2CR/W-GD5NB-I-60-2.5-①-T2-②-③			2.5	20	6	356		

Legend: ① Stroke ② Cable Length ③ Option

■ Stroke and Max Speed

Lead \ Stroke	50 (mm)	75 (mm)
10	280<230>	380<330>
5	250<230>	250
2.5	125	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
50	○	○
75	○	○

② Cable Length

Type	Cable code
Standard	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)
Robot cable	**R01**(1m) ~ **R03**(3m)
	R04(4m) ~ **R05**(5m)
	R06(6m) ~ **R10**(10m)
	R11(11m) ~ **R15**(15m)
	R16(16m) ~ **R20**(20m)

③ Options

Name	Option code	Reference page
CE compliant specification	**CE**	See P.36
Connector cable exit from left side	**K1**	See P.36
Connector cable exit from right side	**K3**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

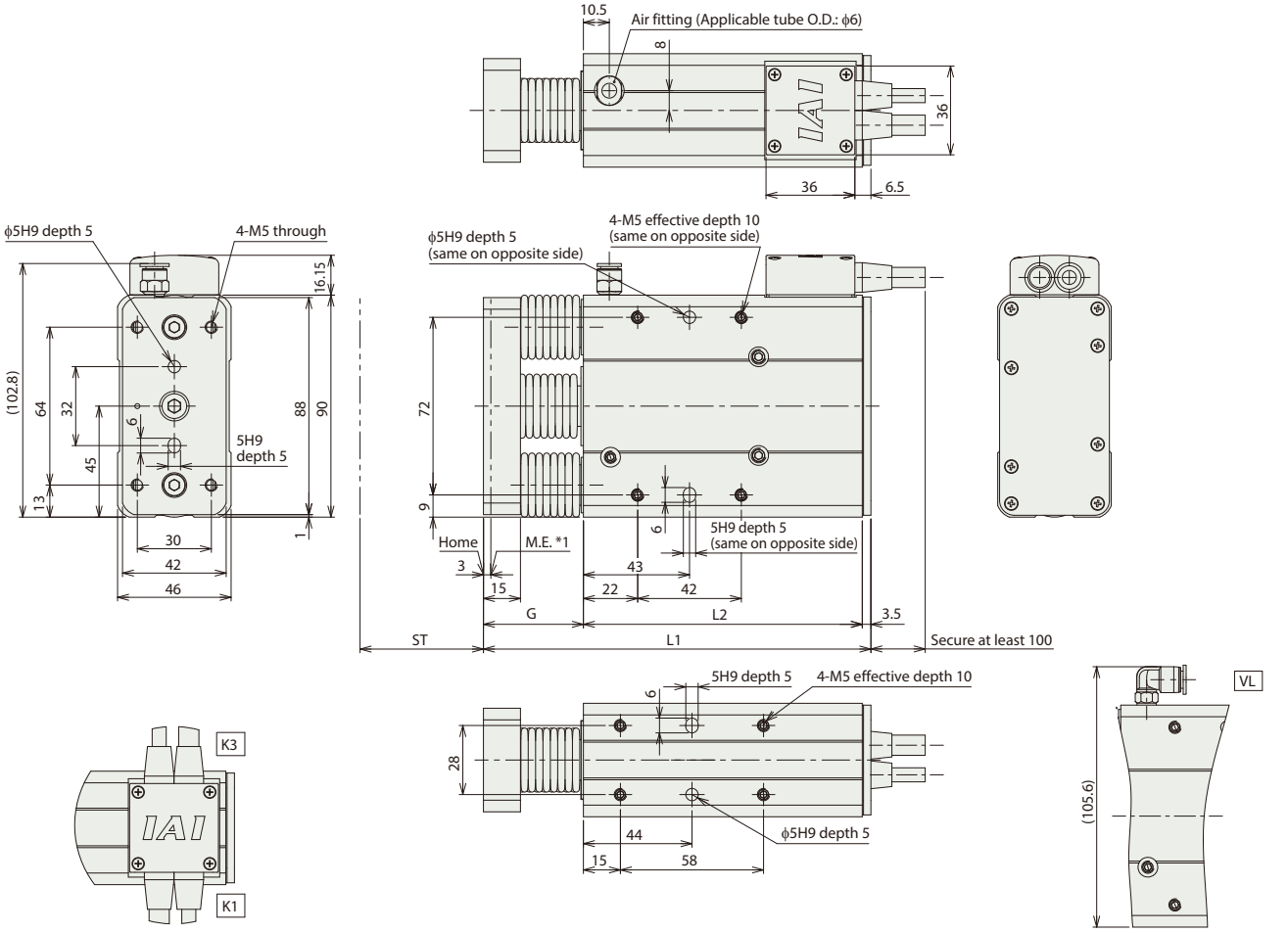
Actuator Specifications

Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ8mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	1kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

Dimensions

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

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end



Cable exit direction option

L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2000mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

Dimensions and Mass by Stroke

Stroke (ST)	50	75
L1	157	188
L2	113	138
G	40.5	46.5
Mass (kg)	1.80	2.06

Applicable Controllers

The RCS2CR/RCS2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
SCON-CB/CGB		1	Single phase 100/200VAC	●	●	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET Note: The type of compatible networks will vary depending on the controller. Please refer to the reference page for more information.	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG		1		–	–	●		512 (768 for network spec.)	Please contact IAI for more information.
SSEL-CS		2		●	–	●		20000	Please contact IAI for more information.
XSEL-P/Q		6	Single phase 200VAC Three-phase 200VAC	–	–	●		20000	Please contact IAI for more information.

* Cannot be connected to XSEL-P/Q 5th/6th axes or XSEL-RA/SA.

RCA2CR-SD3NB
RCA2W-SD3NB

Cleanroom | Dust/Splash-proof | Mini | Double With guide | Motor Unit Type | Built-in Motor | Body Width 60 mm | 24v AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
□	SD3NB	I	10	□	□	□	□	□
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification		I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	10 : 10W Servo motor	4 : Ball screw 4mm 2 : Ball screw 2mm 1 : Ball screw 1mm	25:25mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

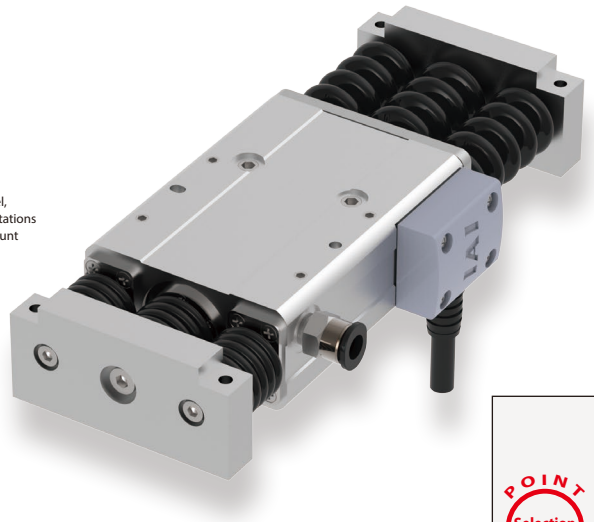
* Does not include a controller.

Energy saver

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information).
(2) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 1 and vertical use). The indicated values are the upper limits for the allowable acceleration.
(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.
(4) The vertical payload value is when the main body is fixed and the side bracket is moving. Note that it is not possible to operate the actuator vertically with the side bracket fixed and the main body moving.
(5) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

(*1) With main body fixed

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-SD3NB-I-10-4-①-②-③-④	10	Ball screw	4	0.75	0.25 (*1)	42.7	±0.02	25 50
RCA2CR/W-SD3NB-I-10-2-①-②-③-④			2	1.5	0.5 (*1)	85.5		
RCA2CR/W-SD3NB-I-10-1-①-②-③-④			1	3	1 (*1)	170.9		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	25 (mm)	50 (mm)
4	200	
2	100	
1	50	

(Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
25	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from right side	**K3**	See P.36
Power Saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

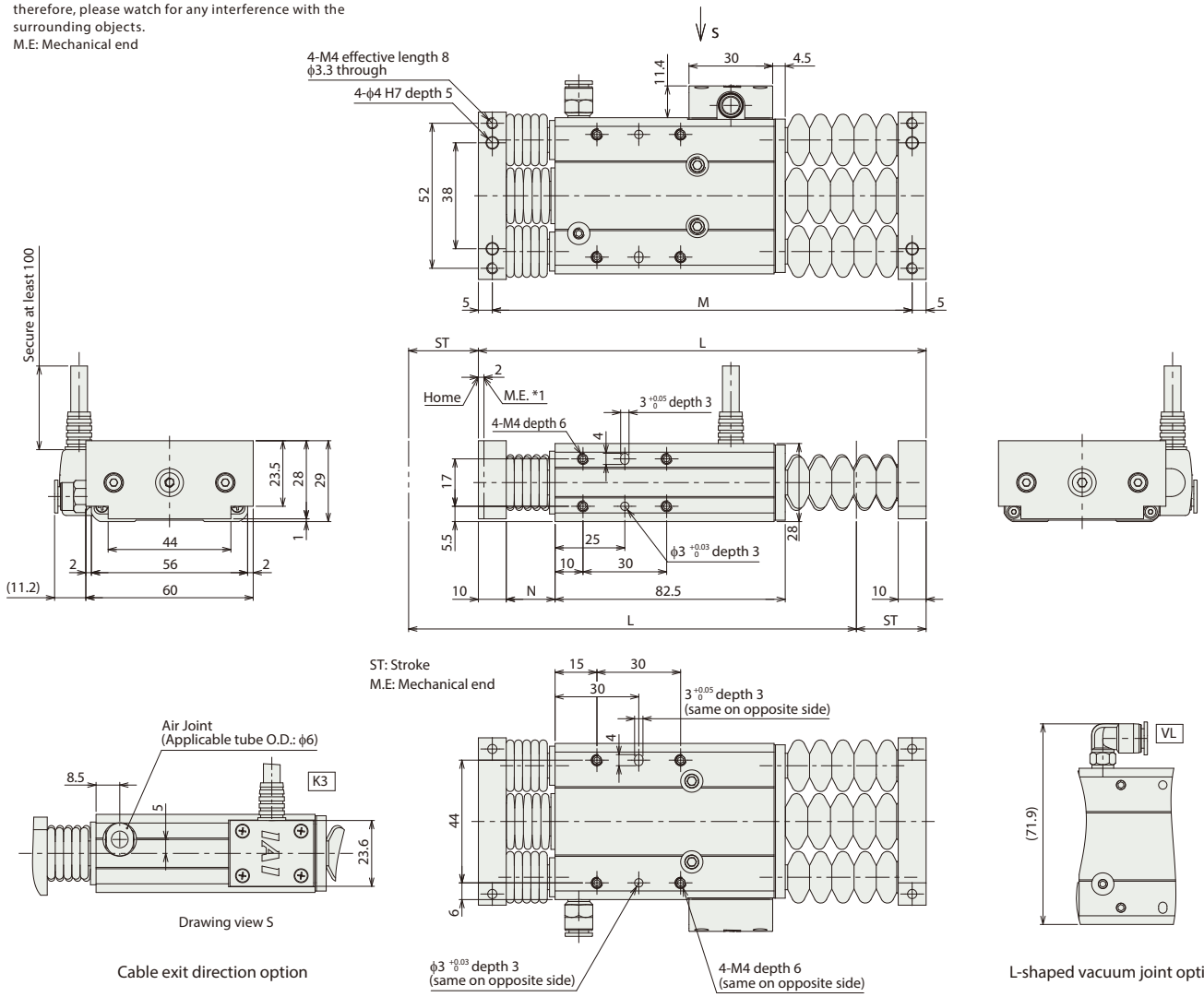
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ4mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	8kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	1mm Lead: 3000km or 50 million cycles, 2mm Lead, 4mm: 5000km or 50 million cycles	

Dimensions

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

2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end



Cable exit direction option

L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	25	50
L	160.5	197.5
M	150.5	187.5
N	17.5	23.5
Mass (kg)	0.52	0.54

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network * Option	Maximum number of positioning points	Reference page
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCA2CR-SD4NB
RCA2W-SD4NB

Cleanroom | Dust/Splash-proof | Mini | Double With guide | Motor Unit Type | Built-in Motor | Body Width 72 mm | 24v AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
RCA2CR: Cleanroom specification RCA2W: Dust-proof/splash-proof specification	SD4NB	I: Incremental * Models used with the simple absolute encoder also have an "I" in the name.	20 : 20W Servo motor	6 : Ball screw 6mm 4 : Ball screw 4mm 2 : Ball screw 2mm	25:25mm 50:50mm	A1:ASEL A3:ACON-CYB/PLB/POB MCON RCM-P6AC A5:ACON-CB/CGB	N : None P : 1m S : 3m M : 5m X□□: Special Length	Refer to Options table below.

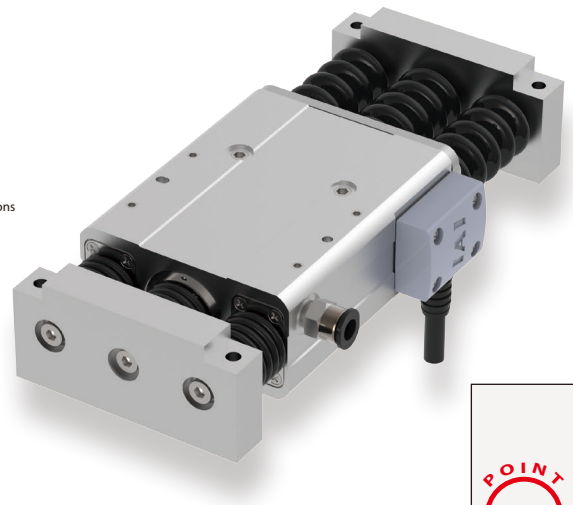
* Does not include a controller.

Energy saver

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information).

(2) The value of payload is when operating at an acceleration of 0.3G (0.2G for lead 2 and vertical use). The indicated values are the upper limits for the allowable acceleration.

(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(4) The vertical payload value is when the main body is fixed and the side bracket is moving. Note that it is not possible to operate the actuator vertically with the side bracket fixed and the main body moving.

(5) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

(*1) With main body fixed

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCA2CR/W-SD4NB-I-20-6-①-②-③-④	20	Ball screw	6	2	0.5 (*1)	33.8	±0.02	25 50
RCA2CR/W-SD4NB-I-20-4-①-②-③-④			4	3	0.75 (*1)	50.7		
RCA2CR/W-SD4NB-I-20-2-①-②-③-④			2	6	1.5 (*1)	101.5		

Legend: ① Stroke ② Applicable Controllers ③ Cable Length ④ Options

■ Stroke and Max Speed

Lead \ Stroke	25 (mm)	50 (mm)
6	240<200>	300
4	200	
2	100	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
25	○	○
50	○	○

③ Cable Length

Type	Cable code
Standard (Robot cable)	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)

* RCA2 cables are robot cables as standard.

④ Options

Name	Option code	Reference page
Connector cable exit from right side	**K3**	See P.36
Power Saver	**LA**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

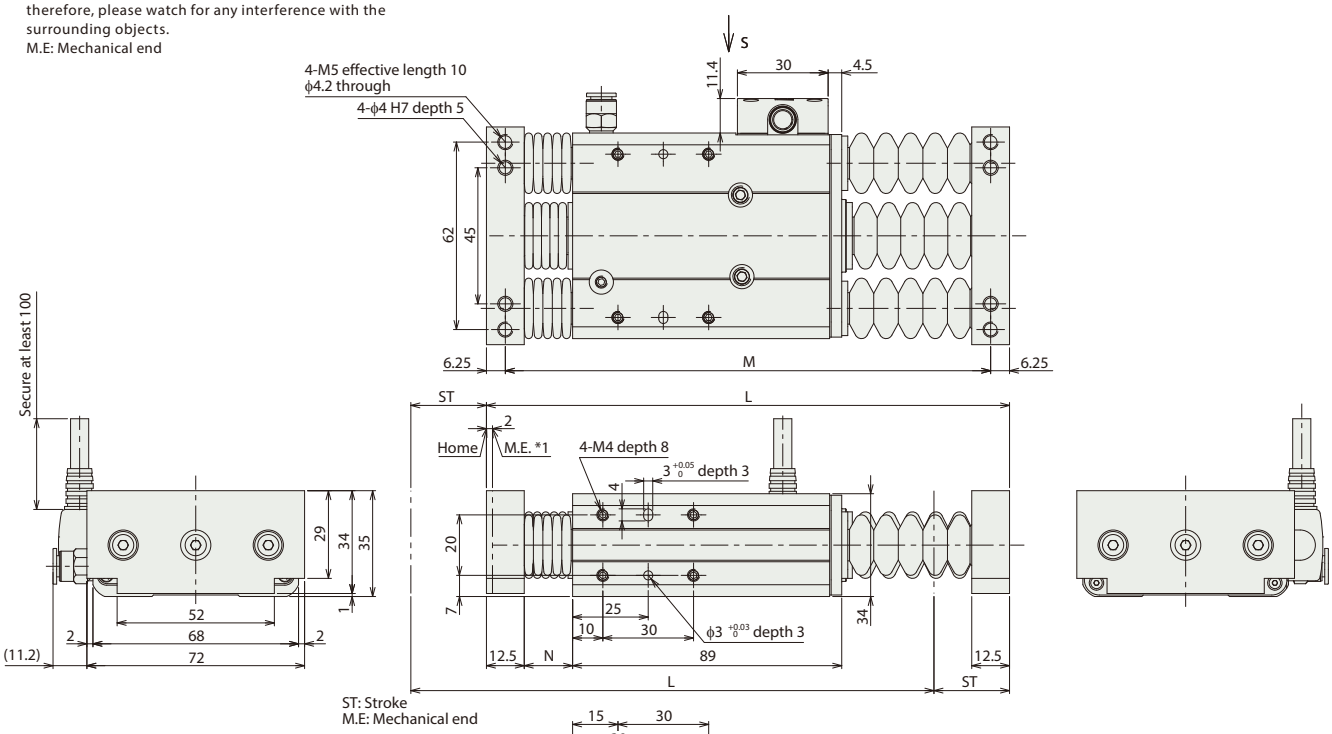
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ6mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	4kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

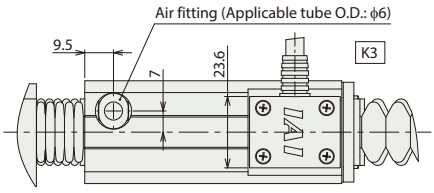
Dimensions

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

2D CAD 3D CAD

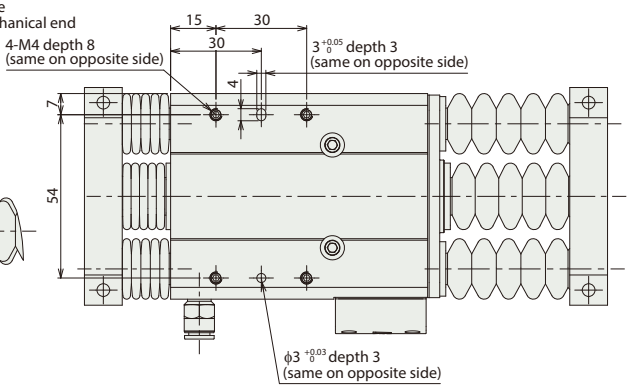
*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end

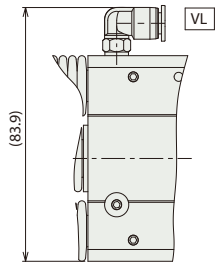




Drawing view S

Cable exit direction option





L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2100mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

■ Dimensions and Mass by Stroke

Stroke (ST)	25	50
L	173	210
M	160.5	197.5
N	16	22
Mass (kg)	0.86	0.88

② Applicable Controllers

The RCA2CR/RCA2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method				Maximum number of positioning points	Reference page
				Positioner	Pulse-train	Program	Network * Option		
ACON-CYB/PLB/POB		1	24VDC	● * Option	● * Option	–	Network cannot be selected	64	Please contact IAI for more information.
ACON-CB/CGB		1		● * Option	● * Option	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET, SSCNET III/H	512 (768 for network spec.)	Please contact IAI for more information.
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.
ASEL-CS		2		●	–	●		1500	Please contact IAI for more information.
RCM-P6AC		1	Can be used within the RCP6S Gateway system.					768	Refer to the RCP6 catalog (CJ238-3A)

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

RCS2CR-SD5NB
RCS2W-SD5NB

Cleanroom | Dust/Splash-proof | Mini | Double With guide | Motor Unit Type | Built-in Motor | Body Width 94 mm | 200V AC Servo Motor

■ Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controllers	Cable Length	Options
☐	SD5NB	I	60	☐	☐	T2	☐	☐
RCS2CR: Cleanroom specification RCS2W: Dust-proof/splash-proof specification		I: Incremental	60: 60W Servo motor	10: 10mm 5: 5mm 2.5: 2.5mm	50:50mm 75:75mm	T2:SCON SSEL XSEL-P/Q	N: None P: 1m S: 3m M: 5m X□□: Special Length R□□: Robot cable	Refer to Options table below.

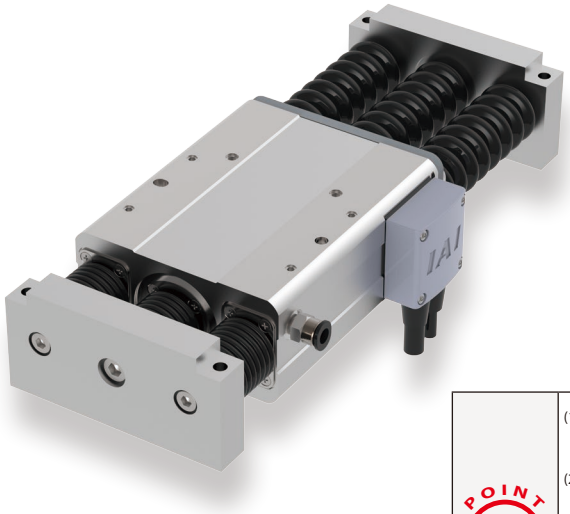
* Does not include a controller.

CE RoHS

* CE is an available option.

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical mount position.



POINT Selection Notes

(1) Horizontal payload is the value when also using a guide so that radial and moment loads are not applied to the rod. If not installing a guide, refer to the correlation diagram of load on rod tip and running life (Please refer to P33 or contact IAI for more information).

(2) The value of payload is when operating at an acceleration of 0.3G horizontally (0.2G for lead 2.5) and 0.2G vertically. The indicated values are the upper limits for the allowable acceleration.

(3) Estimated allowable duty varies depending on operating conditions (payload, acceleration/deceleration, etc.). Please contact IAI for more information.

(4) The vertical payload value is when the main body is fixed and the side bracket is moving. Note that it is not possible to operate the actuator vertically with the side bracket fixed and the main body moving.

(5) If the power is cut during vertical use, the rod will drop, so take care to avoid interference.

Actuator Specifications

■ Lead and Payload

(*1) With main body fixed

Model specification items	Motor wattage (W)	Feed screw	Lead (mm)	Max. payload Horizontal (kg)	Max. payload Vertical (kg)	Rated thrust (N)	Positioning repeatability (mm)	Stroke (mm)
RCS2CR/W-SD5NB-I-60-10-①-T2-②-③	60	Ball screw	10	5	1.5 (*1)	89	±0.02	50 75
RCS2CR/W-SD5NB-I-60-5-①-T2-②-③			5	10	3 (*1)	178		
RCS2CR/W-SD5NB-I-60-2.5-①-T2-②-③			2.5	20	6 (*1)	356		

Legend: ① Stroke ② Cable Length ③ Option

■ Stroke and Max Speed

Lead \ Stroke	50 (mm)	75 (mm)
10	280<230>	380<330>
5	250<230>	250
2.5	125	

Values in brackets < > are for vertical use. (Unit: mm/s)

① Stroke

Stroke (mm)	Cleanroom	Dust/Splash-proof
50	○	○
75	○	○

② Cable Length

Type	Cable code
Standard	**P**(1m)
	S(3m)
	M(5m)
Special length	**X06**(6m) ~ **X10**(10m)
	X11(11m) ~ **X15**(15m)
	X16(16m) ~ **X20**(20m)
Robot cable	**R01**(1m) ~ **R03**(3m)
	R04(4m) ~ **R05**(5m)
	R06(6m) ~ **R10**(10m)
	R11(11m) ~ **R15**(15m)
	R16(16m) ~ **R20**(20m)

③ Options

Name	Option code	Reference page
CE compliant specification	**CE**	See P.36
Connector cable exit from right side	**K3**	See P.36
L-shaped vacuum joint specification	**VL**	See P.36

Actuator Specifications

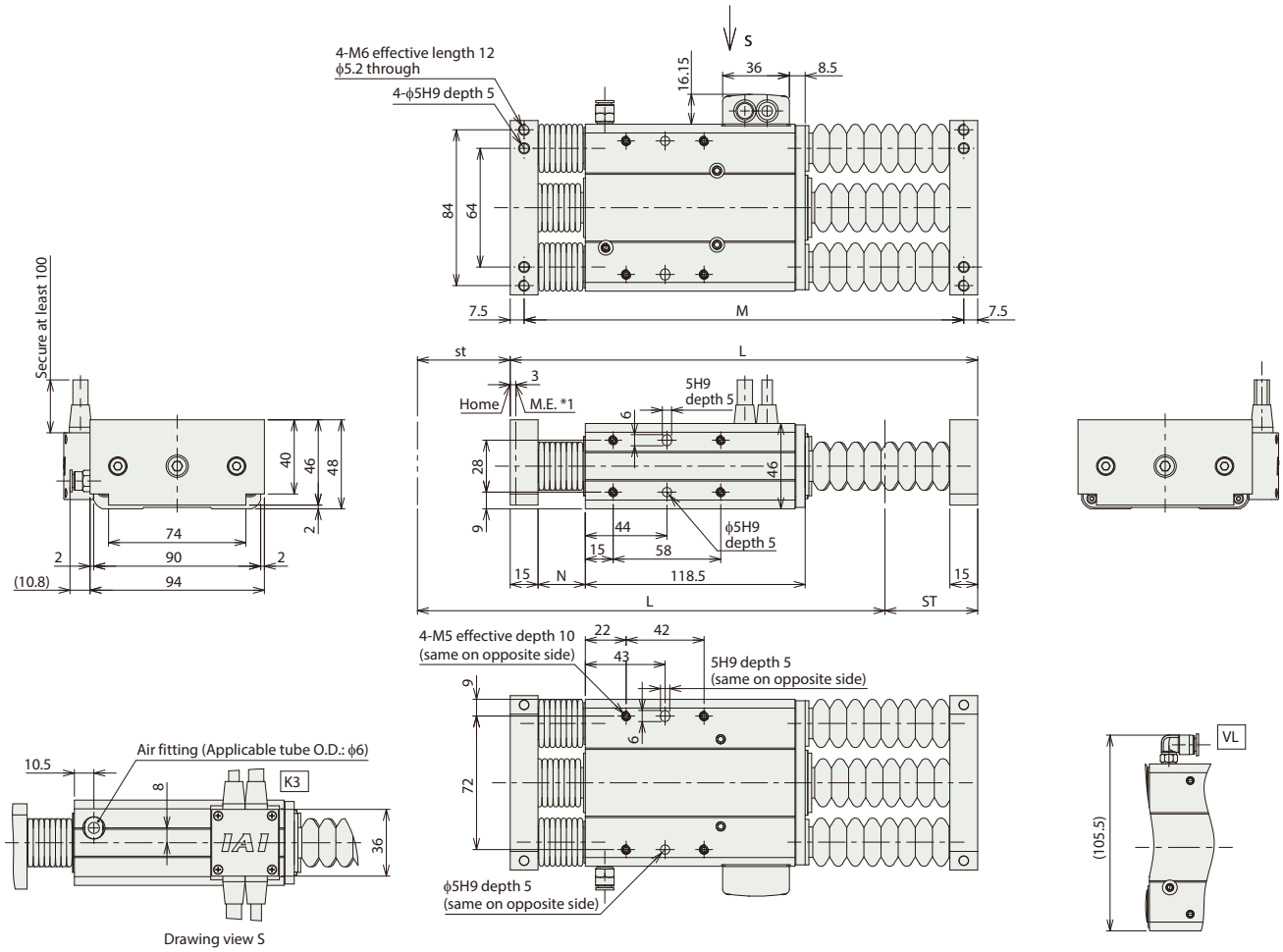
Item	Description: Cleanroom	Description: Dust/Splash-proof
Drive system	Ball screw ϕ8mm, rolled C10	
Positioning repeatability	±0.02mm	
Lost motion	0.1mm or less (initial value)	
Frame	Material: Aluminum with white alumite treatment	
Cleanliness	Class 100 (Fed.Std.209D), class 3.5 or equivalent (ISO14644-1 Standard)	–
Suction pressure	1kPa	–
Protective structure	–	IP52
Air purge	–	Do not purge
Ambient operating temperature, humidity	0~40°C, 85% RH or less (Non-condensing)	
Service life	5000km or 50 million cycles	

Dimensions

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

2D CAD 3D CAD

*1 When homing, the rod moves to the mechanical end: therefore, please watch for any interference with the surrounding objects.
M.E: Mechanical end



Cable exit direction option

L-shaped vacuum joint option

Notes

Dust-proof/splash-proof specification actuator's pigtail cable length is 2000mm.
The connector at the end of the actuator's pigtail cable is not covered by the protective structure.
Cleanroom specification actuator's pigtail cable length is 300mm.

Dimensions and Mass by Stroke

Stroke (ST)	50	75
L	252	289
M	237	274
N	25.5	31.5
Mass (kg)	1.80	2.06

Applicable Controllers

The RCS2CR/RCS2W series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method				Maximum number of positioning points	Reference page
				Positioner	Pulse-train	Program	Network * Option		
SCON-CB/CGB		1	Single phase 100/200VAC	●	●	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, MECHATROLINK, EtherCAT, EtherNet/IP, PROFINET	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG		1		–	–	●		512 (768 for network spec.)	Please contact IAI for more information.
SSEL-CS		2		●	–	●		20000	Please contact IAI for more information.
XSEL-P/Q		6	Single phase 200VAC Three-phase 200VAC	–	–	●		20000	Please contact IAI for more information.

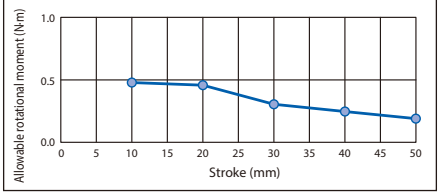
Note: The type of compatible networks will vary depending on the controller. Please refer to the reference page for more information.

* Cannot be connected to XSEL-P/Q 5th/6th axes or XSEL-RA/SA.

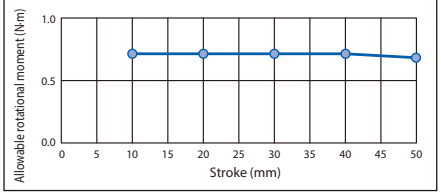
Allowable Torque

The following diagram shows the allowable torque for each model.
If applying rotational torque, use within the range of values listed below. Rotational torque cannot be applied to single guide types.

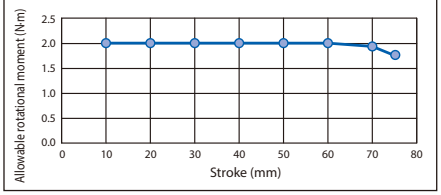
RCA2CR/W-GD3NB Type



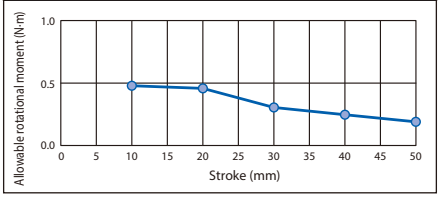
RCA2CR/W-GD4NB Type



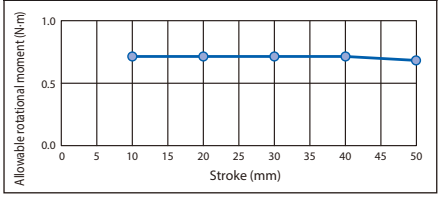
RCS2CR/W-GD5NB Type



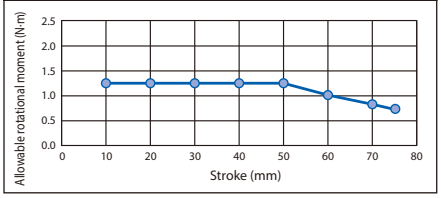
RCA2CR/W-SD3NB Type



RCA2CR/W-SD4NB Type



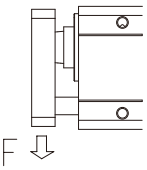
RCS2CR/W-SD5NB Type



Correlation of Allowable Load on Rod Tip and Running Life

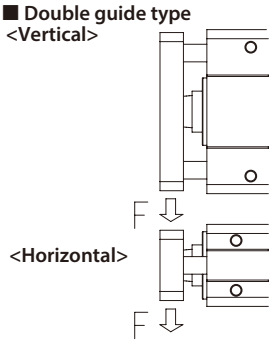
The larger the load on the guide tip, the shorter the life will become.
Select a model with consideration for the balance between load and life.

■ Single guide type

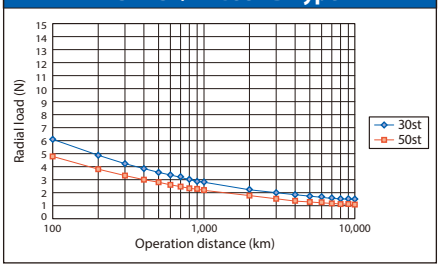


* Single guide specification can only be used with vertical loads.

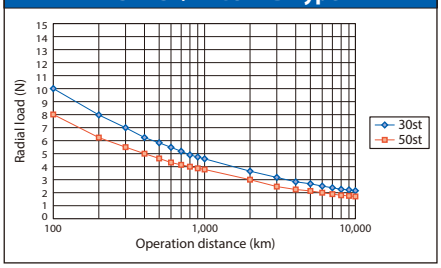
■ Double guide type



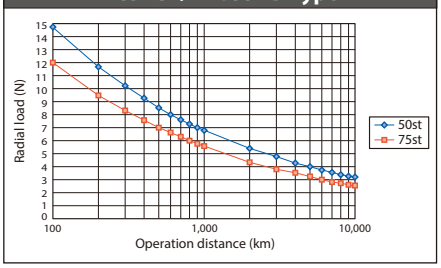
RCA2CR/W-GS3NB Type



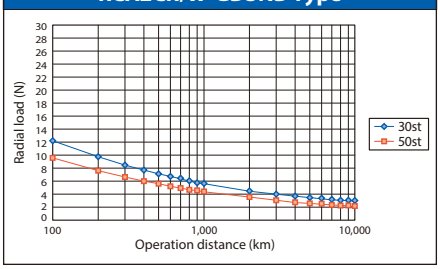
RCA2CR/W-GS4NB Type



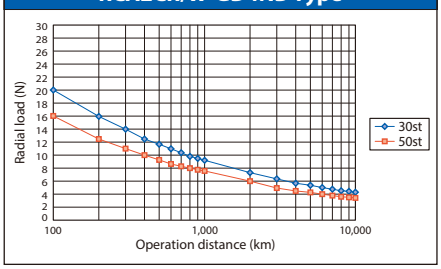
RCS2CR/W-GS5NB Type



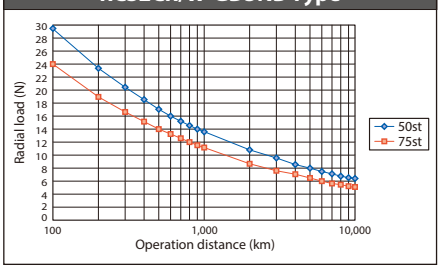
RCA2CR/W-GD3NB Type



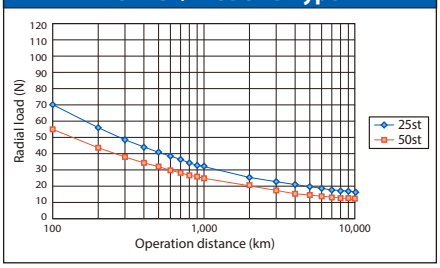
RCA2CR/W-GD4NB Type



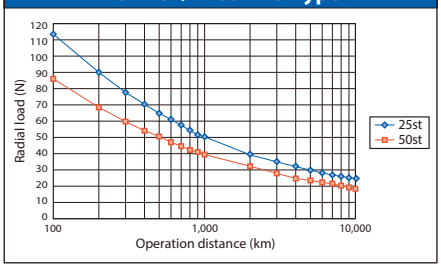
RCS2CR/W-GD5NB Type



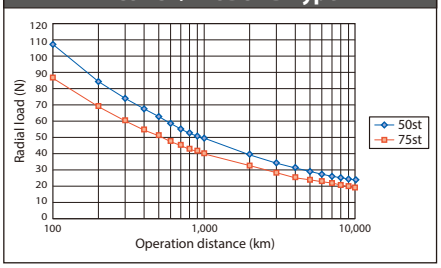
RCA2CR/W-SD3NB Type



RCA2CR/W-SD4NB Type



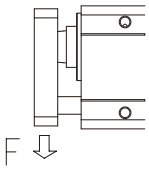
RCS2CR/W-SD5NB Type



Radial Load and Tip Deflection Amount

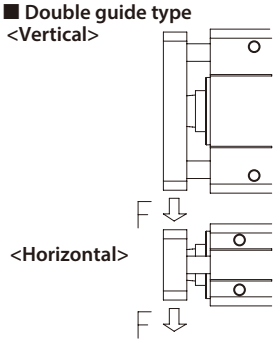
The graphs below show the correlation between the load exerted at the guide tip and the amount of deflection caused.

■ Single guide type

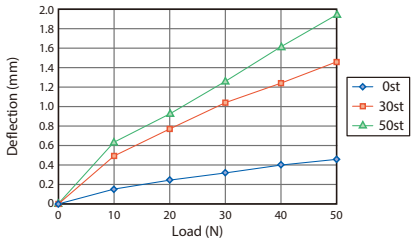


* Single guide specification can only be used with vertical loads.

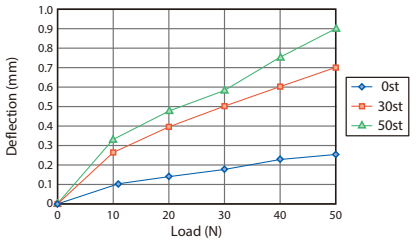
■ Double guide type



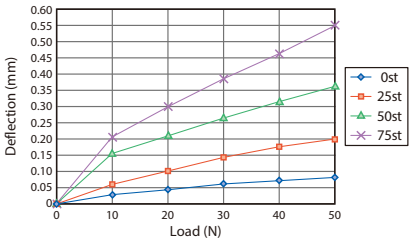
RCA2CR/W-GS3NB Type



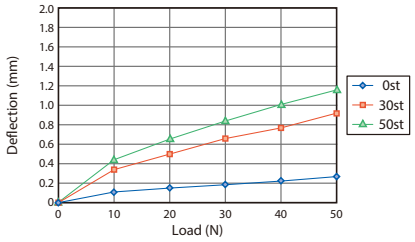
RCA2CR/W-GS4NB Type



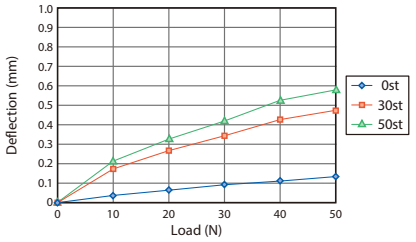
RCS2CR/W-GS5NB Type



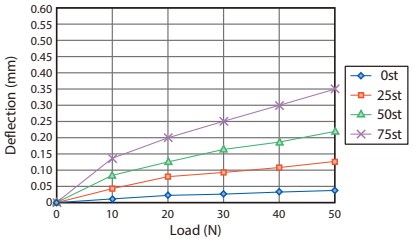
RCA2CR/W-GD3NB Type (Double Guide <Vertical>)



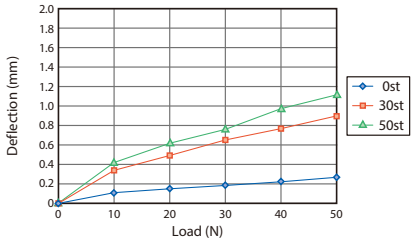
RCA2CR/W-GD4NB Type (Double Guide <Vertical>)



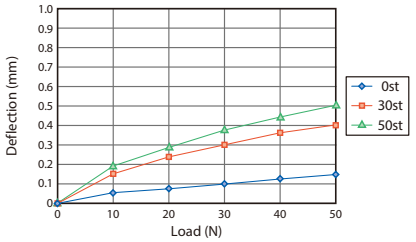
RCS2CR/W-GD5NB Type (Double Guide <Vertical>)



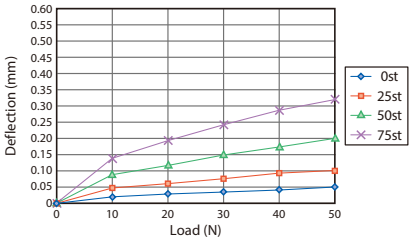
RCA2CR/W-GD3NB Type (Double Guide <Horizontal>)



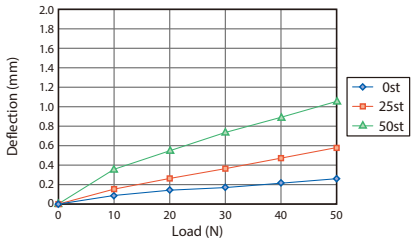
RCA2CR/W-GD4NB Type (Double Guide <Horizontal>)



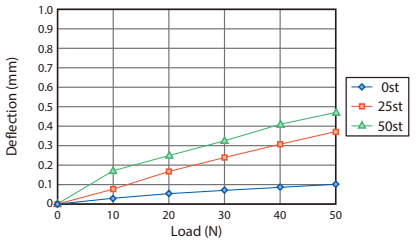
RCS2CR/W-GD5NB Type (Double Guide <Horizontal>)



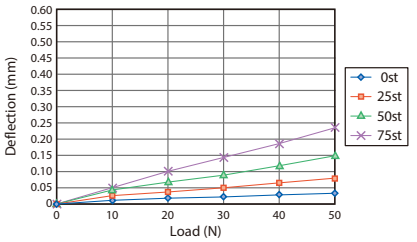
RCA2CR/W-SD3NB Type (Double Guide <Vertical>)



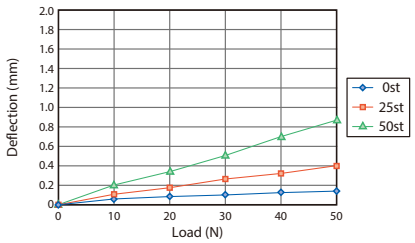
RCA2CR/W-SD4NB Type (Double Guide <Vertical>)



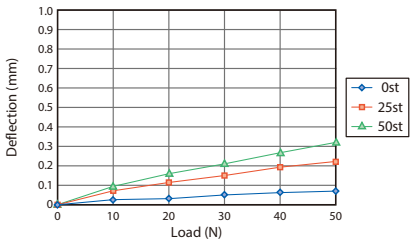
RCS2CR/W-SD5NB Type (Double Guide <Vertical>)



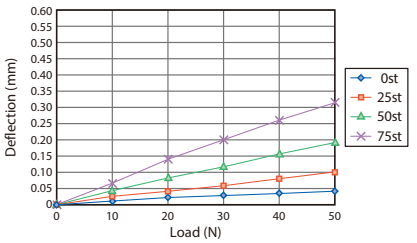
RCA2CR/W-SD3NB Type (Double Guide <Horizontal>)



RCA2CR/W-SD4NB Type (Double Guide <Horizontal>)



RCS2CR/W-SD5NB Type (Double Guide <Horizontal>)



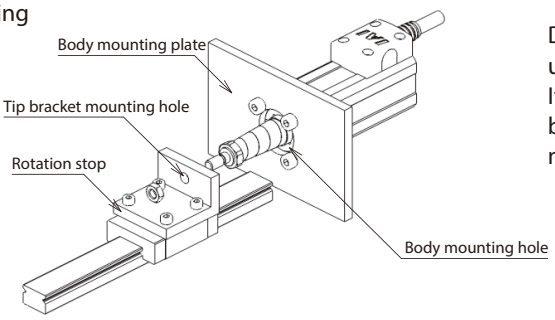
Mini Rod Type Rotation Stop Mounting Method

■ Mini ROBO Cylinder rod type rotation stop

The following models do not have a ball screw rotation stop inside the main body, so a rotation stop should be installed externally for use.
When installing a rotation stop, use the following tolerances as the basis for installation. If operated without a rotation stop installed, the ball screw may idle and the rod will fail to move forward or backward, causing the encoder rotation and actual rotation travel distance to fall out of sync and resulting in positioning deviation.

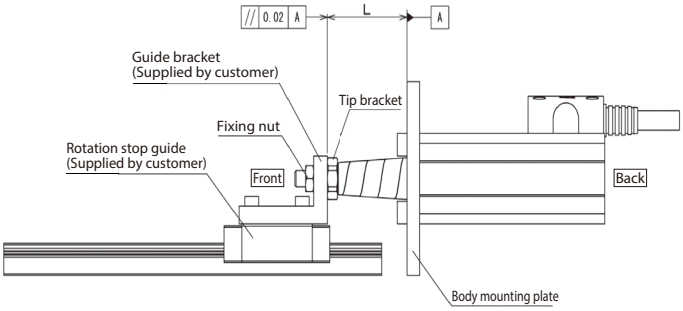
Target models RCA2CR/W-RN3NB, RN4NB, RP3NB, RP4NB
RCS2CR/W-RN5NB, RP5NB

Mounting drawing



Do not connect a rotation stop to the actuator rod tip using a floating joint.
If a radial load is caused due to screw shaft eccentricity being applied, the actuator may not operate correctly or may fail prematurely.

Installation method tolerances The body fixing plate, mounting body holes, and guide bracket mounting hole alignment should all be within 0.05mm. The degree of parallelism should be within 0.02mm.



Options

CE compliant

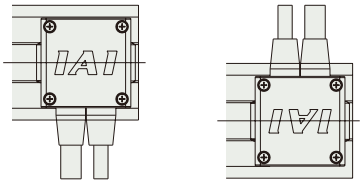
Model **CE**

Description Specify this option for RCS2 series if CE compatibility is required.

Changing connector cable exit direction

Model **K1 / K3**

Description Connector cable exit direction can be selected from either left side or right side.



Model: K1 (exit from left side) | Model: K3 (exit from right side)

Energy saver

Model **LA**

Description This option reduces the controller power supply capacity.
The maximum current for the standard or high acceleration/deceleration types is 5.1A, but it is reduced to 3.4A when selecting a power saving type.
(The maximum value changes depending on the model. Refer to the power capacity page of each controller for details)

L-shaped vacuum joint specification

Model **VL**

Description This option changes the straight type suction joint to an L-shaped type.

MEMO

MEMO

Catalog No. CE0253-1A (0917)

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The information contained in this product brochure
may change without prior notice due to product improvements.

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