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AC Servo Motor RoboCylinder

Standard & Cleanroom Slider Types
With Battery-less Absolute Encoder

RCA	RCACR
RCS2	RCS2CR
RCS3	RCS3CR
ACON-CB	DCON-CB
SCON-CB	

www.robocylinder.de

Actuator with Battery-less Absolute Encoder & CB-type Controller

BENEFITS

BENEFIT 1

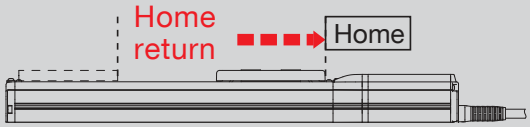
Battery-less Absolute Type Added to 24V and 230V Servo Actuators

Applicable models
RCA
RCS2
RCS3

Advantage with Absolute Encoder

1 Home-return Operation Not Necessary at Startup

Decreases startup time.



e.g.) Home-return operation from 300mm of stroke takes approximately 16 seconds.

2 Home Position Check Sensor Not Necessary

Simplifies the wiring layout.
It also eliminates malfunctions caused by sensor-related issues.

3 Position Information Retained While Power Cut Off

Even after the machine is stopped due to power loss, it resumes operation from the same position.

Advantage with Battery-less

1 Unnecessary to Purchase Batteries

Decreases initial cost and maintenance cost.

2 Unnecessary to Replace or Charge Battery Regularly

Decreases time required for maintenance.

3 Unnecessary to Secure Installation Space for Battery

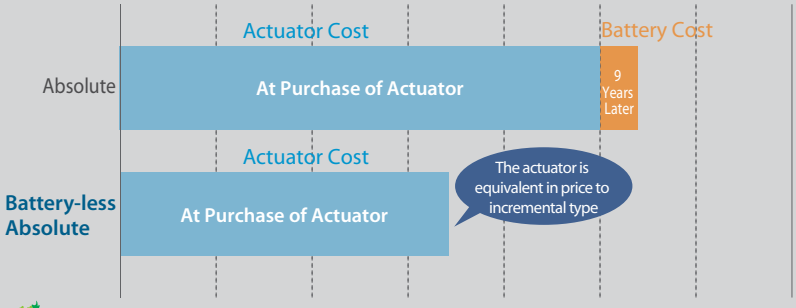
Saves space inside the control panel.

4 No Alarm for Battery Voltage Drop

Decreases downtime of the equipment.

Battery-less Absolute Saves Cost!!

■ Assuming using RCA-SA4C 100mm Stroke Length for ten years;



Absolute type requires battery replacement every three years.

Eco-friendly Battery-less Absolute Type Uses No Battery

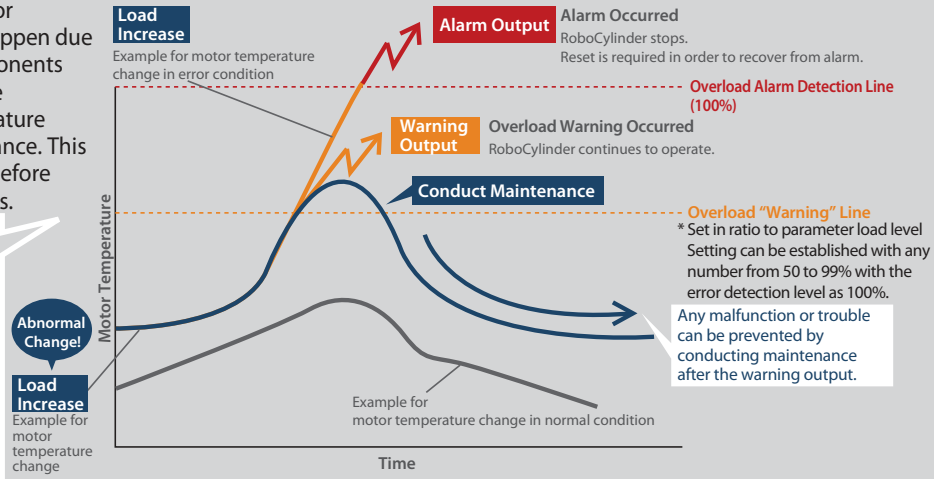
BENEFIT

2 Equipped with a Feature to Detect Motor Overload and Generate Alarm

Applicable models
ACON-CB
DCON-CB
SCON-CB

It is possible to monitor motor temperature changes that happen due to grease drying up or components wearing out. An alarm will be generated when the temperature exceeds the value set in advance. This enables to detect a change before malfunction or trouble occurs.

Warning output enables to detect such things as described below.
- Time to supply grease
- Time to replace component
- Time to implement mechanical tuning



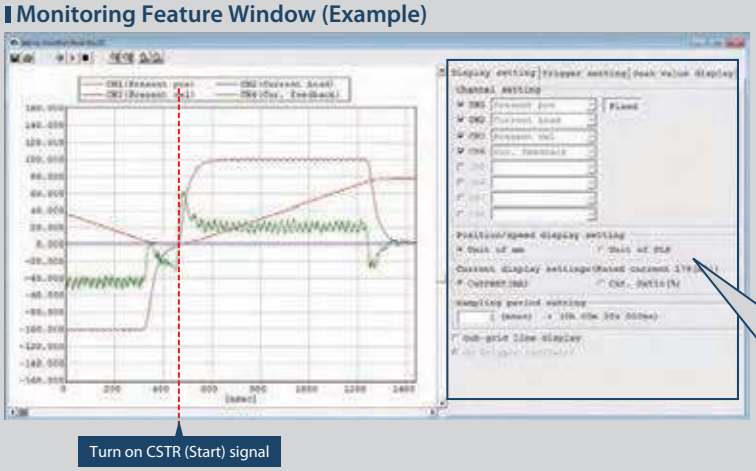
BENEFIT

3 Fully Equipped with Monitoring Feature

Applicable models
ACON-CB
DCON-CB
SCON-CB

☑ Like a trigger function of an oscilloscope, waveforms of position and velocity can be acquired from the moment that the condition of a selected signal is changed.
☑ Signal status of positioning complete, alarms and so on can also be acquired.

Monitoring Feature Window (Example)



Display Setting

* Items to be monitored can be selected.

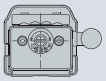
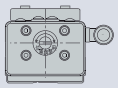
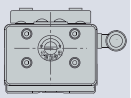
Trigger Setting

* Data acquiring starts from time of change of selected items.

LINE UP

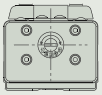
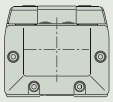
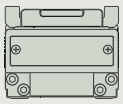
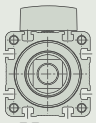
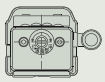
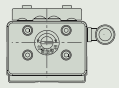
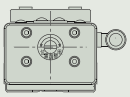
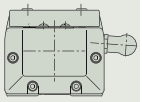
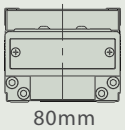
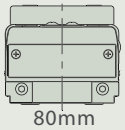
We prepared 29 types of battery-less absolute type actuators in 6 series in total. We also prepared cleanroom types so you can use them in many applications.

Motor Type 24V Servo Motor

Environment of Use	Name	External View	Maximum Speed	Maximum Payload	Cleanliness	Reference Page
Standard 	RCA-SA4C	 40mm	665mm/sec	8kg (horizontal) 4.5kg (vertical)	—	P. 5
	RCA-SA4R					P. 11
	RCA-SA5C	 52mm	SA5C 1300mm/sec (horizontal) 800mm/sec (vertical)	12kg (horizontal) 4kg (vertical)	—	P. 7
	RCA-SA5R		SA5R 800mm/sec			P. 13
	RCA-SA6C	 58mm	SA6C 1300mm/sec (horizontal) 800mm/sec (vertical)	18kg (horizontal) 6kg (vertical)	—	P. 9
	RCA-SA6R		SA6R 800mm/sec			P. 15
Cleanroom 	RCACR-SA4C	 40mm	665mm/sec	8kg (horizontal) 4.5kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 45
	RCACR-SA5C	 52mm	1300mm/sec (horizontal) 800mm/sec (vertical)	12kg (horizontal) 4kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 47
	RCACR-SA6C	 58mm	1300mm/sec (horizontal) 800mm/sec (vertical)	18kg (horizontal) 6kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 49

Motor Type 230V Servo Motor

Environment of Use	Name	External View	Maximum Speed	Maximum Payload	Cleanliness	Reference Page
Standard 	RCS2-SA4C	 40mm	SA4C 1060mm/sec	8kg (horizontal) 4.5kg (vertical)	—	P. 17
	RCS2-SA4R		SA4R 665mm/sec			P. 25
	RCS2-SA5C	 52mm	SA5C 1300mm/sec (horizontal) 800mm/sec (vertical)	12kg (horizontal) 4kg (vertical)	—	P. 19
	RCS2-SA5R		SA5R 800mm/sec			P. 27

Environment of Use	Name	External View	Maximum Speed	Maximum Payload	Cleanliness	Reference Page
Standard 	RCS2-SA6C	 58mm	SA6C 1300mm/sec (horizontal) 800mm/sec (vertical)	18kg (horizontal) 6kg (vertical)	—	P. 21
	RCS2-SA6R		SA6R 800mm/sec			P. 29
	RCS2-SA7C	 73mm	SA7C 1200mm/sec (horizontal)	40kg (horizontal) 12kg (vertical)	—	P. 23
	RCS2-SA7R		SA7R 800mm/sec			P. 31
	RCS3-SA8C	 80mm	1800mm/sec	80kg (horizontal) 16kg (vertical)	—	P. 37
	RCS3-SA8R					P. 41
	RCS3-SS8C	 80mm	1800mm/sec	80kg (horizontal) 16kg (vertical)	—	P. 39
	RCS3-SS8R					P. 43
	RCS2-RA5C	 55mm	800mm/sec	RA5C 60kg (horizontal) 18kg (vertical)	—	P. 33
	RCS2-RA5R			RA5R 50kg (horizontal) 11.5kg (vertical)		P. 35
Cleanroom 	RCS2CR-SA4C	 40mm	665mm/sec	8kg (horizontal) 4.5kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 51
	RCS2CR-SA5C	 52mm	1300mm/sec (horizontal) 800mm/sec (vertical)	12kg (horizontal) 4kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 53
	RCS2CR-SA6C	 58mm	1300mm/sec (horizontal) 800mm/sec (vertical)	18kg (horizontal) 6kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 55
	RCS2CR-SA7C	 73mm	800mm/sec	40kg (horizontal) 12kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 57
	RCS3CR-SA8C	 80mm	1800mm/sec	80kg (horizontal) 16kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 59
	RCS3CR-SS8C	 80mm	1800mm/sec	80kg (horizontal) 16kg (vertical)	ISO class 4 (ISO 14644-1) Equivalent to US class 10/M2.5 (FED STD 209D/E)	P. 61

RCA-SA4C

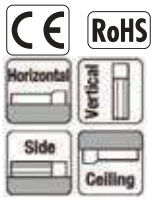
RoboCylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Coupled Motor Specification

■**Model Specification Items**

RCA	SA4C	□	20	□	□	□	□	□
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	20 : Servo motor 20W	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50 : 50mm ~ 400 : 400mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

High Accel./Decel. Option **Energy Saving Option**

(Excludes lead 2.5)

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 2.5) for standard and energy saving specifications, and 1G for high accel./decel. specification (excludes lead 2.5). (The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)

(2) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■**Lead and Payload**

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCA-SA4C-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50~400 (Every 50mm)
RCA-SA4C-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCA-SA4C-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■**Stroke and Maximum Speed**

Lead \ Stroke	50~400 (Every 50mm)
10	665
5	330
2.5	165

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Foot bracket	**FT**		
High acceleration/deceleration	**HA**		
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		
Slider spacer	**SS**		

* High acceleration/deceleration option and slider roller option cannot be combined together.
* High acceleration/deceleration option cannot be chosen for lead 2.5
* High acceleration/deceleration option and energy saving option cannot be combined together.

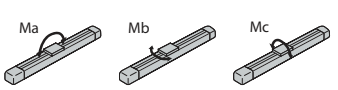
Actuator Specifications

Item	Description
Drive system	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 6.9N•m, Mb: 9.9N•m, Mc: 17.0N•m
Dynamic allowable moment (*)	Ma: 3.29N•m, Mb: 4.71N•m, Mc: 8.07N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

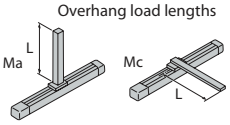
•Reference for overhang load length/Ma: 120mm or less, Mb, Mc: 120mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



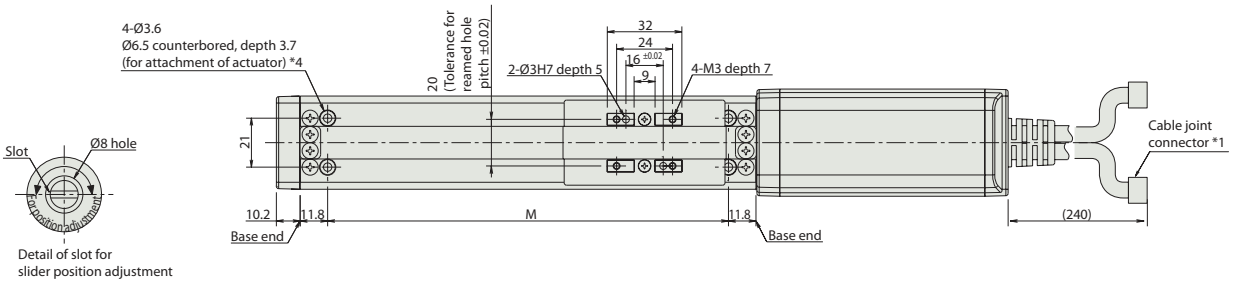
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

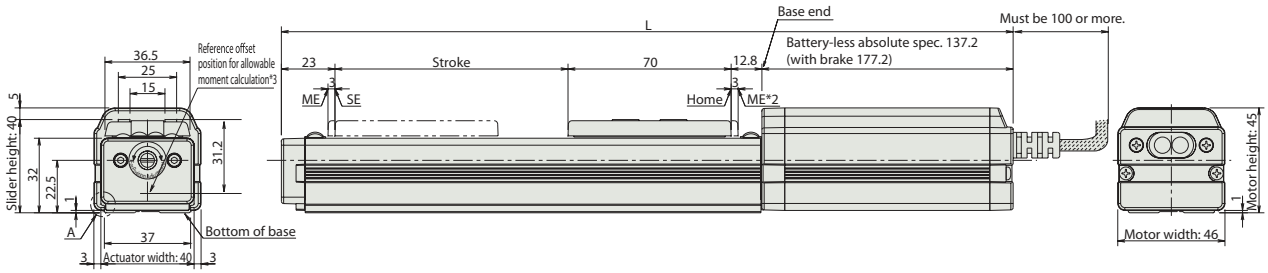
Dimensions

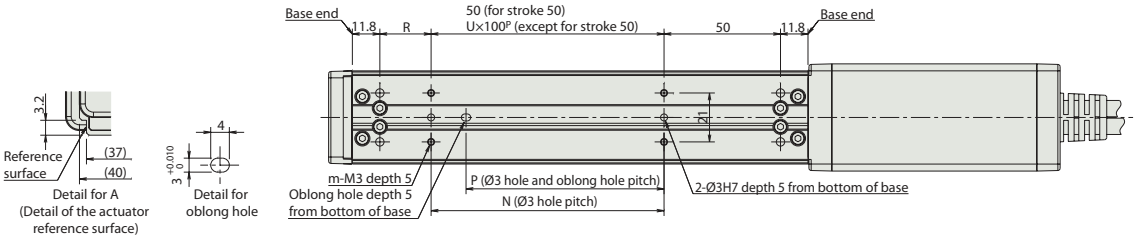
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 73 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 200mm.







■Dimensions and Mass by Stroke

*Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400
L	Battery-less absolute	Without brake	293	343	393	443	493	543	593	643
		With brake	333	383	433	483	533	583	633	683
M			122	172	222	272	322	372	422	472
N			50	100	100	200	200	300	300	400
P			35	85	85	185	185	285	285	385
R			22	22	72	22	72	22	72	22
U			–	1	1	2	2	3	3	4
m			4	4	4	6	6	8	8	10
Mass (kg)			0.7	0.8	0.9	1	1.1	1.2	1.3	1.4

RCA-SA5C

RoboCylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Coupled Motor Specification

■**Model Specification Items**

RCA — SA5C — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCA	SA5C	WA : Battery-less absolute	20 : Servo motor 20W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ~ 500 : 500mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

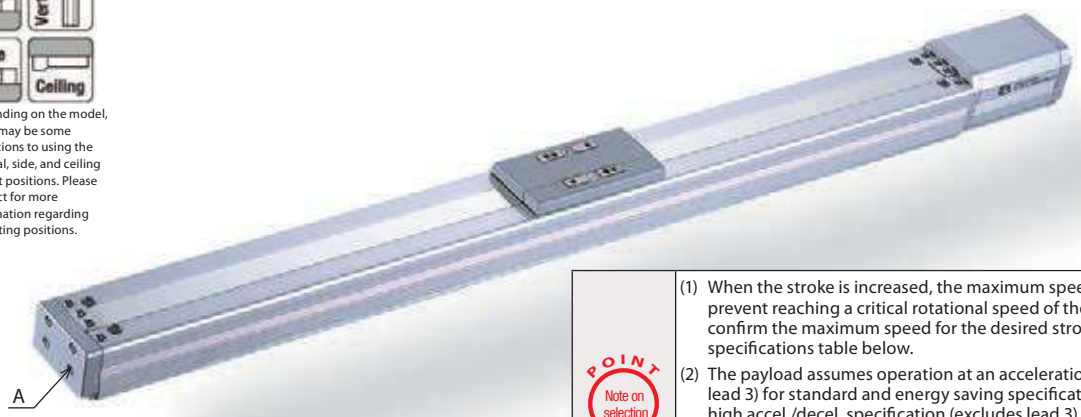
*Controller is not included.

CE RoHS

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

High Accel./Decel. Option **Energy Saving Option**

(Excludes lead 3)



* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.

(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3) for standard and energy saving specifications, and 0.8G for high accel./decel. specification (excludes lead 3).
(The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)

(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCA-SA5C-①-20-20-②-③-④-⑤	20	20	2	0.5	10.7	50~500 (Every 50mm)
RCA-SA5C-①-20-12-②-③-④-⑤		12	4	1	16.7	
RCA-SA5C-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCA-SA5C-①-20-3-②-③-④-⑤		3	12	4	65.7	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)
20	1300 <800>	1300 <800>
12	800	760
6	400	380
3	200	190

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Foot bracket	**FT**		
High acceleration/deceleration	**HA**		
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		

* High acceleration/deceleration option and slider roller option cannot be combined together.
* High acceleration/deceleration option cannot be chosen for lead 3
* High acceleration/deceleration option and energy saving option cannot be combined together.

Actuator Specifications

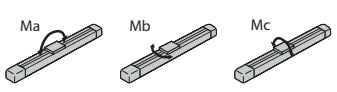
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 18.6N•m, Mb: 26.6N•m, Mc: 47.5N•m
Dynamic allowable moment (*2)	Ma: 5.81N•m, Mb: 8.30N•m, Mc: 14.8N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 150mm or less, Mb, Mc: 150mm or less

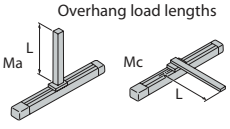
(*1) The value in [ ] applies when the lead is 20mm.

(*2) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



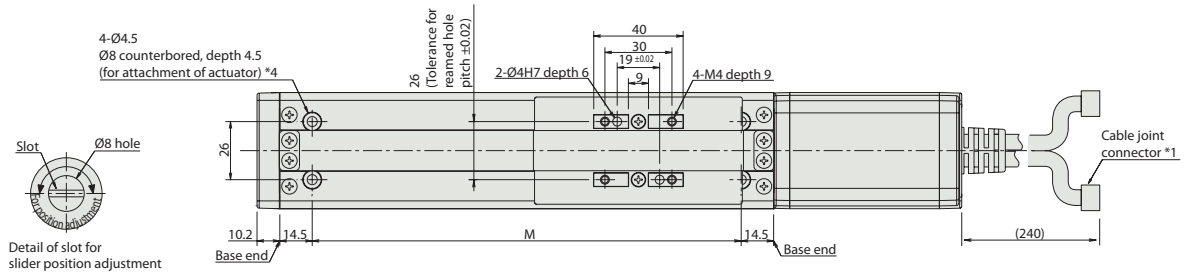
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

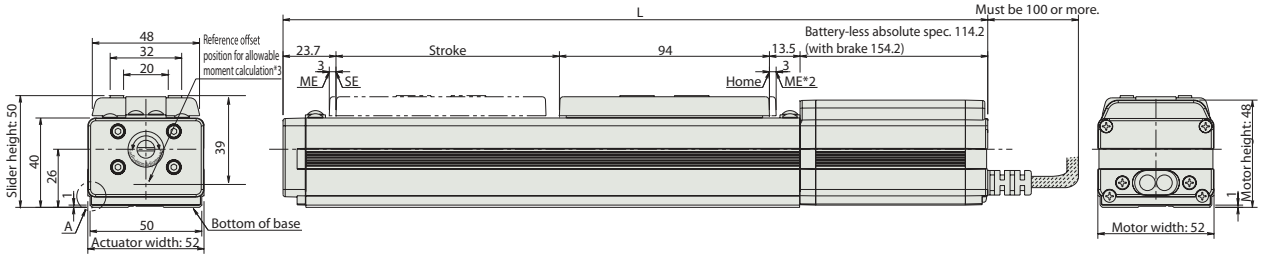
Dimensions

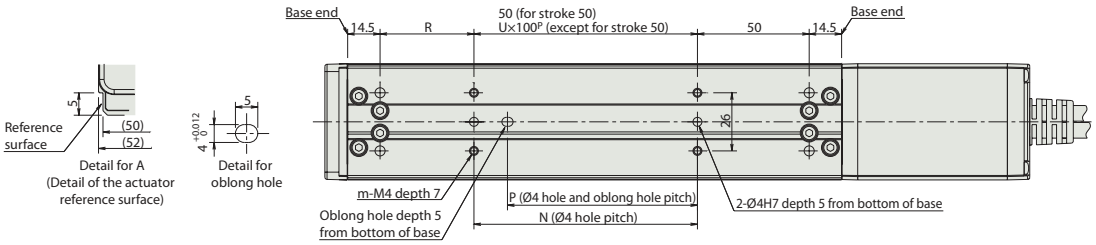
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 73 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 300mm.







■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500
L	Battery-less absolute	Without brake	295.4	345.4	395.4	445.4	495.4	545.4	595.4	645.4	695.4	745.4
		With brake	335.4	385.4	435.4	485.4	535.4	585.4	635.4	685.4	735.4	785.4
M			142	192	242	292	342	392	442	492	542	592
N			50	100	100	200	200	300	300	400	400	500
P			35	85	85	185	185	285	285	385	385	485
R			42	42	92	42	92	42	92	42	92	42
U			–	1	1	2	2	3	3	4	4	5
m			4	4	4	6	6	8	8	10	10	12
Mass (kg)			1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2

RCA-SA6C

RoboCylinder, Slider Type, Actuator Width 58mm, 24V Servo Motor, Coupled Motor Specification

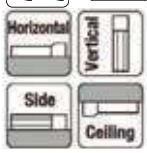
■**Model Specification Items**

RCA — SA6C — ☐ — 30 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	30 : Servo motor 30W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ~ 600 : 600mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

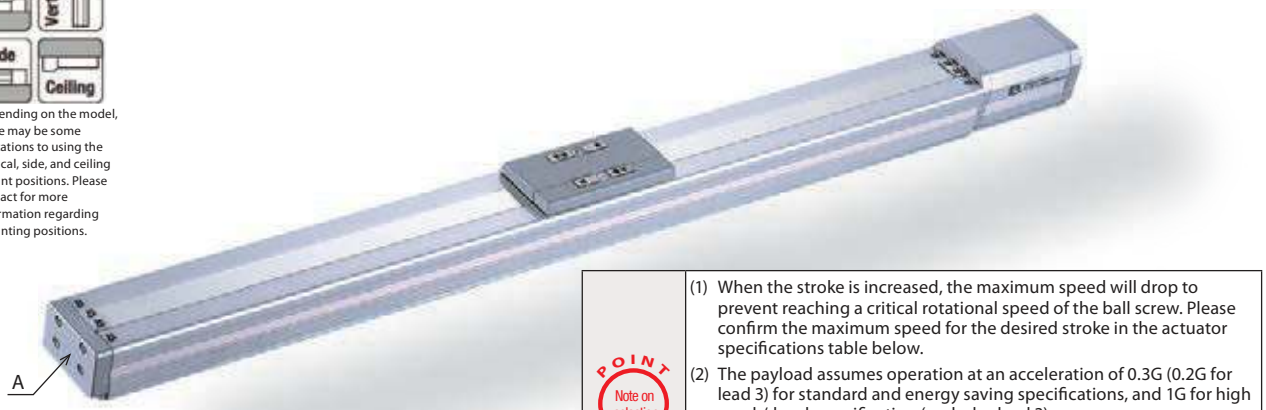
CE RoHS



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

High Accel./Decel. Option **Energy Saving Option**

(Excludes lead 3)



* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.

(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3) for standard and energy saving specifications, and 1G for high accel./decel. specification (excludes lead 3).
(The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)

(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCA-SA6C-①-30-20-②-③-④-⑤	30	20	3	0.5	15.8	50~600 (Every 50mm)
RCA-SA6C-①-30-12-②-③-④-⑤		12	6	1.5	24.2	
RCA-SA6C-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCA-SA6C-①-30-3-②-③-④-⑤		3	18	6	96.8	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	550 (mm)	600 (mm)
20	1300 <800>		1160 <800>	990 <800>
12	800	760	640	540
6	400	380	320	270
3	200	190	160	135

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Foot bracket	**FT**		
High acceleration/deceleration	**HA**		
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		

* High acceleration/deceleration option and slider roller option cannot be combined together.
* High acceleration/deceleration option cannot be chosen for lead 3
* High acceleration/deceleration option and energy saving option cannot be combined together.

Actuator Specifications

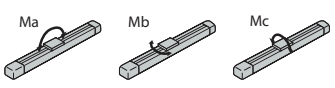
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 38.3N•m, Mb: 54.7N•m, Mc: 81.0N•m
Dynamic allowable moment (*2)	Ma: 11.6N•m, Mb: 16.6N•m, Mc: 24.6N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 220mm or less, Mb, Mc: 220mm or less

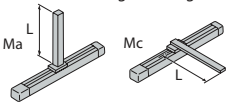
(*1) The value in [ ] applies when the lead is 20mm.

(*2) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



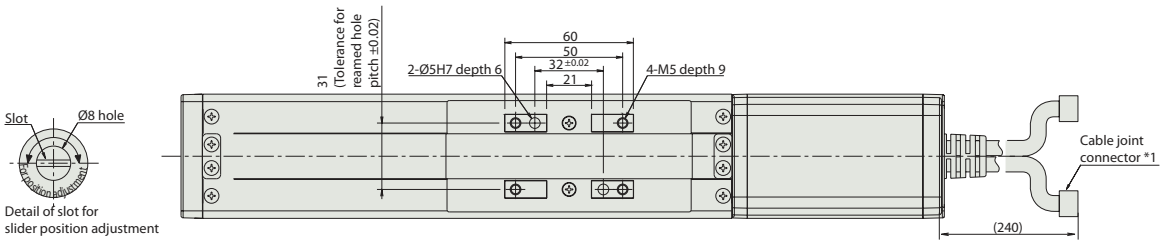
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

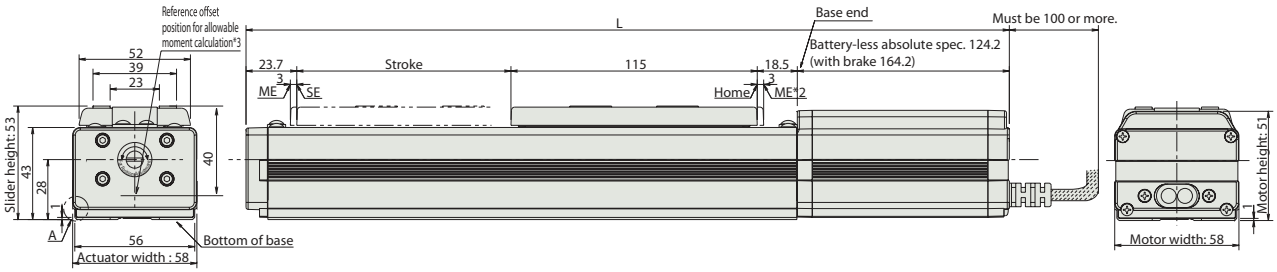
Dimensions

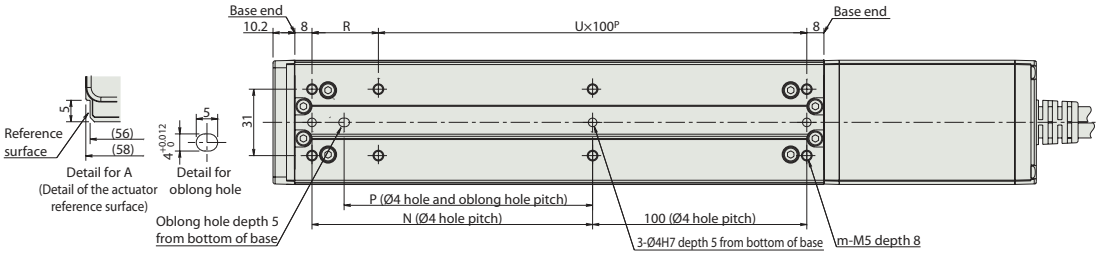
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 73 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.







■Dimensions and Mass by Stroke

*Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500	550	600
L	Battery-less absolute	Without brake	331.4	381.4	431.4	481.4	531.4	581.4	631.4	681.4	731.4	781.4	831.4	881.4
		With brake	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4	871.4	921.4
N			81	131	181	231	281	331	381	431	481	531	581	631
P			66	116	166	216	266	316	366	416	466	516	566	616
R			81	31	81	31	81	31	81	31	81	31	81	31
U			1	2	2	3	3	4	4	5	5	6	6	7
m			6	8	8	10	10	12	12	14	14	16	16	18
Mass (kg)			1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6

RCA-SA4R

RoboCylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Side-mounted Motor Specification

■Model Specification Items

RCA — SA4R — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCA	SA4R	WA : Battery-less absolute	20 : Servo motor 20W	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50 : 50mm ~ 400 : 400mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

*Controller is not included.

CE RoHS

Horizontal Vertical Side Ceiling

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

Energy Saving Option

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

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 2.5). This is the upper limit of the acceleration.
(2) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCA-SA4R-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50~400 (Every 50mm)
RCA-SA4R-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCA-SA4R-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~400 (Every 50mm)
10	665
5	330
2.5	165

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		
Slider roller specification	**SR**		
Slider spacer	**SS**		

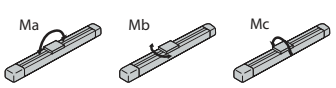
Actuator Specifications

Item	Description
Drive system	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 6.9N•m, Mb: 9.9N•m, Mc: 17.0N•m
Dynamic allowable moment (*)	Ma: 3.29N•m, Mb: 4.71N•m, Mc: 8.07N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

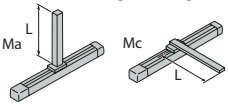
•Reference for overhang load length/Ma: 120mm or less, Mb, Mc: 120mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



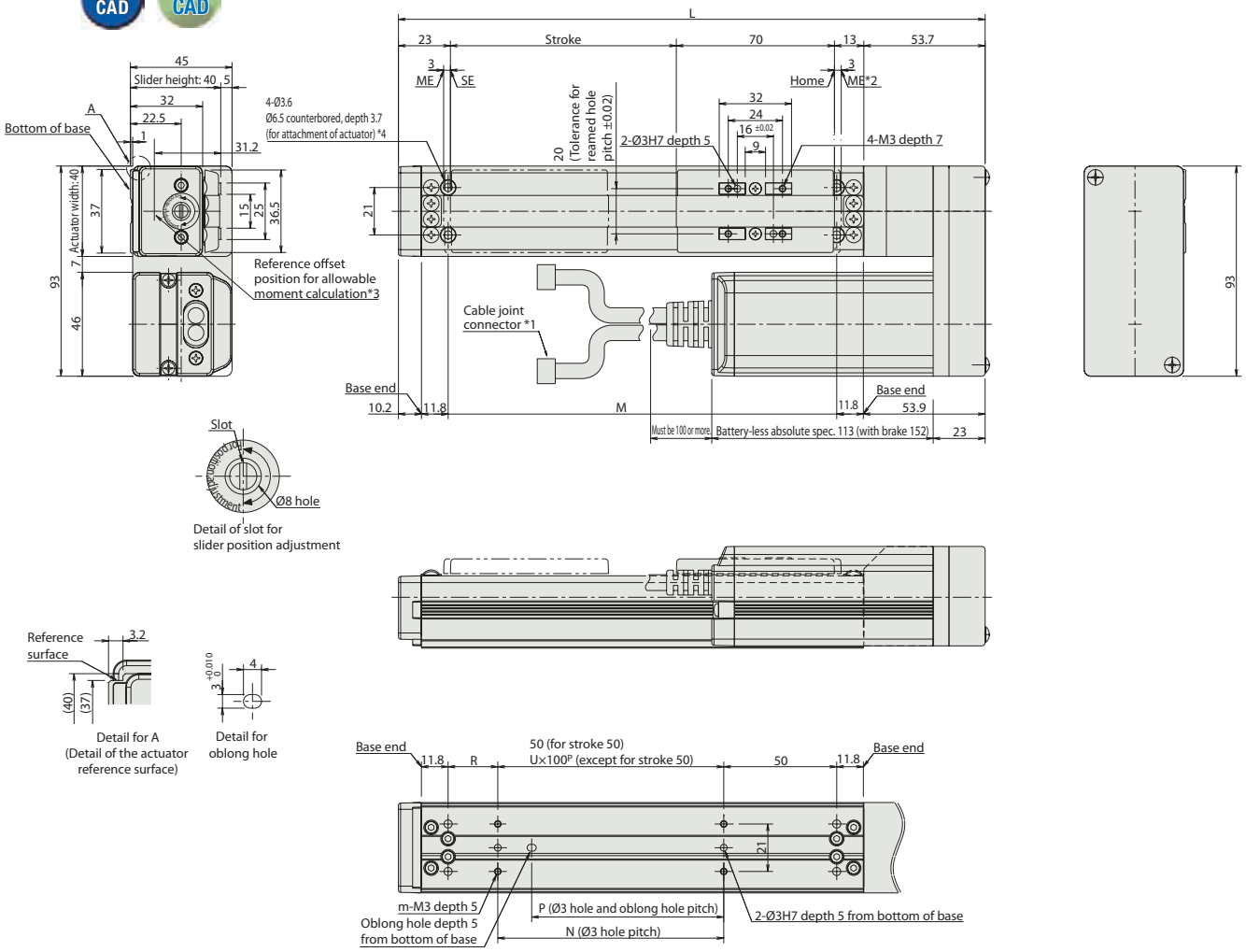
Overhang load lengths



Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de



*1 Connects the motor-encoder cable. Please refer to P. 73 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 200mm.

■Dimensions and Mass by Stroke

*Brake equipped types are 0.3kg heavier.

Stroke	50	100	150	200	250	300	350	400
L	209.7	259.7	309.7	359.7	409.7	459.7	509.7	559.7
M	122	172	222	272	322	372	422	472
N	50	100	100	200	200	300	300	400
P	35	85	85	185	185	285	285	385
R	22	22	72	22	72	22	72	22
U	–	1	1	2	2	3	3	4
m	4	4	4	6	6	8	8	10
Mass (kg)	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5

RCA-SA5R

RoboCylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Side-mounted Motor Specification

■Model Specification Items

RCA — SA5R — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCA	SA5R	WA : Battery-less absolute	20 : Servo motor 20W	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ~ 500 : 500mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

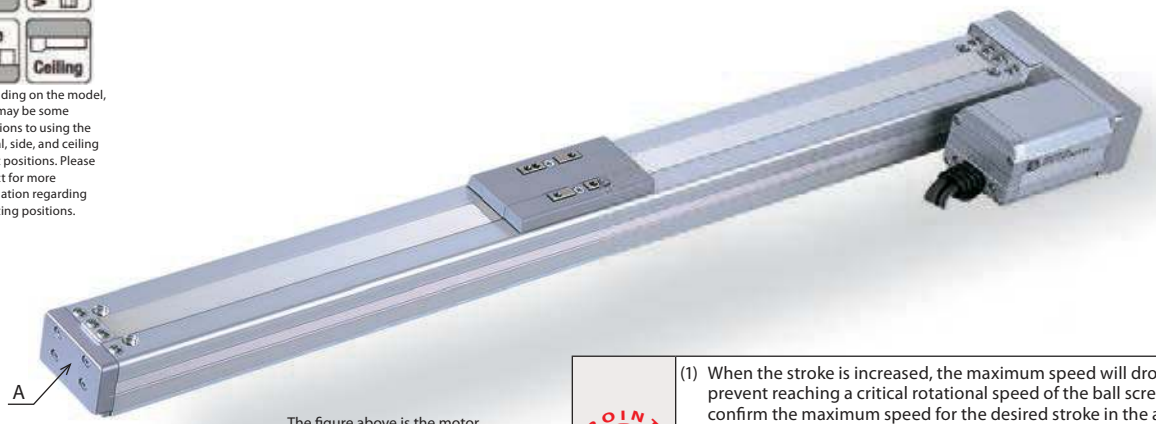
*Controller is not included.

CE RoHS

Horizontal Vertical Side Ceiling

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

Energy Saving Option



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

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCA-SA5R-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50~500 (Every 50mm)
RCA-SA5R-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCA-SA5R-①-20-3-②-③-④-⑤		3	12	4	65.7	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)
12	800	760
6	400	380
3	200	190

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		
Slider roller specification	**SR**		

Actuator Specifications

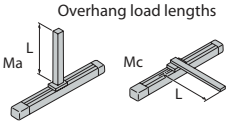
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 18.6N•m, Mb: 26.6N•m, Mc: 47.5N•m
Dynamic allowable moment (*)	Ma: 5.81N•m, Mb: 8.30N•m, Mc: 14.8N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 150mm or less, Mb, Mc: 150mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions

Overhang load lengths

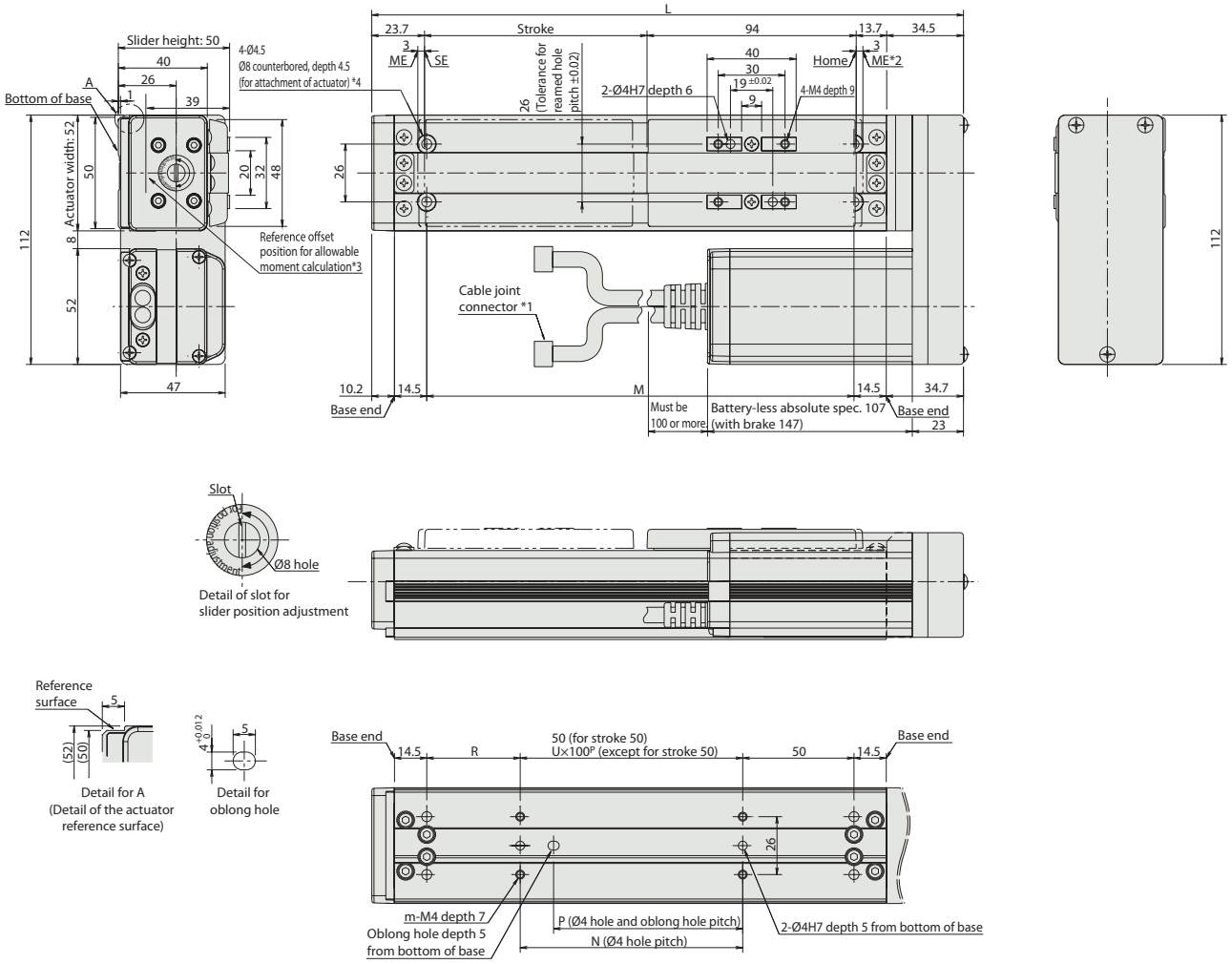


Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD



*1 Connects the motor-encoder cable. Please refer to P. 73 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 300mm.

■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke	50	100	150	200	250	300	350	400	450	500
L	215.9	265.9	315.9	365.9	415.9	465.9	515.9	565.9	615.9	665.9
M	142	192	242	292	342	392	442	492	542	592
N	50	100	100	200	200	300	300	400	400	500
P	35	85	85	185	185	285	285	385	385	485
R	42	42	92	42	92	42	92	42	92	42
U	–	1	1	2	2	3	3	4	4	5
m	4	4	4	6	6	8	8	10	10	12
Mass (kg)	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4

RCA-SA6R

RoboCylinder, Slider Type, Actuator Width 58mm, 24V Servo Motor, Side-mounted Motor Specification

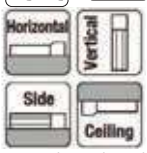
■**Model Specification Items**

RCA — SA6R — ☐ — 30 — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCA	SA6R	WA : Battery-less absolute	30 : Servo motor 30W	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ~ 600 : 600mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

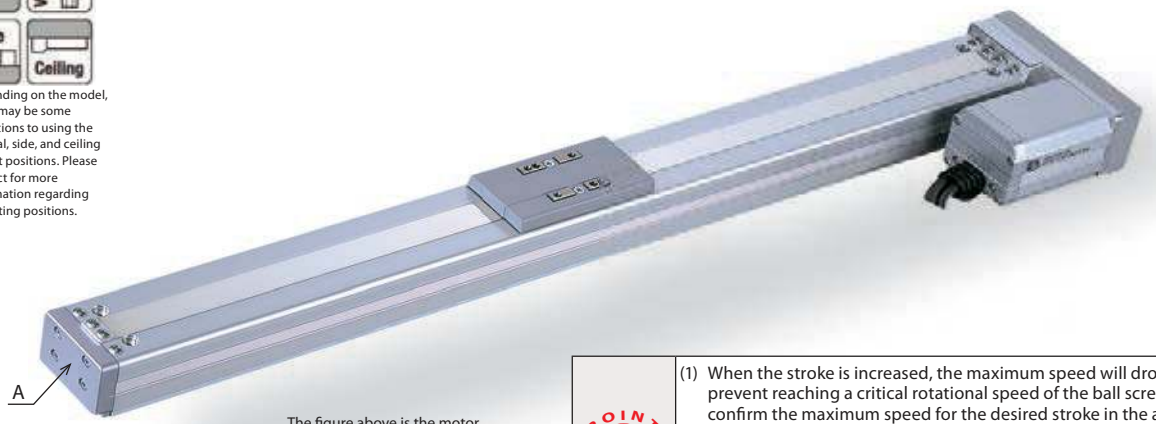
*Controller is not included.

CE RoHS



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

Energy Saving Option



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

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■**Lead and Payload**

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCA-SA6R- ① -30-12- ② - ③ - ④ - ⑤	30	12	6	1.5	24.2	50~600 (Every 50mm)
RCA-SA6R- ① -30-6- ② - ③ - ④ - ⑤		6	12	3	48.4	
RCA-SA6R- ① -30-3- ② - ③ - ④ - ⑤		3	18	6	96.8	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■**Stroke and Maximum Speed**

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	550 (mm)	600 (mm)
12	800	760	640	540
6	400	380	320	270
3	200	190	160	135

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		
Slider roller specification	**SR**		

Actuator Specifications

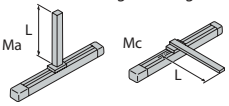
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 38.3N•m, Mb: 54.7N•m, Mc: 81.0N•m
Dynamic allowable moment (*)	Ma: 11.6N•m, Mb: 16.6N•m, Mc: 24.6N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 220mm or less, Mb, Mc: 220mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions

Overhang load lengths

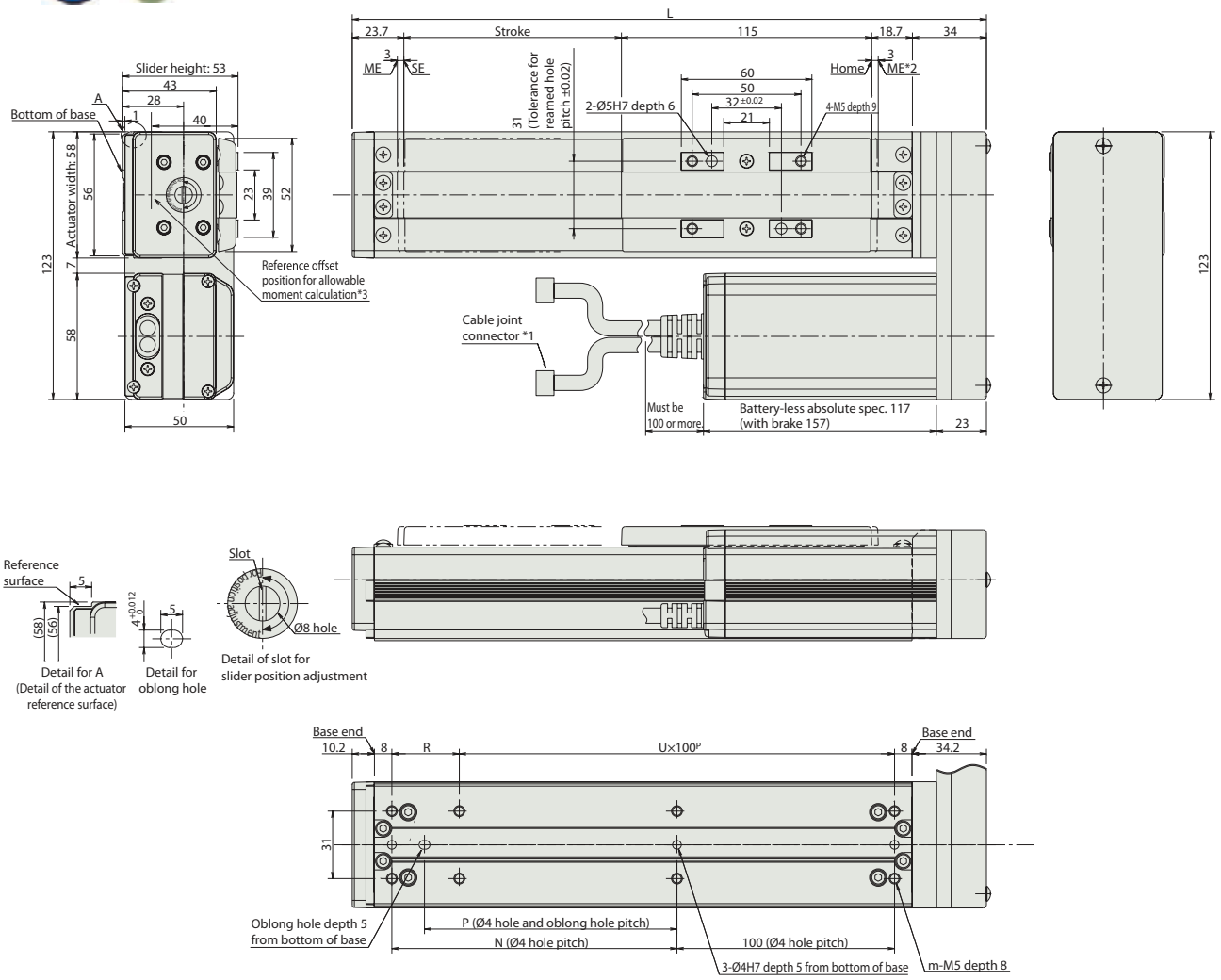


Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD



*1 Connects the motor-encoder cable. Please refer to P. 73 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.

■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	241.4	291.4	341.4	391.4	441.4	491.4	541.4	591.4	641.4	691.4	741.4	791.4
N	81	131	181	231	281	331	381	431	481	531	581	631
P	66	116	166	216	266	316	366	416	466	516	566	616
R	81	31	81	31	81	31	81	31	81	31	81	31
U	1	2	2	3	3	4	4	5	5	6	6	7
m	6	8	8	10	10	12	12	14	14	16	16	18
Mass (kg)	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9

RCS2-SA4C

RoboCylinder, Slider Type, Actuator Width 40mm, 230V Servo Motor, Coupled Motor Specification

Model Specification Items

RCS2	—	SA4C	—	☐	—	20	—	☐	—	☐	—	☐	—	☐	—	☐
Series		Type		Encoder type		Motor type		Lead		Stroke		Applicable controller		Cable length		Options
				WA : Battery-less absolute		20 : Servo motor 20W		16 : 16mm 10 : 10mm 5 : 5mm 2.5 : 2.5mm		50 : 50mm ~ 400 : 400mm (Can be set in 50mm increments)		T2 : SCON-CB		N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable		Please refer to the options table below.

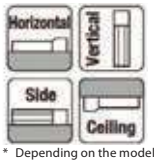
*Controller is not included.

CE RoHS

* CE conformity as standard option.

High Accel./Decel. Option

(Excludes lead 2.5)



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 2.5) for standard specification, and 1G for high accel./decel. specification (excludes lead 2.5).
(The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)

(2) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA4C-①-20-16-②-③-④-⑤	20	16	2.5	0.6	12.25	50~400 (Every 50mm)
RCS2-SA4C-①-20-10-②-③-④-⑤		10	4	1	19.6	
RCS2-SA4C-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCS2-SA4C-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~400 (Every 50mm)
16	1060
10	665
5	330
2.5	165

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Foot bracket	**FT**		
High acceleration/deceleration	**HA**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		
Slider spacer	**SS**		

* High acceleration/deceleration option and slider roller option cannot be combined together.
* High acceleration/deceleration option cannot be chosen for lead 2.5

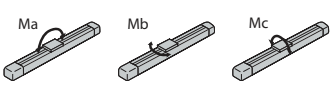
Actuator Specifications

Item	Description
Drive system	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 6.9N•m, Mb: 9.9N•m, Mc: 17.0N•m
Dynamic allowable moment (*)	Ma: 3.29N•m, Mb: 4.71N•m, Mc: 8.07N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

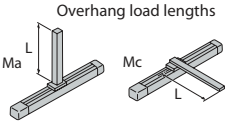
•Reference for overhang load length/Ma: 120mm or less, Mb, Mc: 120mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



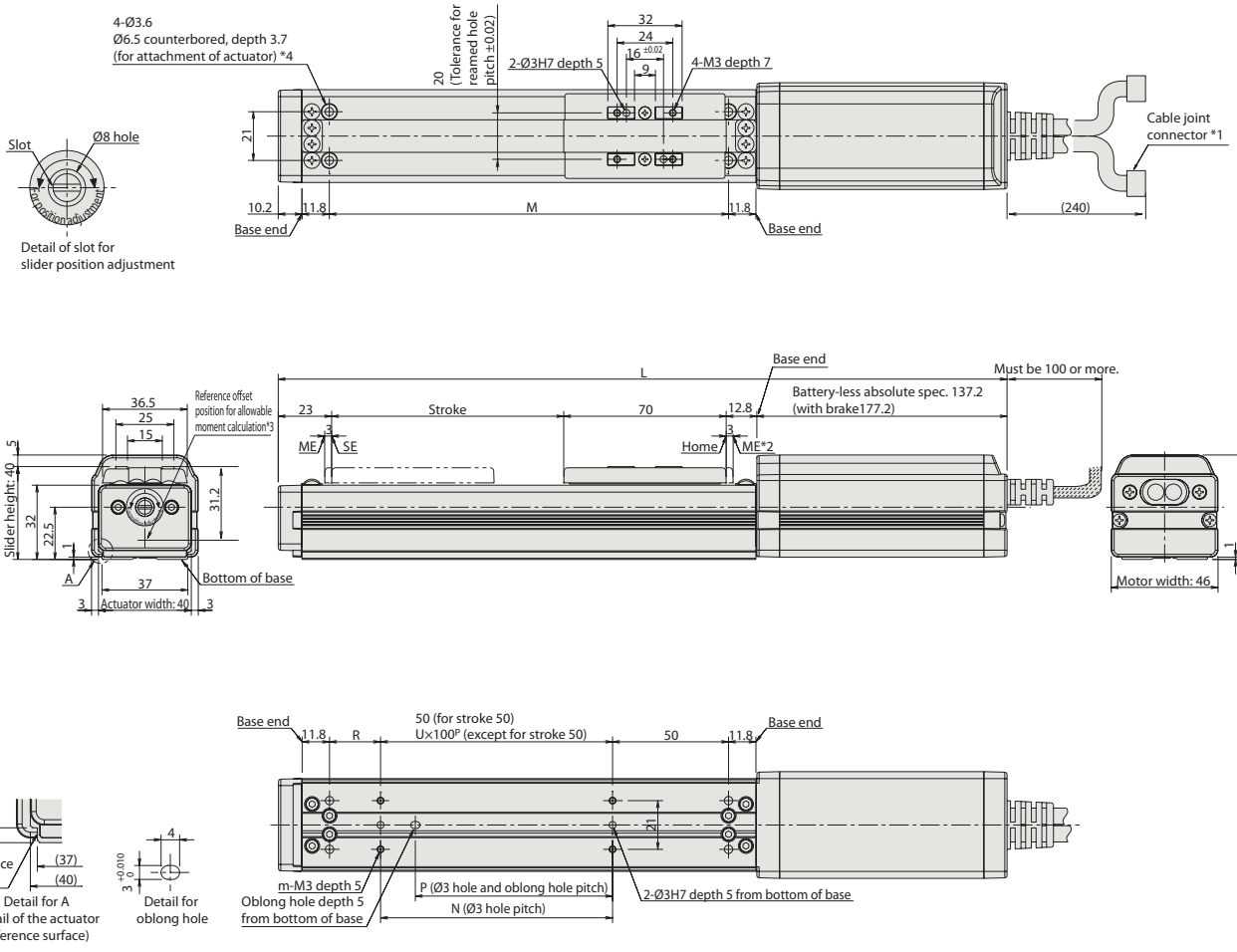
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 200mm.



■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400
L	Battery-less absolute	Without brake	293	343	393	443	493	543	593	643
		With brake	333	383	433	483	533	583	633	683
M			122	172	222	272	322	372	422	472
N			50	100	100	200	200	300	300	400
P			35	85	85	185	185	285	285	385
R			22	22	72	22	72	22	72	22
U			–	1	1	2	2	3	3	4
m			4	4	4	6	6	8	8	10
Mass (kg)			0.7	0.8	0.9	1	1.1	1.2	1.3	1.4

RCS2-SA5C

RoboCylinder, Slider Type, Actuator Width 52mm, 230V Servo Motor, Coupled Motor Specification

Model Specification Items

RCS2 — SA5C — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	20 : Servo motor 20W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ↓ 500 : 500mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

High Accel./Decel. Option

(Excludes lead 3)

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.

(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3) for standard specification, and 0.8G for high accel./decel. specification (excludes lead 3).
(The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)

(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA5C-①-20-20-②-③-④-⑤	20	20	2	0.5	10.7	50~500 (Every 50mm)
RCS2-SA5C-①-20-12-②-③-④-⑤		12	4	1	16.7	
RCS2-SA5C-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCS2-SA5C-①-20-3-②-③-④-⑤		3	12	4	65.7	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

Stroke and Maximum Speed

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)
20	1300 <800>	1300 <800>
12	800	760
6	400	380
3	200	190

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Foot bracket	**FT**		
High acceleration/deceleration	**HA**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		

* High acceleration/deceleration option and slider roller option cannot be combined together.
* High acceleration/deceleration option cannot be chosen for lead 3

Actuator Specifications

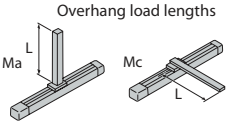
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 18.6N•m, Mb: 26.6N•m, Mc: 47.5N•m
Dynamic allowable moment (*)	Ma: 5.81N•m, Mb: 8.30N•m, Mc: 14.8N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 150mm or less, Mb, Mc: 150mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions

Overhang load lengths



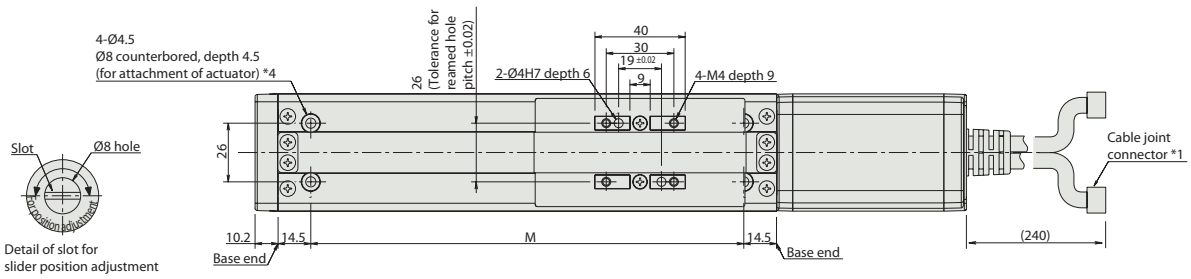
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

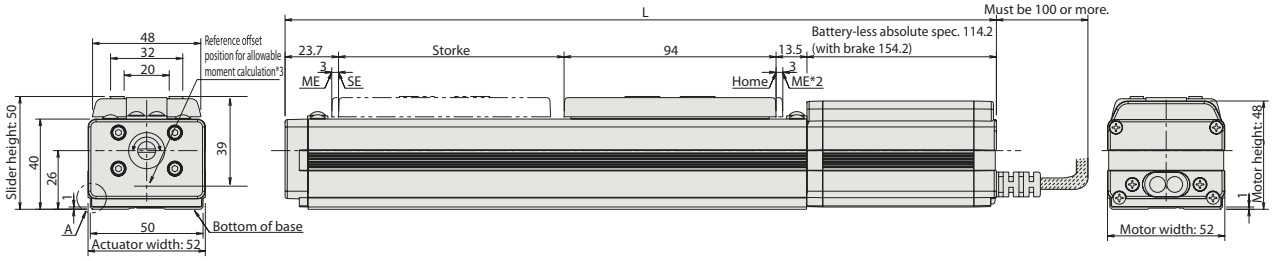
Dimensions

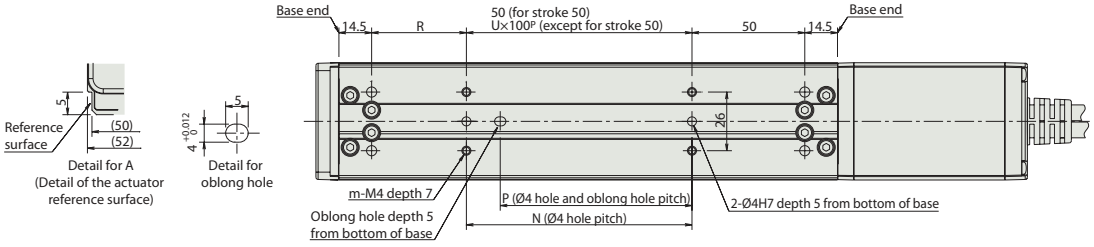
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 300mm.







■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500
L	Battery-less absolute	Without brake	295.4	345.4	395.4	445.4	495.4	545.4	595.4	645.4	695.4	745.4
		With brake	335.4	385.4	435.4	485.4	535.4	585.4	635.4	685.4	735.4	785.4
M			142	192	242	292	342	392	442	492	542	592
N			50	100	100	200	200	300	300	400	400	500
P			35	85	85	185	185	285	285	385	385	485
R			42	42	92	42	92	42	92	42	92	42
U			–	1	1	2	2	3	3	4	4	5
m			4	4	4	6	6	8	8	10	10	12
Mass (kg)			1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2

RCS2-SA6C

RoboCylinder, Slider Type, Actuator Width 58mm, 230V Servo Motor, Coupled Motor Specification

■Model Specification Items

RCS2 — SA6C — ☐ — 30 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	30 : Servo motor 30W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ~ 600 : 600mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

High Accel./Decel. Option

(Excludes lead 3)

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.

(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3) for standard specification, and 1G for high accel./decel. specification (excludes lead 3).
(The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)

(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA6C-①-30-20-②-③-④-⑤	30	20	3	0.5	15.8	50~600 (Every 50mm)
RCS2-SA6C-①-30-12-②-③-④-⑤		12	6	1.5	24.2	
RCS2-SA6C-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCS2-SA6C-①-30-3-②-③-④-⑤		3	18	6	96.8	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	550 (mm)	600 (mm)
20	1300 <800>		1160 <800>	990 <800>
12	800	760	640	540
6	400	380	320	270
3	200	190	160	135

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Foot bracket	**FT**		
High acceleration/deceleration	**HA**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		

* High acceleration/deceleration option and slider roller option cannot be combined together.
* High acceleration/deceleration option cannot be chosen for lead 3

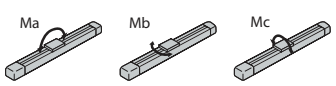
Actuator Specifications

Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 38.3N•m, Mb: 54.7N•m, Mc: 81.0N•m
Dynamic allowable moment (*)	Ma: 11.6N•m, Mb: 16.6N•m, Mc: 24.6N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

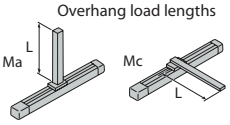
•Reference for overhang load length/Ma: 220mm or less, Mb, Mc: 220mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



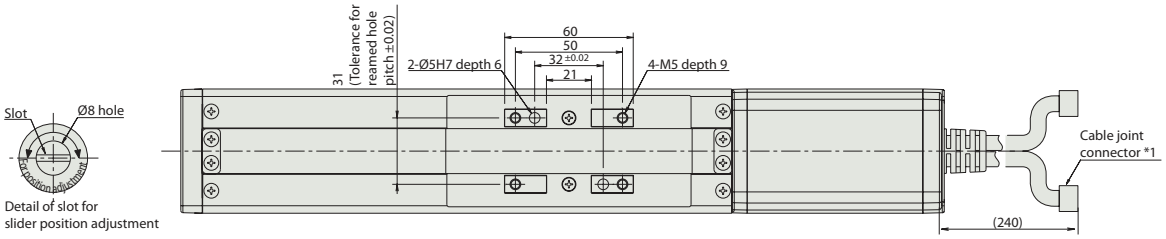
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

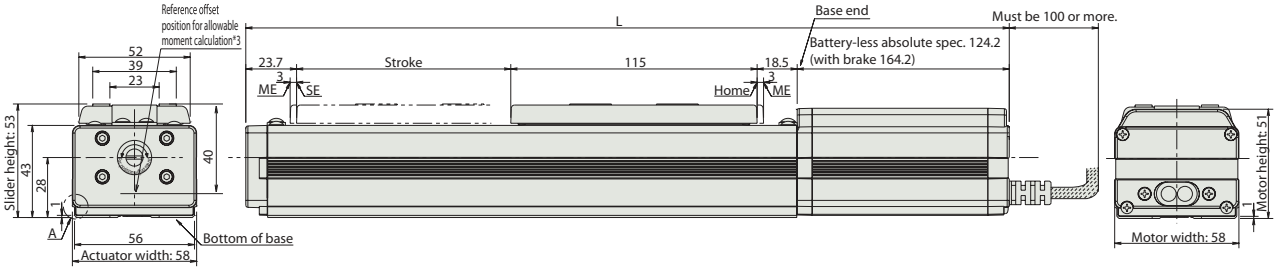
Dimensions

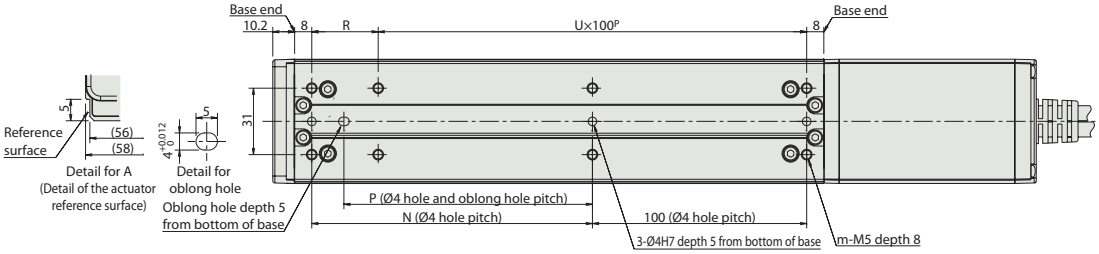
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.







■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500	550	600
L	Battery-less absolute	Without brake	331.4	381.4	431.4	481.4	531.4	581.4	631.4	681.4	731.4	781.4	831.4	881.4
		With brake	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4	871.4	921.4
N			81	131	181	231	281	331	381	431	481	531	581	631
P			66	116	166	216	266	316	366	416	466	516	566	616
R			81	31	81	31	81	31	81	31	81	31	81	31
U			1	2	2	3	3	4	4	5	5	6	6	7
m			6	8	8	10	10	12	12	14	14	16	16	18
Mass (kg)			1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6

RCS2-SA7C

RoboCylinder, Slider Type, Actuator Width 73mm, 230V Servo Motor, Coupled Motor Specification

■Model Specification Items

RCS2 — SA7C — [ ] — 60 — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	60 : Servo motor 60W	24 : 24mm 16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm ~ 800 : 800mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	Please refer to the options table below.

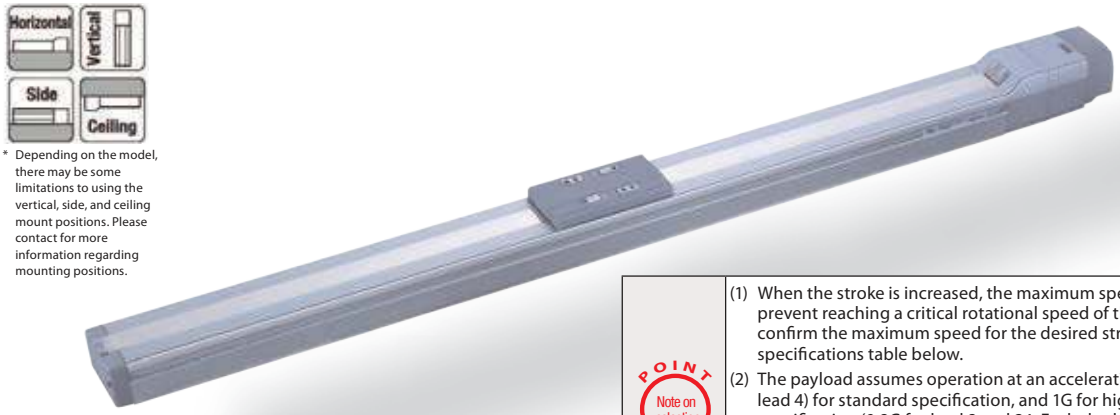
*Controller is not included.

CE RoHS

* CE conformity as standard option.

High Accel./Decel. Option

(Excludes lead 4)



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

POINT
Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 4) for standard specification, and 1G for high accel./decel. specification (0.8G for lead 8 and 24. Excludes lead 4).
(The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA7C-①-60-24-②-③-④-⑤	60	24	8	1.4	42.4	50~800 (Every 50mm)
RCS2-SA7C-①-60-16-②-③-④-⑤		16	12	3	63.8	
RCS2-SA7C-①-60-8-②-③-④-⑤		8	25	6	127.5	
RCS2-SA7C-①-60-4-②-③-④-⑤		4	40	12	255.0	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~600 (Every 50mm)	~700 (mm)	~800 (mm)
24	1200	960	720
16	800	640	480
8	400	320	240
4	200	160	120

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake (Cable exit to end)	**BE**	Please refer to the RC General catalog for the details of the options.	
Brake (Cable exit to left side)	**BL**		
Brake (Cable exit to right side)	**BR**		
-	-		
High acceleration/deceleration	**HA**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		

* High acceleration/deceleration option and slider roller option cannot be combined together.
* High acceleration/deceleration option cannot be chosen for lead 4.

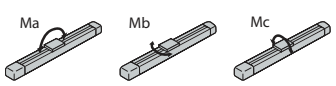
Actuator Specifications

Item	Description
Drive system	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 50.4N•m, Mb: 71.9N•m, Mc: 138.0N•m
Dynamic allowable moment (*)	Ma: 20.7N•m, Mb: 29.6N•m, Mc: 56.7N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

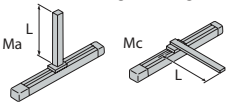
•Reference for overhang load length/Ma: 230mm or less, Mb, Mc: 230mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



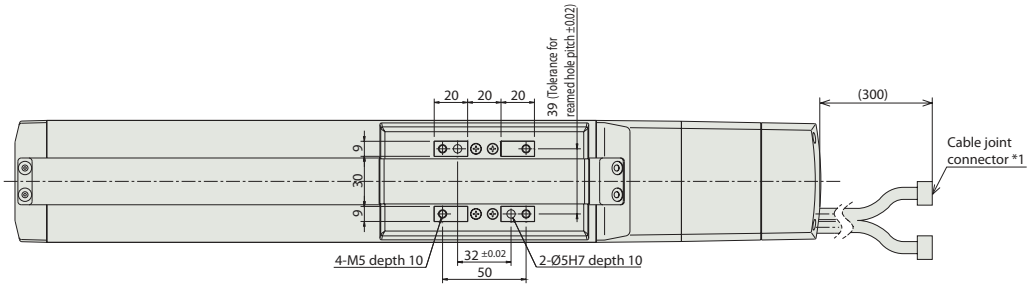
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

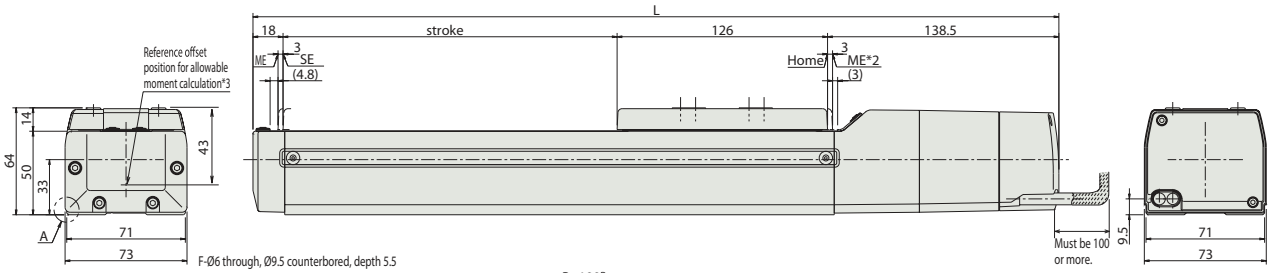
Dimensions

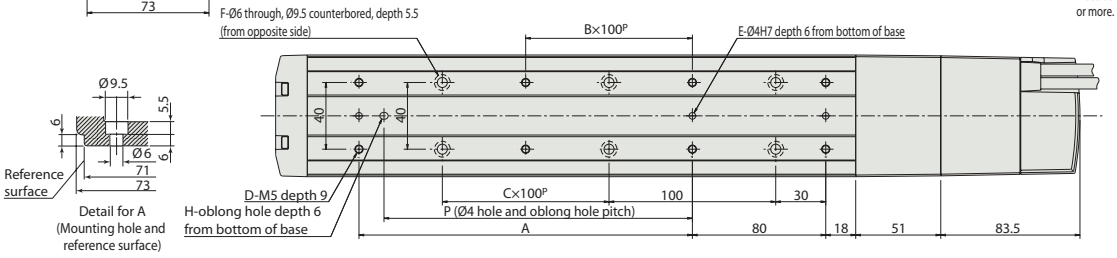
CAD drawings can be downloaded from our website. www.robocylinder.de

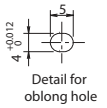
2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.



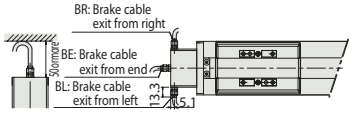


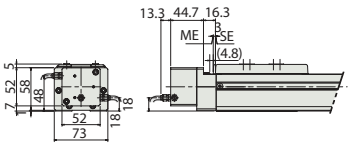




Dimensions for the brake part

*The total length for brake-equipped type is 43mm (56.3mm when cable exits from rear end) the weight increases by 0.6kg.





■Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	332.5	382.5	432.5	482.5	532.5	582.5	632.5	682.5	732.5	782.5	832.5	882.5	932.5	982.5	1,032.5	1,082.5
A	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
B	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
C	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
P	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
Mass (kg)	2.4	2.6	2.8	3.0	3.3	3.5	3.7	3.9	4.2	4.4	4.6	4.8	5.1	5.3	5.5	5.7

RCS2-SA4R

RoboCylinder, Slider Type, Actuator Width 40mm, 230V Servo Motor, Side-mounted Motor Specification

■Model Specification Items

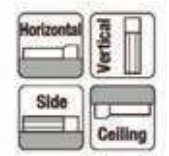
RCS2 — SA4R — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCS2	SA4R	WA : Battery-less absolute	20 : Servo motor 20W	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50 : 50mm ~ 400 : 400mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

*Controller is not included.

CE RoHS

* CE conformity as standard option.



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

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

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 2.5). This is the upper limit of the acceleration.
(2) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA4R-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50~400 (Every 50mm)
RCS2-SA4R-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCS2-SA4R-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~400 (Every 50mm)
10	665
5	330
2.5	165

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		
Slider roller specification	**SR**		
Slider spacer	**SS**		

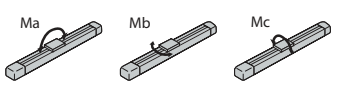
Actuator Specifications

Item	Description
Drive system	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 6.9N•m, Mb: 9.9N•m, Mc: 17.0N•m
Dynamic allowable moment (*)	Ma: 3.29N•m, Mb: 4.71N•m, Mc: 8.07N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

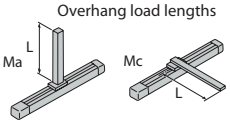
•Reference for overhang load length/Ma: 120mm or less, Mb, Mc: 120mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths

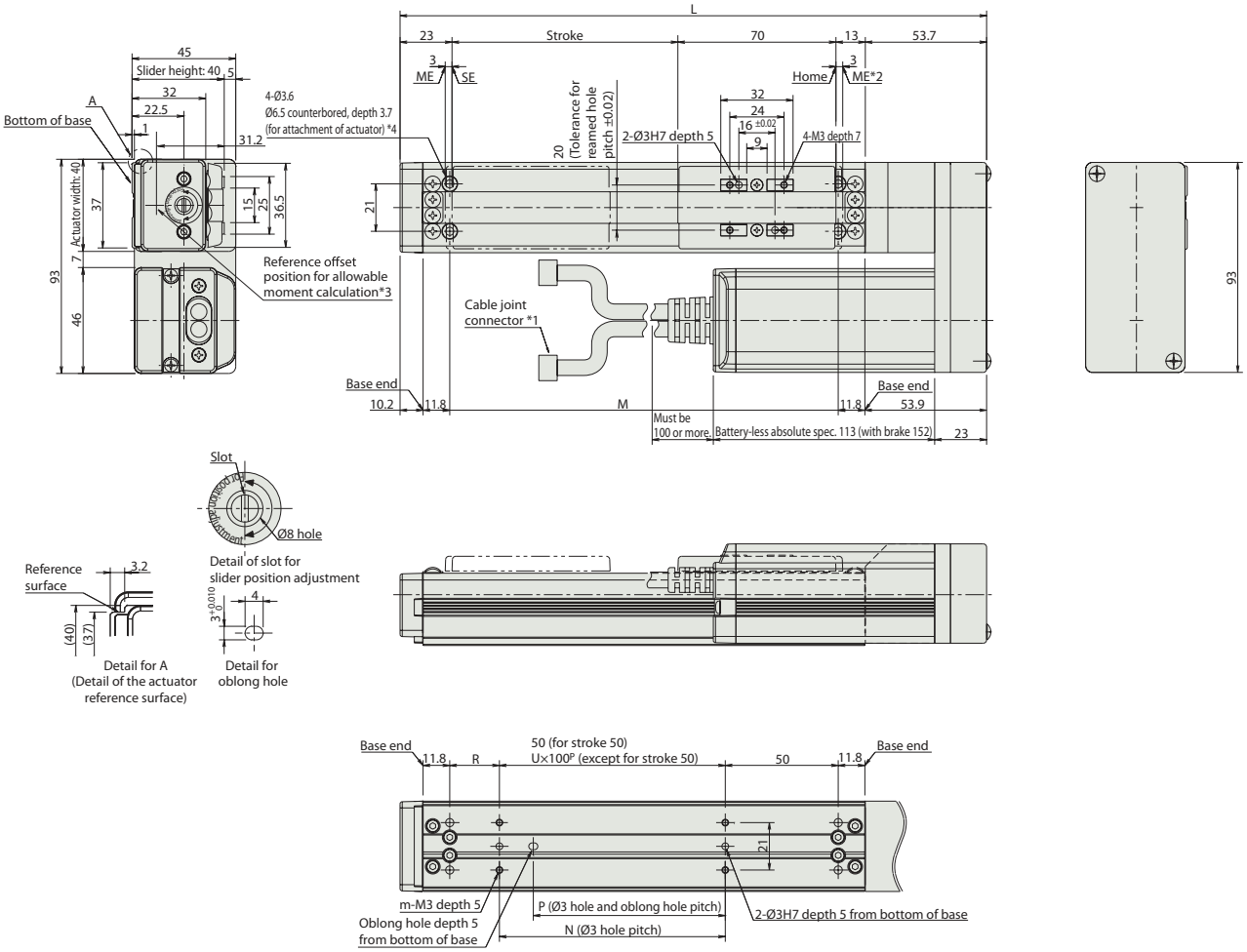


Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD



*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 200mm.

■Dimensions and Mass by Stroke

*Brake equipped types are 0.3kg heavier.

Stroke	50	100	150	200	250	300	350	400
L	209.7	259.7	309.7	359.7	409.7	459.7	509.7	559.7
M	122	172	222	272	322	372	422	472
N	50	100	100	200	200	300	300	400
P	35	85	85	185	185	285	285	385
R	22	22	72	22	72	22	72	22
U	–	1	1	2	2	3	3	4
m	4	4	4	6	6	8	8	10
Mass (kg)	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5

RCS2-SA5R

RoboCylinder, Slider Type, Actuator Width 52mm, 230V Servo Motor, Side-mounted Motor Specification

■Model Specification Items

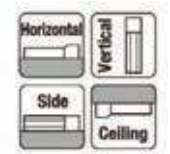
RCS2 — SA5R — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	20 : Servo motor 20W	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm 〜 500 : 500mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

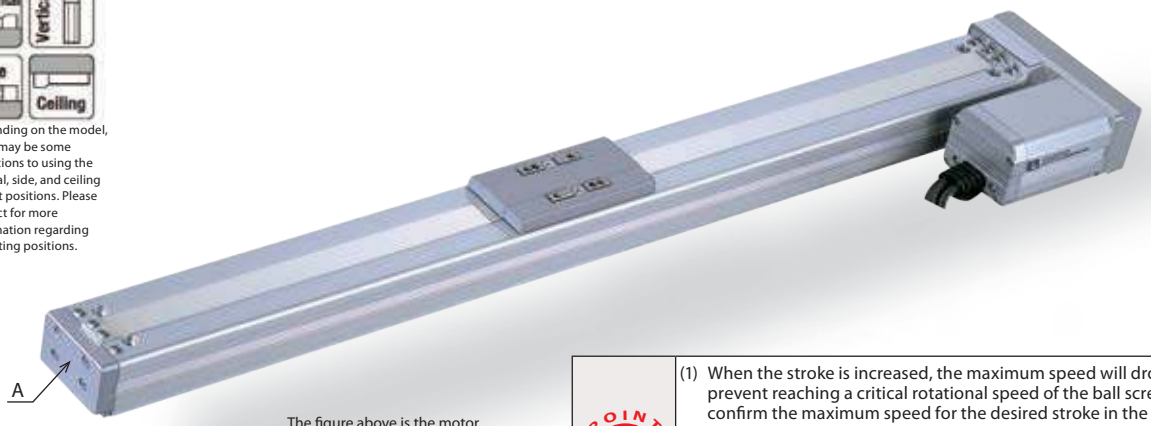
*Controller is not included.

CE RoHS

* CE conformity as standard option.



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.



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

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA5R-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50~500 (Every 50mm)
RCS2-SA5R-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCS2-SA5R-①-20-3-②-③-④-⑤		3	12	4	65.7	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)
12	800	760
6	400	380
3	200	190

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		
Slider roller specification	**SR**		

Actuator Specifications

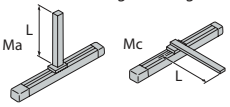
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 18.6N•m, Mb: 26.6N•m, Mc: 47.5N•m
Dynamic allowable moment (*)	Ma: 5.81N•m, Mb: 8.30N•m, Mc: 14.8N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 150mm or less, Mb, Mc: 150mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions

Overhang load lengths

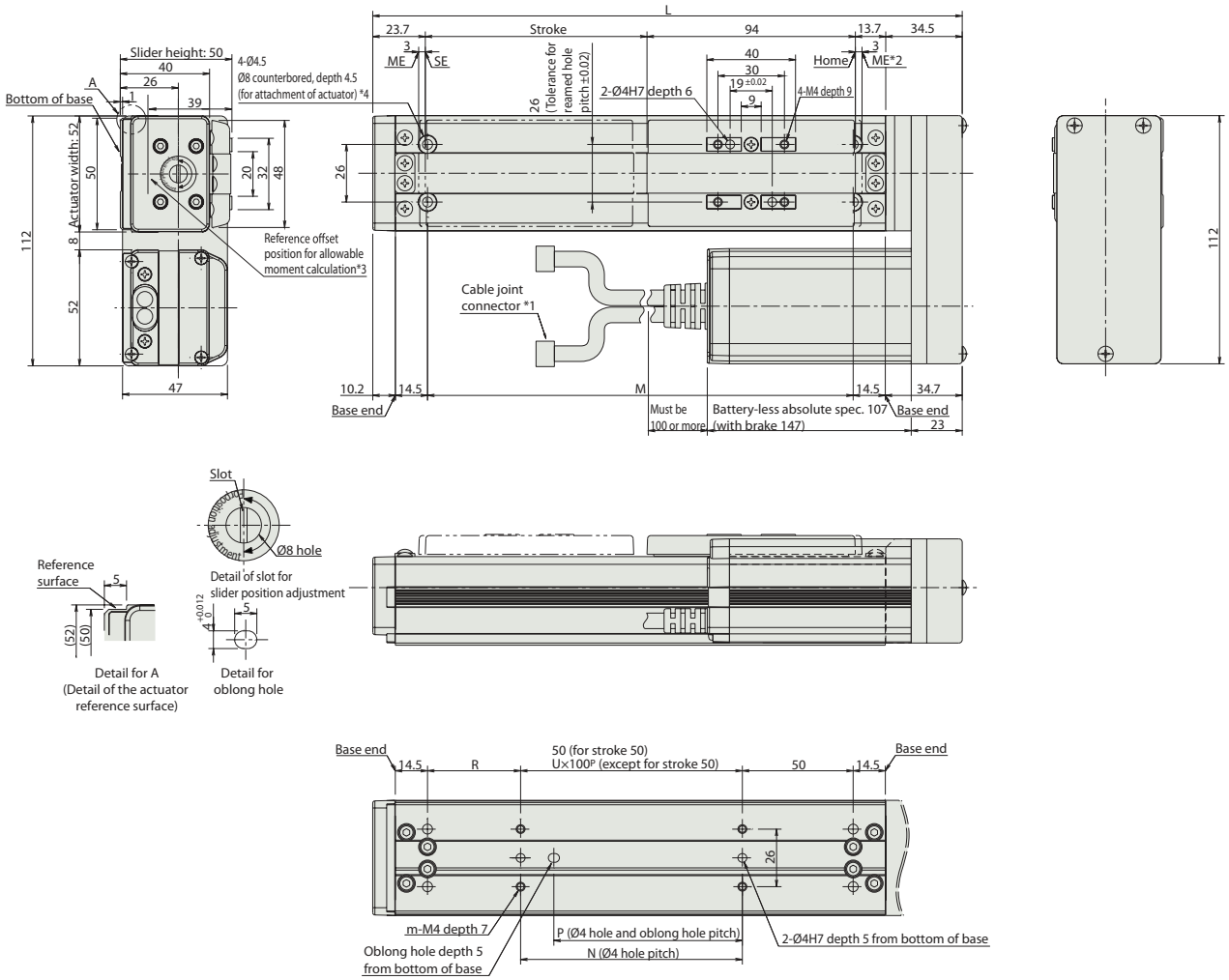


Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD



*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 300mm.

■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke	50	100	150	200	250	300	350	400	450	500
L	215.9	265.9	315.9	365.9	415.9	465.9	515.9	565.9	615.9	665.9
M	142	192	242	292	342	392	442	492	542	592
N	50	100	100	200	200	300	300	400	400	500
P	35	85	85	185	185	285	285	385	385	485
R	42	42	92	42	92	42	92	42	92	42
U	–	1	1	2	2	3	3	4	4	5
m	4	4	4	6	6	8	8	10	10	12
Mass (kg)	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4

RCS2-SA6R

RoboCylinder, Slider Type, Actuator Width 58mm, 230V Servo Motor, Side-mounted Motor Specification

■Model Specification Items

RCS2	SA6R	□	30	□	□	□	□	□
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	30 : Servo motor 30W	12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ↓ 600 : 600mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

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

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as A in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA6R-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50~600 (Every 50mm)
RCS2-SA6R-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCS2-SA6R-①-30-3-②-③-④-⑤		3	18	6	96.8	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	550 (mm)	600 (mm)
12	800	760	640	540
6	400	380	320	270
3	200	190	160	135

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		
Slider roller specification	**SR**		

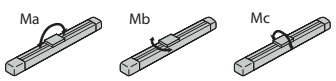
Actuator Specifications

Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 38.3N•m, Mb: 54.7N•m, Mc: 81.0N•m
Dynamic allowable moment (*)	Ma: 11.6N•m, Mb: 16.6N•m, Mc: 24.6N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

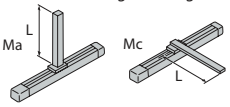
•Reference for overhang load length/Ma: 220mm or less, Mb, Mc: 220mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths

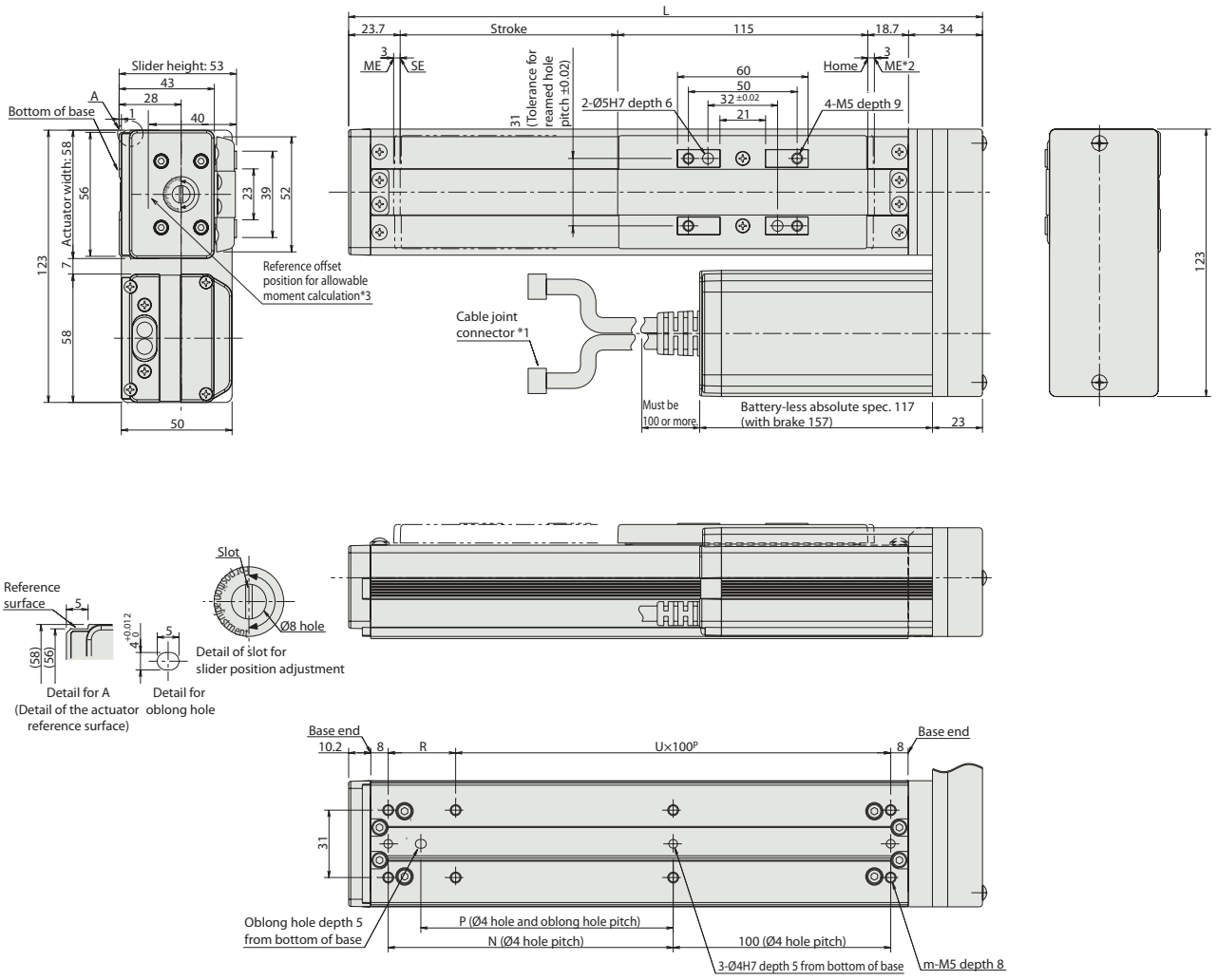


Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD



*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.

■Dimensions and Mass by Stroke

*Brake equipped types are 0.3kg heavier.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	241.4	291.4	341.4	391.4	441.4	491.4	541.4	591.4	641.4	691.4	741.4	791.4
N	81	131	181	231	281	331	381	431	481	531	581	631
P	66	116	166	216	266	316	366	416	466	516	566	616
R	81	31	81	31	81	31	81	31	81	31	81	31
U	1	2	2	3	3	4	4	5	5	6	6	7
m	6	8	8	10	10	12	12	14	14	16	16	18
Mass (kg)	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9

RCS2-SA7R

RoboCylinder, Slider Type, Actuator Width 73mm, 230V Servo Motor, Side-mounted Motor Specification

■**Model Specification Items**

RCS2	—	SA7R	—	☐	—	60	—	☐	—	☐	—	☐	—	☐	—	☐
Series		Type		Encoder type		Motor type		Lead		Stroke		Applicable controller		Cable length		Options
				WA : Battery-less absolute		60 : Servo motor 60W		16 : 16mm 8 : 8mm 4 : 4mm		50 : 50mm ↓ 800 : 800mm (Can be set in 50mm increments)		T2 : SCON-CB		N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable		Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

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

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 4). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA7R-①-60-16-②-③-④-⑤	60	16	12	3	63.8	50~800 (Every 50mm)
RCS2-SA7R-①-60-8-②-③-④-⑤		8	25	6	127.5	
RCS2-SA7R-①-60-4-②-③-④-⑤		4	40	12	255.0	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~600 (Every 50mm)	~700 (mm)	~800 (mm)
16	800	640	480
8	400	320	240
4	200	160	120

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Non-motor end specification	**NM**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		
Slider roller specification	**SR**		

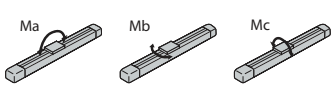
Actuator Specifications

Item	Description
Drive system	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 50.4N•m, Mb: 71.9N•m, Mc: 138.0N•m
Dynamic allowable moment (*)	Ma: 20.7N•m, Mb: 29.6N•m, Mc: 56.7N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

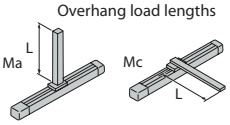
•Reference for overhang load length/Ma: 230mm or less, Mb, Mc: 230mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



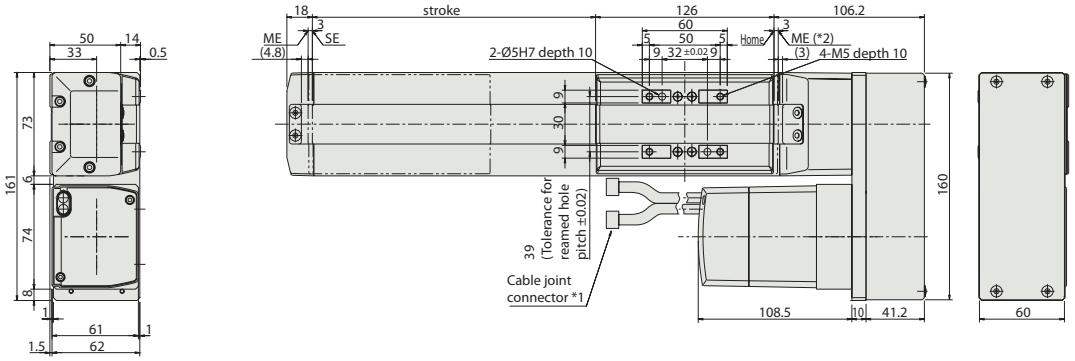
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

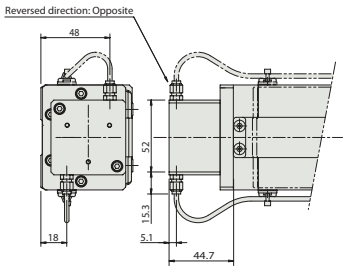
2D CAD 3D CAD

*The referece surface is the same as that for SA7C type. (Please refer to P. 24)
*The reference offset position for allowable moment calculation is the same as that for SA7C type. (Please refer to P. 24)



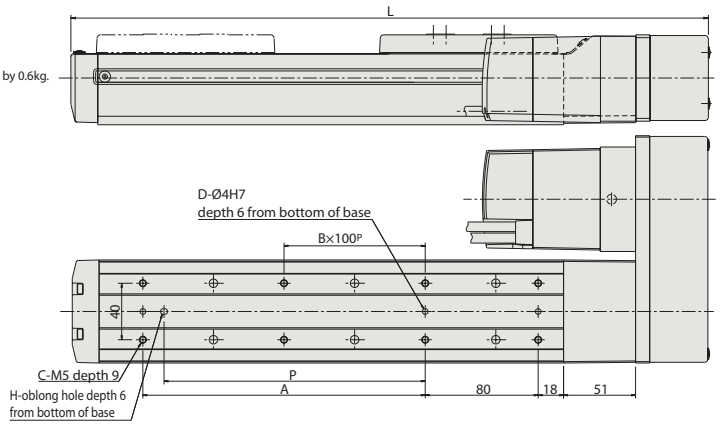
Dimensions for the brake part

*The total length for brake-equipped type is 43mm, and the weight increases by 0.6kg.



*The brake cable exit direction is the same as the side-mounted motor direction.

Detail for oblong hole



*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end

■Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	300.2	350.2	400.2	450.2	500.2	550.2	600.2	650.2	700.2	750.2	800.2	850.2	900.2	950.2	1,000.2	1,050.2
A	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
B	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
D	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
P	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
Mass (kg)	4.0	4.2	4.4	4.6	4.9	5.1	5.3	5.5	5.8	6.0	6.2	6.4	6.7	6.9	7.1	7.3

RCS2-RA5C

RoboCylinder, Rod Type, Actuator Width 55mm, 230V Servo Motor, Coupled Motor Specification

■Model Specification Items

RCS2 — RA5C — [Encoder type] — [Motor type] — [Lead] — [Stroke] — [Applicable controller] — [Cable length] — [Options]

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	60 : Servo motor 60W 100 : Servo motor 100W	16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm 〜 300 : 300mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical mount position. Please contact for more information regarding mounting positions.

High Accel./Decel. Option

(Excludes all 60W models and lead 4 of 100W model)

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 4) for standard specification, and 1G (0.2G for lead 4) for high accel./decel. specification.
(The values shown in the table below are the upper limit for the maximum payload even if acceleration/deceleration is decreased.)
(3) The value of the horizontal payload assumes that no external force is applied to the rod from any direction other than the moving direction by using the external guide(s).
(4) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-RA5C-①-60-16-②-③-④-⑤	60	16	12.0	2.0	63.8	50~300 (Every 50mm)
RCS2-RA5C-①-60-8-②-③-④-⑤		8	25.0	5.0	127.5	
RCS2-RA5C-①-60-4-②-③-④-⑤		4	50.0	11.5	255.1	
RCS2-RA5C-①-100-16-②-③-④-⑤	100	16	15.0	3.5	105.8	
RCS2-RA5C-①-100-8-②-③-④-⑤		8	30.0	9.0	212.7	
RCS2-RA5C-①-100-4-②-③-④-⑤		4	60.0	18.0	424.3	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed

Lead \ Stroke	50~250 (Every 50mm)	300 (mm)
16	800	755
8	400	377
4	200	188

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Cable exit direction change	**A2**	Please refer to the RC General catalog for the details of the options.	
Brake	**B**		
-	-		
Flange	**FL**		
Foot bracket	**FT**		
High acceleration/deceleration	**HA**		

High-acceleration/deceleration option cannot be chosen for all 60W models and lead 4 of 100W model.

Actuator Specifications

Item	Description
Drive system	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Rod diameter	Ø30mm
Rod non-rotation precision	±0.7 deg.
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

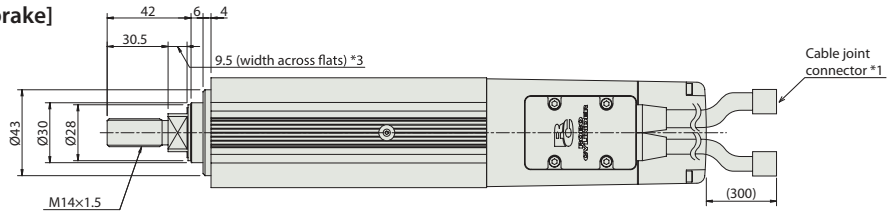
*Note that RA5C type cannot have the non-motor end specification due to its structure.

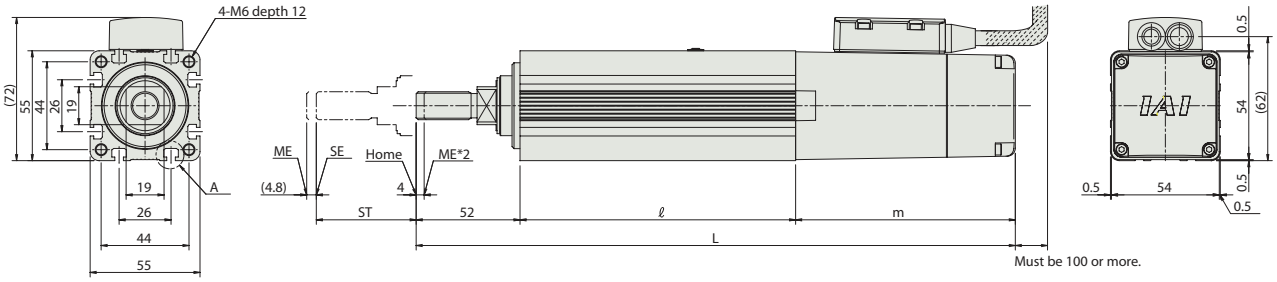
*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 The direction of width across flats varies depending on the product.

[Without a brake]

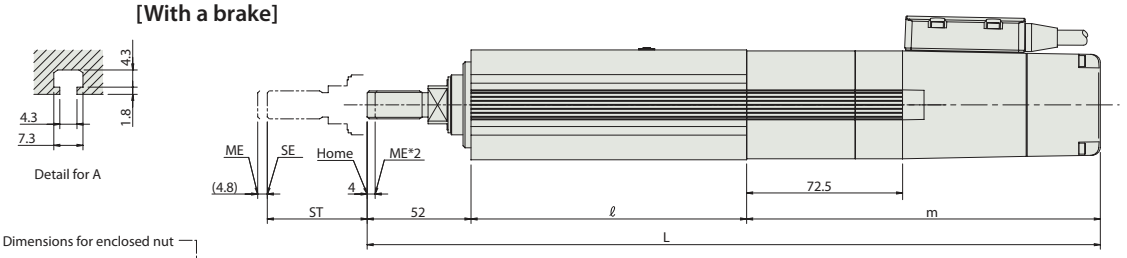
Note

Do not apply an external force to the rod from any direction other than the moving direction of the rod. If a force is applied to the rod from the direction perpendicular to the rod or rotating direction of the rod, the stopper may be damaged.

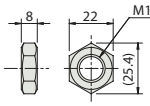




[With a brake]



Dimensions for enclosed nut



■Dimensions and Mass by Stroke

RCS2-RA5C (Without brake)

Stroke		50	100	150	200	250	300
L	60W	282	332	382	432	482	532
	100W	300	350	400	450	500	550
ℓ		138	188	238	288	338	388
m	60W	92					
	100W	110					
Mass (kg)		1.9	2.2	2.5	2.8	3.1	3.4

RCS2-RA5C (With brake)

Stroke		50	100	150	200	250	300
L	60W	354.5	404.5	454.5	504.5	554.5	604.5
	100W	372.5	422.5	472.5	522.5	572.5	622.5
ℓ		138	188	238	288	338	388
m	60W	164.5					
	100W	182.5					
Mass (kg)		2.2	2.5	2.8	3.1	3.4	3.7

RCS2-RA5R

RoboCylinder, Rod Type, Actuator Width 55mm, 230V Servo Motor, Side-mounted Motor Specification

■**Model Specification Items**

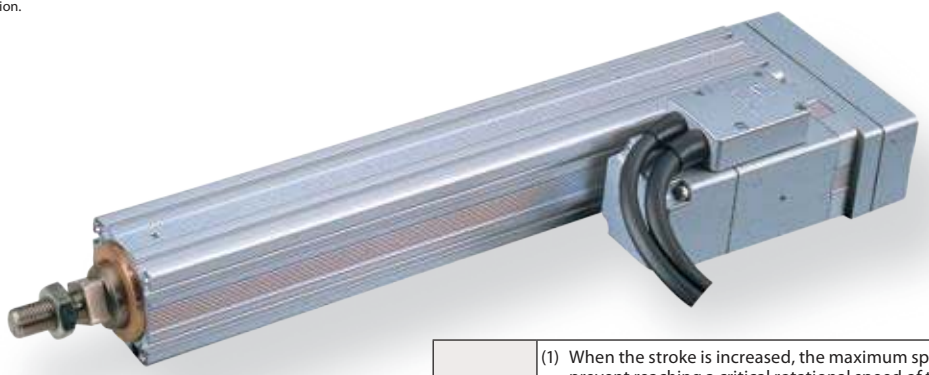
RCS2	RA5R	□	60	□	□	□	□	□
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	60 : Servo motor 60W	16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm ~ 300 : 300mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X□□ : Specified length R□□ : Robot cable	Please refer to the options table below. * Please specify which side the motor is to be mounted (ML/MR)

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical mount position. Please contact for more information regarding mounting positions.



POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 4). This is the upper limit of the acceleration.
(3) The value of the horizontal payload assumes that no external force is applied to the rod from any direction other than the moving direction by using the external guide(s).
(4) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■**Lead and Payload**

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-RA5R-①-60-16-②-③-④-⑤	60	16	12.0	2.0	63.8	50~300 (Every 50mm)
RCS2-RA5R-①-60-8-②-③-④-⑤		8	25.0	5.0	127.5	
RCS2-RA5R-①-60-4-②-③-④-⑤		4	50.0	11.5	255.1	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■**Stroke and Maximum Speed**

Lead \ Stroke	50~250 (Every 50mm)	300 (mm)
16	800	755
8	400	377
4	200	188

(Unit: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Cable exit direction change	**A2**	Please refer to the RC General catalog for the details of the options.	
Brake	**B**		
-	-		
Flange	**FL**		
Foot bracket	**FT**		
Motor side-mounted to the left (Standard)	**ML**		
Motor side-mounted to the right	**MR**		

Actuator Specifications

Item	Description
Drive system	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Rod diameter	Ø30mm
Rod non-rotation precision	±0.7 deg.
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

Dimensions

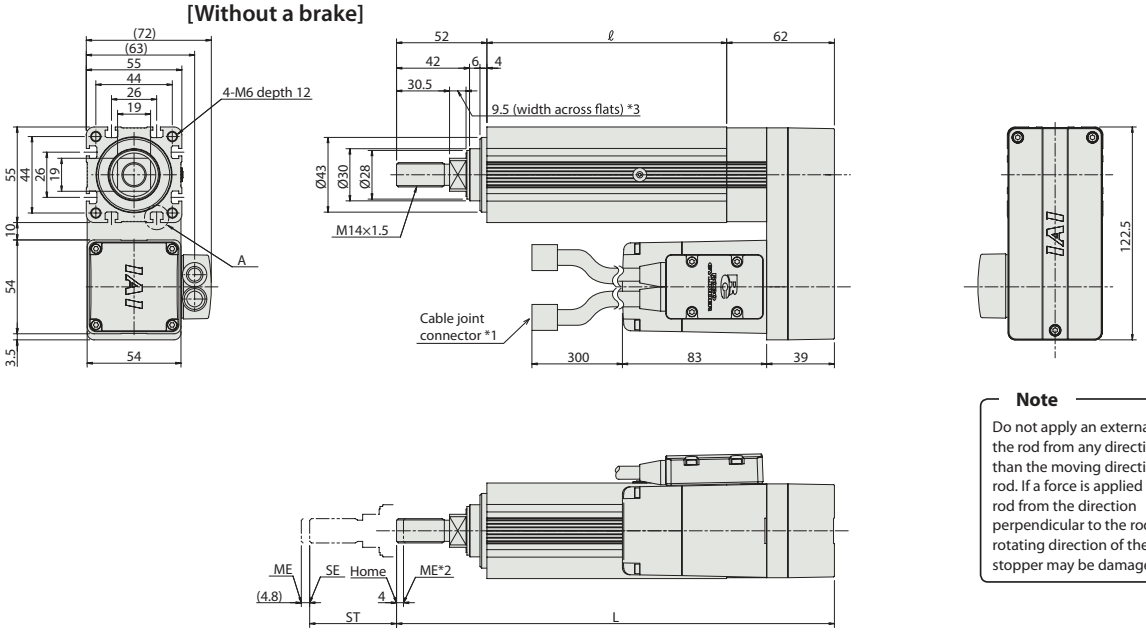
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*Note that RA5R type cannot have the non-motor end specification due to its structure.

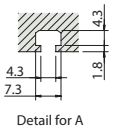
*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 The direction of width across flats varies depending on the product.

[Without a brake]



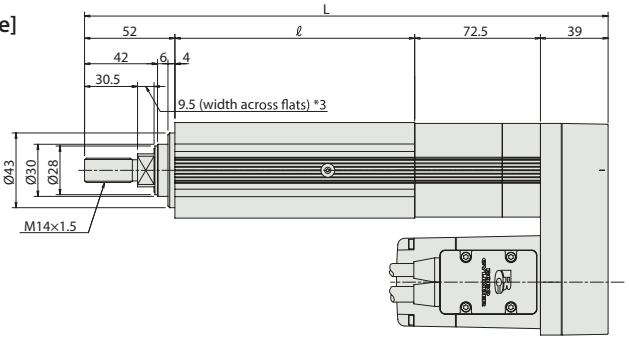
Note

Do not apply an external force to the rod from any direction other than the moving direction of the rod. If a force is applied to the rod from the direction perpendicular to the rod or rotating direction of the rod, the stopper may be damaged.

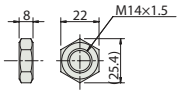


Detail for A

[With a brake]



Dimensions for enclosed nut



■Dimensions and Mass by Stroke

RCS2-RA5R (Without brake)

Stroke	50	100	150	200	250	300
L	252	302	352	402	452	502
ℓ	138	188	238	288	338	388
Mass (kg)	2.3	2.6	2.9	3.2	3.5	3.8

RCS2-RA5R (With brake)

Stroke	50	100	150	200	250	300
L	301.5	351.5	401.5	451.5	501.5	551.5
ℓ	138	188	238	288	338	388
Mass (kg)	2.6	2.9	3.2	3.5	3.8	4.1

RCS3-SA8C

RoboCylinder, Slider Type, Actuator Width 80mm, 230V Servo Motor, Coupled Motor, Aluminum Base

■Model Specification Items

RCS3	—	SA8C	—	☐	—	☐	—	☐	—	☐	—	☐	—	☐	—	☐
Series		Type		Encoder type		Motor type		Lead		Stroke		Applicable controller		Cable length		Options
				WA : Battery-less absolute		100 : Servo motor 100W 150 : Servo motor 150W		30 : 30mm 20 : 20mm 10 : 10mm 5 : 5mm		50 : 50mm ~ 1100 : 1100mm (Can be set in 50mm increments)		T2 : SCON-CB		N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable		Please refer to the options table below. * Please specify a code indicating your desired cable exit direction.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 5) for horizontal, and 0.2G for vertical use.
(3) The payload drops when the acceleration is increased.
(4) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS3-SA8C-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50~1100 (Every 50mm)
RCS3-SA8C-①-100-20-②-③-④-⑤		20	20	4	84.9	
RCS3-SA8C-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3-SA8C-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3-SA8C-①-150-30-②-③-④-⑤	150	30	12	3	85.1	
RCS3-SA8C-①-150-20-②-③-④-⑤		20	30	6	127.6	
RCS3-SA8C-①-150-10-②-③-④-⑤		10	60	12	255.3	

Legend: ① Encoder type ② Stroke ③ Applicable controllers ④ Cable length ⑤ Options

■Stroke and Maximum Speed (Unit: mm/s)

Lead \ Stroke	50~650 (Every 50mm)	700	750	800	850	900	950	1000	1050	1100
30	1800	1610	1420	1260	1120	1010	910	830	760	690
20	1200	1070	940	840	750	670	610	550	500	460
10	600	530	470	410	370	340	310	270	250	230
5	300	260	230	200	180	170	150	135	120	110

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Cables exit from back left	**A1E**	Please refer to the RC General catalog for the details of the options.	
Cables exit from left side	**A1S**		
Cables exit from back right	**A3E**		
Cables exit from right side	**A3S**		
Brake	**B**		
-	-		
Non-motor end specification	**NM**		

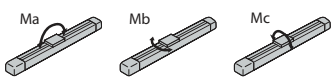
Actuator Specifications

Item	Description
Drive system	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 113.5N•m, Mb: 177N•m, Mc: 266N•m
Dynamic allowable moment (*)	Ma: 26.9N•m, Mb: 38.4N•m, Mc: 63.1N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

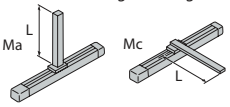
•Reference for overhang load length/Ma: 390mm or less, Mb, Mc: 390mm or less

(*) Assumes a standard rated life of 10000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



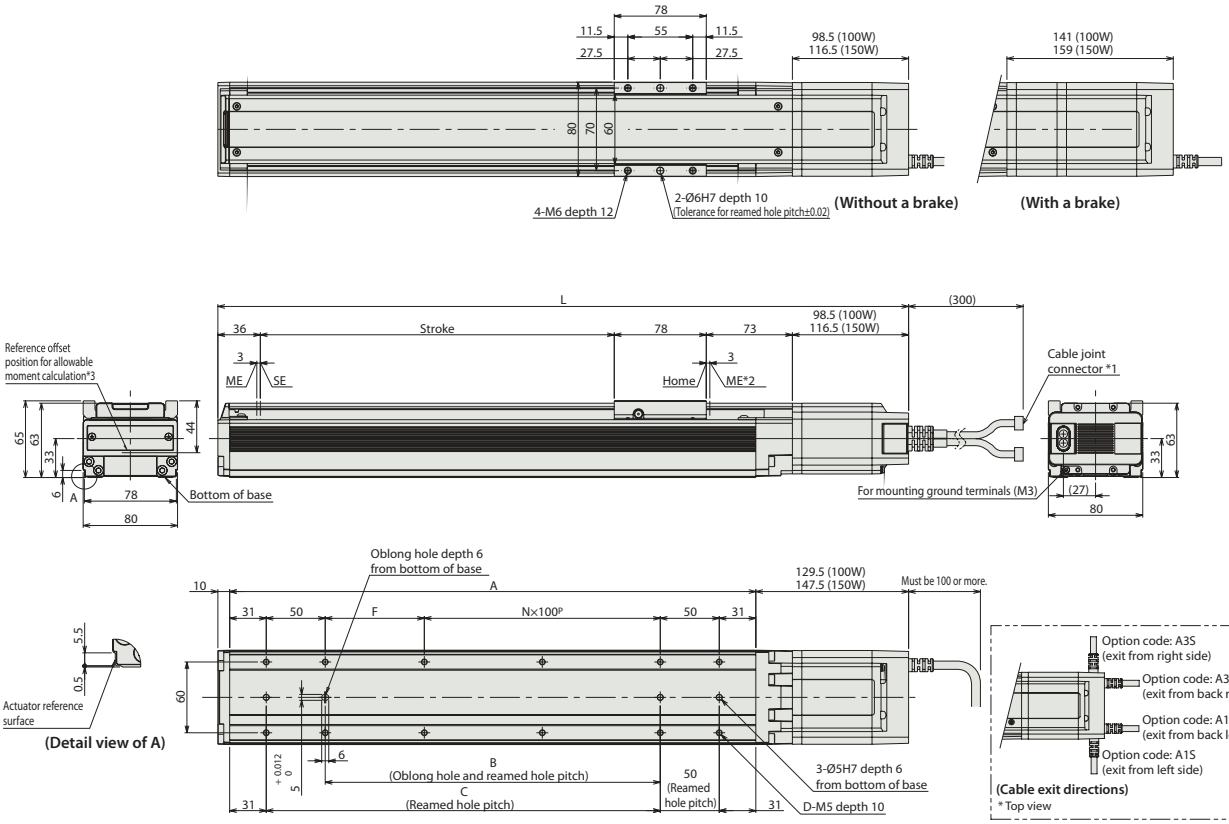
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.



■Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1,050	1,100
L	100W	Without brake	335.5	385.5	435.5	485.5	535.5	585.5	635.5	685.5	735.5	785.5	835.5	885.5	935.5	985.5	1,035.5	1,085.5	1,135.5	1,185.5	1,235.5	1,285.5	1,335.5	1,385.5
		With brake	378	428	478	528	578	628	678	728	778	828	878	928	978	1,028	1,078	1,128	1,178	1,228	1,278	1,328	1,378	1,428
	150W	Without brake	353.5	403.5	453.5	503.5	553.5	603.5	653.5	703.5	753.5	803.5	853.5	903.5	953.5	1,003.5	1,053.5	1,103.5	1,153.5	1,203.5	1,253.5	1,303.5	1,353.5	1,403.5
		With brake	396	446	496	546	596	646	696	746	796	846	896	946	996	1,046	1,096	1,146	1,196	1,246	1,296	1,346	1,396	1,446
A			196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1,046	1,096	1,146	1,196	1,246
B			34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1,034	1,084
C			84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1,034	1,084	1,134
D			8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28
F			34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84
N			0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
Mass (kg)	100W	Without brake	2.9	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2
		With brake	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.6
	150W	Without brake	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3
		With brake	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2	9.5	9.8

RCS3-SS8C

RoboCylinder, Slider Type, Actuator Width 80mm, 230V Servo Motor, Coupled Motor, Steel Base

■Model Specification Items

RCS3 — SS8C — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	100 : Servo motor 100W 150 : Servo motor 150W	30 : 30mm 20 : 20mm 10 : 10mm 5 : 5mm	50 : 50mm ~ 1000 : 1000mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify a code indicating your desired cable exit direction.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 5) for horizontal, and 0.2G for vertical use.
(3) The payload drops when the acceleration is increased.
(4) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS3-SS8C- ① -100-30- ② - ③ - ④ - ⑤	100	30	8	2	56.6	50~1000 (Every 50mm)
RCS3-SS8C- ① -100-20- ② - ③ - ④ - ⑤		20	20	4	84.9	
RCS3-SS8C- ① -100-10- ② - ③ - ④ - ⑤		10	40	8	169.8	
RCS3-SS8C- ① -100-5- ② - ③ - ④ - ⑤		5	80	16	339.7	
RCS3-SS8C- ① -150-30- ② - ③ - ④ - ⑤	150	30	12	3	85.1	
RCS3-SS8C- ① -150-20- ② - ③ - ④ - ⑤		20	30	6	127.6	
RCS3-SS8C- ① -150-10- ② - ③ - ④ - ⑤		10	60	12	255.3	

Legend: ① Encoder type ② Stroke ③ Applicable controllers ④ Cable length ⑤ Options

■Stroke and Maximum Speed (Unit: mm/s)

Lead \ Stroke	50~600 (Every 50mm)	650	700	750	800	850	900	950	1000
30	1800	1660	1460	1295	1155	1035	935	850	775
20	1200	1105	970	860	770	690	625	565	515
10	600	550	485	430	385	345	310	280	255
5	300	275	240	215	190	170	150	140	125

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Cables exit from back left	**A1E**	Please refer to the RC General catalog for the details of the options.	
Cables exit from left side	**A1S**		
Cables exit from back right	**A3E**		
Cables exit from right side	**A3S**		
Brake	**B**		
-	**-**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		

Actuator Specifications

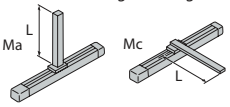
Item	Description
Drive system	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Dedicated alloy steel
Static allowable moment	Ma: 198.9N•m, Mb: 198.9N•m, Mc: 416.7N•m
Dynamic allowable moment (*)	Ma: 43.4N•m, Mb: 43.4N•m, Mc: 90.9N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 450mm or less, Mb, Mc: 450mm or less

(*) Assumes a standard rated life of 10000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions

Overhang load lengths



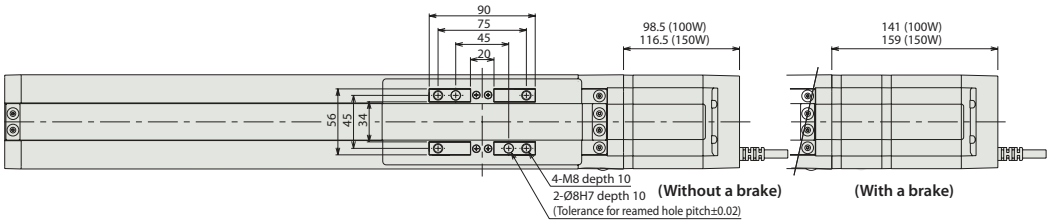
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

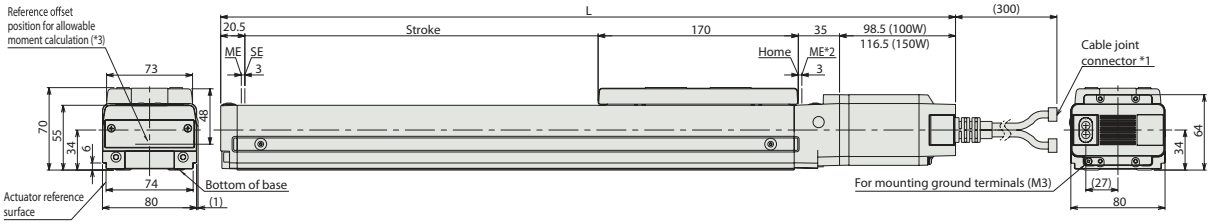
Dimensions

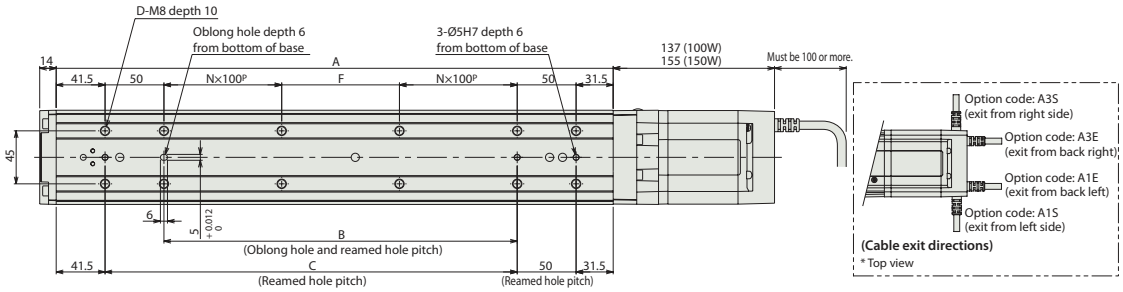
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the Ma moment.







■Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000
L	100W	Without brake	374	424	474	524	574	624	674	724	774	824	874	924	974	1,024	1,074	1,124	1,174	1,224	1,274	1,324
		With brake	416.5	466.5	516.5	566.5	616.5	666.5	716.5	766.5	816.5	866.5	916.5	966.5	1,016.5	1,066.5	1,116.5	1,166.5	1,216.5	1,266.5	1,316.5	1,366.5
	150W	Without brake	392	442	492	542	592	642	692	742	792	842	892	942	992	1,042	1,092	1,142	1,192	1,242	1,292	1,342
		With brake	434.5	484.5	534.5	584.5	634.5	684.5	734.5	784.5	834.5	884.5	934.5	984.5	1,034.5	1,084.5	1,134.5	1,184.5	1,234.5	1,284.5	1,334.5	1,384.5
A			223	273	323	373	423	473	523	573	623	673	723	773	823	873	923	973	1,023	1,073	1,123	1,173
B			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000
C			100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1,050
D			8	8	8	10	12	12	12	14	16	16	16	18	20	20	20	22	24	24	24	26
F			50	100	150	0	50	100	150	0	50	100	150	0	50	100	150	0	50	100	150	0
N			0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
Mass (kg)	100W	Without brake	5.1	5.6	6.2	6.7	7.3	7.8	8.4	8.9	9.5	10.0	10.6	11.1	11.7	12.2	12.8	13.3	13.9	14.4	15.0	15.5
		With brake	5.5	6.0	6.6	7.1	7.7	8.2	8.8	9.3	9.9	10.4	11.0	11.5	12.1	12.6	13.2	13.7	14.3	14.8	15.4	15.9
	150W	Without brake	5.1	5.7	6.2	6.8	7.3	7.9	8.4	9.0	9.5	10.1	10.6	11.2	11.7	12.3	12.8	13.4	13.9	14.5	15.0	15.6
		With brake	5.6	6.1	6.7	7.2	7.8	8.3	8.9	9.4	10.0	10.5	11.1	11.6	12.2	12.7	13.3	13.8	14.4	14.9	15.5	16.0

RCS3-SA8R

RoboCylinder, Slider Type, Actuator Width 80mm, 230V Servo Motor, Side-mounted Motor, Aluminum Base

■**Model Specification Items**

RCS3	SA8R	☐	☐	☐	☐	☐	☐	☐
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	100 : Servo motor 100W 150 : Servo motor 150W	30 : 30mm 20 : 20mm 10 : 10mm 5 : 5mm	50 : 50mm 〜 1100 : 1100mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify a code indicating motor-mounting side with cable exit direction.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 5) for horizontal, and 0.2G for vertical use.
(3) The payload drops when the acceleration is increased.
(4) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS3-SA8R-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50〜1100 (Every 50mm)
RCS3-SA8R-①-100-20-②-③-④-⑤		20	20	4	84.9	
RCS3-SA8R-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3-SA8R-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3-SA8R-①-150-30-②-③-④-⑤	150	30	12	3	85.1	
RCS3-SA8R-①-150-20-②-③-④-⑤		20	30	6	127.6	
RCS3-SA8R-①-150-10-②-③-④-⑤		10	60	12	255.3	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed (Unit: mm/s)

Lead \ Stroke	50〜650 (Every 50mm)	700	750	800	850	900	950	1000	1050	1100
30	1800	1610	1420	1260	1120	1010	910	830	760	690
20	1200	1070	940	840	750	670	610	550	500	460
10	600	530	470	410	370	340	310	270	250	230
5	300	260	230	200	180	170	150	135	120	110

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Motor mounted on left, cable exit from back	**MLE**		
Motor mounted on left, cable exit from side	**MLS**		
Motor mounted on right, cable exit from back	**MRE**		
Motor mounted on right, cable exit from side	**MRS**		
Non-motor end specification	**NM**		

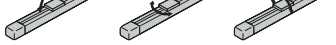
Actuator Specifications

Item	Description
Drive system	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 113.5N•m, Mb: 177N•m, Mc: 266N•m
Dynamic allowable moment (*)	Ma: 26.9N•m, Mb: 38.4N•m, Mc: 63.1N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

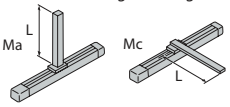
•Reference for overhang load length/Ma: 390mm or less, Mb, Mc: 390mm or less

(*) Assumes a standard rated life of 10000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



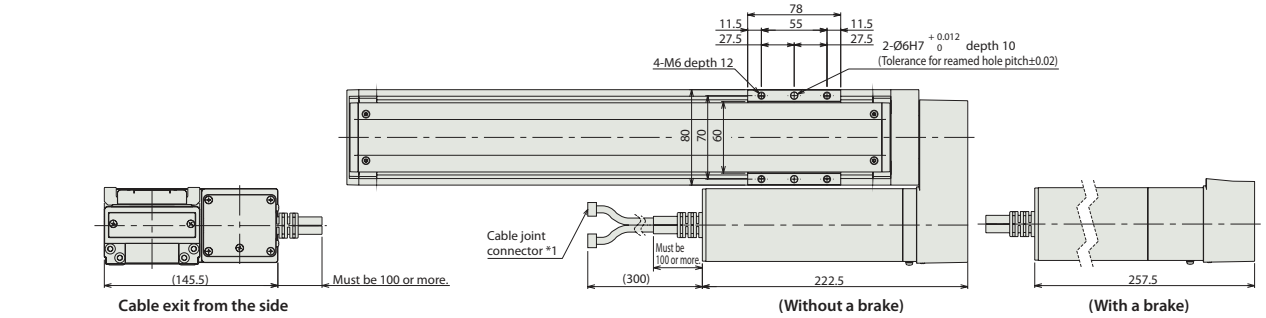
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

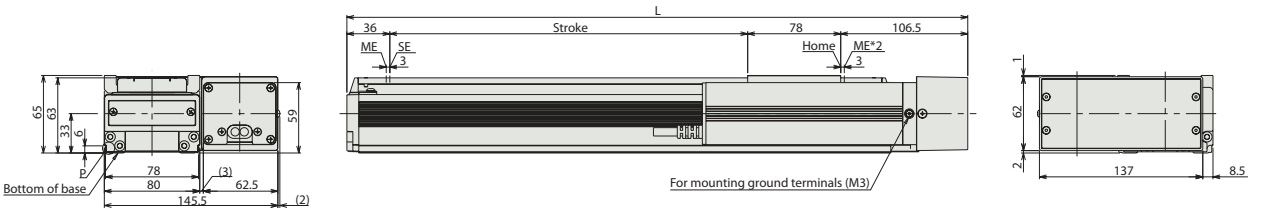
Dimensions

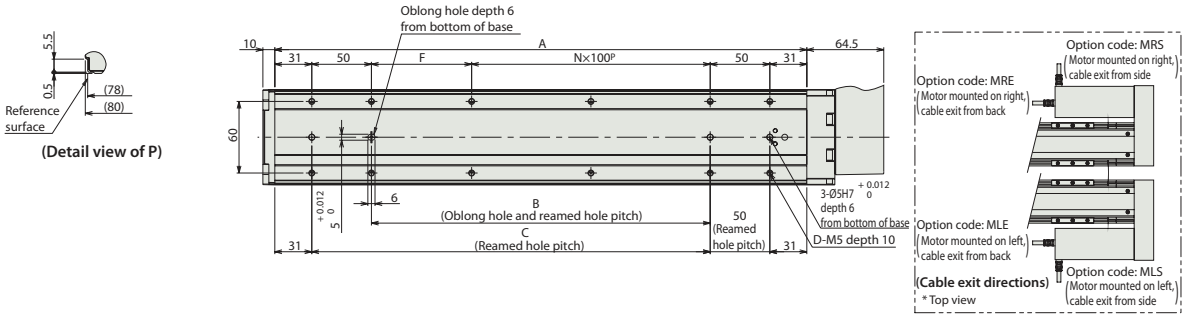
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
* Offset reference position for the allowable moment is the same as the one for SA8C type. (Please refer to P. 38)







■Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1,050	1,100
L			270.5	320.5	370.5	420.5	470.5	520.5	570.5	620.5	670.5	720.5	770.5	820.5	870.5	920.5	970.5	1,020.5	1,070.5	1,120.5	1,170.5	1,220.5	1,270.5	1,320.5
A			196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1,046	1,096	1,146	1,196	1,246
B			34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1,034	1,084
C			84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1,034	1,084	1,134
D			8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28
F			34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84
N			0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
Mass (kg)	100W	Without brake	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.6	9.9
		With brake	4.0	4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1	9.4	9.7	10.0	10.3
	150W	Without brake	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2	9.5	9.8	10.1
		With brake	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2	9.5	9.8	10.1	10.4

RCS3-SS8R

RoboCylinder, Slider Type, Actuator Width 80mm, 230V Servo Motor, Side-mounted Motor, Steel Base

■Model Specification Items

RCS3	—	SS8R	—	☐	—	☐	—	☐	—	☐	—	☐	—	☐	—	☐
Series		Type		Encoder type		Motor type		Lead		Stroke		Applicable controller		Cable length		Options
				WA : Battery-less absolute		100 : Servo motor 100W 150 : Servo motor 150W		30 : 30mm 20 : 20mm 10 : 10mm 5 : 5mm		50 : 50mm ~ 1000 : 1000mm (Can be set in 50mm increments)		T2 : SCON-CB		N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable		Please refer to the options table below. * Please specify a code indicating motor-mounting side with cable exit direction.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 5) for horizontal, and 0.2G for vertical use.
(3) The payload drops when the acceleration is increased.
(4) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS3-SS8R-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50~1000 (Every 50mm)
RCS3-SS8R-①-100-20-②-③-④-⑤		20	20	4	84.9	
RCS3-SS8R-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3-SS8R-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3-SS8R-①-150-30-②-③-④-⑤	150	30	12	3	85.1	
RCS3-SS8R-①-150-20-②-③-④-⑤		20	30	6	127.6	
RCS3-SS8R-①-150-10-②-③-④-⑤		10	60	12	255.3	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke and Maximum Speed (Unit: mm/s)

Lead \ Stroke	50~600 (Every 50mm)	650	700	750	800	850	900	950	1000
30	1800	1660	1460	1295	1155	1035	935	850	775
20	1200	1105	970	860	770	690	625	565	515
10	600	550	485	430	385	345	310	280	255
5	300	275	240	215	190	170	150	140	125

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Motor mounted on left, cable exit from back	**MLE**		
Motor mounted on left, cable exit from side	**MLS**		
Motor mounted on right, cable exit from back	**MRE**		
Motor mounted on right, cable exit from side	**MRS**		
Non-motor end specification	**NM**		
Slider roller specification	**SR**		

Actuator Specifications

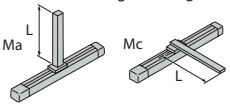
Item	Description
Drive system	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Dedicated alloy steel
Static allowable moment	Ma: 198.9N•m, Mb: 198.9N•m, Mc: 416.7N•m
Dynamic allowable moment (*)	Ma: 43.4N•m, Mb: 43.4N•m, Mc: 90.9N•m
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 450mm or less, Mb, Mc: 450mm or less

(*) Assumes a standard rated life of 10000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions

Overhang load lengths



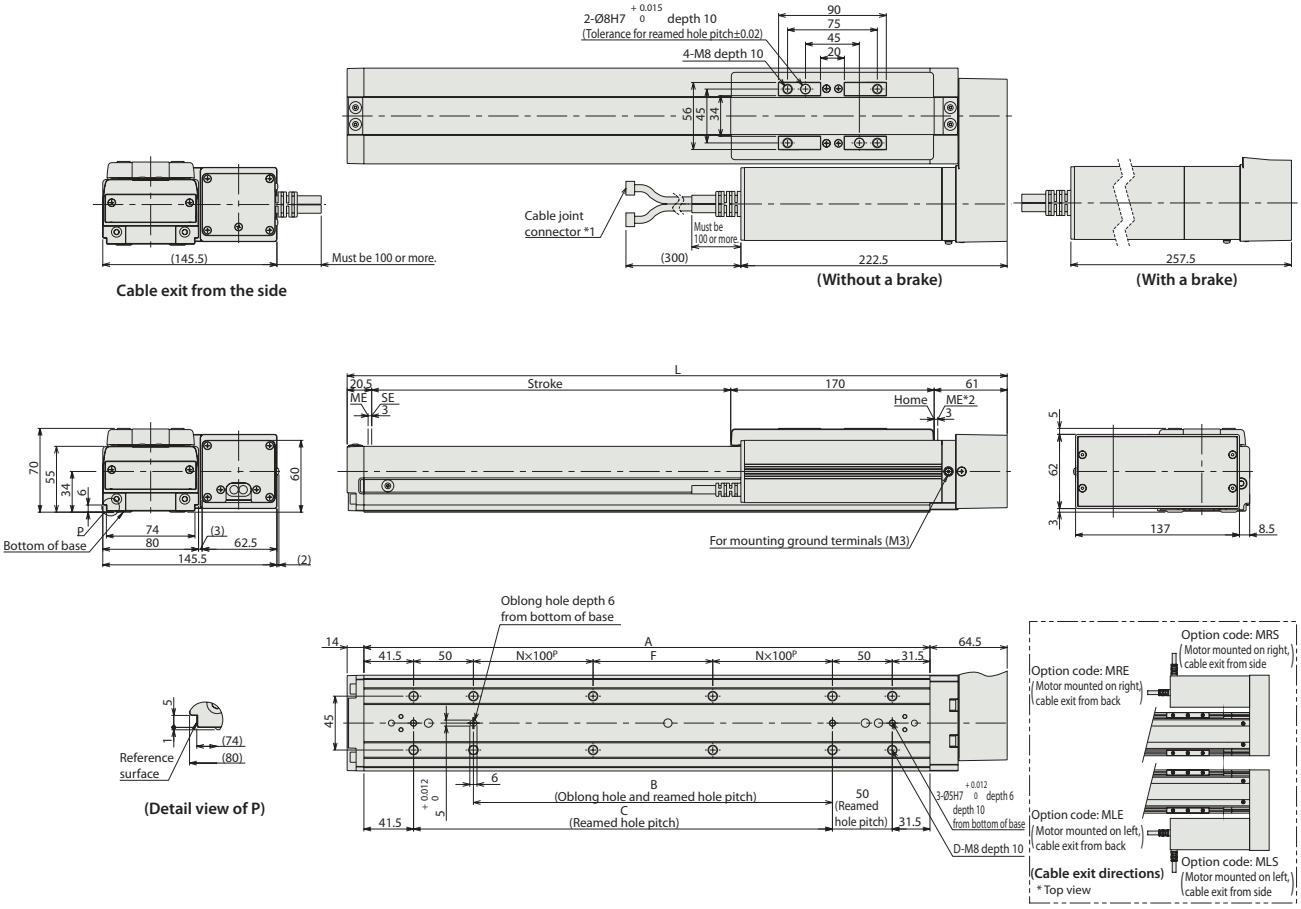
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
* Offset reference position for the allowable moment is the same as the one for SS8C type. (Please refer to P. 40)



■Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000
L			301.5	351.5	401.5	451.5	501.5	551.5	601.5	651.5	701.5	751.5	801.5	851.5	901.5	951.5	1,001.5	1,051.5	1,101.5	1,151.5	1,201.5	1,251.5
A			223	273	323	373	423	473	523	573	623	673	723	773	823	873	923	973	1,023	1,073	1,123	1,173
B			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000
C			100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1,050
D			8	8	8	10	12	12	12	14	16	16	16	18	20	20	20	22	24	24	24	26
F			50	100	150	0	50	100	150	0	50	100	150	0	50	100	150	0	50	100	150	0
N			0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
Mass (kg)	100W	Without brake	6.0	6.5	7.1	7.6	8.2	8.7	9.3	9.8	10.4	10.9	11.5	12.0	12.6	13.1	13.7	14.2	14.8	15.3	15.9	16.4
		With brake	6.3	6.8	7.4	7.9	8.5	9.0	9.6	10.1	10.7	11.2	11.8	12.3	12.9	13.4	14.0	14.5	15.1	15.6	16.2	16.7
	150W	Without brake	6.1	6.6	7.2	7.7	8.3	8.8	9.4	9.9	10.5	11.0	11.6	12.1	12.7	13.2	13.8	14.3	14.9	15.4	16.0	16.5
		With brake	6.4	6.9	7.5	8.0	8.6	9.1	9.7	10.2	10.8	11.3	11.9	12.4	13.0	13.5	14.1	14.6	15.2	15.7	16.3	16.8

RCACR-SA4C

Cleanroom RoboCylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Coupled Motor, Aluminum Base

■**Model Specification Items**

RCACR – SA4C – ☐ – 20 – ☐ – ☐ – ☐ – ☐ – ☐ – ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	20 : Servo motor 20W	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50 : 50mm 〜 400 : 400mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

Energy Saving Option

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 2.5). This is the upper limit of the acceleration.
(2) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■**Lead and Payload**

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCACR-SA4C- ① -20-10- ② - ③ - ④ - ⑤	20	10	4	1	19.6	50~400 (Every 50mm)
RCACR-SA4C- ① -20-5- ② - ③ - ④ - ⑤		5	6	2.5	39.2	
RCACR-SA4C- ① -20-2.5- ② - ③ - ④ - ⑤		2.5	8	4.5	78.4	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■**Stroke, Max. Speed and Suction Amount**

Lead \ Stroke	50~400 (Every 50mm)	Suction amount (Nℓ/min)
10	665	50
5	330	30
2.5	165	15

(Unit for max. speed: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Foot bracket	**FT**		
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Slider spacer	**SS**		
Vacuum joint on opposite side	**VR**		

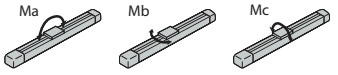
Actuator Specifications

Item	Description
Drive system	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 6.90N•m, Mb: 9.90N•m, Mc: 17.0N•m
Dynamic allowable moment (*)	Ma: 3.29N•m, Mb: 4.71N•m, Mc: 8.07N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

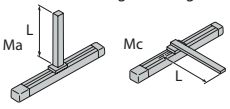
•Reference for overhang load length/Ma: 120mm or less, Mb, Mc: 120mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



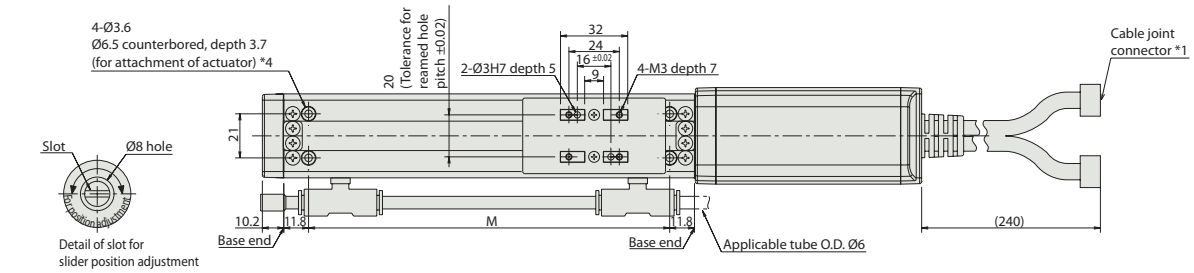
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

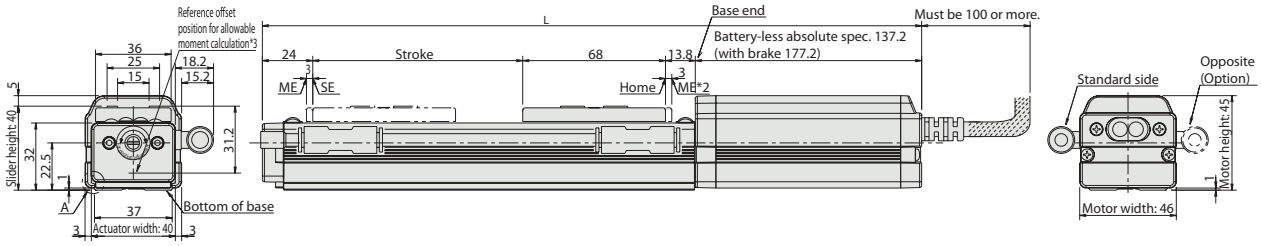
Dimensions

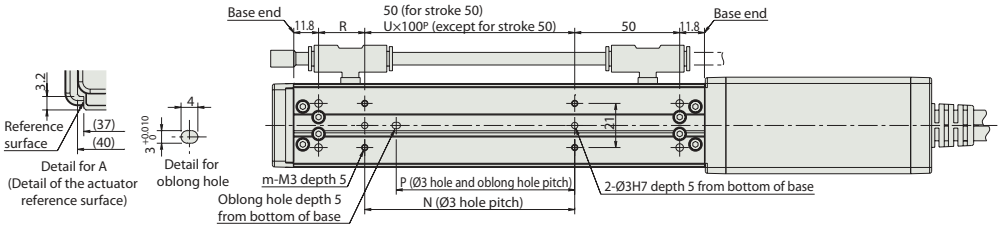
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connect the motor/encoder cables. Refer in Pg. 73 for details of cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 200mm.







■Dimensions and Mass by Stroke

*Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400
L	Battery-less absolute	Without brake	293	343	393	443	493	543	593	643
		With brake	333	383	433	483	533	583	633	683
M			122	172	222	272	322	372	422	472
N			50	100	100	200	200	300	300	400
P			35	85	85	185	185	285	285	385
R			22	22	72	22	72	22	72	22
U			-	1	1	2	2	3	3	4
m			4	4	4	6	6	8	8	10
Mass (kg)			0.7	0.8	0.9	1	1.1	1.2	1.3	1.4

RCACR-SA5C

Cleanroom RoboCylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Coupled Motor, Aluminum Base

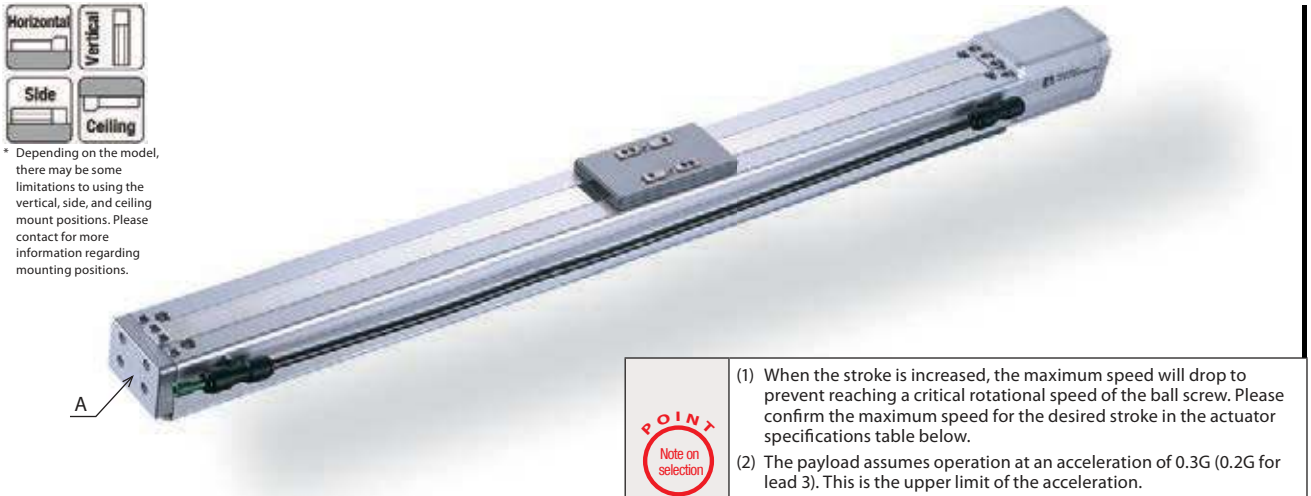
■**Model Specification Items**

RCACR	SA5C	☐	20	☐	☐	☐	☐	☐
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	20 : Servo motor 20W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ↓ 500 : 500mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

Energy Saving Option



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.

(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.

(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCACR-SA5C- ① -20-20- ② - ③ - ④ - ⑤	20	20	2	0.5	10.7	50~500 (Every 50mm)
RCACR-SA5C- ① -20-12- ② - ③ - ④ - ⑤		12	4	1	16.7	
RCACR-SA5C- ① -20-6- ② - ③ - ④ - ⑤		6	8	2	33.3	
RCACR-SA5C- ① -20-3- ② - ③ - ④ - ⑤		3	12	4	65.7	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	Suction amount (N€/min)
20	1300 <800>	1300 <800>	80
12	800	760	50
6	400	380	30
3	200	190	15

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Foot bracket	**FT**		
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Vacuum joint on opposite side	**VR**		

Actuator Specifications

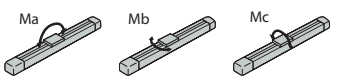
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 18.6N•m, Mb: 26.6N•m, Mc: 47.5N•m
Dynamic allowable moment (*2)	Ma: 5.81N•m, Mb: 8.30N•m, Mc: 14.8N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 150mm or less, Mb, Mc: 150mm or less

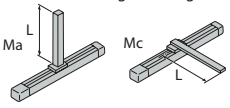
(*1) The value in [ ] applies when the lead is 20mm.

(*2) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



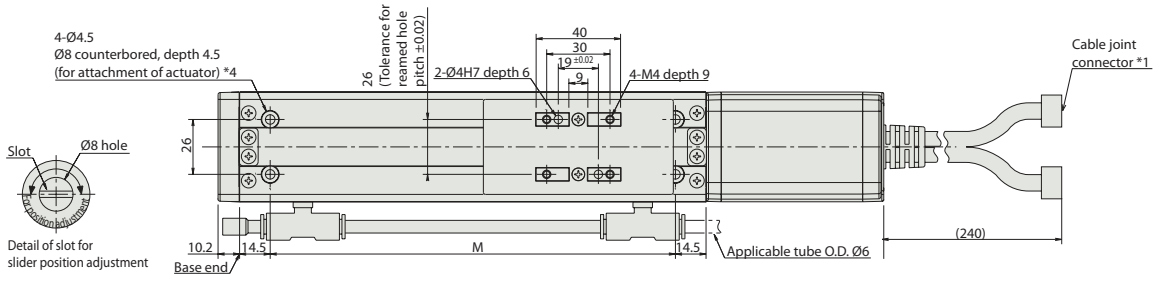
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

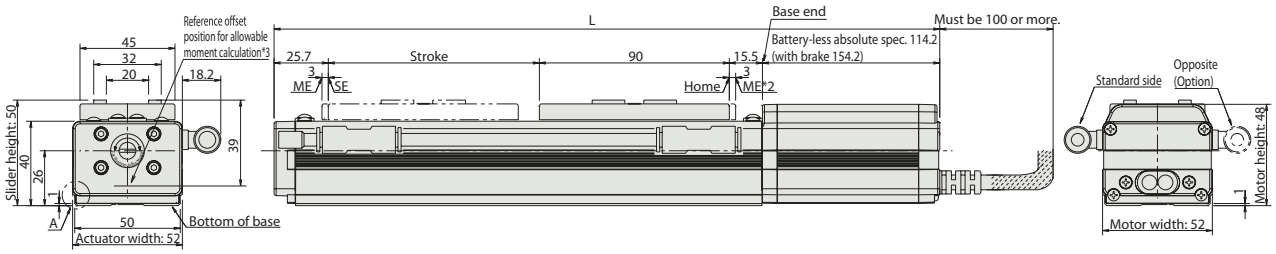
Dimensions

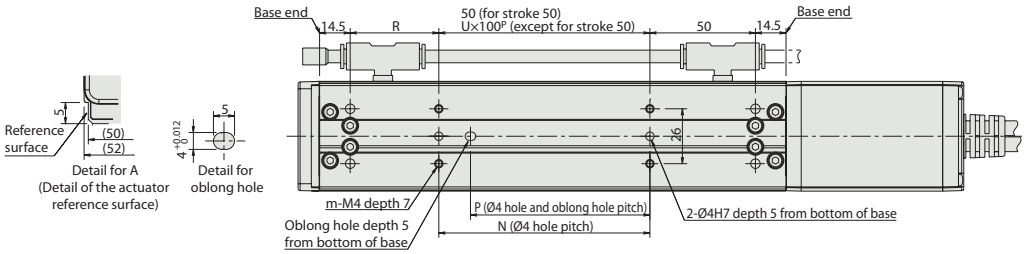
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connect the motor/encoder cables. Refer in Pg. 73 for details of cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 300mm.







■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500
L	Battery-less absolute	Without brake	295.4	345.4	395.4	445.4	495.4	545.4	595.4	645.4	695.4	745.4
		With brake	335.4	385.4	435.4	485.4	535.4	585.4	635.4	685.4	735.4	785.4
M			142	192	242	292	342	392	442	492	542	592
N			50	100	100	200	200	300	300	400	400	500
P			35	85	85	185	185	285	285	385	385	485
R			42	42	92	42	92	42	92	42	92	42
U			-	1	1	2	2	3	3	4	4	5
m			4	4	4	6	6	8	8	10	10	12
Mass (kg)			1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2

RCACR-SA6C

Cleanroom RoboCylinder, Slider Type, Actuator Width 58mm, 24V Servo Motor, Coupled Motor, Aluminum Base

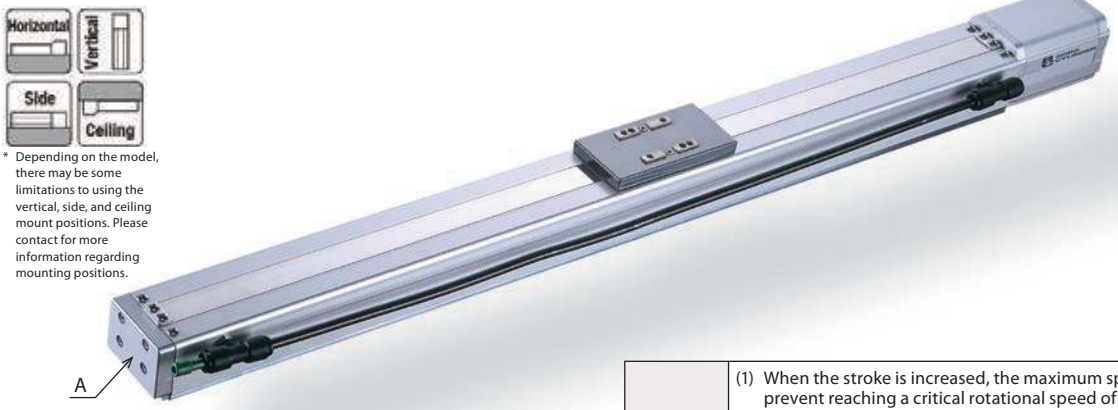
■**Model Specification Items**

RCACR	SA6C	☐	30	☐	☐	☐	☐	☐
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	30 : Servo motor 30W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ⩊ 600 : 600mm (Can be set in 50mm increments)	A5 : ACON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

Energy Saving Option



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCACR-SA6C-①-30-20-②-③-④-⑤	30	20	3	0.5	15.8	50~600 (Every 50mm)
RCACR-SA6C-①-30-12-②-③-④-⑤		12	6	1.5	24.2	
RCACR-SA6C-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCACR-SA6C-①-30-3-②-③-④-⑤		3	18	6	96.8	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	550 (mm)	600 (mm)	Suction amount (NL/min)
20	1300 <800>		1160 <800>	990 <800>	80
12	800	760	640	540	50
6	400	380	320	270	30
3	200	190	160	135	15

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
Foot bracket	**FT**		
Home check sensor	**HS**		
Energy saving	**LA**		
Non-motor end specification	**NM**		
Vacuum joint on opposite side	**VR**		

Actuator Specifications

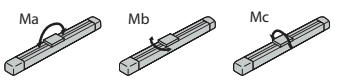
Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 38.3N•m, Mb: 54.7N•m, Mc: 81.0N•m
Dynamic allowable moment (*2)	Ma: 11.6N•m, Mb: 16.6N•m, Mc: 24.6N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

•Reference for overhang load length/Ma: 220mm or less, Mb, Mc: 220mm or less

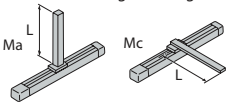
(*1) The value in [ ] applies when the lead is 20mm.

(*2) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



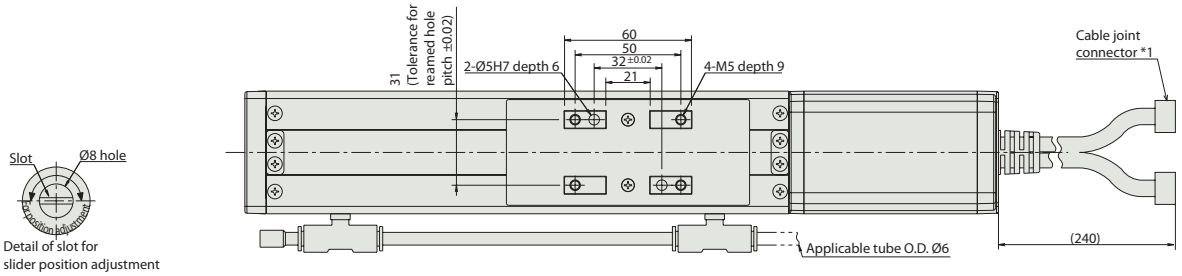
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

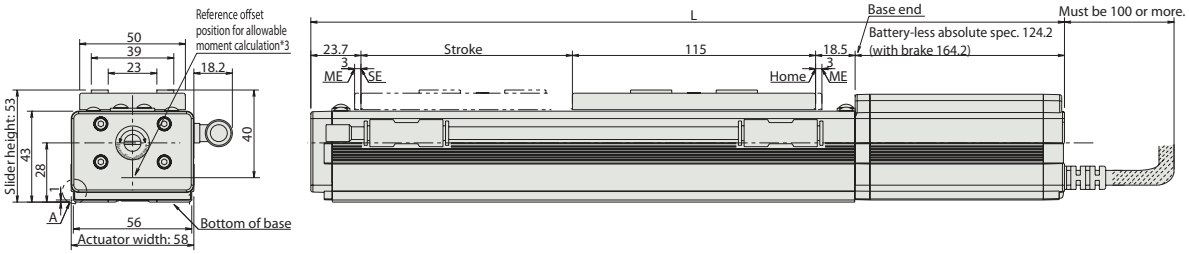
Dimensions

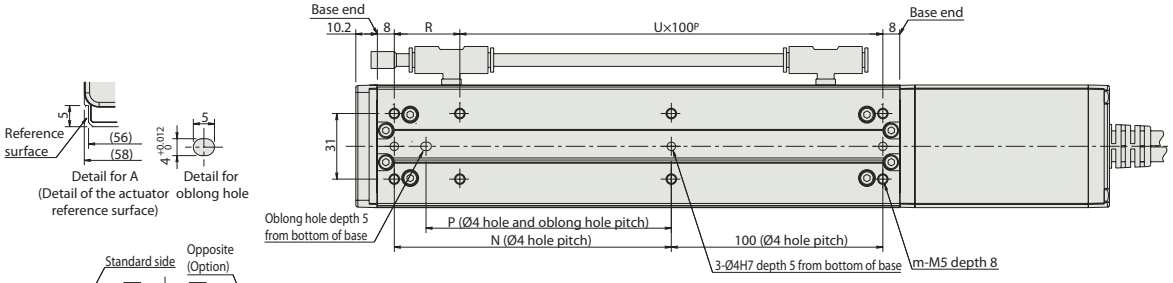
CAD drawings can be downloaded from our website. www.robocylinder.de

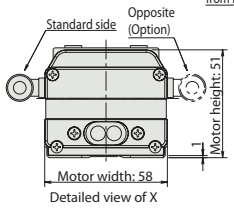
2D CAD 3D CAD

*1 Connect the motor/encoder cables. Refer in Pg. 73 for details of cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.









■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500	550	600
L	Battery-less absolute	Without brake	331.4	381.4	431.4	481.4	531.4	581.4	631.4	681.4	731.4	781.4	831.4	881.4
		With brake	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4	871.4	921.4
N			81	131	181	231	281	331	381	431	481	531	581	631
P			66	116	166	216	266	316	366	416	466	516	566	616
R			81	31	81	31	81	31	81	31	81	31	81	31
U			1	2	2	3	3	4	4	5	5	6	6	7
m			6	8	8	10	10	12	12	14	14	16	16	18
Mass (kg)			1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6

RCS2CR-SA4C

Cleanroom RoboCylinder, Slider Type, Actuator Width 40mm, 230V Servo Motor, Coupled Motor, Aluminum Base

■**Model Specification Items**

RCS2CR	—	SA4C	—	☐	—	20	—	☐	—	☐	—	☐	—	☐	—	☐
Series		Type		Encoder type		Motor type		Lead		Stroke		Applicable controller		Cable length		Options
				WA : Battery-less absolute		20 : Servo motor 20W		10 : 10mm 5 : 5mm 2.5 : 2.5mm		50 : 50mm ~ 400 : 400mm (Can be set in 50mm increments)		T2 : SCON-CB		N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable		Please refer to the options table below.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 2.5). This is the upper limit of the acceleration.
(2) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2CR-SA4C-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50~400 (Every 50mm)
RCS2CR-SA4C-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCS2CR-SA4C-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~400 (Every 50mm)	Suction amount (Nℓ/min)
10	665	50
5	330	30
2.5	165	15

(Unit for max. speed: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Foot bracket	**FT**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Slider spacer	**SS**		
Vacuum joint on opposite side	**VR**		

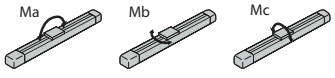
Actuator Specifications

Item	Description
Drive system	Ball screw Ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 6.90N•m, Mb: 9.90N•m, Mc: 17.0N•m
Dynamic allowable moment (*)	Ma: 3.29N•m, Mb: 4.71N•m, Mc: 8.07N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

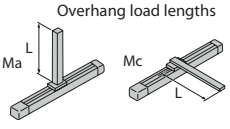
•Reference for overhang load length/Ma: 120mm or less, Mb, Mc: 120mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



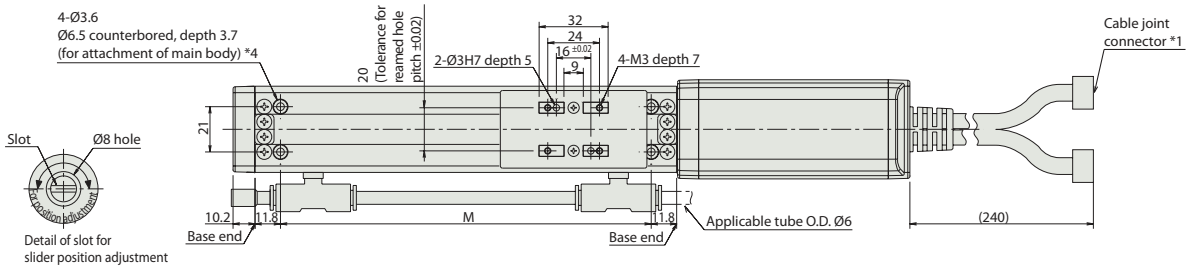
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

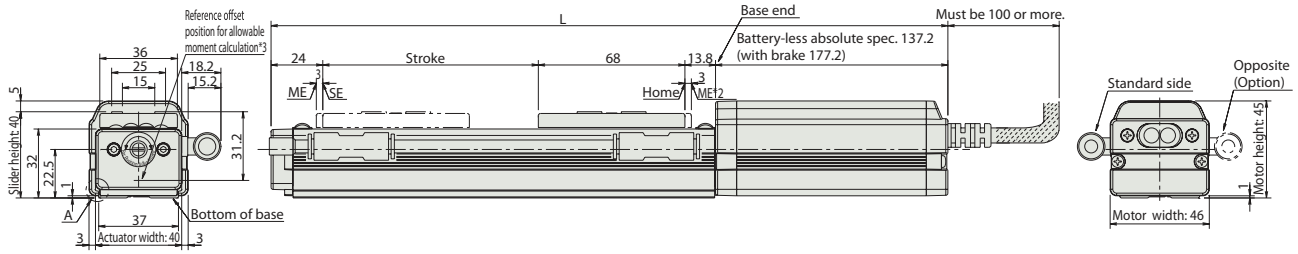
Dimensions

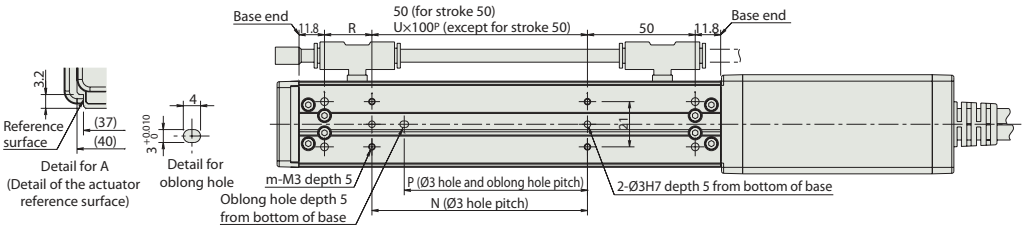
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 200mm.







■Dimensions and Mass by Stroke

*Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400
L	Battery-less absolute	Without brake	293	343	393	443	493	543	593	643
		With brake	333	383	433	483	533	583	633	683
M			122	172	222	272	322	372	422	472
N			50	100	100	200	200	300	300	400
P			35	85	85	185	185	285	285	385
R			22	22	72	22	72	22	72	22
U			-	1	1	2	2	3	3	4
m			4	4	4	6	6	8	8	10
Mass (kg)			0.7	0.8	0.9	1	1.1	1.2	1.3	1.4

RCS2CR-SA5C

Cleanroom RoboCylinder, Slider Type, Actuator Width 52mm, 230V Servo Motor, Coupled Motor, Aluminum Base

■Model Specification Items

RCS2CR — SA5C — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	20 : Servo motor 20W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm 〜 500 : 500mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2CR-SA5C-①-20-20-②-③-④-⑤	20	20	2	0.5	10.7	50~500 (Every 50mm)
RCS2CR-SA5C-①-20-12-②-③-④-⑤		12	4	1	16.7	
RCS2CR-SA5C-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCS2CR-SA5C-①-20-3-②-③-④-⑤		3	12	4	65.7	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	Suction amount (Nℓ/min)
20	1300 <800>	1300 <800>	80
12	800	760	50
6	400	380	30
3	200	190	15

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 73 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Foot bracket	**FT**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Vacuum joint on opposite side	**VR**		

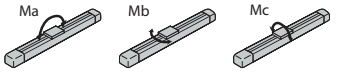
Actuator Specifications

Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 18.6N•m, Mb: 26.6N•m, Mc: 47.5N•m
Dynamic allowable moment (*)	Ma: 5.81N•m, Mb: 8.30N•m, Mc: 14.8N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

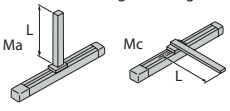
•Reference for overhang load length/Ma: 150mm or less, Mb, Mc: 150mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



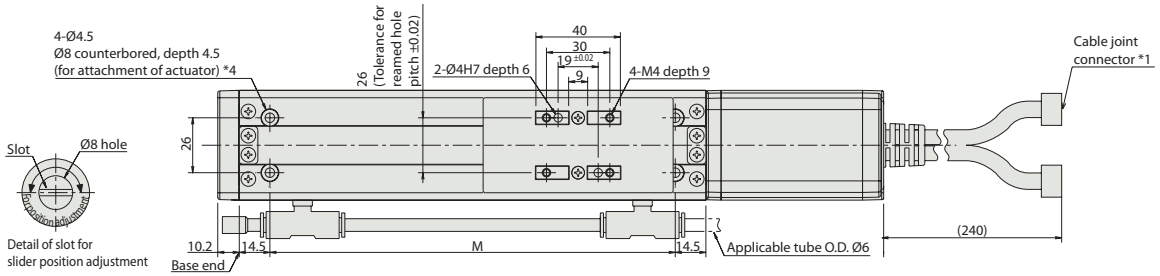
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

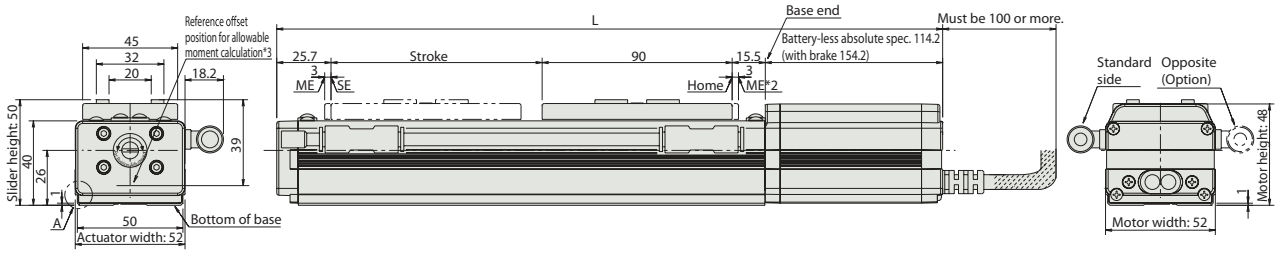
Dimensions

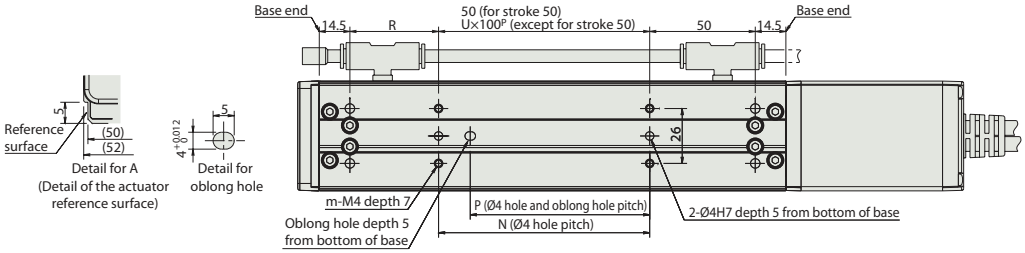
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 300mm.







■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500
L	Battery-less absolute	Without brake	295.4	345.4	395.4	445.4	495.4	545.4	595.4	645.4	695.4	745.4
		With brake	335.4	385.4	435.4	485.4	535.4	585.4	635.4	685.4	735.4	785.4
M			142	192	242	292	342	392	442	492	542	592
N			50	100	100	200	200	300	300	400	400	500
P			35	85	85	185	185	285	285	385	385	485
R			42	42	92	42	92	42	92	42	92	42
U			-	1	1	2	2	3	3	4	4	5
m			4	4	4	6	6	8	8	10	10	12
Mass (kg)			1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2

RCS2CR-SA6C

Cleanroom RoboCylinder, Slider Type, Actuator Width 58mm, 230V Servo Motor, Coupled Motor, Aluminum Base

■Model Specification Items

RCS2CR — SA6C — ☐ — 30 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	30 : Servo motor 30W	20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm	50 : 50mm ↓ 600 : 600mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as "A" in the figure above.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 3). This is the upper limit of the acceleration.
(3) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2CR-SA6C- ① -30-20- ② - ③ - ④ - ⑤	30	20	3	0.5	15.8	50~600 (Every 50mm)
RCS2CR-SA6C- ① -30-12- ② - ③ - ④ - ⑤		12	6	1.5	24.2	
RCS2CR-SA6C- ① -30-6- ② - ③ - ④ - ⑤		6	12	3	48.4	
RCS2CR-SA6C- ① -30-3- ② - ③ - ④ - ⑤		3	18	6	96.8	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~450 (Every 50mm)	500 (mm)	550 (mm)	600 (mm)	Suction amount (NL/min)
20	1300 <800>		1160 <800>	990 <800>	80
12	800	760	640	540	50
6	400	380	320	270	30
3	200	190	160	135	15

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

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake	**B**	Please refer to the RC General catalog for the details of the options.	
-	**-**		
Foot bracket	**FT**		
Home check sensor	**HS**		
Non-motor end specification	**NM**		
Vacuum joint on opposite side	**VR**		

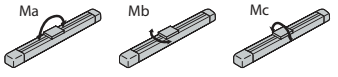
Actuator Specifications

Item	Description
Drive system	Ball screw Ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 38.3N•m, Mb: 54.7N•m, Mc: 81.0N•m
Dynamic allowable moment (*)	Ma: 11.6N•m, Mb: 16.6N•m, Mc: 24.6N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

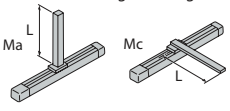
•Reference for overhang load length/Ma: 220mm or less, Mb, Mc: 220mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



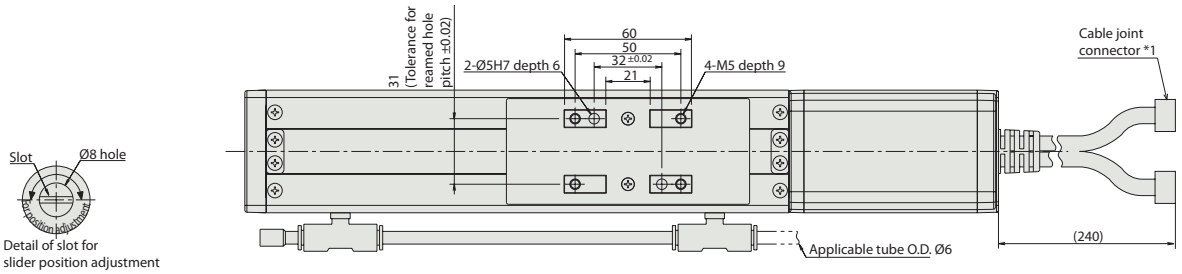
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

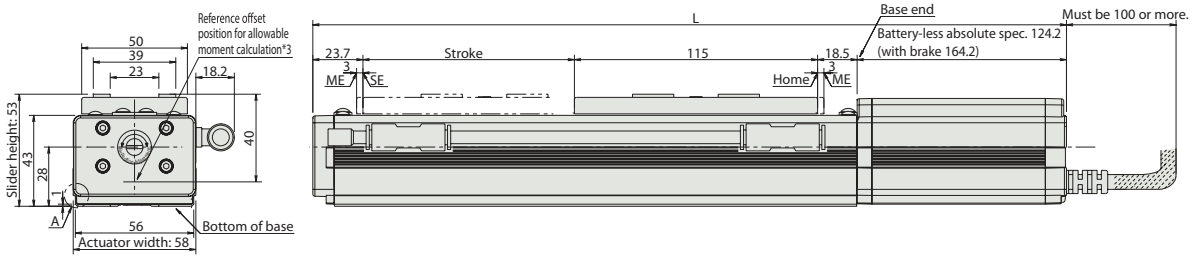
Dimensions

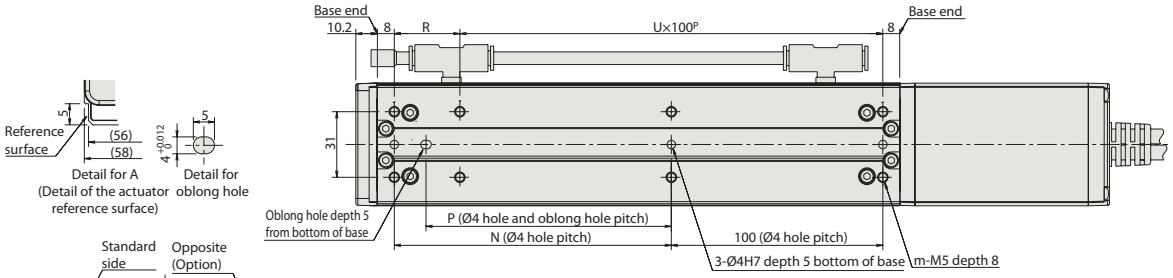
CAD drawings can be downloaded from our website. www.robocylinder.de

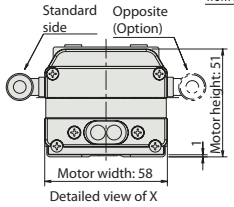
2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.









■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

Stroke			50	100	150	200	250	300	350	400	450	500	550	600
L	Battery-less absolute	Without brake	331.4	381.4	431.4	481.4	531.4	581.4	631.4	681.4	731.4	781.4	831.4	881.4
		With brake	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4	871.4	921.4
N			81	131	181	231	281	331	381	431	481	531	581	631
P			66	116	166	216	266	316	366	416	466	516	566	616
R			81	31	81	31	81	31	81	31	81	31	81	31
U			1	2	2	3	3	4	4	5	5	6	6	7
m			6	8	8	10	10	12	12	14	14	16	16	18
Mass (kg)			1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6

RCS2CR-SA7C

Cleanroom RoboCylinder, Slider Type, Actuator Width 73mm, 230V Servo Motor, Coupled Motor, Aluminum Base

■Model Specification Items

RCS2CR — SA7C — ☐ — 60 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

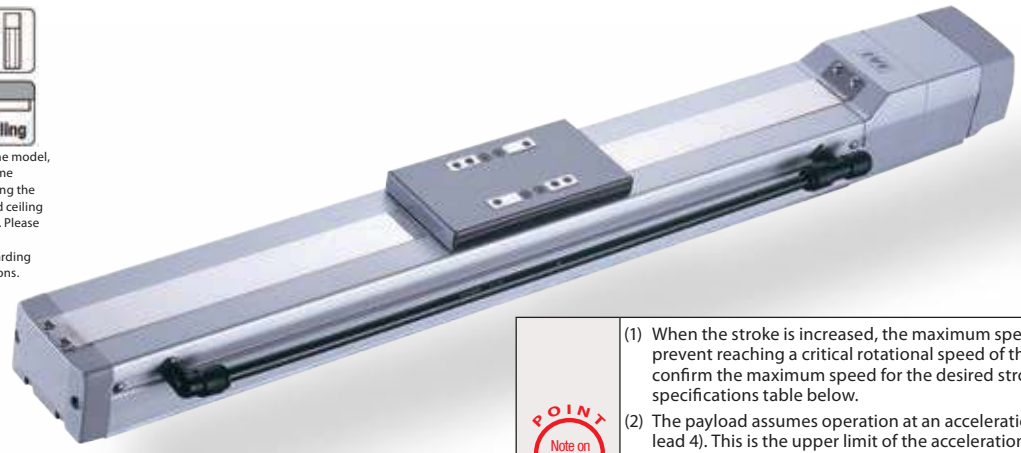
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	60 : Servo motor 60W	16 : 16mm 8 : 8mm 4 : 4mm	50 : 50mm ⁞ 800 : 800mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.



POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.

(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 4). This is the upper limit of the acceleration.

(3) The product complies with ISO Cleanliness Class 4 when it is used in horizontal orientation. It may not be able to comply with Class 4 in side or vertical orientations.

(4) Please refer to the RC General catalog for more information about push-motion operation.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2CR-SA7C-①-60-16-②-③-④-⑤	60	16	12	3	63.8	50~800 (Every 50mm)
RCS2CR-SA7C-①-60-8-②-③-④-⑤		8	25	6	127.5	
RCS2CR-SA7C-①-60-4-②-③-④-⑤		4	40	12	255.0	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~600 (Every 50mm)	~700 (mm)	~800 (mm)	Suction amount (Nℓ/min)
16	800	640	480	50
8	400	320	240	30
4	200	160	120	10

(Unit for max. speed: mm/s)

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Brake (Cable exit to end)	**BE**	Please refer to the RC General catalog for the details of the options.	
Brake (Cable exit to left side)	**BL**		
Brake (Cable exit to right side)	**BR**		
-	-		
Non-motor end specification	**NM**		
Vacuum joint on opposite side	**VR**		

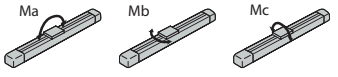
Actuator Specifications

Item	Description
Drive system	Ball screw Ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 50.4N•m, Mb: 71.9N•m, Mc: 138.0N•m
Dynamic allowable moment (*)	Ma: 20.7N•m, Mb: 29.6N•m, Mc: 56.7N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

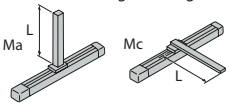
•Reference for overhang load length/Ma: 230mm or less, Mb, Mc: 230mm or less

(*) Assumes a standard rated life of 5000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



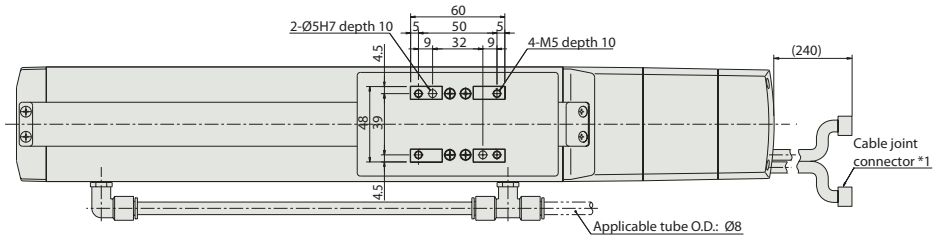
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

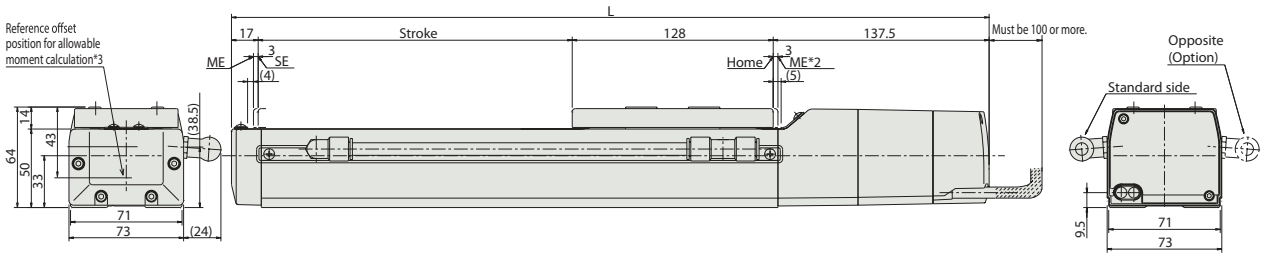
Dimensions

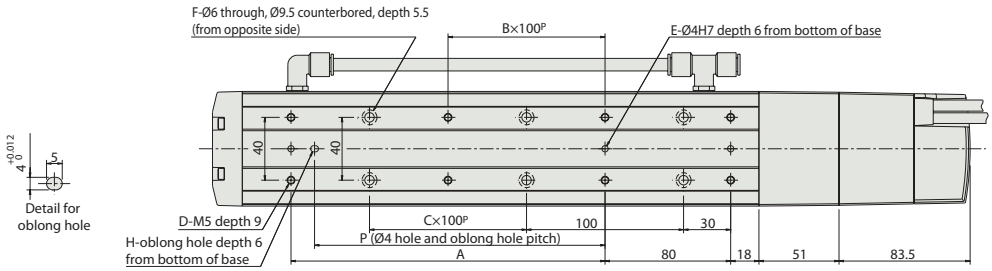
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*If the non-motor end (NM) specification is selected, the dimension on the motor side (the distance to the home from ME) and that on the front side are reversed.

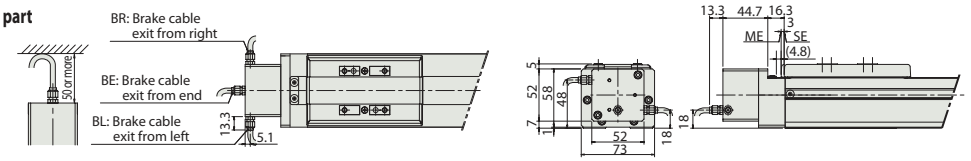






Dimensions for the brake part

* Brake equipped types are 43mm longer (56.3mm longer for cable exit from side) and 0.6kg heavier.



*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.

*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
The dimensions in brackets ( ) are reference.

*3 Reference position used when calculating the allowable moment.

■Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	332.5	382.5	432.5	482.5	532.5	582.5	632.5	682.5	732.5	782.5	832.5	882.5	932.5	982.5	1,032.5	1,082.5
A	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
B	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
C	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
F	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
P	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
Mass (kg)	2.6	2.8	3.0	3.2	3.5	3.7	3.9	4.1	4.4	4.6	4.8	5.0	5.3	5.5	5.7	5.9

RCS3CR-SA8C

Cleanroom RoboCylinder, Slider Type, Actuator Width 80mm, 230V Servo Motor, Coupled Motor, Aluminum Base

■**Model Specification Items**

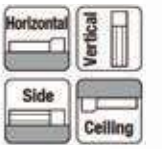
RCS3CR — SA8C — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	100 : Servo motor 100W 150 : Servo motor 150W	30 : 30mm 20 : 20mm 10 : 10mm 5 : 5mm	50 : 50mm ↓ 1100 : 1100mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify a code indicating your desired cable exit direction.

*Controller is not included.

CE RoHS

* CE conformity as standard option.



* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 5) for horizontal, and 0.2G for vertical use.
(3) The payload drops when the acceleration is increased.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS3CR-SA8C-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50~1100 (Every 50mm)
RCS3CR-SA8C-①-100-20-②-③-④-⑤		20	20	4	84.9	
RCS3CR-SA8C-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3CR-SA8C-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3CR-SA8C-①-150-30-②-③-④-⑤	150	30	12	3	85.1	
RCS3CR-SA8C-①-150-20-②-③-④-⑤		20	30	6	127.6	
RCS3CR-SA8C-①-150-10-②-③-④-⑤		10	60	12	255.3	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~650 (Every 50mm)	700	750	800	850	900	950	1000	1050	1100	Suction amount (Nℓ/min)
30	1800	1510	1340	1190	1070	960	870	790	720	660	130 (160) (*)
20	1200	1010	890	790	710	640	580	530	480	440	110
10	600	500	440	390	350	320	290	260	240	220	60
5	300	250	220	190	170	160	140	130	120	110	30

(Unit for max. speed: mm/s)

(*) 130Nℓ/min if the speed is 1500mm/s or below, or 160Nℓ/min if the speed exceeds 1500mm/s.

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Cables exit from back left	**A1E**	Please refer to the RC General catalog for the details of the options.	
Cables exit from left side	**A1S**		
Cables exit from back right	**A3E**		
Cables exit from right side	**A3S**		
Brake	**B**		
-	**-**		
Non-motor end specification	**NM**		
L-shaped suction joint specification	**VL**		
No suction joint	**VN**		

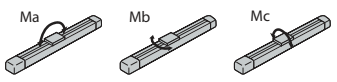
Actuator Specifications

Item	Description
Drive system	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum with white alumite treatment
Static allowable moment	Ma: 113.5N•m, Mb: 177N•m, Mc: 266N•m
Dynamic allowable moment (*)	Ma: 26.9N•m, Mb: 38.4N•m, Mc: 63.1N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

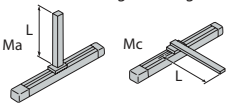
•Reference for overhang load length/Ma: 390mm or less, Mb, Mc: 390mm or less

(*) Assumes a standard rated life of 10000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



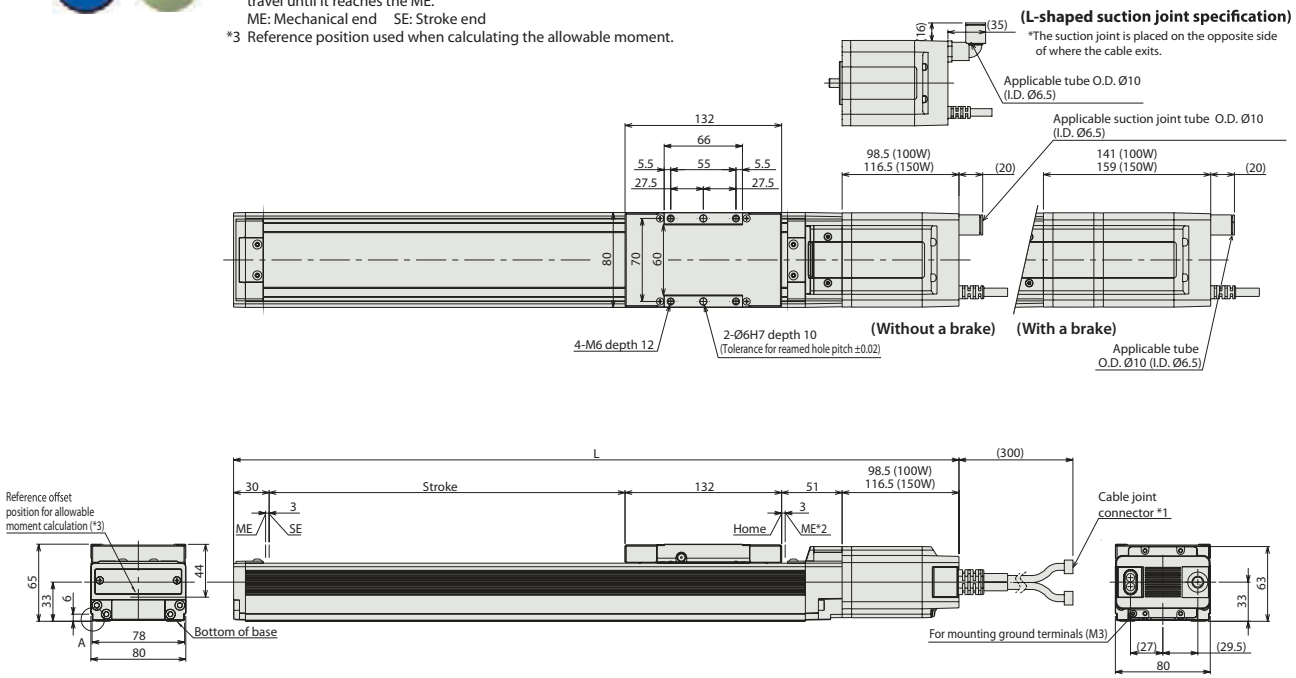
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

Dimensions

CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.



■Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1,050	1,100
L	100W	Without brake	361.5	411.5	461.5	511.5	561.5	611.5	661.5	711.5	761.5	811.5	861.5	911.5	961.5	1,011.5	1,061.5	1,111.5	1,161.5	1,211.5	1,261.5	1,311.5	1,361.5	1,411.5
		With brake	404	454	504	554	604	654	704	754	804	854	904	954	1,004	1,054	1,104	1,154	1,204	1,254	1,304	1,354	1,404	1,454
	150W	Without brake	379.5	429.5	479.5	529.5	579.5	629.5	679.5	729.5	779.5	829.5	879.5	929.5	979.5	1,029.5	1,079.5	1,129.5	1,179.5	1,229.5	1,279.5	1,329.5	1,379.5	1,429.5
		With brake	422	472	522	572	622	672	722	772	822	872	922	972	1,022	1,072	1,122	1,172	1,222	1,272	1,322	1,372	1,422	1,472
A			222	272	322	372	422	472	522	572	622	672	722	772	822	872	922	972	1,022	1,072	1,122	1,172	1,222	1,272
B			34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1,034	1,084
C			84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1,034	1,084	1,134
D			8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28
F			34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84	34	84
N			0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
Mass (kg)	100W	Without brake	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1
		With brake	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2	9.5
	150W	Without brake	2.9	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2
		With brake	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1	9.4	9.7

RCS3CR-SS8C

Cleanroom RoboCylinder, Slider Type, Actuator Width 80mm, 230V Servo Motor, Coupled Motor, Steel Base

■Model Specification Items

RCS3CR — SS8C — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA : Battery-less absolute	100 : Servo motor 100W 150 : Servo motor 150W	30 : 30mm 20 : 20mm 10 : 10mm 5 : 5mm	50 : 50mm ↓ 1000 : 1000mm (Can be set in 50mm increments)	T2 : SCON-CB	N : No cable P : 1m S : 3m M : 5m X☐☐ : Specified length R☐☐ : Robot cable	Please refer to the options table below. * Please specify a code indicating your desired cable exit direction.

*Controller is not included.

CE RoHS

* CE conformity as standard option.

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.

POINT Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 5) for horizontal, and 0.2G for vertical use.
(3) The payload drops when the acceleration is increased.

Actuator Specifications

■Lead and Payload

Model number	Motor (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS3CR-SS8C-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50~1000 (Every 50mm)
RCS3CR-SS8C-①-100-20-②-③-④-⑤		20	20	4	84.9	
RCS3CR-SS8C-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3CR-SS8C-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3CR-SS8C-①-150-30-②-③-④-⑤	150	30	12	3	85.1	
RCS3CR-SS8C-①-150-20-②-③-④-⑤		20	30	6	127.6	
RCS3CR-SS8C-①-150-10-②-③-④-⑤		10	60	12	255.3	

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

■Stroke, Max. Speed and Suction Amount

Lead \ Stroke	50~600 (Every 50mm)	650	700	750	800	850	900	950	1000	Suction amount (NL/min)
30	1800	1660	1460	1295	1155	1035	935	850	775	160 (190) (*)
20	1200	1105	970	860	770	690	625	565	515	120
10	600	550	485	430	385	345	310	280	255	80
5	300	275	240	215	190	170	150	140	125	30

(Unit for max. speed: mm/s)

(*) 160NL/min if the speed is 1500mm/s or below, or 190NL/min if the speed exceeds 1500mm/s.

Cable Length

Type	Cable code	
Standard type	**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)	

*Please refer to P. 84 for maintenance cables.

Options

Name	Option code	Reference page	
Cables exit from back left	**A1E**	Please refer to the RC General catalog for the details of the options.	
Cables exit from left side	**A1S**		
Cables exit from back right	**A3E**		
Cables exit from right side	**A3S**		
Brake	**B**		
-	**-**		
Non-motor end specification	**NM**		
L-shaped suction joint specification	**VL**		

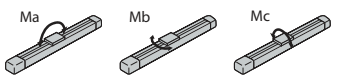
Actuator Specifications

Item	Description
Drive system	Ball screw Ø16mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Dedicated alloy steel
Static allowable moment	Ma: 198.9N•m, Mb: 198.9N•m, Mc: 416.7N•m
Dynamic allowable moment (*)	Ma: 43.4N•m, Mb: 43.4N•m, Mc: 90.9N•m
Cleanliness	ISO class 4 (US class 10 and M2.5 acc. to FED STD 209D and 209E)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

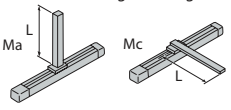
•Reference for overhang load length/Ma: 450mm or less, Mb, Mc: 450mm or less

(*) Assumes a standard rated life of 10000km. The operational life will vary depending on operation and installation conditions.

Allowable load moment directions



Overhang load lengths



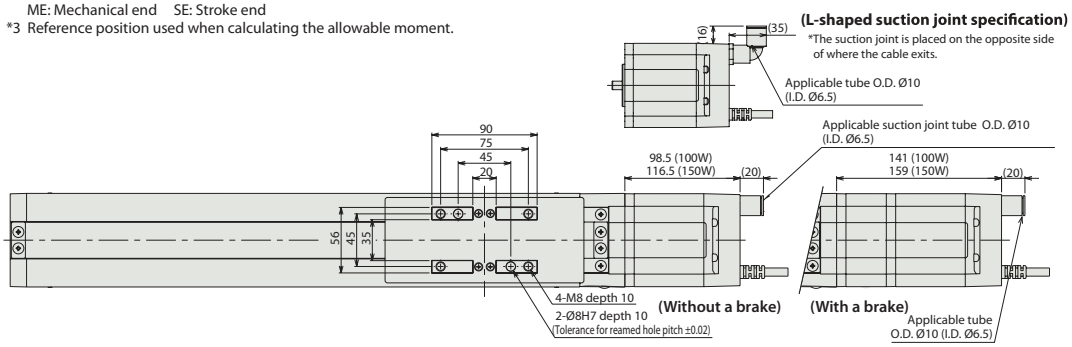
Please refer to the RC General catalog for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

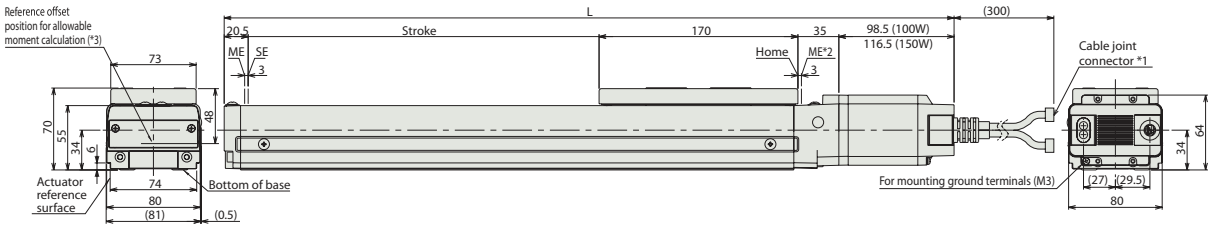
Dimensions

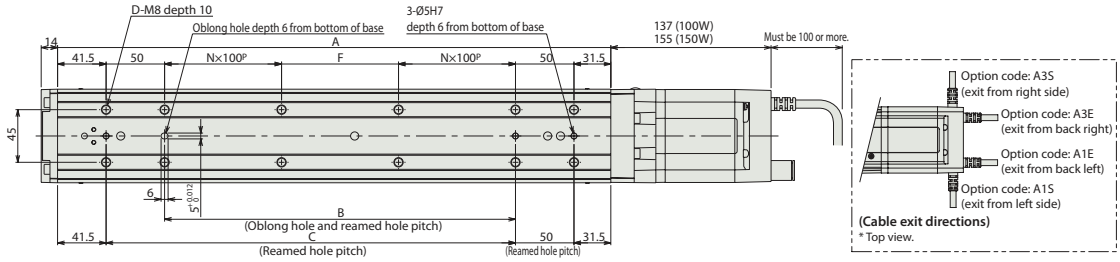
CAD drawings can be downloaded from our website. www.robocylinder.de

2D CAD 3D CAD

*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical end SE: Stroke end
*3 Reference position used when calculating the allowable moment.





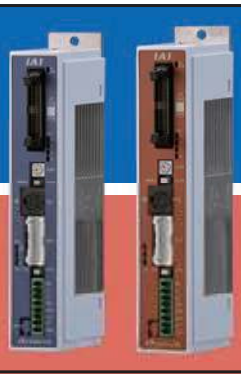


■Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000
L	100W	Without brake	374	424	474	524	574	624	674	724	774	824	874	924	974	1,024	1,074	1,124	1,174	1,224	1,274	1,324
		With brake	416.5	466.5	516.5	566.5	616.5	666.5	716.5	766.5	816.5	866.5	916.5	966.5	1,016.5	1,066.5	1,116.5	1,166.5	1,216.5	1,266.5	1,316.5	1,366.5
	150W	Without brake	392	442	492	542	592	642	692	742	792	842	892	942	992	1,042	1,092	1,142	1,192	1,242	1,292	1,342
		With brake	434.5	484.5	534.5	584.5	634.5	684.5	734.5	784.5	834.5	884.5	934.5	984.5	1,034.5	1,084.5	1,134.5	1,184.5	1,234.5	1,284.5	1,334.5	1,384.5
A			223	273	323	373	423	473	523	573	623	673	723	773	823	873	923	973	1,023	1,073	1,123	1,173
B			50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000
C			100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1,050
D			8	8	8	10	12	12	12	14	16	16	16	18	20	20	20	22	24	24	24	26
F			50	100	150	0	50	100	150	0	50	100	150	0	50	100	150	0	50	100	150	0
N			0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
Mass (kg)	100W	Without brake	5.3	5.8	6.4	6.9	7.5	8.0	8.6	9.1	9.7	10.2	10.8	11.3	11.9	12.4	13.0	13.5	14.1	14.6	15.2	15.7
		With brake	5.7	6.2	6.8	7.3	7.9	8.4	9.0	9.5	10.1	10.6	11.2	11.7	12.3	12.8	13.4	13.9	14.5	15.0	15.6	16.1
	150W	Without brake	5.3	5.9	6.4	7.0	7.5	8.1	8.6	9.2	9.7	10.3	10.8	11.4	11.9	12.5	13.0	13.6	14.1	14.7	15.2	15.8
		With brake	5.8	6.3	6.9	7.4	8.0	8.5	9.1	9.6	10.2	10.7	11.3	11.8	12.4	12.9	13.5	14.0	14.6	15.1	15.7	16.2

ACON-CB
Position Controller for RoboCylinder

DCON-CB
Position Controller for Micro Cylinder



Feature

1 Compatible with Battery-less Absolute Encoder *ACON-CB only

RCA equipped with a battery-less absolute encoder is supported.
Since no battery is needed to retain position data, less space is required in the control panel, which in turn leads to lower both initial and maintenance costs of your equipment.

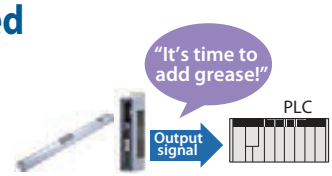
2 Compatible with Many Major Field Networks

DeviceNet, PROFIBUS, EtherCAT, CompoNet, PROFINET, CC-Link, EtherNet/IP

Compatible with DeviceNet, CC-Link, PROFIBUS-DP, PROFINET IO, CompoNet, EtherCAT, and EtherNet/IP.
Field network connection allows for less-wiring, direct numerical commands, position number commands, current position reading, and more.

3 Maintenance Timings Can Be Checked Using the Traveled Distance Calculation Function

The total distance traveled by the actuator is calculated and recorded in the controller.
If the preset distance is exceeded, a signal is output from the controller.
This function can be used to check when to add grease or perform the next periodic inspection.



A signal is automatically output to the PLC when the preset maintenance/inspection timing (number of operations or distance traveled) is reached.

<Maintenance information>

4 The Calendar Function Can Retain Alarm Timestamps

The built-in calendar function (clock function) records alarms and other events with timestamps, which helps analyze the causes of troubles should they occur.

5 Equipped with the Offboard Tuning Function *ACON-CB only

The offboard tuning function lets you set an optimal gain for the load.

List of Models

Models			ACON-CB / DCON-CB						
External view									
I/O type			Positioner type	Pulse-train type	Field Network type				
					DeviceNet	CC-Link	PROFIBUS-DP	CompoNet	EtherCAT	EtherNet/IP	PROFINET IO
I/O type model number			NP/PN	PLN/PLP	DV	CC	PR	CN	EC	EP	PRT
ACON-CB	Battery-less absolute spec. Incremental spec.		○	○	○	○	○	○	○	○	○
	Simple absolute spec.	With absolute battery	○	—	○	○	○	○	○	○	○
		With absolute battery unit	○	—	○	○	○	○	○	○	○
		Without absolute battery	○	—	○	○	○	○	○	○	○
	Absolute specification		○	—	○	○	○	○	○	○	○
DCON-CB	Incremental specification		○	○	○	○	○	○	○	○	○

* Please choose a simple absolute spec. when you use incremental spec. of RCA and RCA2 series actuator as absolute specification.
When you use absolute spec. of RCA series actuator, please choose an absolute spec. controller.

Model Specification Items

ACON — Series — Type — Motor Type — Encoder Type — Option — I/O Type — I/O Cable Length — 0 Supply Power — Simple Absolute Option — Mounting Option

Type	
CB	Standard type
CGB	Safety category compliant

Motor Type	
2	2W motor
5	5W motor
5S	5W motor (*1)
10	10W motor
20	20W motor
20S	20W motor (*2)
30	30W motor

(*1) When connecting RCA2-SA2AC/RA2AC
(*2) When connecting RCA-RA3□/RGS3□/RGD3□/RCA2-SA4□/TA5□

Encoder Type	
WAI	Battery-less absolute/incremental
A	Absolute

Option	
HA	High accel./decel.
LA	Energy-saving

I/O Type	
NP	PIO (NPN)
PN	PIO (PNP)
PLN	Pulse-train (NPN)
PLP	Pulse-train (PNP)
DV	DeviceNet
CC	CC-Link
PR	PROFIBUS-DP
CN	CompoNet
EC	EtherCAT
EP	EtherNet/IP
PRT	PROFINET IO

I/O Cable Length	
0	No cable
2	2m
3	3m
5	5m

* If you choose a field network specification, the length of I/O cable will be "0"

0 Supply Power	
0	DC24V

Simple Absolute Option	
(Blank)	Battery-less absolute spec. Incremental spec. Absolute spec.
AB	Simple absolute spec. (With absolute battery)
ABU	Simple absolute spec. (With absolute battery unit)
ABUN	Simple absolute spec. (Without absolute battery / battery unit)

* Simple absolute spec. can be chosen when the actuator's encoder type is incremental type.

Mounting Option	
(Blank)	Screw mounting
DN	DIN rail mounting

DCON — Series — Type — Motor Type — I — Encoder Type — I/O Type — I/O Cable Length — 0 Supply Power — Mounting Option

Type	
CB	Standard type
CGB	Safety category compliant

Motor Type	
3	2.5W DC brush-less motor

Encoder Type	
I	Incremental

I/O Type	
NP	PIO (NPN)
PN	PIO (PNP)
PLN	Pulse-train (NPN)
PLP	Pulse-train (PNP)
DV	DeviceNet
CC	CC-Link
PR	PROFIBUS-DP
CN	CompoNet
EC	EtherCAT
EP	EtherNet/IP
PRT	PROFINET IO

I/O Cable Length	
0	No cable
2	2m
3	3m
5	5m

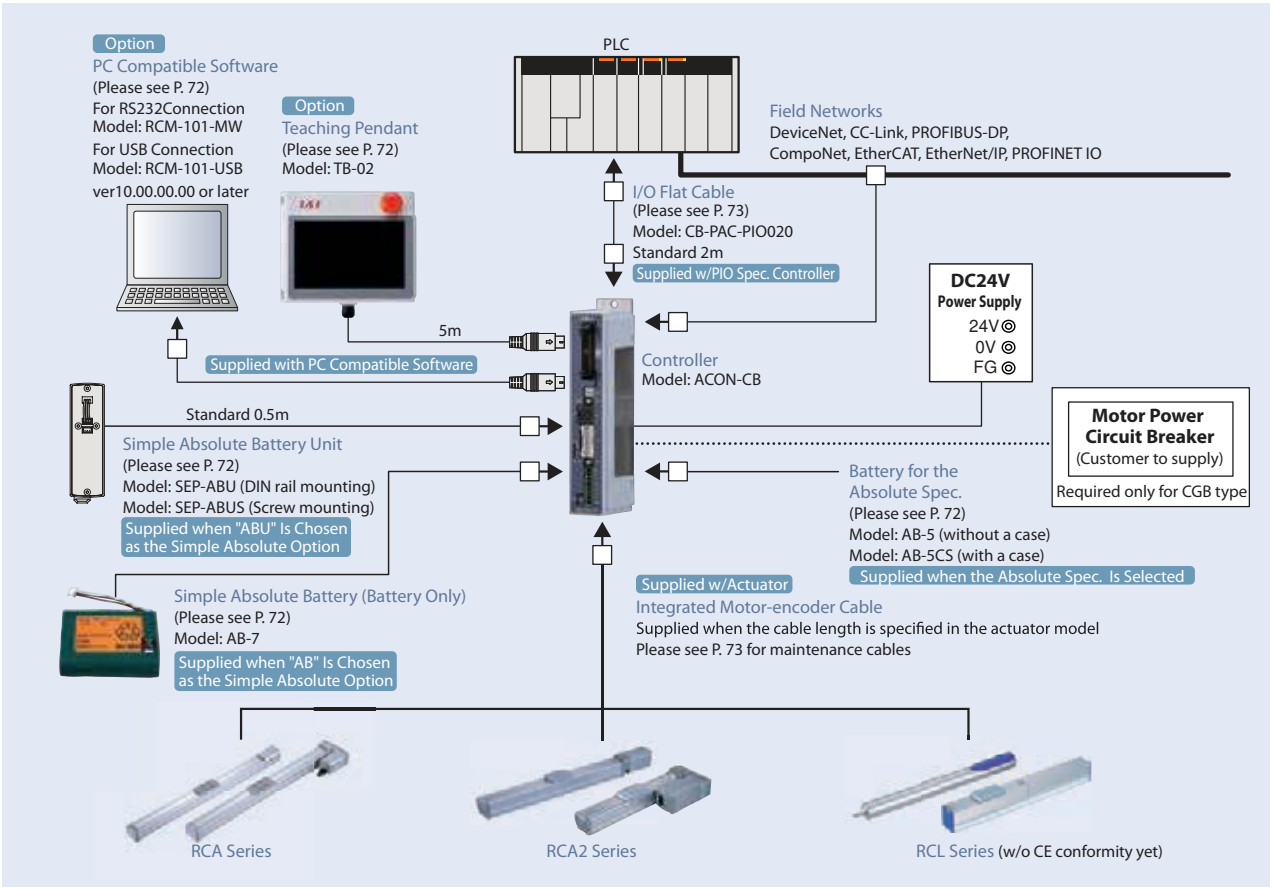
* If you choose a field network specification, the length of I/O cable will be "0"

0 Supply Power	
0	DC24V

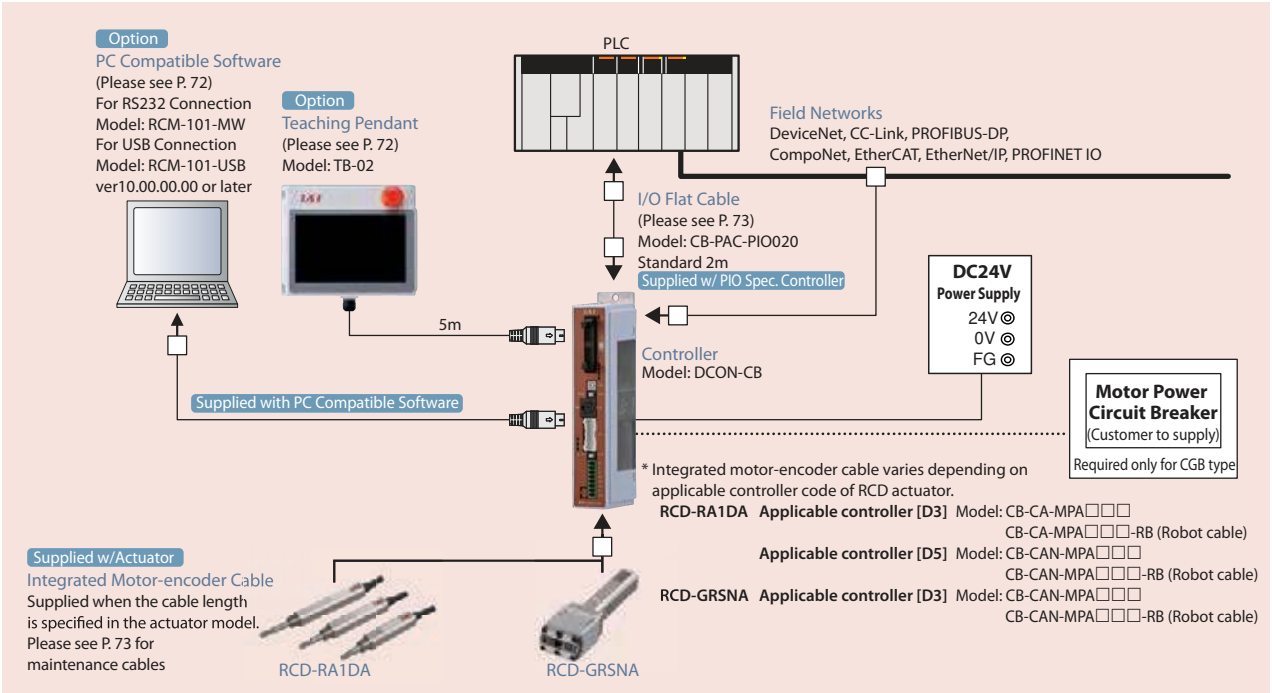
Mounting Option	
(Blank)	Screw mounting
DN	DIN rail mounting

System Configuration

<ACON-CB/CGB>



<DCON-CB/CGB>



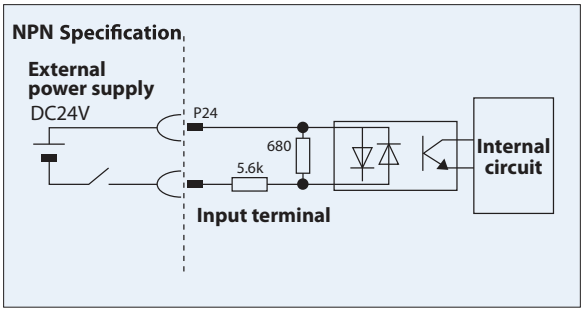
PIO I/O Interface (Common to ACON-CB/DCON-CB)

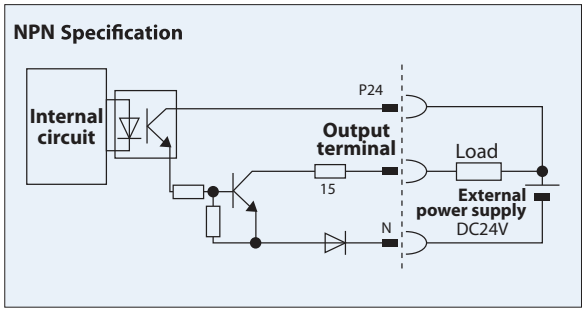
■Input Part External Input Specification

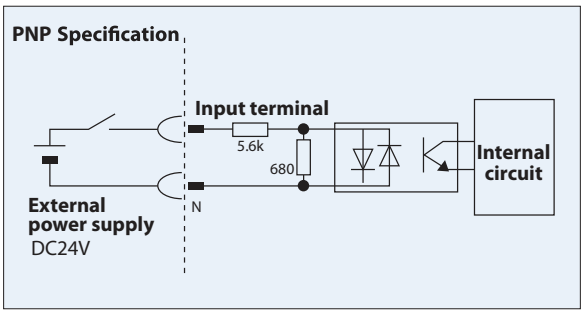
Item	Specification
Input voltage	DC24V ±10%
Input current	5mA 1 circuit
ON/OFF voltage	ON voltage DC18V Min. OFF voltage DC6V Max.

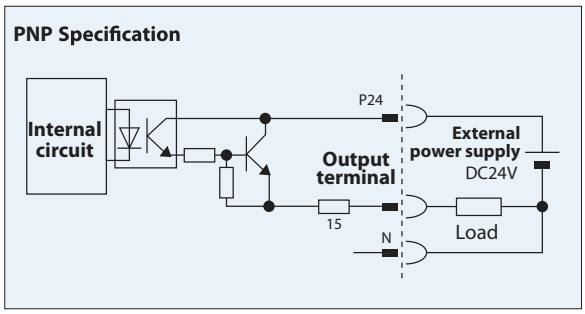
■Output Part External Output Specification

Item	Specification
Load voltage	DC24V
Max. load current	50mA 1 circuit
Leak current	2mA Max. / point









Types of PIO Patterns (Control Patterns) (Common to ACON-CB/DCON-CB)

There are 8 types of control methods ACON-CB and DCON-CB support.
Please select in Parameter No. 25 ("PIO Pattern selection") the pattern which best suits your purpose of use.

Type	Set value of Parameter No. 25	Mode	Summary
PIO Pattern 0	0 (Factory setting)	Positioning mode (Standard type)	Number of positioning points: 64 points Position number command: Binary Coded Decimal (BCD) Zone signal output (*1): 1 point Position zone signal output (*2): 1 point
PIO Pattern 1	1	Teaching mode (Teaching type)	Number of positioning points: 64 points Position number command: Binary Coded Decimal (BCD) Position zone signal output (*2): 1 point Jog (inching) operation using PIO signals is supported Current position data can be written to the position table using PIO signals
PIO Pattern 2	2	256-point mode (256 positioning points)	Number of positioning points: 256 points Position number command: Binary Coded Decimal (BCD) Position zone signal output (*2): 1 point
PIO Pattern 3	3	512-point mode (512 positioning points)	Number of positioning points: 512 points Position number command: Binary Coded Decimal (BCD) No position zone signal output
PIO Pattern 4	4	Solenoid valve mode 1 (7-point type)	Number of positioning points: 7 points Position number command: Individual number signal ON Zone signal output (*1): 1 point Position zone signal output (*2): 1 point
PIO Pattern 5	5	Solenoid valve mode 2 (3-point type)	Number of positioning points: 3 points Position number command: Individual number signal ON Completion signal: A signal equivalent to a LS (limit switch) signal can be output Zone signal output (*1): 1 point Position zone signal output (*2): 1 point
PIO Pattern 6 (Note 1)	6	Pulse-train mode for incremental	Differential pulse input (200 kpps max.) Home return function Zone signal output (*1): 2 points No feedback pulse output
PIO Pattern 7 (Note 1)	7	Pulse-train mode for absolute	Setting a reference point (1 place) Differential pulse input (200 kpps max.) Home return function Zone signal output (*1): 2 points No feedback pulse output

(*1) Zone signal output: A desired zone is set by Parameter No. 1 and 2 or 23 and 24, and the set zone always remains effective once home return has completed.
(*2) Position zone signal output: This function is available as part of a position number. A desired zone is set in the position table and becomes effective only when the corresponding position is specified, but not with commands specifying other positions.
(Note 1) Pulse Train Control Model is available only if the pulse train control type is indicated (from ACON-PLN/PLP and DCON-PLN/PLP) at the time of purchase.

PIO Patterns and Signal Assignments (Common to ACON-CB/DCON-CB)

The table below lists the signal assignments for the I/O flat cable under different PIO patterns. Please connect an external device (such as PLC) according to this table.

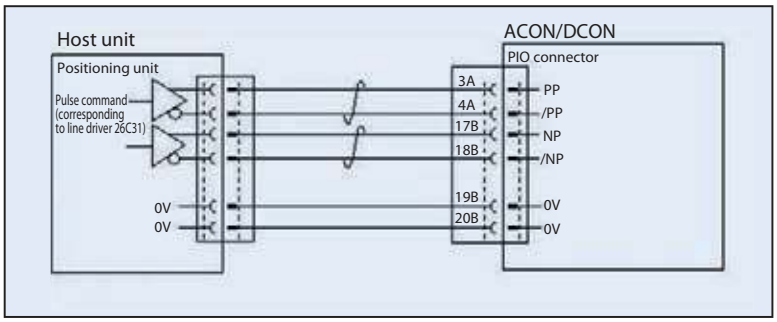
Pin number	Category	PIO function	Parameter No. 25, "PIO pattern selection"					
			0	1	2	3	4	5
			Positioning mode	Teaching mode	256-point mode	512-point mode	Solenoid valve 1	Solenoid valve 2
	Input	Number of positioning points	64 points	64 points	256 points	512 points	7 points	3 points
		Home return signal	○	○	○	○	○	—
		Jog signal	—	○	—	—	—	—
		Teaching signal (writing current position)	—	○	—	—	—	—
		Brake release	○	—	○	○	○	○
	Output	Moving signal	○	○	—	—	—	—
		Zone signal	○	△ (*1)	△ (*1)	—	○	○
		Position zone signal	○	○	○	—	○	○
1A	24V	P24						
2A	24V	P24						
3A	Pulse Input	–						
4A		–						
5A	Input	IN0	PC1	PC1	PC1	PC1	ST0	ST0
6A		IN1	PC2	PC2	PC2	PC2	ST1	ST1(JOG+)
7A		IN2	PC4	PC4	PC4	PC4	ST2	ST2 (*2)
8A		IN3	PC8	PC8	PC8	PC8	ST3	–
9A		IN4	PC16	PC16	PC16	PC16	ST4	–
10A		IN5	PC32	PC32	PC32	PC32	ST5	–
11A		IN6	–	MODE	PC64	PC64	ST6	–
12A		IN7	–	JISL	PC128	PC128	–	–
13A		IN8	–	JOG+	–	PC256	–	–
14A		IN9	BKRL	JOG–	BKRL	BKRL	BKRL	BKRL
15A		IN10	RMOD	RMOD	RMOD	RMOD	RMOD	RMOD
16A		IN11	HOME	HOME	HOME	HOME	HOME	–
17A		IN12	*STP	*STP	*STP	*STP	*STP	–
18A		IN13	CSTR	CSTR/PWRT	CSTR	CSTR	–	–
19A		IN14	RES	RES	RES	RES	RES	RES
20A		IN15	SON	SON	SON	SON	SON	SON
1B	Output	OUT0	PM1(ALM1)	PM1(ALM1)	PM1(ALM1)	PM1(ALM1)	PE0	LSO
2B		OUT1	PM2(ALM2)	PM2(ALM2)	PM2(ALM2)	PM2(ALM2)	PE1	LS1(TRQS)
3B		OUT2	PM4(ALM4)	PM4(ALM4)	PM4(ALM4)	PM4(ALM4)	PE2	LS2 (*2)
4B		OUT3	PM8(ALM8)	PM8(ALM8)	PM8(ALM8)	PM8(ALM8)	PE3	–
5B		OUT4	PM16	PM16	PM16	PM16	PE4	–
6B		OUT5	PM32	PM32	PM32	PM32	PE5	–
7B		OUT6	MOVE	MOVE	PM64	PM64	PE6	–
8B		OUT7	ZONE1	MODES	PM128	PM128	ZONE1	ZONE1
9B		OUT8	PZONE/ZONE2	PZONE/ZONE1	PZONE/ZONE1	PM256	PZONE/ZONE2	PZONE/ZONE2
10B		OUT9	RMDS	RMDS	RMDS	RMDS	RMDS	RMDS
11B		OUT10	HEND	HEND	HEND	HEND	HEND	HEND
12B		OUT11	PEND	PEND/WEND	PEND	PEND	PEND	–
13B		OUT12	SV	SV	SV	SV	SV	SV
14B		OUT13	*EMGS	*EMGS	*EMGS	*EMGS	*EMGS	*EMGS
15B		OUT14	*ALM	*ALM	*ALM	*ALM	*ALM	*ALM
16B		OUT15	*BALM (*3)/*ALML	*BALM (*3)/*ALML	*BALM (*3)/*ALML	*BALM (*3)/*ALML	*BALM (*3)/*ALML	*BALM (*3)/*ALML
17B	Pulse Input	–						
18B		–						
19B	0V	N						
20B	0V	N						

(*) In the table above, asterisk symbol ("*") accompanying each code indicates a negative logic signal. PM1 to PM8 are alarm binary code output signals that are used when an alarm generates.
(*1) In all PIO patterns other than 3, this signal can be switched with PZONE by setting Parameter No. 149 accordingly.
(*2) The setting will not become effective until the home return is completed.
(*3) This signal is dedicated only for ACON-CB.

Reference: Negative logic signal
Signals denoted by "*" are negative logic signals. Negative logic input signals are processed when turned OFF.
Negative logic output signals normally remain ON while the power is supplied, and turn OFF when the signal is output.

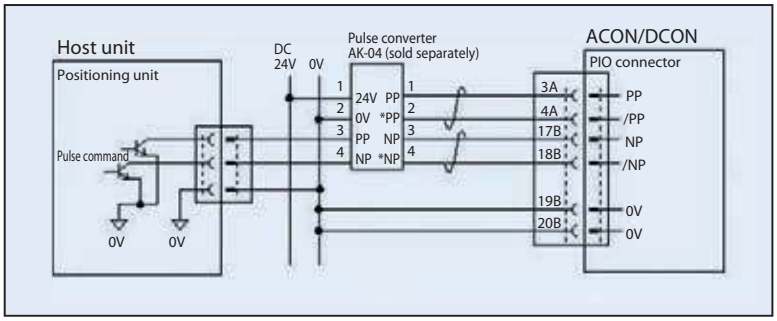
Pulse-train Control Circuit (Common to ACON-CB/DCON-CB)

■Host Unit = Differential Type



■Host Unit = Open Collector Type

The AK-04 (optional) is needed to input pulses.

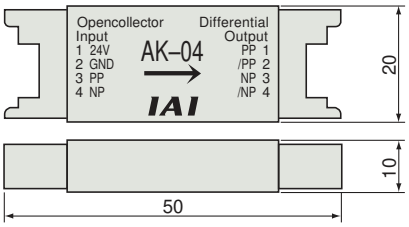


Pulse Converter: AK-04

Open-collector command pulses are converted to differential command pulses.
Use this converter if the host controller outputs open-collector pulses.

Specification

Item	Specification
Input power	DC24V ±10% (max. 50mA)
Input pulse	Open-collector (Collector current: max. 12mA)
Input frequency	200kHz or less
Output pulse	Differential output (max. 10mA) (26C31 or equiv.)
Mass	10g or less (excluding cable connectors)
Accessories	37104-3122-000L (3M) (e-CON connector) x 2 Applic. wire: AWG No. 24~26



Caution: Use the same power supply for open collector input/output to/from the host and for the AK-04.

Command Pulse Input Patterns

	Command pulse-train pattern	Input terminal	Forward	Reverse
Negative logic	Forward pulse-train	PP-/PP		
	Reverse pulse-train	NP-/NP		
	A forward pulse-train indicates the amount of motor rotation in the forward direction, while a reverse pulse-train indicates the amount of motor rotation in the reverse direction.			
	Pulse-train	PP-/PP		
	Sign	NP-/NP	Low	High
	The command pulses indicate the amount of motor rotation, while the sign indicates the rotating direction.			
	Phase A/B pulse-train	PP-/PP		
		NP-/NP		
	Command phases A and B having a 90° phase difference (multiplier is 4) indicate the amount of rotation and the rotating direction.			
Positive logic	Forward pulse train	PP-/PP		
	Reverse pulse-train	NP-/NP		
	Pulse-train	PP-/PP		
	Sign	NP-/NP	High	Low
	Phase A/B pulse-train	PP-/PP		
		NP-/NP		

I/O Signals in Pulse-train Control Mode (Common to ACON-CB/DCON-CB)

The table below lists the signal assignments for the flat cable in the pulse-train control mode. Please connect an external device (such as PLC) according to this table.

Parameter No. 25 (PIO patterns 6/7)					
Pin number	Category	I/O number	Signal abbreviation	Signal name	Function description
1A	24V		P24	Power supply	I/O power supply +24 V
2A	24V		P24	Power supply	I/O power supply +24 V
3A	Pulse input		PP	Differential pulse-train input (+)	Differential pulses are input from the host. Up to 200 kpps can be input.
4A			/PP	Differential pulse-train input (-)	
5A	Input	IN0	SON	Servo ON	The servo is ON while this signal is ON, and OFF while the signal is OFF.
6A		IN1	RES	Reset	Present alarms are reset when this signal is turned ON.
7A		IN2	HOME	Home return	Home return operation is performed when this signal is turned ON.
8A		IN3	TL	Torque limit selection	When this signal is turned ON, the motor torque is limited to the value set by the parameter.
9A		IN4	CSTP	Forced stop	The actuator is forcibly stopped when this signal has remained ON for 16ms or more. The actuator decelerates to a stop at the torque set in the controller and the servo turns OFF.
10A		IN5	DCLR	Deviation counter clear	This signal clears the deviation counter.
11A		IN6	BKRL	Forced brake release	The brake is forcibly released.
12A		IN7	RMOD	Operation mode switching	The operation mode can be switched when the MODE switch on the controller is set to AUTO. (AUTO when this signal is OFF, and to MANU when the signal is ON.)
13A		IN8	RSTR*1	Reference position movement command	When this signal turns ON, the movement to the position set in parameter No. 167 starts. *1: Used only in PIO Pattern 7
14A		IN9	NC	—	Not used
15A		IN10	NC	—	Not used
16A		IN11	NC	—	Not used
17A		IN12	NC	—	Not used
18A		IN13	NC	—	Not used
19A		IN14	NC	—	Not used
20A		IN15	NC	—	Not used
1B	Output	OUT0	PWR	System ready	This signal turns ON when the controller becomes ready after the main power has been turned on.
2B		OUT1	SV	Servo ON status	This signal turns ON when the servo is ON.
3B		OUT2	INP	Positioning complete	This signal turns ON when the amount of remaining travel pulses in the deviation counter falls within the in-position band.
4B		OUT3	HEND	Home return complete	This signal turns ON upon completion of home return.
5B		OUT4	TLR	Torque limited	This signal turns ON upon reaching the torque limit while the torque is limited.
6B		OUT5	*ALM	Controller alarm status	This signal turns ON when the controller is normal, and turns OFF when an alarm generates.
7B		OUT6	*EMGS	Emergency stop status	This signal turns ON when the emergency stop of the controller is cancelled, and turns OFF when an emergency stop is actuated.
8B		OUT7	RMDS	Operation mode status	The operation mode status is output. This signal turns ON when the controller is in the manual mode.
9B		OUT8	ALM1	Alarm code output signal	An alarm code is output when an alarm generates. For details, refer to the operation manual.
10B		OUT9	ALM2		
11B		OUT10	ALM4		
12B		OUT11	ALM8		
13B		OUT12	*ALML	Minor failure alarm	This signal turns ON when the controller is normal, and turns OFF when a message-level alarm is generated.
14B		OUT13	REND*1	Refernce position movement complete	The signal turns ON when the movement to the reference position set in parameter No. 167 is completed. *1: Used only in PIO Pattern 7
15B		OUT14	ZONE1	Zone signal 1	This signal turns ON when the current position of the actuator falls within the parameter-set range.
16B		OUT15	ZONE2	Zone signal 2	
17B	Pulse input		NP	Differential pulse-train input (+)	Differential pulses are input from the host. Up to 200 kpps can be input.
18B			/NP	Differential pulse-train input (-)	
19B	0V		N	Power supply	I/O power supply 0V
20B	0V		N	Power supply	I/O power supply 0V

(Note) "*" indicates a negative logic signal. Negative logic signals are normally ON while the power is supplied, and turn OFF when the signal is output.

Field Network Specification: Explanation of Operation Modes (Common to ACON-CB/DCON-CB)

If the ACON-CB/DCON-CB is controlled via a field network, you can select one of the following five modes to operate the actuator.
Please note that the data areas required on the PLC side will vary depending on the mode.

■ Mode Descriptions

	Mode	Description
0	Remote I/O mode	Similarly to the PIO specification, this mode operates by directing bytes to ON/OFF via a network. The number of positioning points and functions will vary depending on the operation patterns (PIO patterns) set by the controller's parameters.
1	Position/simple direct value mode	The target position value is directly inputted, while all other operational conditions (speed, acceleration, etc) are set by indicating the position number corresponding to the desired operating conditions from the position data table.
2	Half direct value mode	The actuator is operated by directly inputting values for speed, acceleration/deceleration rate and push current, as well as the target position.
3	Full direct value mode	The actuator is operated by directly inputting values for the target position, speed, acceleration/deceleration rate and push current, etc. In addition, you are able to read the current position, current speed, and the specified current, etc.
4	Remote I/O mode 2	This mode is the same as the remote I/O mode above, with the added functionality of reading current position and the specified current.

■ Required Data Size for Each Network

		DeviceNet	CC-Link	PROFIBUS-DP	CompoNet	EtherCAT	EtherNet/IP	PROFINET IO
0	Remote I/O mode	2 bytes	1 station	2 bytes	2 bytes	2 bytes	2 bytes	2 bytes
1	Position/simple direct value mode	8 bytes	1 station	8 bytes	8 bytes	8 bytes	8 bytes	8 bytes
2	Half direct value mode	16 bytes	2 stations	16 bytes	16 bytes	16 bytes	16 bytes	16 bytes
3	Full direct value mode	32 bytes	4 stations	32 bytes	32 bytes	32 bytes	32 bytes	32 bytes
4	Remote I/O mode 2	12 bytes	1 station	12 bytes	12 bytes	12 bytes	12 bytes	12 bytes

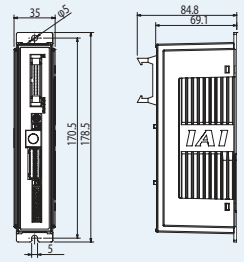
■ List of Functions by Operation Mode

	Remote I/O mode	Position/simple direct value mode	Half direct value mode	Full direct value mode	Remote I/O mode 2
Number of positioning points	512 points	768 points	Unlimited	Unlimited	512 points
Operation by direct position data input	—	○	○	○	—
Diret speed /acceleration input	—	—	○	○	—
Push-motion operation	○	○	○	○	○
Current position read	—	○	○	○	○
Current speed read	—	—	○	○	—
Operation by position number input	○	○	—	—	○
Completed position number read	○	○	—	—	○

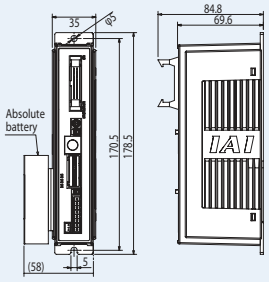
* "O" indicates that the operation is supported, and "— " indicates that it is not supported.

External Dimensions (Common to ACON-CB/DCON-CB)

Battery-less Absolute Specification Incremental Specification (Screw mounting)

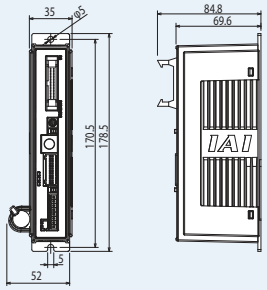


Simple Absolute Specification (Screw mounting)

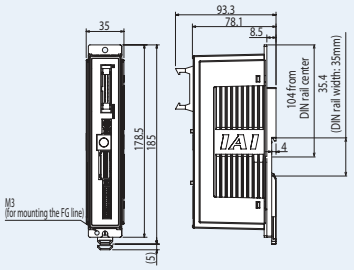


*The absolute battery is installed on the left side when the controller is viewed from the front side.

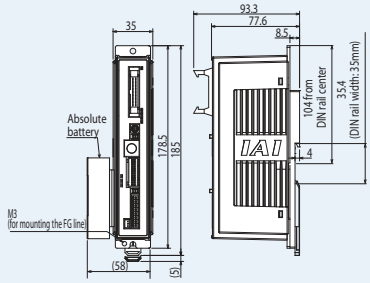
Absolute Specification (Screw mounting)



Battery-less Absolute Specification Incremental Specification (DIN rail mounting)

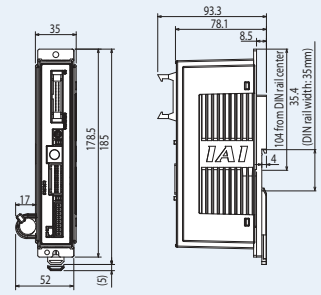


Simple Absolute Specification (DIN rail mounting)

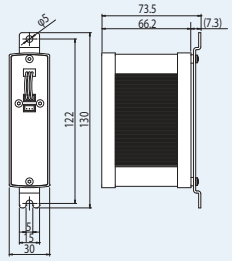


*The absolute battery is installed on the left side when the controller is viewed from the front side.

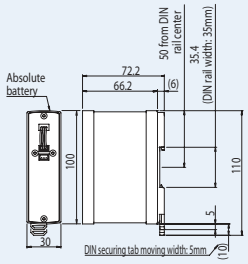
Absolute Specification (DIN rail mounting)



Absolute Battery Unit (Screw mounting)



Absolute Battery Unit (DIN rail mounting)



Specification Table

Item	ACON-CB	DCON-CB
Number of controlled axes	1 axis	
Power supply voltage	DC24V ±10%	
Rush current from power supply	10A (Rush current limiting circuit is provided)	
Cooling method	Natural air cooling	
Off-board tuning	Available (RCA only)	Not available
Backup memory	FRAM (256kbit) Number of rewrite: No limit	
I/O power supply	DC24V ±10%	
Number of I/Os	16IN/16OUT	
Pulse-train specification	Available (differntial type only: AK-04 is used for the open-collector type)	
Fieldbus specification	Available	
Serial communication	RS485: 1 channel (conforming to Modbus protocol)	
Ambient operating temperature	0 to 40°C	
Ambient operating humidity	85% RH or less (non-condensing)	
Protection degree	IP20	
Mass	Battery-less absolute/Incremental spec.: 230g, simple absolute spec.: 240g (incl. battery: 430g)	Incremental specification: 230g
	Absolute spec.: 240g (incl. battery: 260g)	—

Motor Power Capacity

		Motor type	Standard / High-accel/decel		Power-saving	
			Rated [A]	Max. [A]	Rated [A]	Max. [A]
ACON-CB	RCA/RCA2	10W	1.3	4.4	1.3	2.5
		20W	1.3	4.4	1.3	2.5
		30W	1.3	4	1.3	2.2
		20W(20S)	1.7	5.1	1.7	3.4
	RCL (w/o CE conformity yet)	2W	0.8	4.6	—	—
		5W	1	6.4	—	—
		10W	1.3	6.4	—	—
DCON-CB	RCD	3W	0.7	1.5	—	—

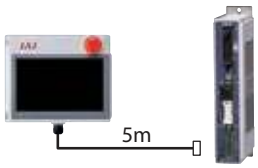
Options (Common to ACON-CB/DCON-CB)

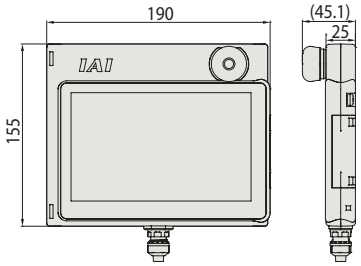
Teaching Pendant

Summary A teaching device that has position input, test operation, monitoring function, etc.

Model **TB-02-C**

Setting





Specification

Rated voltage	DC24V
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20 to 85%RH (Non-condensing)
Environmental resistance	IP20
Mass	470g (TB-02 box only)

PC Compatible Software (Windows Only)

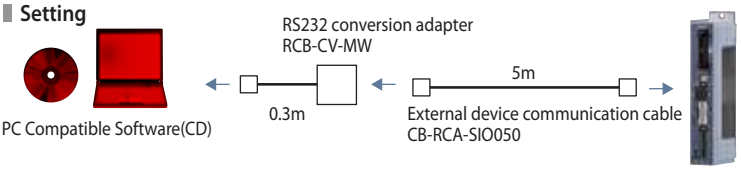
Summary A startup support software for inputting positions, performing test runs, and monitoring. With enhancements for adjustment functions, the startup time is shortened.

XP SP2 or later/Vista/7/8

Model **RCM-101-MW** (External device communication cable and RS232 conversion unit included)

ACON-CB/DCON-CB is supported by Ver.10.00.00.00 or later

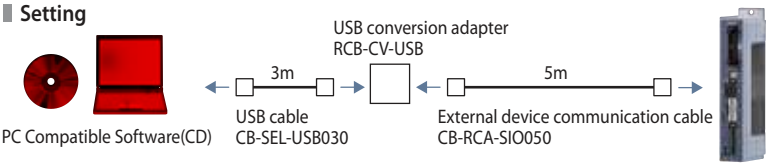
Setting



Model **RCM-101-USB** (External device communication cable, USB conversion adapter, and USB cable included)

ACON-CB/DCON-CB is supported by Ver.10.00.00.00 or later

Setting



Absolute Battery Unit

Summary Battery unit that comes with a simple absolute specification, used to back up the current controller position.

Model **SEP-ABU** (DIN rail mounting specification)
SEP-ABUS (screw mounting specification)

Specification

Item	SEP-ABU / SEP-ABUS
Ambient operating temperature and humidity	0 to 40°C (desirably around 20°C), 95% RH or below (non-condensing)
Operating atmosphere	Free from corrosive gases
Absolute battery	Model: AB-7 (Ni-MH battery/Life: approx. 3 years)
Connection cable to connect between the controller and the absolute battery unit	Model: CB-APSEP-AB005(length: 0.5m)
Mass	Battery box: 140g or less Battery: 140g or less

Replacement Battery (for Simple Absolute Spec.)

Summary The replacement battery for the simple absolute specification.

Model **AB-7**

Replacement Battery (for Absolute Spec.)

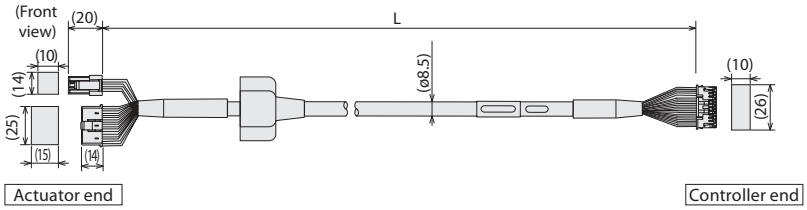
Summary The replacement battery for the absolute specification.

Model **AB-5**

Maintenance Parts

Model Number	CB-ASEP2-MPA □□□	Integrated Motor-Encoder Robot Cable	for [RCA]-[ACON-CB] Connection

*Please indicate the cable length (L) in □□□ (e.g. 080=8m). Maximum length = 20m



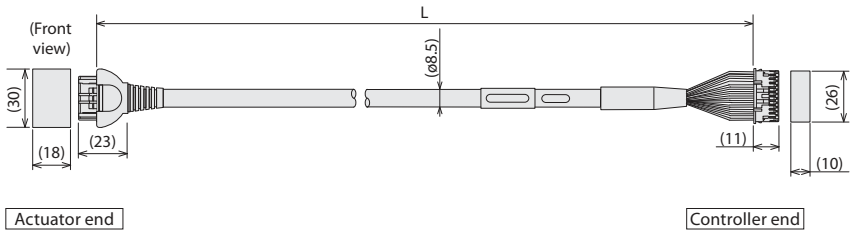
Minimum bending radius R = 68mm or more (Dynamic bending condition)

*Only robot cable is available for this model.

Actuator end Pin number		Controller end Pin number
1	Red [U]	1
2	Yellow [V]	2
	NC	3
	NC	4
3	Black [W]	5
	NC	6
18	Orange [BK+]	7
17	Gray [BK-]	8
7	Black [LS+]	9
16	Brown [LS-]	10
1	White [A+]	11
2	Yellow [A-]	12
3	Red [B+]	13
4	Green [B-]	14
10	Black (identification tape) [Z+]	15
11	Brown (identification tape) [Z-]	16
14	White (identification tape) [VCC]	17
13	Red (identification tape) [VPS/BAT+]	18
15	Yellow (identification tape) [GND]	19
6	Green (identification tape) [spare]	20
12	White [BAT+]	21
5	NC	22
8	NC	23
9	Shield [FG]	24

Model Number	CB-APSEP-MPA □□□	Integrated Motor-Encoder Robot Cable	for [RCA2/RCL]-[ACON-CB] Connection

*Please indicate the cable length (L) in □□□ (e.g. 080=8m). Maximum length = 20m



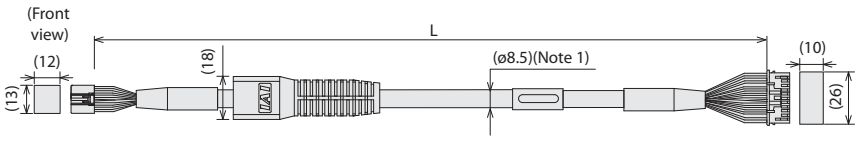
Minimum bending radius R = 68mm or more (Dynamic bending condition)

*Only robot cable is available for this model.

Actuator end Pin number		Controller end Pin number
A1	Black [øA] (U)	1
B1	White [VMM] (V)	2
A2	Brown [ø/A] (W)	5
B2	Green [øB] (-)	3
A3	Yellow [VMM] (-)	4
B3	Red [ø/B] (-)	6
A4	Orange [LS+] (BK+)	7
B4	Gray [LS-] (BK-)	8
A6	White [-] (A+)	11
B6	Yellow [-] (A-)	12
A7	Red [A+] (B+)	13
B7	Green [A-] (B-)	14
A8	Black [B+] (Z+)	15
B8	Brown [B-] (Z-)	16
A5	Black (identification tape) [BK+] (LS+)	9
B5	Brown (identification tape) [BK-] (LS-)	10
A9	Green (identification tape) (GNDLS) (GNDLS)	20
B9	Red (identification tape) (VPS) (VPS)	18
A10	White (identification tape) (VCC) (VCC)	17
B10	Yellow (identification tape) (GND) (GND)	19
A11	NC	21
B11	Shield [FG] (FG)	24
	NC	22
	NC	23

Model Number	CB-CAN-MPA □□□	Integrated Motor-Encoder Cable	for [RCD]-[DCON-CB] Connection
	CB-CAN-MPA □□□-RB	Integrated Motor-Encoder Robot Cable	

*Please indicate the cable length (L) in □□□ (e.g. 080=8m). Maximum length = 20m



Minimum bending radius R = 68mm or more (Dynamic bending condition)

Pin no.	Signal name	Pin no.	Signal name
3	øA/U	1	øA/U
5	VMM/V	2	VMM/V
10	ø A/W	3	ø A/W
9	øB/-	4	øB/-
4	VMM/-	5	VMM/-
15	ø B/-	6	ø B/-
8	LS+/BK+	7	LS+/BK+
14	LS-/BK-	5	LS-/BK-
12	-/A+	11	-/A+
17	-/A-	12	-/A-
1	A+/B+	13	A+/B+
6	A-/B-	14	A-/B-
11	B+/Z+	15	B+/Z+
16	B-/Z-	16	B-/Z-
20	BK+/LS+	9	BK+/LS+
2	BK-/LS-	10	BK-/LS-
21	LS_GND	17	LS_GND
7	VPS	19	VPS
15	VCC	1S	VCC
13	GND	20	GND
19	—	22	—
22	—	21	—
23	—	23	—
24	FG	24	FG

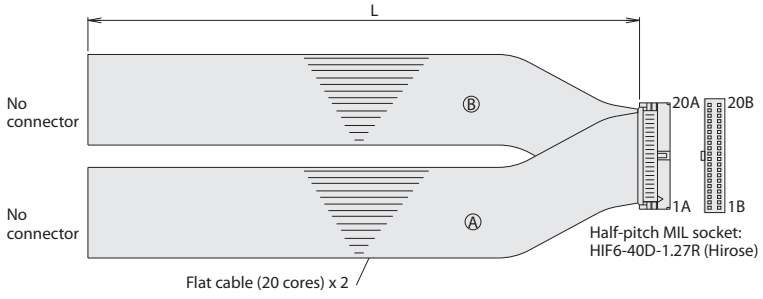
*The robot cable is designed for flex-resistance. Please use the robot cable if the cable has to be installed through the cable track.

Note 1) If the cable length is 5 m or more, the diameter of the non-robot cable becomes ø9.1 while that of the robot cable becomes ø10.

*The cable model code should be CB-CA-MPA□□□/CB-CA-MPA□□□-RB when "D3" is used as the applicable controller with RCD-RA1DA.

Model Number	CB-PAC-PIO □□□	I/O Flat Cable

*Please indicate the cable length (L) in □□□ (e.g. 080=8m). Maximum length = 10m



HIF6-40D-1.27R

No.	Signal name	Cable color	Wiring	No.	Signal name	Cable color	Wiring
1A	24V	Brown-1	Flat cable Ⓐ (crimped)	1B	OUT0	Brown-3	Flat cable Ⓑ (crimped) AWG28
2A	24V	Red-1		2B	OUT1	Red-3	
3A	Pulse input	Orange-1		3B	OUT2	Orange-3	
4A		Yellow-1		4B	OUT3	Yellow-3	
5A	IN0	Green-1		5B	OUT4	Green-3	
6A	IN1	Blue-1		6B	OUT5	Blue-3	
7A	IN2	Purple-1		7B	OUT6	Purple-3	
8A	IN3	Gray-1		8B	OUT7	Gray-3	
9A	IN4	White-1		9B	OUT8	White-3	
10A	IN5	Black-1		10B	OUT9	Black-3	
11A	IN6	Brown-2		11B	OUT10	Brown-4	
12A	IN7	Red-2		12B	OUT11	Red-4	
13A	IN8	Orange-2		13B	OUT12	Orange-4	
14A	IN9	Yellow-2		14B	OUT13	Yellow-4	
15A	IN10	Green-2		15B	OUT14	Green-4	
16A	IN11	Blue-2		16B	OUT15	Blue-4	
17A	IN12	Purple-2		17B	Pulse input	Purple-4	
18A	IN13	Gray-2		18B		Gray-4	
19A	IN14	White-2		19B	0V	White-4	
20A	IN15	Black-2		20B	0V	Black-4	

SCON-CB

Position Controller for
Single-axis Robot / Cartesian Robot / RoboCylinder RCS2/RCS3

Features

1 Compatible with Battery-less Absolute Encoder

The RCS2 and RCS3 equipped with a battery-less absolute encoder is supported. Since no battery is needed to retain position data, less space is required in the control panel, which contributes to saving initial cost and maintenance cost.

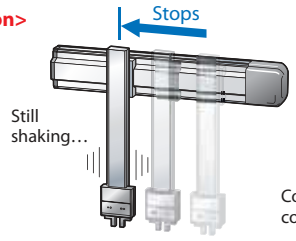
2 Supporting Major Field Networks <Optional Function>

Direct connection is now possible not only to DeviceNet, CC-Link and PROFIBUS-DP, but also to CompoNet, EtherCAT, Ethernet/IP and PROFINET IO. The actuator can also be operated by specifying coordinate values directly via a field network.

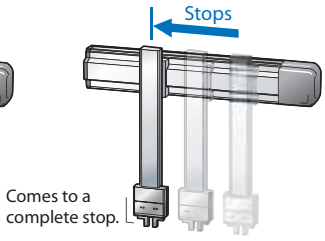
DeviceNet
PROFIBUS
CompoNet
CC-Link
EtherNet/IP
EtherCAT
PROFINET

3 Vibration Control Function <Standard Function>

A vibration control function is equipped that suppresses vibration of the work part installed on the slider when the actuator's slider moves. This function shortens the time the actuator waits for vibration to settle, and consequently shortens the cycle time.



Without vibration control
The work part vibrates after stopping.



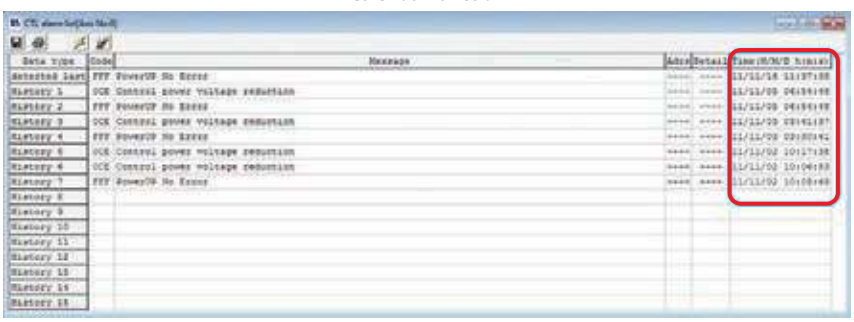
With vibration control
The work part generates virtually no vibration after stopping.

4 Capable of Predictive Maintenance <Standard Function>

- Equipped with a feature to detect motor overload and issue warning. By monitoring the motor temperature, abnormal changes can be detected before a malfunction or failure occurs.
- Fully equipped with a monitoring function.
  Like an oscilloscope, waveforms of position and speed can be acquired from the moment that the condition of a selected signal is changed. Signal status of positioning complete, alarm and so on can also be acquired.
- With smart tuning and off-board tuning, it is possible to adjust the acceleration/deceleration and gain depending on the payload.
- Using the counter function, the exact number of actuator movements and total distance traveled are calculated. This function can be used to output a signal when maintenance is required.
- The calendar function enables to retain the history of alarm occurrence.

<Maintenance information>

<Calendar function>



List of Models

Model	SCON-CB							
External view								
I/O type	Standard specification	Field network type (*1)						
	PIO connection specification (*1)	DeviceNet	CC-Link	PROFIBUS-DP	CompoNet	EtherCAT	EtherNet/IP	PROFINET IO
I/O type code	NP/PN	DV	CC	PR	CN	EC	EP	PRT
Applicable encoder type	Battery-less absolute / Incremental	Absolute	Battery-less absolute / Incremental /Absolute					

(*1) Note that communication with PIO and pulse train cannot be performed in the network type.

Model

SCON – [ ] – [ ] [ ] [ ] – [ ] – [ ] – [ ]

Series | Type | Motor Type | Encoder Type | Option | I/O Type | I/O Cable Length | Power Supply Voltage

Type

CB	High-function type
CGB	Global type (with safety category spec.)

Motor Type

12	12W motor	150	150W motor
20	20W motor	200	200W motor
30D	30W motor (for RCS2)	400	400W motor
30R	30W motor (for RS)	600	600W motor
60	60W motor	750	750W motor
100	100W motor	750S	For 750W actuator with load cell

Encoder Type

WAI	Battery-less absolute Incremental
A	Absolute

Option

HA	High accel./decel.

*High acceleration / deceleration specification is available to choose only when the high acceleration / deceleration option has been chosen for the actuator.
<High-acceleration/deceleration compatible actuator>
RCS2-SA4C/SA5C/SA6C/SA7C/RA4C/RA5C/RGS4C/RGS5C/RGD4C/RGD5C

I/O Type

NP	PIO NPN
PN	PIO PNP
DV	DeviceNet connection
CN	CompoNet connection
CC	CC-Link connection
PR	PROFIBUS-DP
EC	EtherCAT
EP	EtherNet/IP
PRT	PROFINET IO

I/O Cable Length

0	No cable
2	2m (standard)
3	3m
5	5m

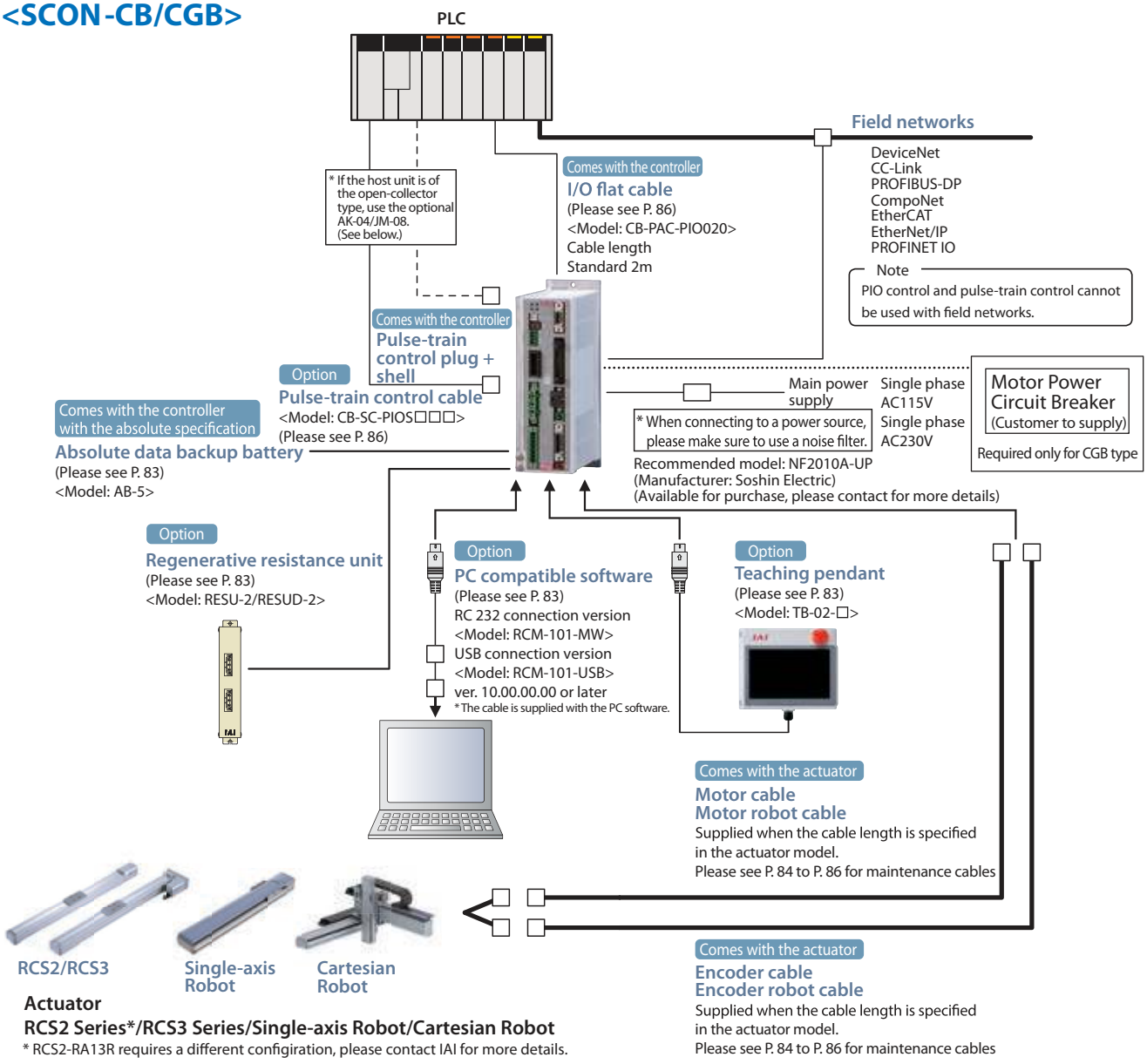
* If you choose a field network specification, the length of the I/O cable will be "0"

Power Supply Voltage

1	Single phase AC115V
2	Single phase AC 230V

System Configuration

<SCON-CB/CGB>



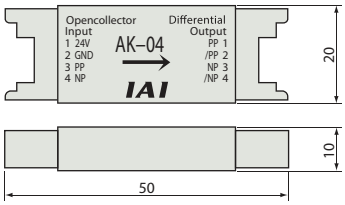
Actuator
RCS2 Series*/RCS3 Series/Single-axis Robot/Cartesian Robot
* RCS2-RA13R requires a different configiration, please contact IAI for more details.

Pulse Converter: AK-04

Open-collector command pulses are converted to differential command pulses. Use this converter if the host controller outputs open-collector pulses.

Specification

Item	Specification
Input power supply	DC24V±10% (50mA max.)
Input pulse	Open-collector (Collector current: 12mA max.)
Input frequency	200kHz or less
Output pulse	Differential output (10mA max.) (26C31 or equivalent)
Mass	10g or less (excluding cable connectors)
Accessories	37104-3122-000FL (e-CON connector) (by 3M) x 2 Suitable wire: AWG No. 24~26

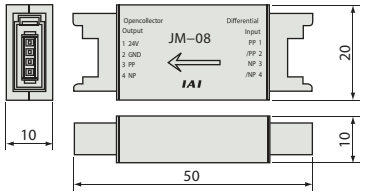


Pulse Converter: JM-08

Differential system pulse gets converted into the open collector type. Use this converter if the host controller inputs open-collector pulses.

Specification

Item	Specification
Input power supply	DC24V±10% (50mA max.)
Input pulse	Differential input (10mA max.) (conforming to RS422)
Input frequency	500kHz or less
Output pulse	24-VDC open-collector (Collector current: 25mA max.)
Mass	10g or less (excluding cable connectors)
Accessories	37104-3122-000FL (e-CON connector)(by 3M) x 2 Suitable wire: AWG No. 24~26



Operation Modes

With this controller, you can select a desired control method from the two modes of positioner mode and pulse-train control mode.
In the positioner mode, you can enter position data (target position, speed, acceleration, etc.) in the controller under the desired numbers and then specify each number externally via a I/O (input/output signal) to operate the actuator.
Also, in the positioner mode, you can select the desired operation mode from the eight modes using the parameter.
In the pulse-train control mode, you can control the travel, speed, acceleration, etc., by sending pulses from an external pulse generator.

Mode		Type	Number of positioning points	Features
Positioner mode	Positioning mode	PIO pattern 0	64 points	Standard factory-set mode. Specify externally a number corresponding to the position you want to move to, to operate the actuator.
	Teaching mode	PIO pattern 1	64 points	In this mode, you can move the slider (rod) via an external signal and register the stopped position in the position data table.
	256-point mode	PIO pattern 2	256 points	In this mode, the number of positioning points available in the positioning mode has been increased to 256 points.
	512-point mode	PIO pattern 3	512 points	In this mode, the number of positioning points available in the positioning mode has been increased to 512 points.
	Solenoid valve mode 1	PIO pattern 4	7 points	In this mode, the actuator can be moved only by turning signals ON/OFF, just like you do with an air cylinder of solenoid valve type.
	Solenoid valve mode 2	PIO pattern 5	3 points	In this mode, the output signal is set to the same as the air cylinder auto switch in the solenoid valve mode.
	Force mode 1	PIO pattern 6	32 points	In this mode, you can move to positions under force control in the positioning mode. (Up to 32 positioning points are available.)
	Force mode 2	PIO pattern 7	5 points	In this mode, you can move to positions under force control in the solenoid valve mode. (Up to five positioning points are available.)
Pulse-train control mode	Pulse-train control mode for incremental	PIO pattern 0	–	Position data input to the controller is not necessary, and movement is made according to the sent pulse.
	Pulse-train control mode for absolute	PIO pattern 1		

I/O Signal Table

*** You can select one of nine types of I/O signal assignments.**

Pin No.	Category		Parameter (PIO pattern) selection								
			0	1	2	3	4	5	6	7	0/1
			Positioning mode	Teaching mode	256-point mode	512-point mode	Solenoid valve mode 1	Solenoid valve mode 2	Force mode 1	Force mode 2	Pluse-train mode
		Positioning point	64 points	64 points	256 points	512 points	7 points	3 points	32 points	5 points	–
1A	24V		P24								P24
2A	24V		P24								P24
3A	–		NC								NC
4A	–		NC								NC
5A	Input	IN0	PC1	PC1	PC1	PC1	ST0	ST0	PC1	ST0	SON
6A		IN1	PC2	PC2	PC2	PC2	ST1	ST1 (JOG+)	PC2	ST1	RES
7A		IN2	PC4	PC4	PC4	PC4	ST2	ST2 (–)	PC4	ST2	HOME
8A		IN3	PC8	PC8	PC8	PC8	ST3	–	PC8	ST3	TL
9A		IN4	PC16	PC16	PC16	PC16	ST4	–	PC16	ST4	CSTP
10A		IN5	PC32	PC32	PC32	PC32	ST5	–	–	–	DCLR
11A		IN6	–	MODE	PC64	PC64	ST6	–	–	–	BKRL
12A		IN7	–	JISL	PC128	PC128	–	–	–	–	RMOD
13A		IN8	–	JOG+	–	PC256	–	–	CLBR	CLBR	RSTR (Note)
14A		IN9	BKRL	JOG–	BKRL	BKRL	BKRL	BKRL	BKRL	BKRL	–
15A		IN10	RMOD	RMOD	RMOD	RMOD	RMOD	RMOD	RMOD	RMOD	–
16A		IN11	HOME	HOME	HOME	HOME	HOME	–	HOME	HOME	–
17A		IN12	*STP	*STP	*STP	*STP	*STP	–	*STP	*STP	–
18A		IN13	CSTR	CSTR/PWRT	CSTR	CSTR	–	–	CSTR	–	–
19A		IN14	RES	RES	RES	RES	RES	RES	RES	RES	–
20A		IN15	SON	SON	SON	SON	SON	SON	SON	SON	–
1B	Output	OUT0	PM1	PM1	PM1	PM1	PE0	LSO	PM1	PE0	PWR
2B		OUT1	PM2	PM2	PM2	PM2	PE1	LS1 (TRQS)	PM2	PE1	SV
3B		OUT2	PM4	PM4	PM4	PM4	PE2	LS2 (–)	PM4	PE2	INP
4B		OUT3	PM8	PM8	PM8	PM8	PE3	–	PM8	PE3	HEND
5B		OUT4	PM16	PM16	PM16	PM16	PE4	–	PM16	PE4	TLR
6B		OUT5	PM32	PM32	PM32	PM32	PE5	–	TRQS	TRQS	*ALM
7B		OUT6	MOVE	MOVE	PM64	PM64	PE6	–	LOAD	LOAD	*EMGS
8B		OUT7	ZONE1	MODES	PM128	PM128	ZONE1	ZONE1	CEND	CEND	RMDS
9B		OUT8	PZONE/ZONE2	PZONE/ZONE1	PZONE/ZONE1	PM256	PZONE/ZONE2	PZONE/ZONE2	PZONE/ZONE1	PZONE/ZONE1	ALM1
10B		OUT9	RMDS	RMDS	RMDS	RMDS	RMDS	RMDS	RMDS	RMDS	ALM2
11B		OUT10	HEND	HEND	HEND	HEND	HEND	HEND	HEND	HEND	ALM4
12B		OUT11	PEND	PEND/WEND	PEND	PEND	PEND	–	PEND	PEND	ALM8
13B		OUT12	SV	SV	SV	SV	SV	SV	SV	SV	*OVLW/*ALML
14B		OUT13	*EMGS	*EMGS	*EMGS	*EMGS	*EMGS	*EMGS	*EMGS	*EMGS	REND (Note)
15B		OUT14	*ALM	*ALM	*ALM	*ALM	*ALM	*ALM	*ALM	*ALM	ZONE1
16B		OUT15	*BALM	*BALM	*BALM	*BALM	*BALM	*BALM	*BALM	*BALM	ZONE2
17B	–		–								–
18B	–		–								–
19B	0V		N								N
20B	0V		N								N

* In the above table, signals in ( ) represent functions available before the home return.
* In the above table, signals preceded by * are negative logic signals. Negative logic input signals are processed when turned OFF. Negative logic output signals normally remain ON while the power is supplied, and turn OFF when the signal is output.
(Note): It is available to use only in Pulse-Train Control Mode PIO Pattern 1.

Explanation of the I/O Signal Functions

Available signals will differ. Please check the available features in the table below.

Category	Signal abbreviation	Signal name	Description of function
Input	CSTR	PTP strobe (start signal)	The actuator starts moving to the position set by the command position.
	PC1~PC256	Command position number	The position number of the target position is input (binary input).
	BKRL	Forced brake release	The brake is forcibly released.
	RMOD	Operation mode switching	The operation mode can be switched when the MODE switch on the controller is in the AUTO position. (The switch position is AUTO when this signal is OFF, or MANU when the signal is ON.)
	*STP	Pause	The actuator will decelerate to a stop when this signal turns OFF while the actuator is moving. The remaining movement will be suspended while the actuator is stopped and the movement will resume once the signal turns ON.
	RES	Reset	The alarm will be reset when the signal turns ON. The remaining travel can be canceled by turning this signal ON while the actuator is paused (*STP is OFF).
	SON	Servo ON	The servo is ON while this signal is ON, and remains OFF while this signal is OFF.
	HOME	Home return	When this signal turns ON, the actuator performs home return operation.
	MODE	Teaching mode	When this signal turns ON, the actuator switches to the teaching mode. (Switching will not occur if CSTR, JOG+ and JOG- are all OFF and the actuator is still moving.)
	JISL	Jog/inch switching	When this signal turns OFF, the actuator can be jogged with JOG+ and JOG-. When the signal is ON, the actuator can be inched with JOG+ and JOG-.
	JOG+, JOG–	Jog	When the JISL signal is OFF, the actuator jogs in the positive direction upon detection of the ON edge of the JOG+ signal, or in the negative direction upon detection of the ON edge of the JOG- signal. The actuator decelerates to a stop if the OFF edge is detected while jogging in each direction. The actuator operates by inching when the JISL signal is ON.
	PWRT	Current position write	In the teaching mode, specify a position and then turn this signal ON for at least 20ms, and the current position will be written to the specified position.
	ST0~ST6	Start signal	In the solenoid valve mode, the actuator moves to the specified position when this signal turns ON. (The start signal is not required.)
	CLBR	Load cell calibration command	Load cell calibration starts when this signal has remained ON for at least 20ms.
	TL	Torque limit selection signal	The motor torque is limited by the value set in the parameter while the signal is on. TLR signal turns on once the torque reaches the set value. (Pulse train mode only)
	CSTP	Forced stop	The actuator is stopped compulsorily if the signal is kept on for 10ms or more. The actuator decelerates and stops with the torque set inside the controller, and then the servo gets turned off. (Pulse train mode only)
	DCLR	Deviation counter clear signal	The position deviation counter is continuously cleared while this signal is on. (Pulse train mode only)
	RSTR*1	Datum position movement command	Turn it on and the movement will be made to the position set in Parameter No. 167. *1: Used only in PIO Pattern 1.
Output	PEND/INP	Positioning complete	This signal turns ON when the actuator enters the in-position band after movement. If the actuator exceeds the in-position band, the PEND signal does not turn OFF, but the INP signal turns OFF. PEND and INP can be switched using a parameter.
	PM1~PM256	Complete position number	The position number of the position reached at the end of positioning is output (binary output).
	HEND	Home return completion	This signal turns ON upon completion of home return.
	ZONE1, ZONE2	Zone	This signal turns ON if the current actuator position is within the range set by the parameters.
	PZONE	Position zone	This signal turns ON when the current actuator position is within the range set in the position data table after position movement. This signal can be used with ZONE1/ZONE2, but PZONE becomes effective only when moving to a specified position.
	RMDS	Operation mode status output	The operation mode status is output. This signal turns ON when the controller is in the manual mode.
	*OVLW	Overload warning	This signal is ON in a normal condition, and turns OFF when the overload warning level is exceeded. (Operation will continue.)
	*ALML	Minor failure alarm	This signal is ON in a normal condition, and turns OFF when a message-level alarm occurs. (Operation will continue.)
	*ALM	Alarm	This signal is ON when the controller is in a normal condition, and turns OFF when an alarm occurs.
	ALM1~ALM8	Alarm code output signal	Content of an alarm code is output in binary code when an alarm is generated. (Pulse-train mode only)
	MOVE	Moving	This signal is ON while the actuator is moving (also during home return and push-motion operation).
	SV	Servo ON	This signal is ON while the servo is ON.
	*EMGS	Emergency stop output	This signal is ON when no emergency stop is actuated on the controller, and turns OFF when an emergency stop is actuated.
	*BALM	Absolute battery voltage low warning	If the controller is of the absolute specification, this signal turns OFF when the voltage of the absolute battery drops. (Operation will continue.)
	MODES	Teaching mode output	This signal turns ON when the actuator enters the teaching mode via MODE signal input. It turns OFF once the actuator returns to the normal mode.
	WEND	Write complete	This signal is OFF immediately after switching to the teaching mode, and turns ON once writing is completed according to the PWRT signal. When the PWRT signal turns OFF, this signal also turns OFF.
	PE0~PE6	Current position number	This signal turns ON when the actuator has completed moving to the target position in the solenoid valve mode.
	LS0~LS2	Limit switch output	This signal turns ON when the current actuator position enters the in-position band set before and after the target position. If the home return has already completed, this signal is output even before a movement command is issued or while the servo is OFF.
	CEND	Load cell calibration complete	This signal turns ON upon completion of load cell calibration. When the CLBR signal turns OFF, this signal also turns OFF.
	LOAD	Load output judgment signal	During push-motion operation, this signal is output when the current value set for the "threshold" is exceeded within the range of "Zone+" and "Zone-" set in the position data table. The signal is used to determine if press-fitting action has been performed correctly.
	TRQS	Torque level output	This signal is output when the motor current reaches the current value set for the "threshold" in the position data table after the slider (rod) has collided with an obstacle, etc., during movement in push-motion operation.
	PWR	System ready	It turns on when the startup is successfully finished after the power is supplied to the controller. (Pulse-train mode only)
	TLR	Torque limited signal	This signal turns on upon reaching the torque limit while the torque is limited by TL Signal. (Pulse-train mode only)
	REND*1	Reference position movement complete	It turns on once the movement to the position set in Parameter No. 167 is complete. *1: Used only in PIO Pattern 1

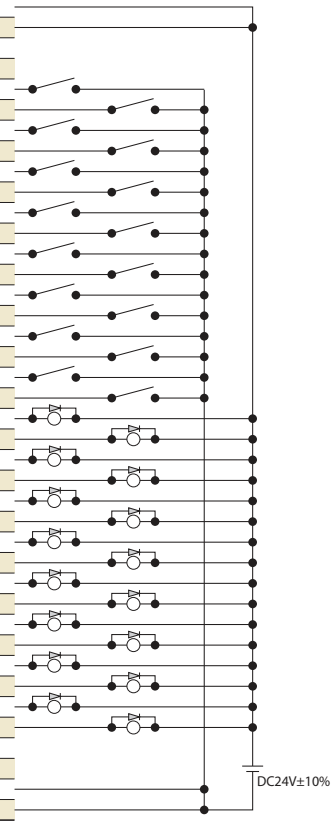
* In the above table, signals preceded by "*" are normally ON and turn OFF while the actuator is operating.

I/O Wiring Diagrams

Positioning Mode/Teaching Mode/ Solenoid Valve Mode

PIO connector (NPN specification)

Pin No.	Category	Signal name
1A	Power supply	24V
2A		24V
3A	–	Not used
4A	–	Not used
5A	Input	IN0
6A		IN1
7A		IN2
8A		IN3
9A		IN4
10A		IN5
11A		IN6
12A		IN7
13A		IN8
14A		IN9
15A		IN10
16A		IN11
17A		IN12
18A		IN13
19A		IN14
20A		IN15
1B	Output	OUT0
2B		OUT1
3B		OUT2
4B		OUT3
5B		OUT4
6B		OUT5
7B		OUT6
8B		OUT7
9B		OUT8
10B		OUT9
11B		OUT10
12B		OUT11
13B		OUT12
14B		OUT13
15B		OUT14
16B		OUT15
17B	–	Not used
18B	–	Not used
19B	Power supply	0V
20B		0V

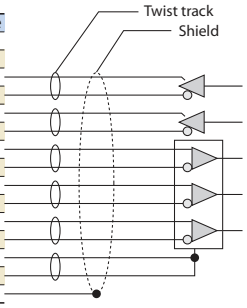


* Connect Pins 1A and 2A to 24 V, and Pins 19B and 20B to 0 V.

Pulse-train Mode (Differential Output)

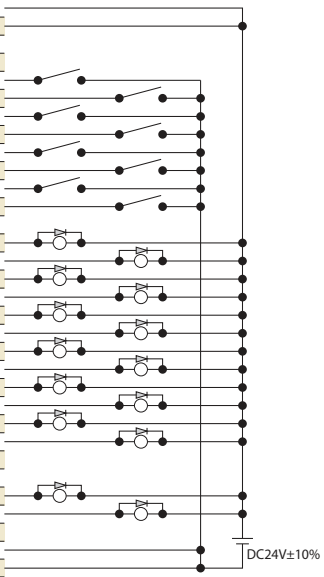
Pulse connector

Pin No.	Category	Signal name
1		Not used
2		Not used
3	Input	PP
4		/PP
5		NP
6		/NP
7	Output	AFB
8		/AFB
9		BFB
10		/BFB
11		ZFB
12		/ZFB
13	Ground	GND
14		GND
Shell	Shield	Shield



PIO connector (NPN specification)

Pin No.	Category	Signal name
1A	Power supply	24V
2A		24V
3A		Not used
4A		Not used
5A	Input	SON
6A		RES
7A		HOME
8A		TL
9A		CSTP
10A		DCLR
11A		BKRL
12A		RMOD
13A~20A	–	Not used
1B	Output	PWR
2B		SV
3B		INP
4B		HEND
5B		TLR
6B		*ALM
7B		*EMGS
8B		RMDS
9B		ALM1
10B		ALM2
11B		ALM4
12B		ALM8
13B		(*1)
14B		–
15B		ZONE1
16B		ZONE2
17B~18B	–	Not used
19B	Power supply	0V
20B		0V



* Please make sure to connect the Shield of the twisted pair cable, which connects to the Pulse connector, to the Shell. Also **keep the cable length to 10m or less.**
* Connect Pins 1A and 2A to 24V, and Pins 19B and 20B to 0V
(*1)-/*ALML/*OVLW/*BALM (switchable with parameters)

PIO Input and Output Interface

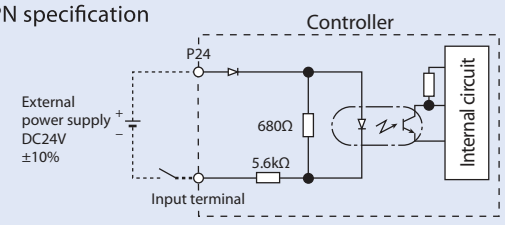
Input Part External Input Specifications

Item	Specification
Input voltage	DC24V ±10%
Input current	4mA/1 circuit
ON/OFF voltage	ON voltage: DC 18V min. OFF voltage: DC 6V max.
Isolation method	Photocoupler

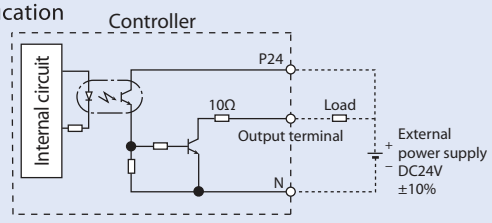
Output Part External Output Specifications

Item	Specification
Load voltage	DC24V
Max. load current	50mA/1 point
Leak current	0.1mA max./1 point
Isolation method	Photocoupler

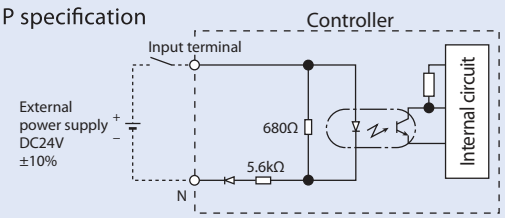
NPN specification



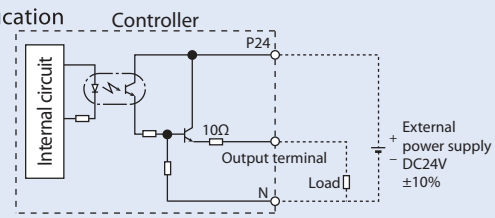
NPN specification



PNP specification



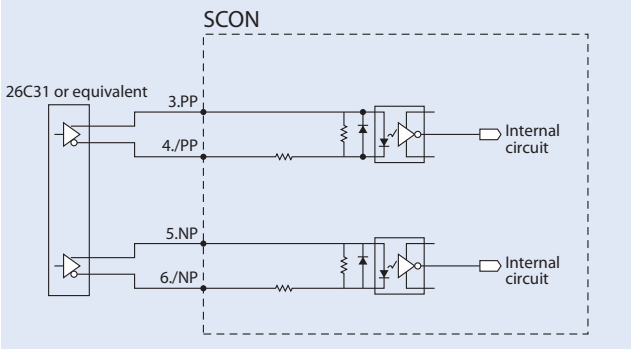
PNP specification



Pulse-train Type I/O Specification (Differential Line Driver Specification)

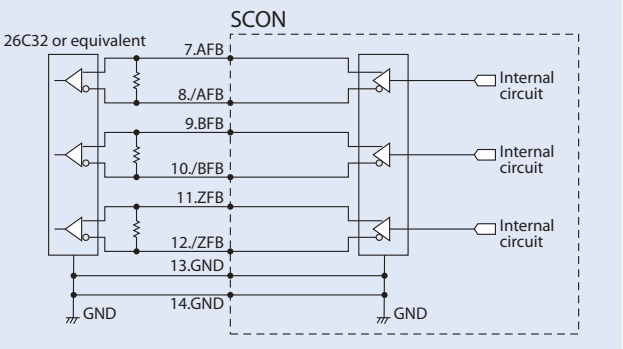
■Input Part

Maximum number of input pulses: Line driver interface 2.5Mpps
Isolation method: Photocoupler isolation



■Output Part

Maximum number of output pulses: Line driver interface 2.5Mpps
Isolation/non-isolation: Non-isolation

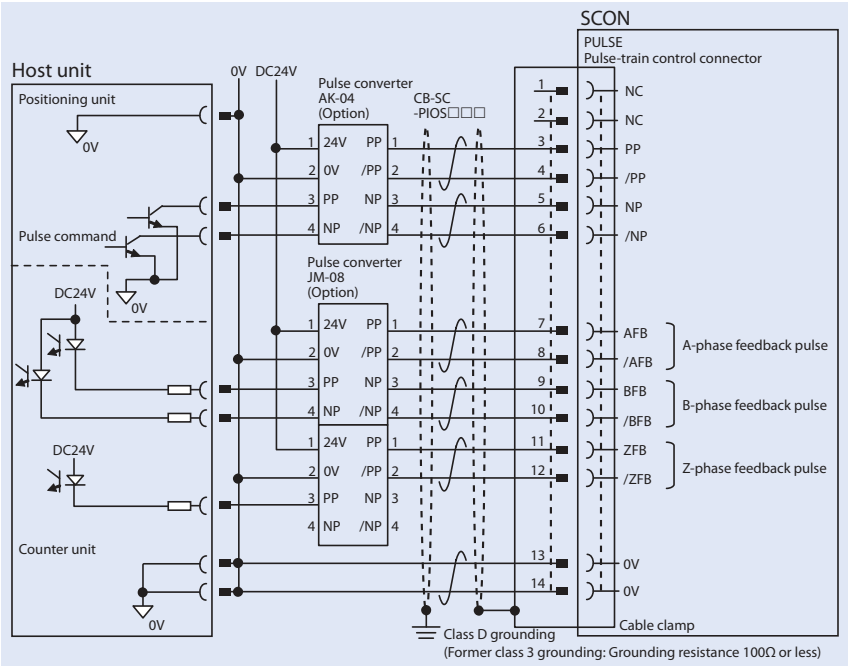


Pulse-train Type I/O Specification (Open-collector Specification)

The AK-04 (Option) is needed to input pulses. The JM-08 (Option) is needed to output pulses.

Maximum number of input pulses:
200kpps (AK-04 required)
Maximum number of output pulses:
500kpps (JM-08 required)

* The DC24V power supply connected to the AK-04 must be shared with the PIO interface.
* Keep the length of the cable connecting the pulse output unit (PLC) and AK-04/JM-08 as short as possible.
Also keep the cable between the AK-04/JM-08 and **PULSE connector to 2m or less.**



Note

Use the same power supply for open-collector input/output to/from the host and for the AK-04, JM-08.

Command Pulse Input Patterns

	Command pulse-train pattern	Input terminal	Forward	Reverse
Negative logic	Forward pulse-train	PP•/PP		
	Reverse pulse-train	NP•/NP		
	A forward pulse-train indicates the amount of motor rotation in the forward direction, while a reverse pulse-train indicates the amount of motor rotation in the reverse direction.			
	Pulse-train	PP•/PP		
	Sign	NP•/NP	Low	High
	The command pulse is used for the amount of motor rotation, while the sign indicates the rotating direction.			
	Phase A/B pulse-train	PP•/PP		
		NP•/NP		
	Command phases A and B having a 90° phase difference (multiplier is 4) indicate the amount of rotation and the rotating direction.			
Positive logic	Forward pulse train	PP•/PP		
	Reverse pulse-train	NP•/NP		
	Pulse-train	PP•/PP		
	Sign	NP•/NP	High	Low
	Phase A/B pulse-train	PP•/PP		
		NP•/NP		

Specification Table

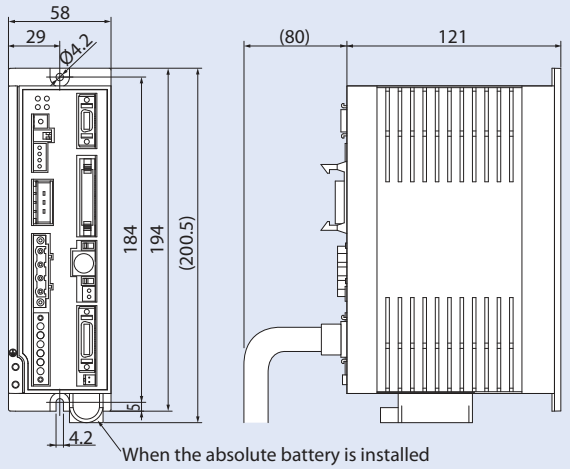
Item		Specification	
Applicable motor capacity		Less than 400W	400W or more
Number of controlled axes		1 axis	
Operation method		Positioner type/pulse-train type	
Number of positioning points		512 points (PIO specification), 768 points (fieldbus specification)	
Backup memory		Non-volatile memory (FRAM)	
I/O connector		40-pin connector	
Number of I/O points		16 input points/16 output points	
I/O power supply		External supply DC24V ±10%	
Serial communication		RS485 1ch	
Command pulse-train input method (Note 1)		Differential line driver output supported	
Maximum input pulse frequency		Differential line driver method: 2.5Mpps max./Open-collector method (pulse converter used): 200kpps max.	
Position detection method		Incremental encoder / Absolute encoder / Battery-less absolute encoder	
Driving power shut-off function		CB: Available (built-in relay) CGB: Unavailable	
Forced electromagnetic brake release		Brake release switch ON/OFF	
Input power supply		Single-phase AC100~115V±10% Single-phase AC200~230V±10%	Single-phase AC200~230V±10%
Power-supply capacity		12W / 89VA 20W / 74VA 30W (other than RS) / 94VA 30W (RS) /186VA 60W (other than RCS3-CTZ5C) / 186VA 60W (RCS3-CTZ5C) / 245VA 100W / 282VA	150W / 376VA 200W / 469VA 400W (other than RCS3-CT8C) / 968VA 400W (RCS3-CT8C) / 1278VA 600W / 1212VA 750W / 1569VA
Vibration resistance		X,Y,and Z directions, 10~57Hz single-side width 0.035mm (continuous), 0.075mm (intermittent) 58~150Hz 0.5G (continuous), 1G (intermittent)	
Calendar/ clock function	Retention time	Approx. 10 days	
	Charge time	Approx. 100 hours	
Protective functions		Overcurrent, abnormal temperature, low fan speed monitoring, encoder disconnection, etc.	
Ambient operating temperature		0~40˚C	
Ambient operating humidity		85%RH or less (non-condensing)	
Operating atmosphere		Free from corrosive gases	
Protection degree		IP20	
Mass		Approx. 900g (+ 25g for the absolute specification)	Approx. 1.2kg (+ 25g for the absolute specification)
External dimensions		58mm (W) × 194mm (H) × 121mm (D)	72mm (W) × 194mm (H) × 121mm (D)

(Note 1) For the command pulse input method, use the differential line driver method resistant to noise. If the open-collector method must be used, use the optional pulse converter (AK-04/JM-08) to convert open-collector pulses to differential pulses.

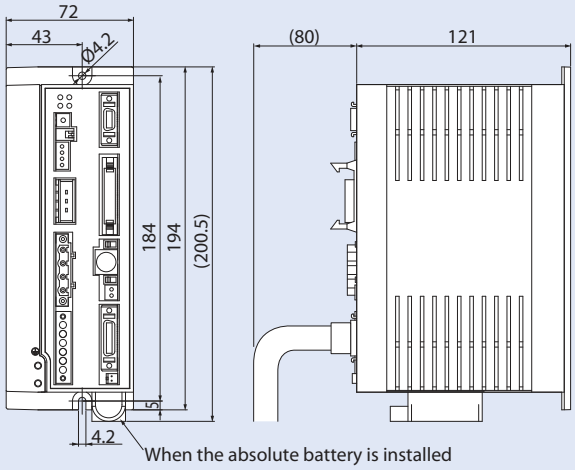
* The number of encoder pulses for the actuators operable with SCON-CB is 3072 pulses for RCS2-SRA7BD/SRGS7BD/SRGD7BD, 1600 pulses for RCS2-□□5N (Incremental), 1048576 pulses for DD-□18P:20bit, 131072 pulses for DD-□18S:17bit, 2400 pulses for NS-S□M□ (Incremental) and 16384 pulses for all other models.

External Dimensions

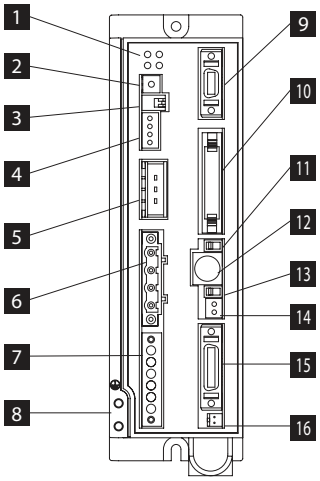
Less than 400W

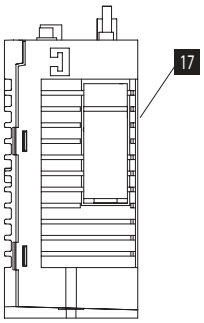


400W or more



Name of Each Part





1 LED display

It displays the controller status.

Name	Color	Function description
PWR	Green	Turns on when system is ready (after power turned on, CPU in normal function)
SV	Green	Turns on when servo is on
ALM	Orange	Turns on when alarm issued
EMG	Red	Turns on while in emergency stop

2 Rotary switch

The address setting switch for identifying each controller when they are linked.

3 Piano switch

The controller systems switch.

Name	Function description
1	Operation mode changeover switch OFF: Positioner mode ON: Pulse-train control mode * Valid when power is turned on
2	For manufacturer tuning, always off

4 System I/O connector

The connector for the emergency stop switch etc.

5 Regenerative unit connector

The connector for regenerative units which absorb the regenerative current generated when the actuator decelerates and stops.

6 Motor connector

The actuator motor cable connector.

7 Power supply connector

The AC power connector. Divided into controller power input and motor power input.

8 Grounding terminal

The protective grounding screw. Please make sure to secure grounding.

9 Connector for pulse-train control

It is a connector used in the operation in Pulse-Train Control Mode. Feedback pulse is valid also in Positioner Mode.

10 PIO connector

The connector for the cable for parallel communications with the PLC and other peripheral devices.

11 Operation mode selection switch

Name	Function description
MANU	Does not accept PIO commands
AUTO	Accepts PIO commands

* The emergency stop switch on the teaching pendant becomes effective as soon as it is connected regardless of AUTO or MANU. Also, turn the power off before disconnecting the teaching pendant or SIO communication cable.

12 SIO connector

The connector for the teaching pendant or the PC communications cable.

13 Brake release switch

The forced release switch for the electromagnetic brake integrated with an actuator.
* It is necessary that 24V DC power supply for brake drive is connected.

14 Brake power supply connector

The connector for supplying DC24V power to the brake. (necessary only when brake-equipped actuator is connected).

15 Encoder / Sensor connector

The encoder/sensor cable connector.

16 Absolute battery connector

The connector for the absolute data backup battery (necessary only for absolute encoder type).

17 Absolute battery holder

It is a battery holder in order to mount the absolute data back-up battery.

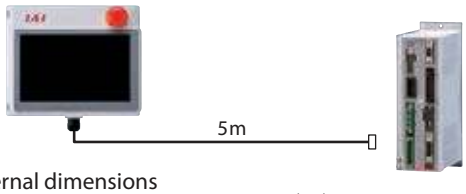
Options

Teaching Pendant

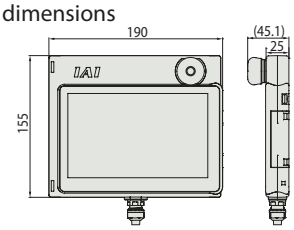
Features Teaching device offering position input, test operation, monitoring and other functions.

Model **TB-02-S**

Configuration



External dimensions



Specification

Rated voltage	DC24V
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0~40°C
Ambient operating humidity	20~85%RH (non-condensing)
Environmental resistance	IP20
Mass	470g (TB-02 box only)

PC Compatible Software (Windows Only)

Features This startup support software provides functions to input positions, perform test operations and monitor data, among others. Incorporating all functions needed to make adjustments, this software helps shorten the initial startup time.

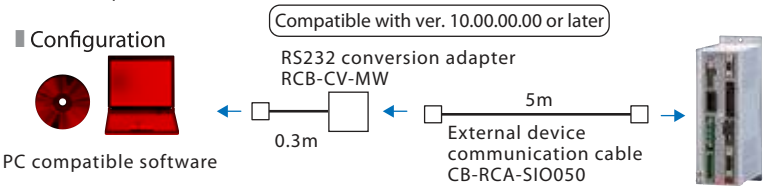
XP SP2 or later/Vista/7/8

Model **RCM-101-MW**

(Includes an external device communication cable and an RS232 conversion unit)

Configuration

Compatible with ver. 10.00.00.00 or later

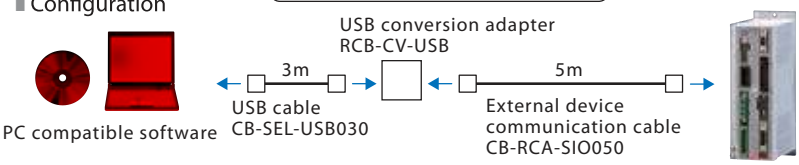


Model **RCM-101-USB**

(Includes an external device communication cable, USB conversion adapter and USB cable)

Configuration

Compatible with ver. 10.00.00.00 or later



Regenerative Resistance Unit

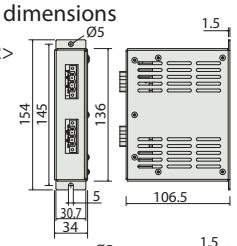
Features This unit converts the regenerative current, which is generated when the motor decelerates, into heat. Please refer to the tables below to confirm the total wattage of the actuators, and use the regenerative unit as necessary.

* If two regenerative units are required, arrange one RESU(D)-2 and one RESU(D)-1. (Please contact IAI for the details)

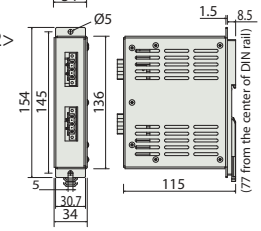
Model **RESU-2** (Standard specification)
RESUD-2 (DIN rail mounting specification)

External dimensions

<RESU-2>



<RESUD-2>



Specification

Model	RESU-2	RESUD-2
Unit mass	Approx. 0.4kg	
Built-in regenerative resistor	235Ω 80W	
Mounting method	Screw mounting	DIN rail mounting
Supplied cable	CB-SC-REU010	

Necessary Amount Guideline

	Horizontal	Vertical
0	~100W	~100W
1	~400W	~400W
2	~750W	~750W

* The required regenerative resistance may be more than as specified above depending on the operating conditions.

Necessary Amount Guideline (RCS2-RA13R)

	Lead 2.5	Lead 1.25
Horizontal	1	0
Vertical	1	1

* The required regenerative resistance may be more than as specified above depending on the operating conditions.

Absolute Data Backup Battery

Features This is an absolute data backup battery for an actuator with absolute specication.

Model **AB-5(battery only)**
AB-5-CS(with a case)

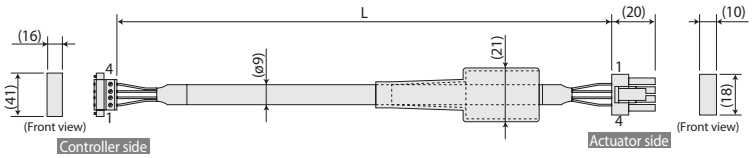
Maintenance Parts

When replacing a cable after purchasing the product, please refer to the list of models below

Model number			
	CB-RCC-MA □□□	Motot cable	for RCS2 / RCS3
	CB-RCC-MA □□□-RB	Motor robot cable	
	CB-X-MA □□□	Motor robot cable	for models other than RCS2 / RCS3
	CB-XEU-MA □□□	EU motor robot cable	for RCS2 / RCS3 and other models

* Enter the cable length (L) into □□□. Compatible to a Maximum of 30 meters.
Ex.: 080 = 8m

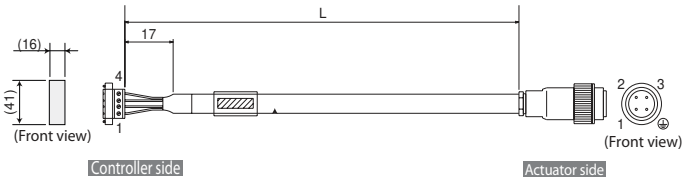
(Fig.: Motor cable CB-RCC-MA□□□ / CB-RCC-MA□□□-RB / CB-X-MA□□□ with plastic connector)



Wire	Color	Signal	No.	No.	Signal	Color	Wire
0.75sq	Green	PE	1	1	U	Red	0.75sq (crimped)
	Red	U	2	2	V	White	
	White	V	3	3	W	Black	
	Black	W	4	4	PE	Green	

Minimum bending R: r = 51 mm or more (for movable use)
* If the cable must be guided in a cable track, use a robot cable.

(Fig.: EU motor robot cable CB-XEU-MA□□□, EU version with M18 plastic round connector)



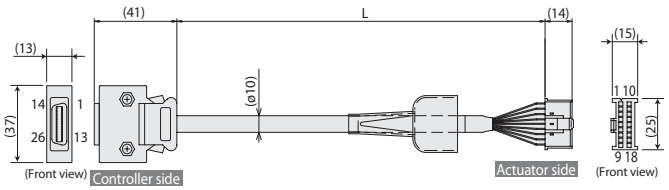
Wire	Color	Signal	No.	No.	Signal	Color	Wire
0.75sq	Green/yellow	PE	1	⏚	PE	Green/yellow	0.75sq (crimped)
	Black/white"1"	U	2	1	U	Black/white"1"	
	Black/white"2"	V	3	2	V	Black/white"2"	
	Black/white"3"	W	4	3	W	Black/white"3"	

Minimum bending R: r = 51 mm or more (for movable use)
*Only robot cable is available for this model

Model number			
	CB-RCS2-PA □□□	Encoder cable	for RCS2* / RCS3
	CB-X3-PA □□□	Encoder robot cable	for NS / RCS2* / RCS3
	CB-XEU3-PA □□□	EU encoder robot cable	

* Enter the cable length (L) into □□□. Compatible to a Maximum of 30 meters.
Ex.: 080 = 8m

(Fig.: Encoder cable CB-RCS2-PA□□□ / CB-X3-PA□□□ with plastic connector)



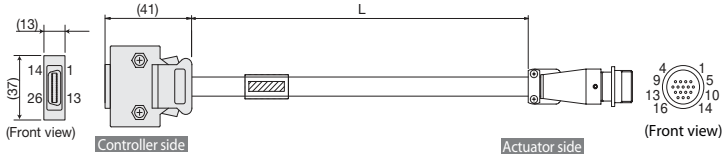
Minimum bending R: r = 58 mm or more (for movable use)
* If the cable must be guided in a cable track, use a robot cable.

*exclusive servo press type RCS2-RA13R

Wire	Color	Signal	No.	No.	Signal	Color	Wire
AWG26 (soldered)	–	–	10	1	A	White/blue	AWG26 (crimped)
	–	–	11	2	Ā	White/yellow	
	–	E24V	12	3	B	White/red	
	White/green	0V	13	4	B̄	White/black	
	White/orange	LS	26	5	Z	White/purple	
	–	CREEP	25	6	Z̄	White/gray	
	–	OT	24	7	LS+	White/orange	
	–	RSV	23	8	–	–	
	–	–	9	9	FG	(Ground)	
	–	–	18	10	SD	Orange	
	–	–	19	11	SD	Green	
	White/blue	A+	1	12	BAT+	Purple	
	White/yellow	A-	2	13	BAT-	Gray	
	White/red	B+	3	14	VCC	Red	
	White/black	B-	4	15	GND	Black	
	White/purple	Z+	5	16	LS-	White/green	
	White/gray	Z-	6	17	BK-	Blue	
	Orange	SRD+	7	18	BK+	Yellow	
	Green	SRD-	8				
	Purple	BAT+	14				
	Gray	BAT-	15				
	Red	VCC	16				
	Black	GND	17				
	Blue	BKR-	20				
	Yellow	BKR+	21				
	–	–	22				

The shield is connected to the hood by a clamp.
Ground wire and braided shield

(Fig.: EU encoder robot cable CB-XEU3-PA□□□, EU version with metal connector)



Minimum bending R: r = 58 mm or more (for movable use)

Wire	Color	Signal	No.	No.	Signal	Color	Wire
AWG26 (soldered)	–	–	10	1	SD	Orange	AWG26 soldered
	–	–	11	2	SD	Green	
	–	E24V	12	3	A+	White/blue	
	White/green	0V	13	4	A-	White/yellow	
	White/orange	LS	26	5	LS+	White/orange	
	–	CREEP	25	6	B+	White/red	
	–	OT	24	7	B-	White/black	
	–	RSV	23	8	Z+	White/purple	
	–	–	9	9	Z-	White/gray	
	–	–	18	10	VCC	Red	
	–	–	19	11	GND	Black	
	White/blue	A+	1	12	BAT+	Purple	
	White/yellow	A-	2	13	BAT-	Grey	
	White/red	B+	3	14	LS-	White/green	
	White/black	B-	4	15	BK-	Blue	
	White/purple	Z+	5	16	BK+	Yellow	
	White/gray	Z-	6				
	Orange	SRD+	7				
	Green	SRD-	8				
	Purple	BAT+	14				
	Grey	BAT–	15				
	Red	VCC	16				
	Black	GND	17				
	Blue	BKR-	20				
	Yellow	BKR+	21				
	–	–	22				

The shield is clamped to the hood
A shield is connected to shield soldered part
Ground wire and braided shield

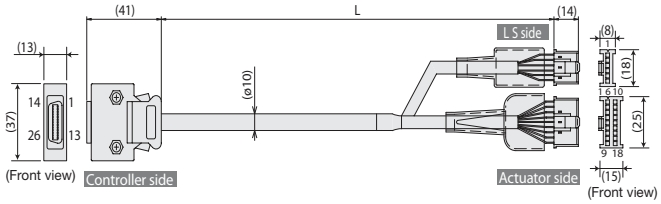
Maintenance Parts

When replacing a cable after purchasing the product, please refer to the list of models below.

Model number			
	CB-RCS2-PLA □□□	Limit switch encoder cable	for RCS2 Rotary type
	CB-X2-PLA □□□	Limit switch encoder robot cable	for LS specification models NS / RCS2 Rotary type
	CB-XEU2-PLA □□□	EU limit switch encoder robot cable	

* Enter the cable length (L) into □□□. Compatible to a Maximum of 30 meters.
Ex.: 080 = 8m

(Fig.: LS encoder cable CB-RCS2-PLA□□□ / CB-X2-PLA□□□ with plastic connector)



Minimum bending R: r = 58 mm or more (for movable use)
* If the cable must be guided in a cable track, use a robot cable.

Wire	Color Stand. Cable	Color Robot Cable	Signal	No.
AWG26 (soldered)	–	–	–	10
	–	–	–	11
	Brown/white	White/orange	E24V	12
	Gray/white	White/green	0V	13
	Red/white	Brown/blue	LS	26
	Black/white	Brown/yellow	CREEP	25
	Yellow/black	Brown/red	OT	24
	Pink/black	Brown/black	RSV	23
	–	–	–	9
	–	–	–	18
	–	–	–	19
	Pink	White/blue	A+	1
	Purple	White/yellow	A–	2
	White	White/red	B+	3
	Blue/red	White/black	B–	4
	Orange/white	White/purple	Z+	5
	Green/white	White/gray	Z–	6
	Blue	Orange	SRD+	7
	Orange	Green	SRD–	8
	Black	Purple	BAT+	14
	Yellow	Grey	BAT–	15
	Green	Red	VCC	16
	Brown	Black	GND	17
	Gray	Blue	BKR–	20
	Red	Yellow	BKR+	21
	–	–	–	22

The shield is connected to the hood by a clamp.

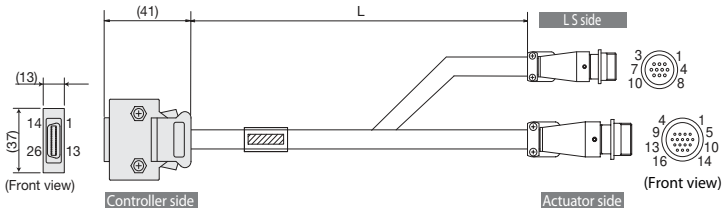
("Brown/white" in cable color indicates the colors of line/insulator.)

Ground wire and braided shield

No.	Signal	Color Robot Cable	Color Stand. Cable	Wire
1	E24V	White/orange	Brown/white	AWG26 (crimped)
2	0V	White/green	Gray/white	
3	LS	Brown/blue	Red/white	
4	CREEP	Brown/yellow	Black/white	
5	OT	Brown/red	Yellow/black	
6	RSV	Brown/black	Pink/black	

No.	Signal	Color Robot Cable	Color Stand. Cable	Wire
1	A	White/blue	Pink	AWG26 (crimped)
2	Ā	White/yellow	Purple	
3	B	White/red	White	
4	B̄	White/black	Blue/red	
5	Z	White/purple	Orange/white	
6	Z̄	White/gray	Green/white	
7	–	–	–	
8	–	–	–	
9	FG	Floating ground	Floating ground	
10	SD	Orange	Blue	
11	S̄D	Green	Orange	
12	BAT+	Purple	Black	
13	BAT–	Grey	Yellow	
14	VCC	Red	Green	
15	GND	Black	Brown	
16	–	–	–	
17	BK–	Blue	Gray	
18	BK+	Yellow	Red	

(Fig.: EU LS encoder robot cable CB-XEU2-PLA□□□, EU version with metal connector)



Minimum bending R: r = 58 mm or more (for movable use)

Wire	Color	Signal	No.
AWG26 (soldered)	–	–	10
	–	–	11
	White/orange	E24V	12
	White/green	0V	13
	Brown/blue	LS	26
	Brown/yellow	CREEP	25
	Brown/red	OT	24
	Brown/black	RSV	23
	–	–	9
	–	–	18
	–	–	19
	White/blue	A+	1
	White/yellow	A-	2
	White/red	B+	3
	White/black	B-	4
	White/purple	Z+	5
	White/gray	Z-	6
	Orange	SRD+	7
	Green	SRD-	8
	Purple	BAT+	14
	Grey	BAT–	15
	Red	VCC	16
	Black	GND	17
	Blue	BKR-	20
	Yellow	BKR+	21
	–	–	22

The shield is clamped to the hood

("White/orange" in cable color indicates the colors of line/insulator.)

Ground wire and braided shield

No.	Signal	Color	Wire
1	E24V	White/orange	AWG26 soldered
2	0V	White/green	
3	-	-	
4	LS	Brown/blue	
5	CREEP	Brown/yellow	
6	OT	Brown/red	
7	RSV	Brown/black	
8/9/10	-	-	

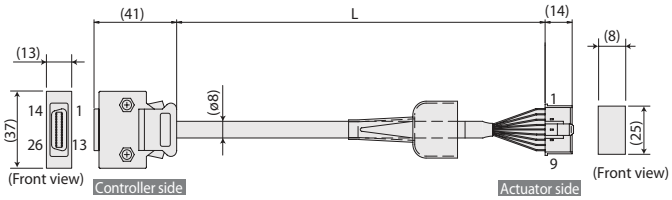
No.	Signal	Color	Wire
1	SD	Orange	AWG26 soldered
2	S̄D	Green	
3	A+	White/blue	
4	A-	White/yellow	
5	-	-	
6	B+	White/red	
7	B-	White/black	
8	Z+	White/purple	
9	Z-	White/gray	
10	VCC	Red	
11	GND	Black	
12	BAT+	Purple	
13	BAT-	Grey	
14	-	-	
15	BK-	Blue	
16	BK+	Yellow	

A shield is connected to shield soldered part

Model number			
	CB-X1-PA□□□	Encoder robot cable	for models other* than NS / RCS2 / RCS3
	CB-XEU1-PA□□□	EU encoder robot cable	

* Enter the cable length (L) into □□□. Compatible to a Maximum of 30 meters.
Ex.: 080 = 8m

(Fig.: Encoder robot cable CB-X1-PA□□□ with plastic connector)



Minimum bend radius R: r = 44mm or larger (for movable use)
*Only robot cable is available for this model.

Wire	Color	Signal	No.
AWG26 (soldered)	—	—	10
	—	—	11
	—	E24V	12
	—	0V	13
	—	LS	26
	—	CREEP	25
	—	OT	24
	—	RSV	23
	—	—	9
	—	—	18
	—	—	19
	—	A+	1
	—	A-	2
	—	B+	3
	—	B-	4
	—	Z+	5
	—	Z-	6
	Orange	SRD+	7
	Green	SRD-	8
	Purple	BAT+	14
	Gray	BAT-	15
	Red	VCC	16
	Black	GND	17
	Blue	BKR-	20
	Yellow	BKR+	21
	—	—	22

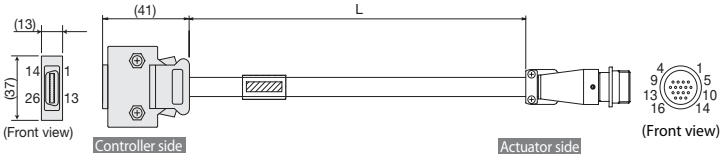
The shield is clamped to the hood

Braided ground & shield wire

No.	Signal	Color	Wire
1	BAT+	Purple	AWG26 (crimped)
2	BAT-	Gray	
3	SD	Orange	
4	S̄D	Green	
5	VCC	Red	
6	GND	Black	
7	FG	Ground	
8	BK-	Blue	
9	BK+	Yellow	

***exclusive single-axis robot spash-proof type IS(P)WA (encoder cable model: CB-X1-PA□□□-WC)**

(Fig.: EU encoder robot cable CB-XEU1-PA□□□, EU version with metal connector)



Minimum bend radius R: r = 44mm or larger (for movable use)
*Only robot cable is available for this model.

Wire	Color	Signal	No.
AWG26 (soldered)	–	–	10
	–	–	11
	–	E24V	12
	–	0V	13
	–	LS	26
	–	CREEP	25
	–	OT	24
	–	RSV	23
	–	–	9
	–	–	18
	–	–	19
	–	A+	1
	–	A-	2
	–	B+	3
	–	B-	4
	–	Z+	5
	–	Z-	6
	Orange	SRD+	7
	Green	SRD-	8
	Purple	BAT+	14
	Grey	BAT-	15
	Red	VCC	16
	Black	GND	17
	Blue	BKR-	20
	Yellow	BKR+	21
	–	–	22

The shield is clamped to the hood

Ground wire and braided shield

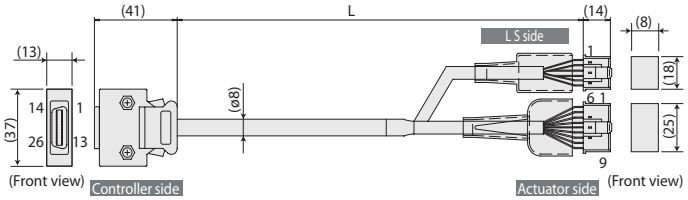
No.	Signal	Color	Wire
1	SD	Orange	AWG26 soldered
2	S̄D	Green	
3	-	-	
4	-	-	
5	-	-	
6	-	-	
7	-	-	
8	-	-	
9	-	-	
10	VCC	Red	
11	GND	Black	
12	BAT+	Purple	
13	BAT-	Grey	
14	-	-	
15	BK-	Blue	
16	BK+	Yellow	

A shield is connected to shield soldered part

Model number	CB-X1-PLA□□□	Limit switch encoder robot cable	for LS specification models other than NS / RCS2 / RCS3
	CB-XEU1-PLA□□□	EU limit switch encoder robot cable	

* Enter the cable length (L) into □□□. Compatible to a Maximum of 30 meters.
Ex.: 080 = 8m

(Fig.: LS encoder robot cable CB-X1-PLA□□□ with plastic connector)



Minimum bend. radius R: r = 54mm or larger (for movable use)
*Only robot cable is available for this model.

Wire	Color	Signal	No.
AWG26 (soldered)	—	—	10
	—	—	11
	White/Blue	E24V	12
	White/Yellow	OV	13
	White/Red	LS	26
	White/Black	CREEP	25
	White/Purple	OT	24
	White/Gray	RSV	23
	—	—	9
	—	—	18
	—	—	19
	—	A+	1
	—	A-	2
	—	B+	3
	—	B-	4
	—	Z+	5
	—	Z-	6
	Orange	SRD+	7
	Green	SRD-	8
	Purple	BAT+	14
	Gray	BAT-	15
	Red	VCC	16
	Black	GND	17
	Blue	BKR-	20
	Yellow	BKR+	21
	—	—	22

The shield is clamped to the hood

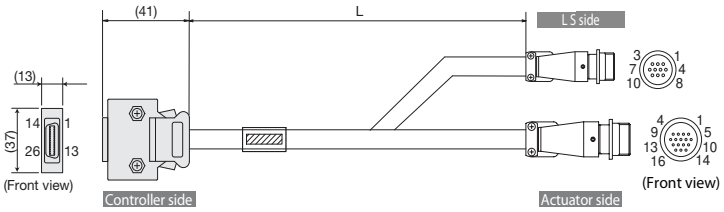
No.	Signal	Color	Wire
1	E24V	White/Blue	AWG26 (crimped)
2	OV	White/Yellow	
3	LS	White/Red	
4	CREEP	White/Black	
5	OT	White/Purple	
6	RSV	White/Gray	

No.	Signal	Color	Wire
1	BAT+	Purple	AWG26 (crimped)
2	BAT-	Gray	
3	SD	Orange	
4	SD	Green	
5	VCC	Red	
6	GND	Black	
7	FG	Ground	
8	BK-	Blue	
9	BK+	Yellow	

Braided ground & shield wire

(White/Blue in cable color indicates the colors of line/insulator.)

(Fig.: EU LS encoder robot cable CB-XEU1-PLA□□□, EU version with metal connector)



Minimum bend. radius R: r = 54mm or larger (for movable use)
*Only robot cable is available for this model.

Wire	Color	Signal	No.
AWG26 (soldered)	—	—	10
	—	—	11
	White/Blue	E24V	12
	White/Yellow	0V	13
	White/Red	LS	26
	White/Black	CREEP	25
	White/Purple	OT	24
	White/Grey	RSV	23
	—	—	9
	—	—	18
	—	—	19
	—	A+	1
	—	A-	2
	—	B+	3
	—	B-	4
	—	Z+	5
	—	Z-	6
	Orange	SRD+	7
	Green	SRD-	8
	Purple	BAT+	14
	Grey	BAT-	15
	Red	VCC	16
	Black	GND	17
	Blue	BKR-	20
	Yellow	BKR+	21
	—	—	22

The shield is clamped to the hood

No.	Signal	Color	Wire
1	E24V	White/Blue	AWG26 soldered
2	0V	White/Yellow	
3	-	-	
4	LS	White/Red	
5	CREEP	White/Black	
6	OT	White/Purple	
7	RSV	White/Grey	
8/9/10	-	-	

No.	Signal	Color	Wire
1	SD	Orange	AWG26 soldered
2	SD	Green	
3	-	-	
4	-	-	
5	-	-	
6	-	-	
7	-	-	
8	-	-	
9	-	-	
10	VCC	Red	
11	GND	Black	
12	BAT+	Purple	
13	BAT-	Grey	
14	-	-	
15	BK-	Blue	
16	BK+	Yellow	

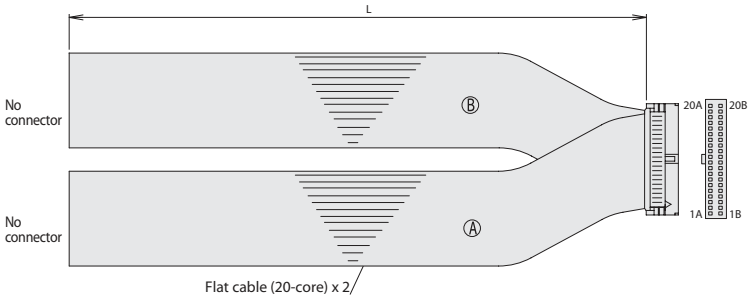
A shield is connected to shield soldered part

Ground wire and braided shield

("White/Blue" in cable color indicates the colors of line/insulator.)

Model Number	CB-PAC-PIO□□□	I/O Flat Cable	for SCON-CB

*Please indicate the cable length (L) in □□□ (e.g. 080=8m). Maximum length = 10m



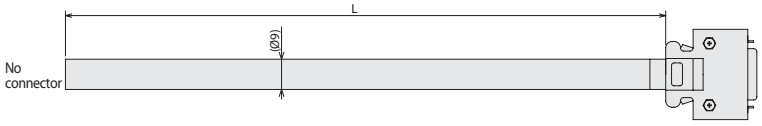
HIF6-40D-1.27R

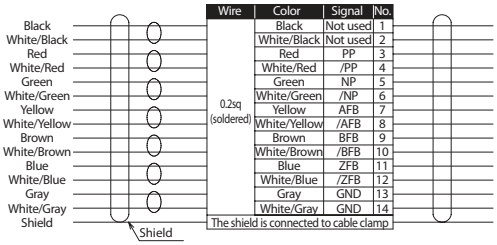
No.	Signal	Color	Wire
1A	24V	Brown-1	Flat cable Ⓐ (crimped)
2A	24V	Red-1	
3A	–	Orange-1	
4A	–	Yellow-1	
5A	IN0	Green-1	
6A	IN1	Blue-1	
7A	IN2	Purple-1	
8A	IN3	Gray-1	
9A	IN4	White-1	
10A	IN5	Black-1	
11A	IN6	Brown-2	
12A	IN7	Red-2	
13A	IN8	Orange-2	
14A	IN9	Yellow-2	
15A	IN10	Green-2	
16A	IN11	Blue-2	
17A	IN12	Purple-2	
18A	IN13	Gray-2	
19A	IN14	White-2	
20A	IN15	Black-2	

No.	Signal	Color	Wire
1B	OUT0	Brown-3	Flat cable Ⓑ (crimped) AWG28
2B	OUT1	Red-3	
3B	OUT2	Orange-3	
4B	OUT3	Yellow-3	
5B	OUT4	Green-3	
6B	OUT5	Blue-3	
7B	OUT6	Purple-3	
8B	OUT7	Gray-3	
9B	OUT8	White-3	
10B	OUT9	Black-3	
11B	OUT10	Brown-4	
12B	OUT11	Red-4	
13B	OUT12	Orange-4	
14B	OUT13	Yellow-4	
15B	OUT14	Green-4	
16B	OUT15	Blue-4	
17B	–	Purple-4	
18B	–	Gray-4	
19B	0V	White-4	
20B	0V	Black-4	

Model Number	CB-SC-PIOS□□□	SCON Pulse-train Control Cable	for SCON-CB

*Please indicate the cable length (L) in □□□ (e.g. 080=8m). Maximum length = 10m





Wire	Color	Signal	No.
0.2sq (soldered)	Black	Not used	1
	White/Black	Not used	2
	Red	PP	3
	White/Red	/PP	4
	Green	NP	5
	White/Green	/NP	6
	Yellow	AFB	7
	White/Yellow	/AFB	8
	Brown	BFB	9
	White/Brown	/BFB	10
	Blue	ZFB	11
	White/Blue	/ZFB	12
	Gray	GND	13
	White/Gray	GND	14

The shield is connected to cable clamp

RCA(CR)/RCS2(3)(CR) Series
Battery-less Absolute
Encoder Slider Type
Catalogue No. 0616-E

The information contained in this catalog is subject to change without notice for the purpose of product improvement

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