

# Slider Type



# Slider Type

**RCP4**

**ERC3**

**RCA2**

**RCP3**

**ERC2**

**RCA**

**RCP2**

**RCS3**

**RCS2**

<b>RCP4 series</b> Pulse Motor Type	Coupled Type	Aluminum Base	52mm width	RCP4-SA5C	<b>3</b>
			58mm width	RCP4-SA6C	<b>5</b>
			73mm width	RCP4-SA7C	<b>7</b>
	Side-Mounted Motor Type	Aluminum Base	52mm width	RCP4-SA5R	<b>9</b>
			58mm width	RCP4-SA6R	<b>11</b>
			73mm width	RCP4-SA7R	<b>13</b>
<b>RCP3 series</b> Pulse Motor Type	Coupled Type	Aluminum Base • Mini Type	22mm width	RCP3-SA2AC	<b>15</b>
			28mm width	RCP3-SA2BC	<b>17</b>
		Aluminum Base	32mm width	RCP3-SA3C	<b>19</b>
			40mm width	RCP3-SA4C	<b>21</b>
			50mm width	RCP3-SA5C	<b>23</b>
			60mm width	RCP3-SA6C	<b>25</b>
	Side-Mounted Motor Type	Aluminum Base • Mini Type	22mm width	RCP3-SA2AR	<b>27</b>
			28mm width	RCP3-SA2BR	<b>29</b>
		Aluminum Base	32mm width	RCP3-SA3R	<b>31</b>
			40mm width	RCP3-SA4R	<b>33</b>
			50mm width	RCP3-SA5R	<b>35</b>
			60mm width	RCP3-SA6R	<b>37</b>
<b>RCP2 series</b> Pulse Motor Type	Coupled Type	Steel Base	60mm width	RCP2-SS7C	<b>39</b>
			80mm width	RCP2-SS8C	<b>41</b>
		High-speed Type	80mm width	RCP2-HS8C	<b>43</b>
	Side-Mounted Motor Type	Steel Base	60mm width	RCP2-SS7R	<b>45</b>
			80mm width	RCP2-SS8R	<b>47</b>
		High-speed Type	80mm width	RCP2-HS8R	<b>49</b>
	Belt Type		58mm width	RCP2-BA6/BA6U	<b>51</b>
			68mm width	RCP2-BA7/BA7U	<b>53</b>

## Controller-Integrated Type with Pulse Motor

<b>ERC3 series</b>	Controller-Integrated Type		50mm width	ERC3-SA5C	<b>55</b>	
			74mm width	ERC3-SA7C	<b>57</b>	
	Simple, Dustproof Slider Type		50mm width	ERC3D-SA5C	<b>59</b>	
			73mm width	ERC3D-SA7C	<b>61</b>	
<b>ERC2 series</b>	Slider Type	Straight Motor Type	58mm width	ERC2-SA6C	<b>63</b>	
			68mm width	ERC2-SA7C	<b>65</b>	
<b>RCA2 series</b> 24V Servo Motor Type	Coupled Type	Mini Type	20mm width	RCA2-SA2AC	<b>67</b>	
			32mm width	RCA2-SA3C	<b>69</b>	
			40mm width	RCA2-SA4C	<b>71</b>	
			50mm width	RCA2-SA5C	<b>73</b>	
			60mm width	RCA2-SA6C	<b>75</b>	
	Side-Mounted Motor Type	Mini Type	20mm width	RCA2-SA2AR	<b>77</b>	
			32mm width	RCA2-SA3R	<b>79</b>	
			40mm width	RCA2-SA4R	<b>81</b>	
			50mm width	RCA2-SA5R	<b>83</b>	
			60mm width	RCA2-SA6R	<b>85</b>	
<b>RCA series</b> 24V Servo Motor Type	Coupled Type	Aluminum Base	40mm width	RCA-SA4C	<b>87</b>	
			52mm width	RCA-SA5C	<b>89</b>	
			58mm width	RCA-SA6C	<b>91</b>	
	Built-in Type	Aluminum Base	40mm width	RCA-SA4D	<b>93</b>	
			52mm width	RCA-SA5D	<b>95</b>	
			58mm width	RCA-SA6D	<b>97</b>	
		Steel Base	40mm width	RCA-SS4D	<b>99</b>	
			52mm width	RCA-SS5D	<b>101</b>	
			58mm width	RCA-SS6D	<b>103</b>	
	Side-Mounted Motor Type	Aluminum Base	40mm width	RCA-SA4R	<b>105</b>	
52mm width			RCA-SA5R	<b>107</b>		
58mm width			RCA-SA6R	<b>109</b>		
<b>RCS3 series</b>	Coupled Type	Aluminum Base	80mm width	RCS3-SA8C	<b>111</b>	
		Steel Base	80mm width	RCS3-SS8C	<b>113</b>	
	Side-Mounted Motor Type	Aluminum Base	80mm width	RCS3-SA8R	<b>115</b>	
		Steel Base	80mm width	RCS3-SS8R	<b>117</b>	
	<b>RCS2 series</b> 200V Servo Motor Type	Coupled Type	Aluminum Base	40mm width	RCS2-SA4C	<b>119</b>
				52mm width	RCS2-SA5C	<b>121</b>
				58mm width	RCS2-SA6C	<b>123</b>
				73mm width	RCS2-SA7C	<b>125</b>
Steel Base				60mm width	RCS2-SS7C	<b>127</b>
Built-in Type		Aluminum Base	40mm width	RCS2-SA4D	<b>129</b>	
			52mm width	RCS2-SA5D	<b>131</b>	
			58mm width	RCS2-SA6D	<b>133</b>	
Side-Mounted Motor Type		Aluminum Base	40mm width	RCS2-SA4R	<b>135</b>	
			52mm width	RCS2-SA5R	<b>137</b>	
	58mm width		RCS2-SA6R	<b>139</b>		
	73mm width		RCS2-SA7R	<b>141</b>		
		Steel Base	60mm width	RCS2-SS7R	<b>143</b>	

## 200 servo Motor Type

<b>RCS3 series</b>	Coupled Type	Aluminum Base	80mm width	RCS3-SA8C	<b>111</b>
		Steel Base	80mm width	RCS3-SS8C	<b>113</b>
	Side-Mounted Motor Type	Aluminum Base	80mm width	RCS3-SA8R	<b>115</b>
		Steel Base	80mm width	RCS3-SS8R	<b>117</b>
<b>RCS2 series</b> 200V Servo Motor Type	Coupled Type	Aluminum Base	40mm width	RCS2-SA4C	<b>119</b>
			52mm width	RCS2-SA5C	<b>121</b>
			58mm width	RCS2-SA6C	<b>123</b>
			73mm width	RCS2-SA7C	<b>125</b>
			Steel Base	60mm width	RCS2-SS7C
	Built-in Type	Aluminum Base	40mm width	RCS2-SA4D	<b>129</b>
			52mm width	RCS2-SA5D	<b>131</b>
			58mm width	RCS2-SA6D	<b>133</b>
	Side-Mounted Motor Type	Aluminum Base	40mm width	RCS2-SA4R	<b>135</b>
			52mm width	RCS2-SA5R	<b>137</b>
58mm width			RCS2-SA6R	<b>139</b>	
73mm width			RCS2-SA7R	<b>141</b>	
		Steel Base	60mm width	RCS2-SS7R	<b>143</b>

Slider Type

Mini

Standard

Controller-Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm/Flat Type

Mini

Standard

Gripper/Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor



# RCP4-SA5C

ROBO Cylinder, Slider Type, Motor Unit Coupled, Actuator Width 52mm, 24-V Pulse Motor

Model Specification Items	<b>RCP4</b> — <b>SA5C</b> — <b>I</b> — <b>42P</b> — <input type="checkbox"/> — <input type="checkbox"/> — <b>P3</b> — <input type="checkbox"/> — <input type="checkbox"/>
Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options	I: Incremental specification    42P: Pulse motor, size 42□    20: 20mm    12: 12mm    6: 6mm    3: 3mm    50: 50mm    800: 800mm (every 50mm)    P3: PCON-CA    MSEP-C    N: None    P: 1m    S: 3m    M: 5m    X□□: Custom length    R□□: Robot cable    See Options below.

\* See page Pre-47 for details on the model descriptions.

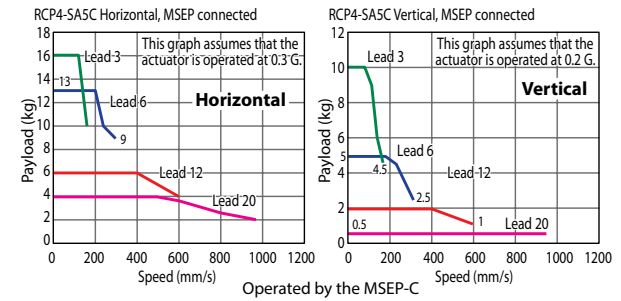
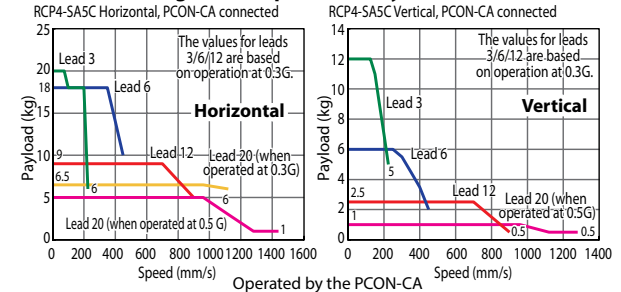


Technical References Appendix P.5



- The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (\*). Note that raising the acceleration causes the payload to drop. (\*The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-100 and A-102.)
- Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
- See page A-71 for details on push motion.

### Correlation Diagrams of Speed and Payload



### Actuator Specifications

#### Leads and Payloads

(\*) When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4-SA5C-I-42P-20-①-P3-②-③	20	PCON-CA	6.5	1	50~800 (every 50mm)
		MSEP-C	4	0.5 (*)	
RCP4-SA5C-I-42P-12-①-P3-②-③	12	PCON-CA	9	2.5	
		MSEP-C	6	2	
RCP4-SA5C-I-42P-6-①-P3-②-③	6	PCON-CA	18	6	
		MSEP-C	13	5	
RCP4-SA5C-I-42P-3-①-P3-②-③	3	PCON-CA	20	12	
		MSEP-C	16	10	

Code explanation ① Stroke ② Cable length ③ Options

\* See page A-71 for details on push motion.

#### Stroke and Maximum Speed

Lead (mm)	Connected controller	50~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	PCON-CA	1440 <1280>	1225	1045	900	785	690	610	
	MSEP-C	960		900	785	690	610		
12	PCON-CA	900	795	665	570	490	425	375	330
	MSEP-C	600		570	490	425	375	330	
6	PCON-CA	450	395	335	285	245	215	185	165
	MSEP-C	300		285	245	215	185	165	
3	PCON-CA	225	195	165	140	120	105	90	80
	MSEP-C	150		140	120	105	90	80	

The values in <> apply when the actuator is used vertically.

(unit: mm/s)

#### ① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### ② Cable Length

Type	Cable symbol	Standard price
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)	—

\* See page A-59 for cables for maintenance.

### 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, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*2)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) The value at lead 20 is shown in [ ].

(\*2) Based on 5,000km of traveling life

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

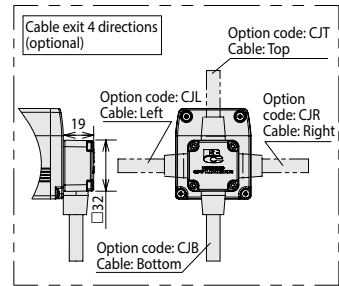
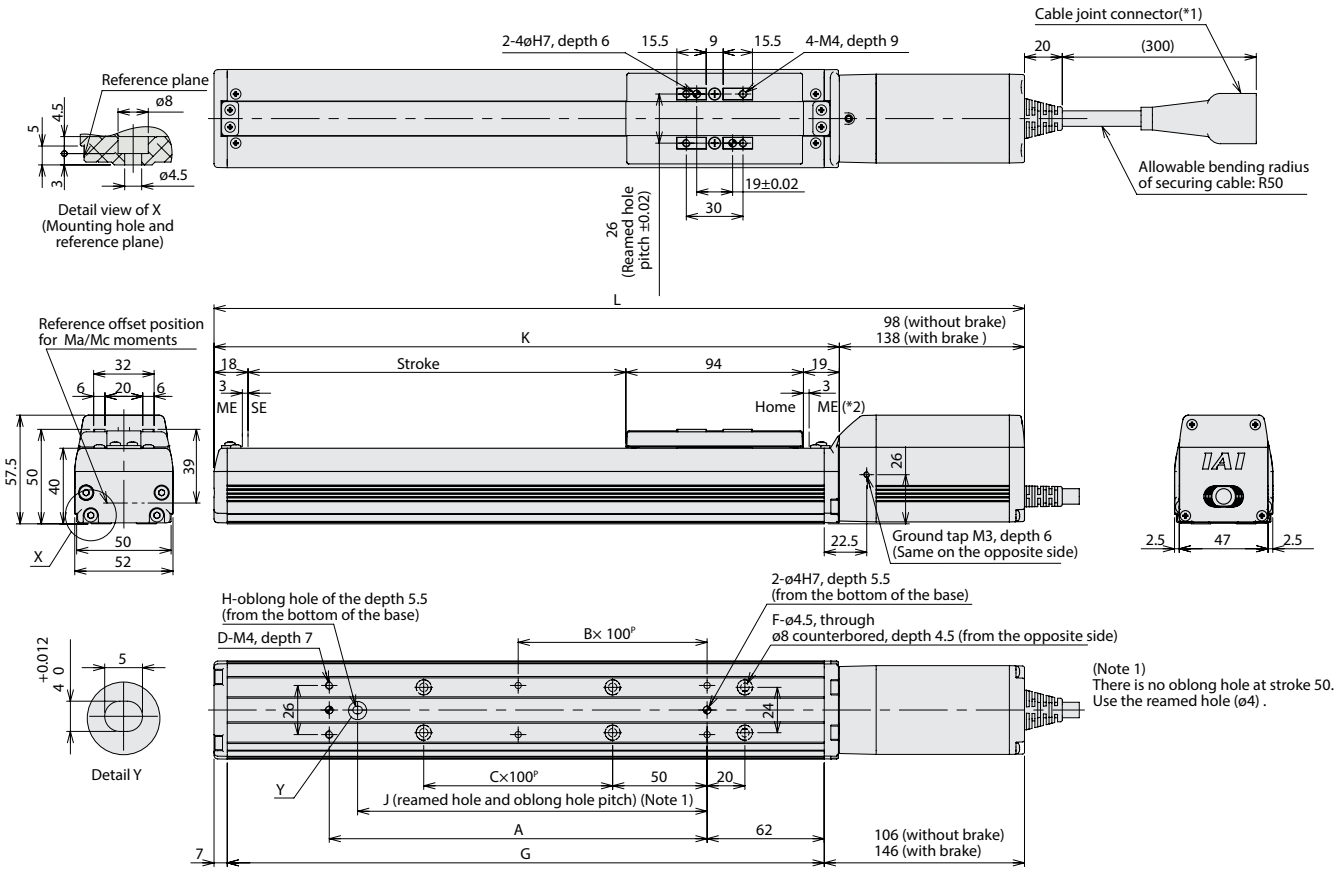
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- \*1 Connect the motor-encoder integrated cable here. \* See page A-59 for details on cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.  
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	Without brake	279	329	379	429	479	529	579	629	679	729	779	829	879	929	979	1029
	With brake	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069
A	73	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800
B	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	7
D	4	4	4	6	6	8	8	8	10	10	12	12	14	14	16	16	18
F	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	18
G	166	216	266	316	366	416	466	516	566	616	666	716	766	816	866	916	916
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785	785
K	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	931	931
Weight (kg)	Without brake	1.5	1.6	1.8	1.9	2.1	2.2	2.4	2.5	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7
	With brake	1.7	1.9	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.7	3.9

Applicable Controllers

RCP4 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver PIO control supported	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—				
Field network type High-output specification		PCON-CA-42PI-⑩-0-0	Equipped with a high-output driver Field network supported	768 points				
Solenoid valve multi-axis type PIO specification	MSEP-C-⑩-~-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572				
Solenoid valve multi-axis type Network specification	MSEP-C-⑩-~-⑩-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points					

\* ① indicates I/O type (NP/PN). \* ⑩ indicates number of axes (1 to 8). \* ⑩ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



# RCP4-SA6C

ROBO Cylinder, Slider Type, Motor Unit Coupled, Actuator Width 58 mm, 24-V Pulse Motor

Model Specification Items	<b>RCP4</b> — <b>SA6C</b> — <b>I</b> — <b>42P</b> — <input type="checkbox"/> — <input type="checkbox"/> — <b>P3</b> — <input type="checkbox"/> — <input type="checkbox"/>
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental specification    42P: Pulse motor, size 42□    20: 20mm    12: 12mm    6: 6mm    3: 3mm    50: 50mm    800: 800mm (every 50mm)    P3: PCON-CA    MSEP-C    N: None    P: 1 m    S: 3 m    M: 5 m    X□□: Custom length    R□□: Robot cable    See Options below.

\* See page Pre-47 for details on the model descriptions.

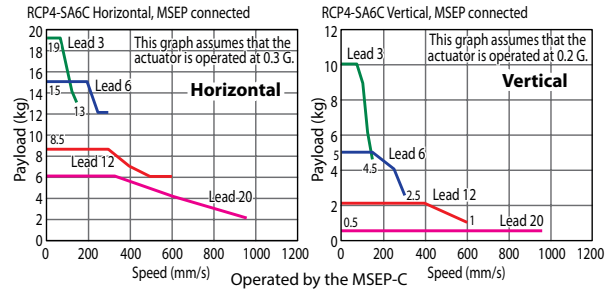
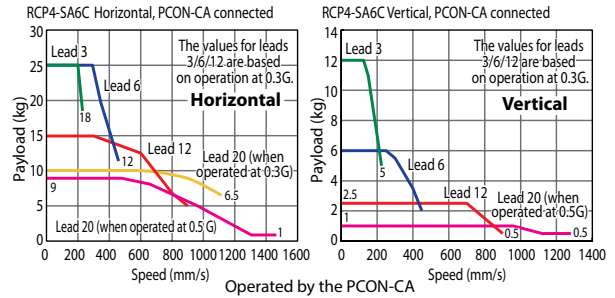


Technical References Appendix P.5



- The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (\*). Note that raising the acceleration causes the payload to drop. (\*The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-100 and A-102.)
- Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
- See page A-71 for details on push motion.

### Correlation Diagrams of Speed and Payload



### Actuator Specifications

#### Leads and Payloads

(\*) When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4-SA6C-I-42P-20-①-P3-②-③	20	PCON-CA	10	1	50~800 (every 50mm)
		MSEP-C	6	0.5 (*)	
RCP4-SA6C-I-42P-12-①-P3-②-③	12	PCON-CA	15	2.5	
		MSEP-C	8.5	2	
RCP4-SA6C-I-42P-6-①-P3-②-③	6	PCON-CA	25	6	
		MSEP-C	15	5	
RCP4-SA6C-I-42P-3-①-P3-②-③	3	PCON-CA	25	12	
		MSEP-C	19	10	

Code explanation ① Stroke ② Cable length ③ Options

\* See page A-71 for details on push motion.

#### Stroke and Maximum Speed

Lead (mm)	Connected controller	Stroke (mm)							
		50~450 (every 50mm)	500	550	600	650	700	750	800
20	PCON-CA	1440	<1280>	1230	1045	905	785	690	615
	MSEP-C	960				905	785	690	615
12	PCON-CA	900	795	670	570	490	430	375	335
	MSEP-C	600			570	490	430	375	335
6	PCON-CA	450	395	335	285	245	215	185	165
	MSEP-C	300			285	245	215	185	165
3	PCON-CA	225	195	165	140	120	105	90	80
	MSEP-C	150			140	120	105	90	80

The values in <> apply when the actuator is used vertically.

(unit: mm/s)

#### ① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ② Cable Length

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

\* See page A-59 for cables for maintenance.

#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### 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, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*2)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) The value at lead 20 is shown in [ ].

(\*2) Based on 5,000km of traveling life

5 RCP4-SA6C

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

Dimensional Drawings

CAD drawings can be downloaded from the website.

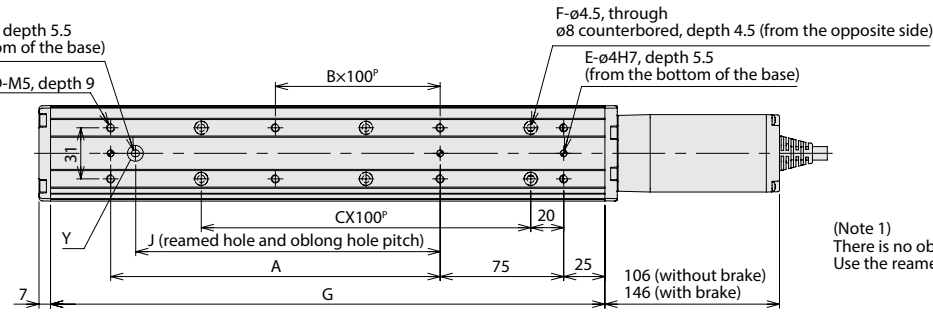
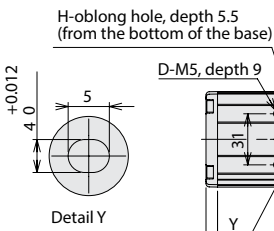
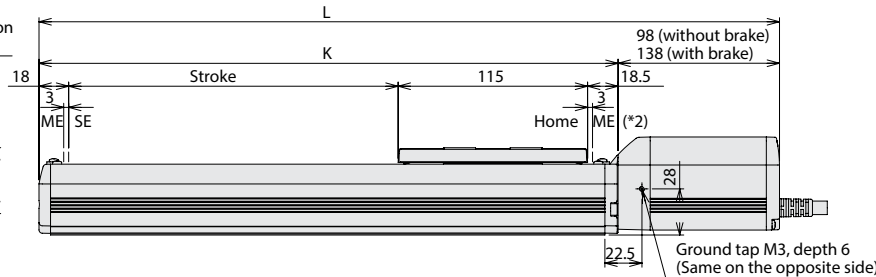
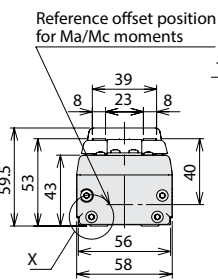
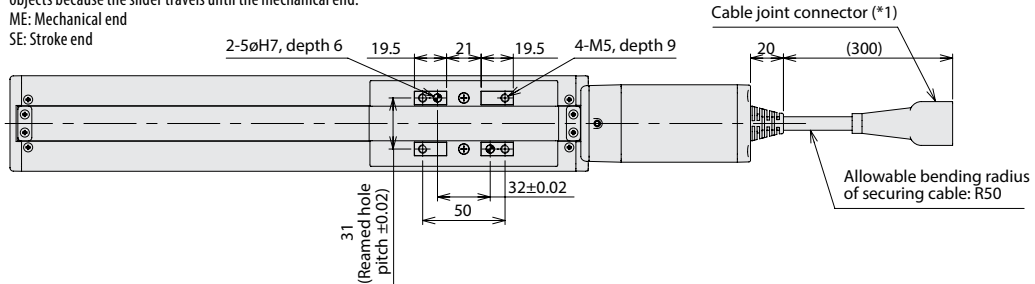
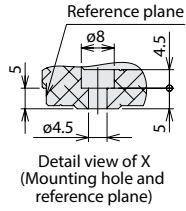
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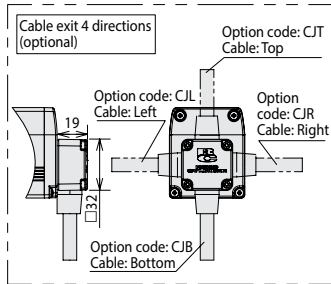
Appendix P.15



\*1 Connect the motor-encoder integrated cable here. \* See page A-59 for details on cables.  
 \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.  
 ME: Mechanical end  
 SE: Stroke end



(Note 1)  
 There is no oblong hole at stroke 50. Use the reamed hole (ø4).



■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	Without brake	299.5	349.5	399.5	449.5	499.5	549.5	599.5	649.5	699.5	749.5	799.5	849.5	899.5	949.5	999.5	1049.5
	With brake	339.5	389.5	439.5	489.5	539.5	589.5	639.5	689.5	739.5	789.5	839.5	889.5	939.5	989.5	1039.5	1089.5
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	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
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	
G	186.5	236.5	286.5	336.5	386.5	436.5	486.5	536.5	586.5	636.5	686.5	736.5	786.5	836.5	886.5	936.5	
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785	
K	201.5	251.5	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	
Weight (kg)	Without brake	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.3
	With brake	2.2	2.3	2.5	2.6	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.9	4.1	4.2	4.4	4.5

Applicable Controllers

RCP4 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver PIO control supported	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—				
Field network type High-output specification		PCON-CA-42PI-⑩-0-0	Equipped with a high-output driver Field network supported	768 points				
Solenoid valve multi-axis type PIO specification		MSEP-C-⑩-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572	—	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-⑩-⑩-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points				

\* ① indicates I/O type (NP/PN). \* ⑩ indicates number of axes (1 to 8). \* ⑩ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



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# RCP4-SA7C

ROBO Cylinder, Slider Type, Motor Unit Coupled, Actuator Width 73mm, 24-V Pulse Motor

Model Specification Items	<b>RCP4</b> — <b>SA7C</b> — <b>I</b> — <b>56P</b> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <b>P3</b> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental specification    56P: Pulse motor, size 56□    24: 24mm 16: 16mm 8: 8mm 4: 4mm
	50: 50mm 800: 800mm (every 50mm)
	P3: PCON-CA MSEP-C
	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable
	See Options below.

\* See page Pre-47 for details on the model descriptions.

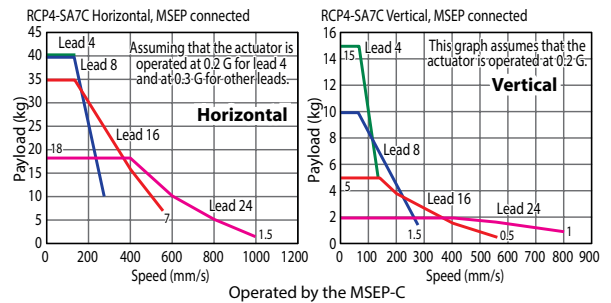
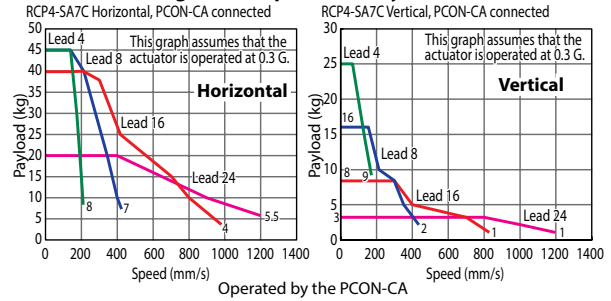


Technical References Appendix P.5



- The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (\*). Note that raising the acceleration causes the payload to drop.  
(\*)The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-100 and A-102.
- Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
- See page A-71 for details on push motion.

### Correlation Diagrams of Speed and Payload



### Actuator Specifications

#### Leads and Payloads

(\*) When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4-SA7C-I-56P-24-①-P3-②-③	24	PCON-CA	20	3	50~800 (every 50mm)
		MSEP-C	18	2 (*)	
RCP4-SA7C-I-56P-16-①-P3-②-③	16	PCON-CA	40	8	
		MSEP-C	35	5 (*)	
RCP4-SA7C-I-56P-8-①-P3-②-③	8	PCON-CA	45	16	
		MSEP-C	40	10 (*)	
RCP4-SA7C-I-56P-4-①-P3-②-③	4	PCON-CA	45	25	
		MSEP-C	40 (*)	15 (*)	

Code explanation ① Stroke ② Cable length ③ Options

\* See page A-71 for details on push motion.

#### Stroke and Maximum Speed

The values in <> apply when the actuator is used vertically.

Lead (mm)	Connected controller	Stroke (mm)							
		50~450 (every 50mm)	500 (mm)	500 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
24	PCON-CA	1200							
	MSEP-C	1000<800>							
16	PCON-CA	980<840>		865<840>		750	655	580	515
	MSEP-C	560							
8	PCON-CA	490		430		375	325	290	255
	MSEP-C	280							
4	PCON-CA	245<210>		215<210>		185	160	145	125
	MSEP-C	140							

\* The values of lead 8 and lead 4 apply when acceleration is at 0.1G. (unit: mm/s)

#### ① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ② Cable Length

Type	Cable symbol	Standard price
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)	—

\* See page A-59 for cables for maintenance.

#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Non-rotor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*2)	Ma: 13.9 N·m, Mb: 19.9 N·m, Mc: 38.3 N·m
Allowable overhang	230mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) The value at lead 24 is shown in [ ].

(\*2) Based on 5,000km of traveling life



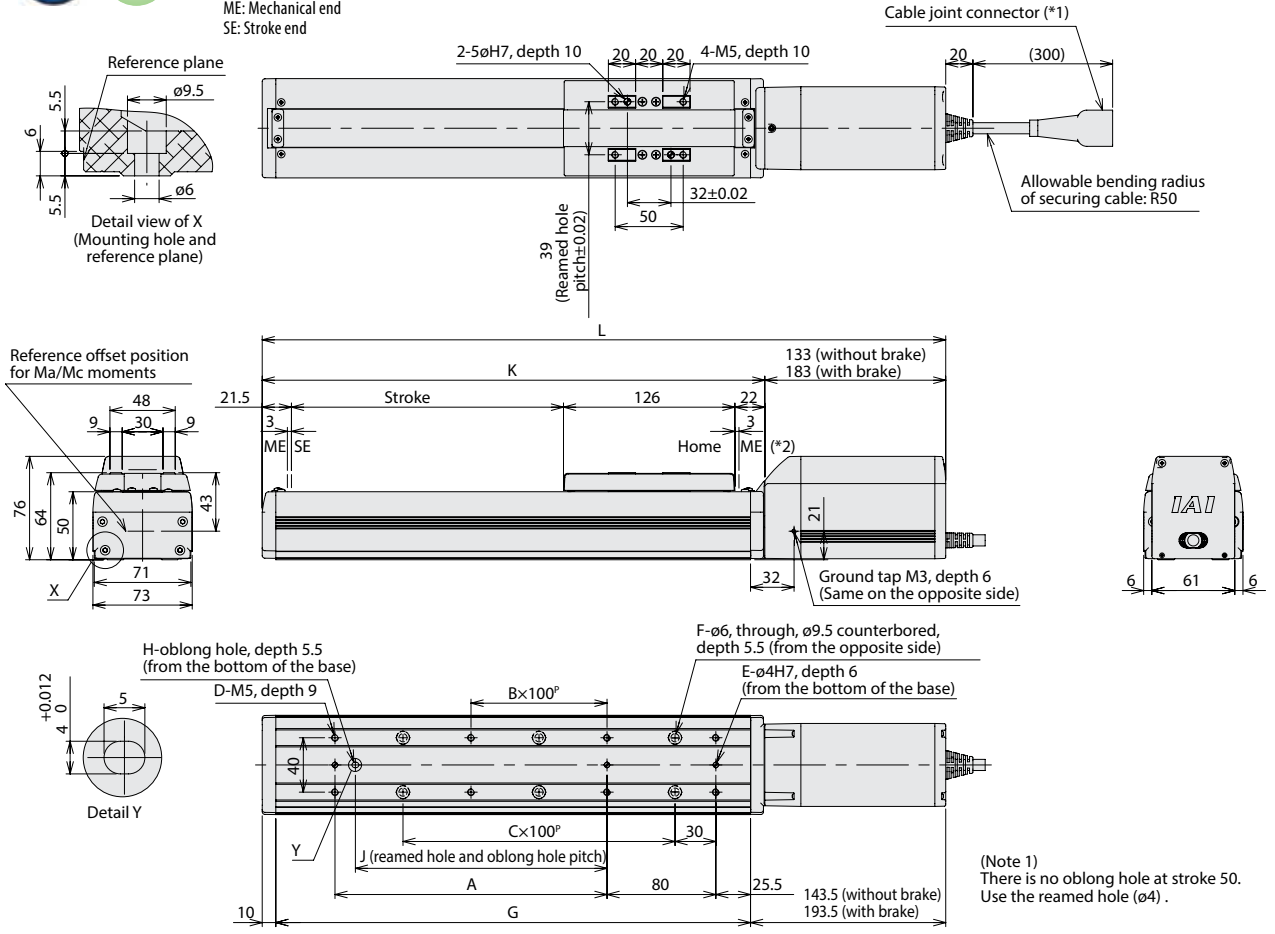
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15

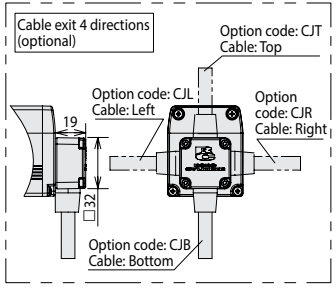


- \*1 Connect the motor-encoder integrated cable here. \* See page A-59 for details on cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end. ME: Mechanical end SE: Stroke end



■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	Without brake	352.5	402.5	452.5	502.5	552.5	602.5	652.5	702.5	752.5	802.5	852.5	902.5	952.5	1002.5	1052.5	1102.5
	With brake	402.5	452.5	502.5	552.5	602.5	652.5	702.5	752.5	802.5	852.5	902.5	952.5	1002.5	1052.5	1102.5	1152.5
A	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800	800
B	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	8
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
E	2	3	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	18
G	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	949
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785	785
K	219.5	269.5	319.5	369.5	419.5	469.5	519.5	569.5	619.5	669.5	719.5	769.5	819.5	869.5	919.5	969.5	969.5
Weight (kg)	Without brake	3.4	3.6	3.8	4.1	4.3	4.6	4.8	5.1	5.3	5.6	5.8	6.0	6.3	6.5	6.8	7.0
	With brake	3.9	4.1	4.3	4.6	4.8	5.1	5.3	5.6	5.8	6.1	6.3	6.5	6.8	7.0	7.3	7.5



Applicable Controllers

RCP4 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type High-output specification		PCON-CA-56PI-①-2-0	Equipped with a high-output driver PIO control supported	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-56PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—				
Field network type High-output specification		PCON-CA-56PI-⑩-0-0	Equipped with a high-output driver Field network supported	768 points				
Solenoid valve multi-axis type PIO specification	MSEP-C-⑩-①-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572				
Solenoid valve multi-axis type Network specification	MSEP-C-⑩-①-①-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points					

\* ① indicates I/O type (NP/PN). \* ⑩ indicates number of axes (1 to 8). \* ⑩ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCP4-SA5R

ROBO Cylinder, Slider Type, Side-mounted Motor Type, Actuator Width 52mm, 24-V Pulse Motor

Model Specification Items	<b>RCP4</b> — <b>SA5R</b> — <b>I</b> — <b>42P</b> — <input type="checkbox"/> — <input type="checkbox"/> — <b>P3</b> — <input type="checkbox"/> — <input type="checkbox"/>	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	I: Incremental specification	42P: Pulse motor, size 42□	20: 20mm 12: 12mm 6: 6mm 3: 3mm	50: 50mm 800: 800mm (every 50mm)	P3: PCON-CA MSEP-C	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below.  * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.			

\* See page Pre-47 for details on the model descriptions.



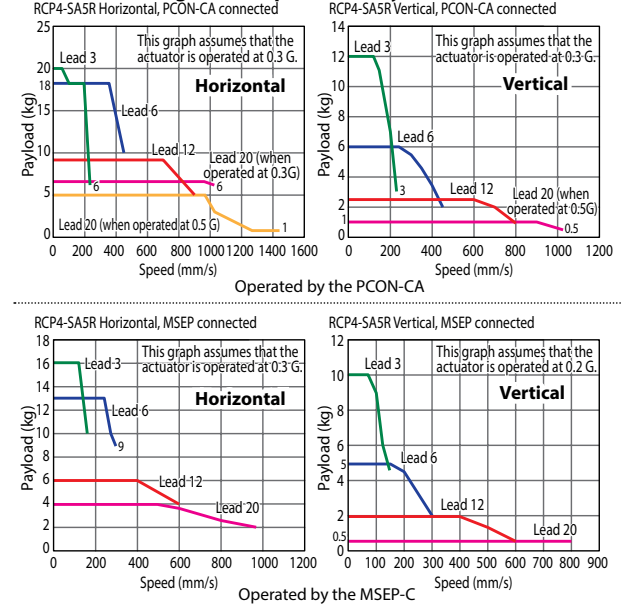
The "Motor side-mounted to the left (ML)" option is selected for the actuator shown above.

Technical References Appendix P.5



- The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (\*). Note that raising the acceleration causes the payload to drop. (\*The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-104 and A-106.
- Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
- See page A-71 for details on push motion.

### Correlation Diagrams of Speed and Payload



### Actuator Specifications

#### Leads and Payloads

(\*) When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4-SA5R-I-42P-20-①-P3-②-③	20	PCON-CA	6.5	1	50~800 (every 50mm)
		MSEP-C	4	0.5 (*)	
RCP4-SA5R-I-42P-12-①-P3-②-③	12	PCON-CA	9	2.5	
		MSEP-C	6	2	
RCP4-SA5R-I-42P-6-①-P3-②-③	6	PCON-CA	18	6	
		MSEP-C	13	5	
RCP4-SA5R-I-42P-3-①-P3-②-③	3	PCON-CA	20	12	
		MSEP-C	16	10	

Code explanation ① Stroke ② Cable length ③ Options

\* See page A-71 for details on push motion.

#### Stroke and Maximum Speed

Lead (mm)	Connected controller	50~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	PCON-CA	1440 <1120>	1225 <1120>	1045	900	785	690	610	
	MSEP-C	960 <800>	900 <800>	785	690	610			
12	PCON-CA	900 <800>	795	665	570	490	425	375	330
	MSEP-C	600	570	490	425	375	330		
6	PCON-CA	450	395	335	285	245	215	185	165
	MSEP-C	300	285	245	215	185	165		
3	PCON-CA	225	195	165	140	120	105	90	80
	MSEP-C	150	140	120	105	90	80		

The values in <> apply when the actuator is used vertically.

(unit: mm/s)

#### ① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ② Cable Length

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

\* See page A-59 for cables for maintenance.

#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Motor side-mounted to the left (standard)	ML	→ A-52	—
Motor side-mounted to the right	MR	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### 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, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*2)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) The value at lead 20 is shown in [ ].  
(\*2) Based on 5,000km of traveling life.



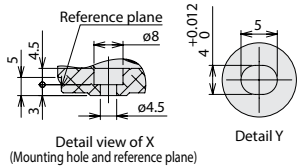
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

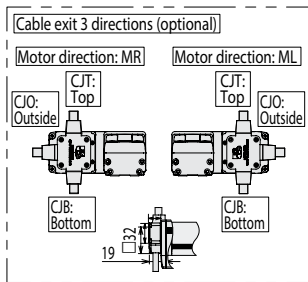
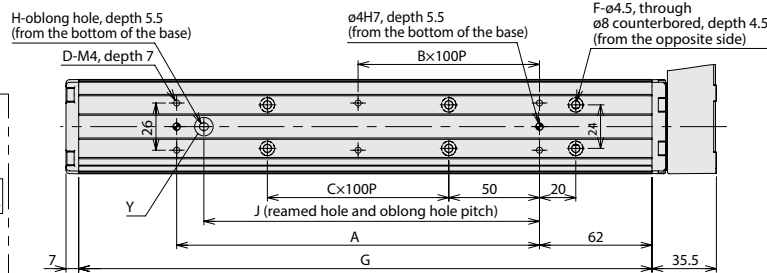
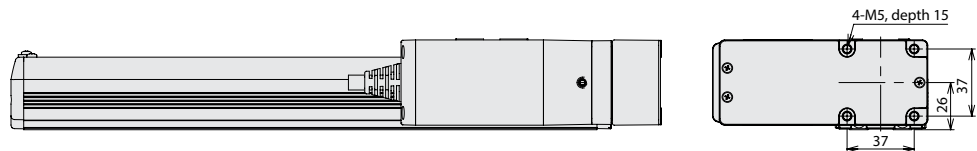
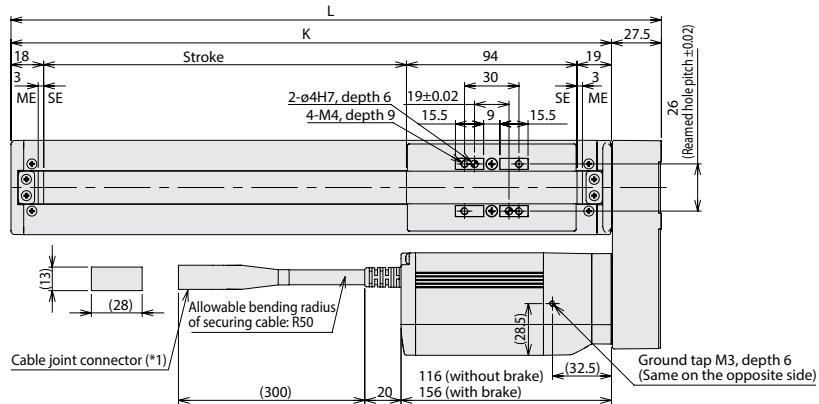
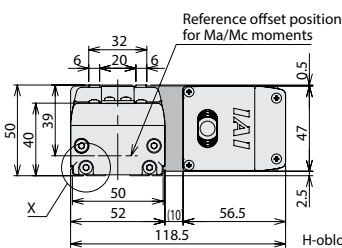
For Special Orders Appendix P.15



- \*1 Connect the motor-encoder integrated cable here. \* See page A-59 for details on cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.  
ME: Mechanical end  
SE: Stroke end



(Note 1) There is no oblong hole at stroke 50. Use the reamed hole (ø4).



■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5	708.5	758.5	808.5	858.5	908.5	958.5
A	73	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	8
D	4	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18
F	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
G	166	216	266	316	366	416	466	516	566	616	666	716	766	816	866	916
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
K	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	931
Weight (kg)	Without brake	1.7	1.9	2.0	2.2	2.3	2.5	2.6	2.8	2.9	3.0	3.2	3.3	3.5	3.6	3.8
	With brake	2.0	2.1	2.3	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.9	4.0

**Caution**  
Pay attention to possible contact with surrounding structures when a slider mount area projects into the motor unit top surface.

Applicable Controllers

RCP4 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver PIO control supported	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—				
Field network type High-output specification		PCON-CA-42PI-⑩-0-0	Equipped with a high-output driver Field network supported	768 points				
Solenoid valve multi-axis type PIO specification	MSEP-C-⑩-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572				
Solenoid valve multi-axis type Network specification	MSEP-C-⑩-⑩-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points					

\* ① indicates I/O type (NP/PN). \* ⑩ indicates number of axes (1 to 8). \* ⑩ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

# RCP4-SA6R

ROBO Cylinder, Slider Type, Side-mounted Motor Type, Actuator Width 58mm, 24-V Pulse Motor

Model Specification Items

**RCP4 — SA6R — I — 42P —** [ ] — [ ] — **P3** — [ ] — [ ]

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental specification    42P: Pulse motor, size 42□    20: 20mm    12: 12mm    6: 6mm    3: 3mm    50: 50mm    800: 800mm (every 50mm)    P3: PCON-CA    MSEP-C    N: None    P: 1m    S: 3m    M: 5m    X□□: Custom length    R□□: Robot cable    See Options below.    \* Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

\* See page Pre-47 for details on the model descriptions.



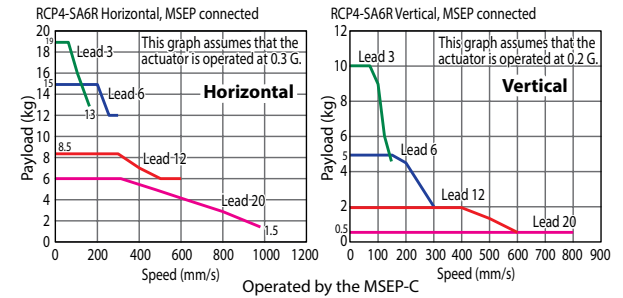
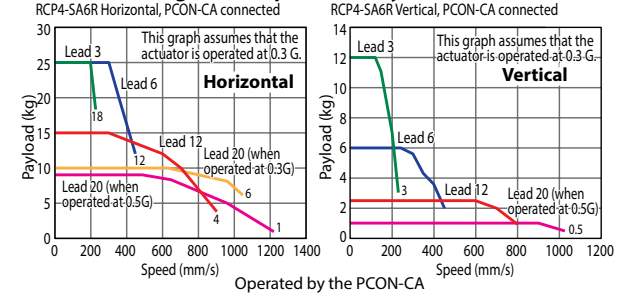
The "Motor side-mounted to the left (ML)" option is selected for the actuator shown above.

Technical References Appendix P.5



- The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (\*). Note that raising the acceleration causes the payload to drop. (\*The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-104 and A-106.
- Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
- See page A-71 for details on push motion.

### Correlation Diagrams of Speed and Payload



### Actuator Specifications

#### Leads and Payloads

(\*) When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4-SA6R-I-42P-20-①-P3-②-③	20	PCON-CA	10	1	50~800 (every 50mm)
		MSEP-C	6	0.5 (*)	
RCP4-SA6R-I-42P-12-①-P3-②-③	12	PCON-CA	15	2.5	
		MSEP-C	8.5	2	
RCP4-SA6R-I-42P-6-①-P3-②-③	6	PCON-CA	25	6	
		MSEP-C	15	5	
RCP4-SA6R-I-42P-3-①-P3-②-③	3	PCON-CA	25	12	
		MSEP-C	19	10	

Code explanation ① Stroke ② Cable length ③ Options

\* See page A-71 for details on push motion.

#### Stroke and Maximum Speed

Lead (mm)	Connected controller	Stroke (mm)							
		50~450 (every 50mm)	500	550	600	650	700	750	800
20	PCON-CA	1280 <1120>	1230 <1120>	1045	905	785	690	615	
	MSEP-C	960 <800>	905 <800>	785	690	615			
12	PCON-CA	900	795	670	570	490	430	375	335
	MSEP-C	600	570	490	430	375	335		
6	PCON-CA	450	395	335	285	245	215	185	165
	MSEP-C	300	285	245	215	185	165		
3	PCON-CA	225	195	165	140	120	105	90	80
	MSEP-C	150	140	120	105	90	80		

The values in <> apply when the actuator is used vertically.

(unit: mm/s)

#### ① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ② Cable Length

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

\* See page A-59 for cables for maintenance.

#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Motor side-mounted to the left (standard)	ML	→ A-52	—
Motor side-mounted to the right	MR	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### 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, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*2)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) The value at lead 20 is shown in [ ].

(\*2) Based on 5,000km of traveling life

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

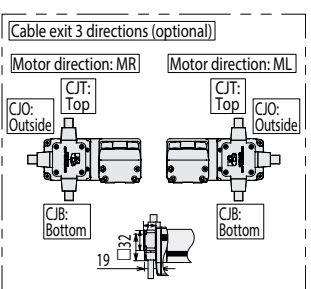
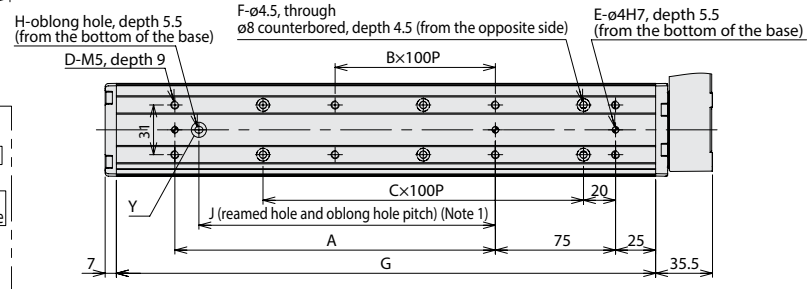
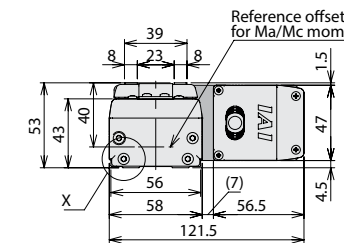
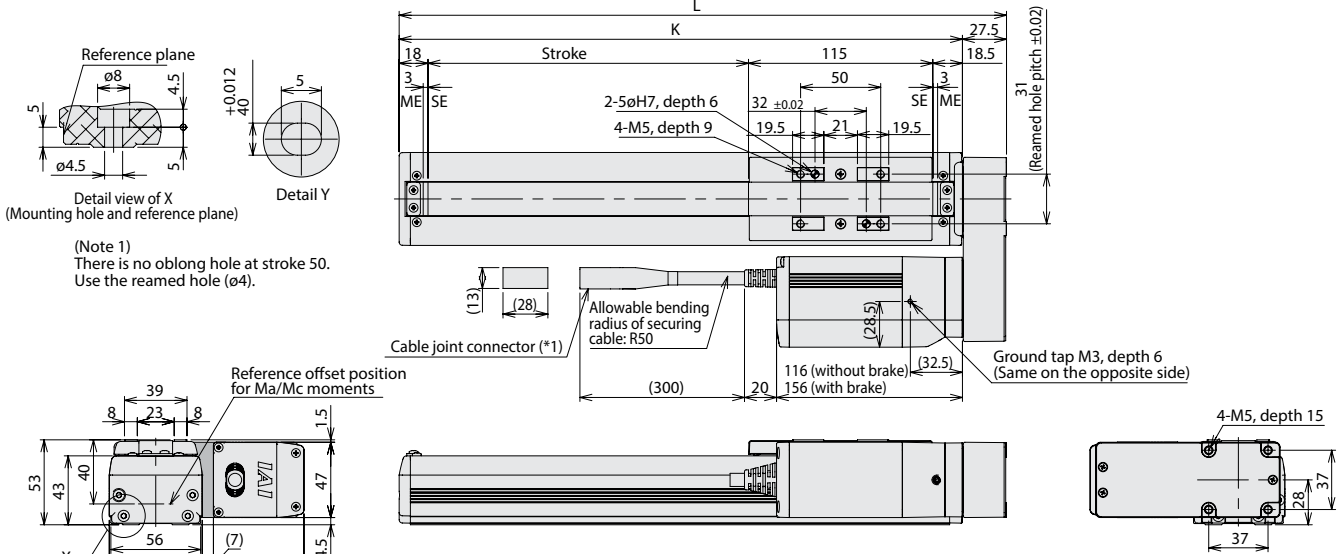
**Dimensional Drawings**

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- \*1 Connect the motor-encoder integrated cable here. \* See page A-59 for details on cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.  
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	229	279	329	379	429	479	529	579	629	679	729	779	829	879	929	979
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	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
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
G	186.5	236.5	286.5	336.5	386.5	436.5	486.5	536.5	586.5	636.5	686.5	736.5	786.5	836.5	886.5	936.5
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
K	201.5	251.5	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
Weight (kg)	Without brake	2.2	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4
	With brake	2.4	2.6	2.7	2.9	3.1	3.2	3.4	3.5	3.7	3.8	4.0	4.2	4.3	4.5	4.6

**Caution**  
Pay attention to possible contact with surrounding structures when a slider mount area projects into the motor unit top surface.

**Applicable Controllers**

RCP4 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver PIO control supported	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—				
Field network type High-output specification		PCON-CA-42PI-⑩-0-0	Equipped with a high-output driver Field network supported	768 points				
Solenoid valve multi-axis type PIO specification		MSEP-C-⑩-①-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572	—	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-⑩-①-⑩-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points				

\* ① indicates I/O type (NP/PN). \* ⑩ indicates number of axes (1 to 8). \* ⑩ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



RCP4-SAFE & Serviced By

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**ELECTROMATE**

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[sales@electromate.com](mailto:sales@electromate.com)

# RCP4-SA7R

ROBO Cylinder, Slider Type, Side-mounted Motor Type, Actuator Width 73mm, 24-V Pulse Motor

Model Specification Items	<b>RCP4</b> — <b>SA7R</b> — <b>I</b> — <b>56P</b> — <span style="border: 1px solid black; padding: 2px;"> </span> — <span style="border: 1px solid black; padding: 2px;"> </span> — <b>P3</b> — <span style="border: 1px solid black; padding: 2px;"> </span> — <span style="border: 1px solid black; padding: 2px;"> </span>
Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options	I: Incremental specification    56P: Pulse motor, size 56□    24: 24mm    16: 16mm    8: 8mm    4: 4mm    50: 50mm    800: 800mm (every 50mm)    P3: PCON-CA    MSEP-C    N: None    P: 1m    S: 3m    M: 5m    X□□: Custom lengthh    R□□: Robot cable    See Options below.    * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

\* See page Pre-47 for details on the model descriptions.



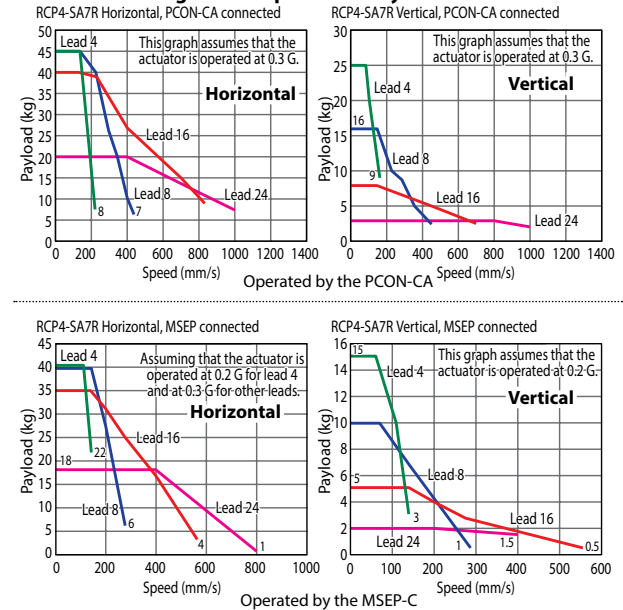
The "Motor side-mounted to the left (ML)" option is selected for the actuator shown above.

Technical References Appendix P.5



- The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (\*). Note that raising the acceleration causes the payload to drop. (\*The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-104 and A-106.
- Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
- See page A-71 for details on push motion.

### Correlation Diagrams of Speed and Payload



### Actuator Specifications

#### Leads and Payloads

(\*) When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4-SA7R-I-56P-24-①-P3-②-③	24	PCON-CA	20	3	50~800 (every 50mm)
		MSEP-C	18	2 (*)	
RCP4-SA7R-I-56P-16-①-P3-②-③	16	PCON-CA	40	8	
		MSEP-C	35	5 (*)	
RCP4-SA7R-I-56P-8-①-P3-②-③	8	PCON-CA	45	16	
		MSEP-C	40	10 (*)	
RCP4-SA7R-I-56P-4-①-P3-②-③	4	PCON-CA	45	25	
		MSEP-C	40 (*)	15 (*)	

Code explanation ① Stroke ② Cable length ③ Options

\* See page A-71 for details on push motion.

#### Stroke and Maximum Speed

The values in <> apply when the actuator is used vertically.

Lead (mm)	Connected controller	50~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
24	PCON-CA	1000						890	790
	MSEP-C	800<600>						790<600>	
16	PCON-CA	840<700>			750<700>		655	580	515
	MSEP-C	560			515				
8	PCON-CA	490		430	375	325	290	255	
	MSEP-C	280		255					
4	PCON-CA	210		185	160	145	125		
	MSEP-C	140		125					

\* The values of lead 8 and lead 4 apply when acceleration is at 0.1G.

(unit: mm/s)

#### ① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ② Cable Length

Type	Cable symbol	Standard price
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)	—

\* See page A-59 for cables for maintenance.

#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Motor side-mounted to the left (standard)	ML	→ A-52	—
Motor side-mounted to the right	MR	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*2)	Ma: 13.9 N·m, Mb: 19.9 N·m, Mc: 38.3 N·m
Allowable overhang	230mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) The value at lead 24 is shown in [ ].

(\*2) Based on 5,000km of traveling life

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

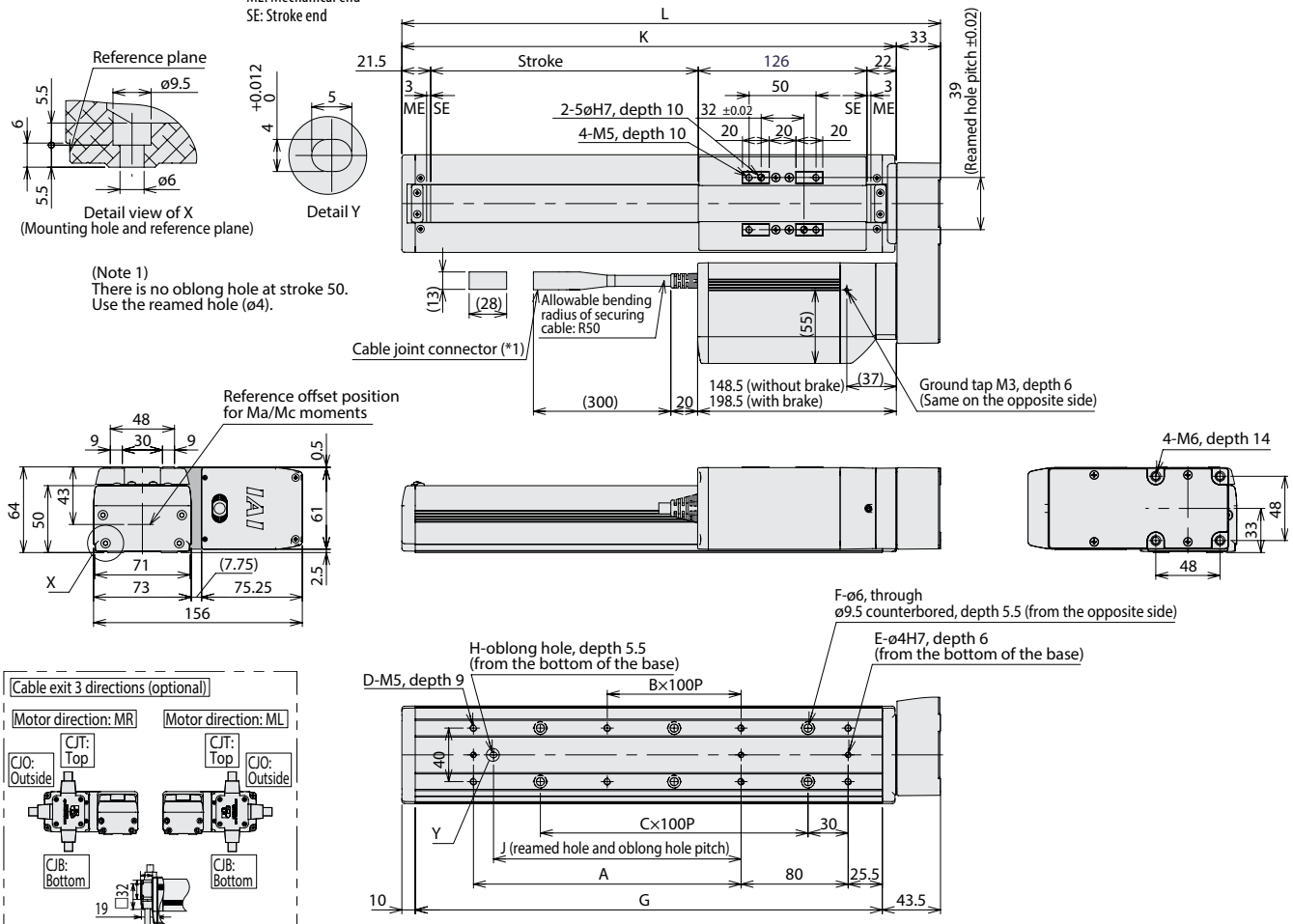
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- \*1 Connect the motor-encoder integrated cable here. \* See page A-59 for details on cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.  
ME: Mechanical end  
SE: Stroke end



**Caution**  
Pay attention to possible contact with surrounding structures when a slider mount area projects into the motor unit top surface.

■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	252.5	302.5	352.5	402.5	452.5	502.5	552.5	602.5	652.5	702.5	752.5	802.5	852.5	902.5	952.5	1002.5
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	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
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
G	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
K	219.5	269.5	319.5	369.5	419.5	469.5	519.5	569.5	619.5	669.5	719.5	769.5	819.5	869.5	919.5	969.5
Weight (kg)	Without brake	3.8	4.0	4.3	4.5	4.8	5.0	5.3	5.5	5.7	6.0	6.2	6.5	6.7	7.0	7.2
	With brake	4.3	4.5	4.8	5.0	5.3	5.5	5.8	6.0	6.2	6.5	6.7	7.0	7.2	7.5	7.7

Applicable Controllers

RCP4 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type High-output specification		PCON-CA-56PI-①-2-0	Equipped with a high-output driver PIO control supported	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-56PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—				
Field network type High-output specification		PCON-CA-56PI-⑩-0-0	Equipped with a high-output driver Field network supported	768 points				
Solenoid valve multi-axis type PIO specification	MSEP-C-⑩-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572				
Solenoid valve multi-axis type Network specification	MSEP-C-⑩-①-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points					

\* ① indicates I/O type (NP/PN). \* ⑩ indicates number of axes (1 to 8). \* ⑩ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



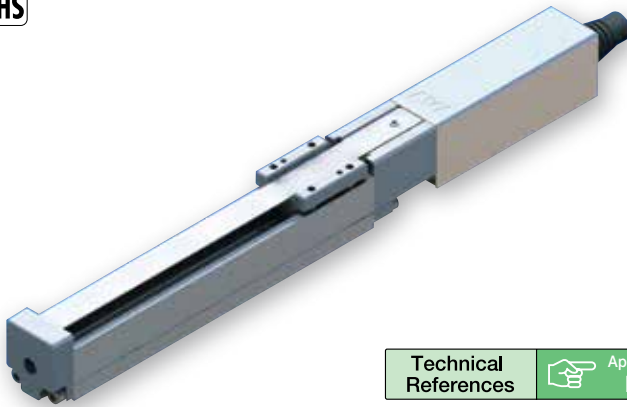


# RCP3-SA2AC

ROBO Cylinder, Mini Slider Type, Coupled Motor, 22mm Width, Pulse Motor, Lead Screw

Model Specification Items	<b>RCP3</b> — <b>SA2AC</b> — <b>I</b> — <b>20P</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental *The Simple absolute encoder is also considered type "I".	20P: Pulse motor, 20□ size	4S: 4mm lead screw 2S: 2mm lead screw 1S: 1mm lead screw	25: 25mm ? 100: 100mm (25mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length	NM: Non-motor end

\* See page Pre-47 for details on the model descriptions.



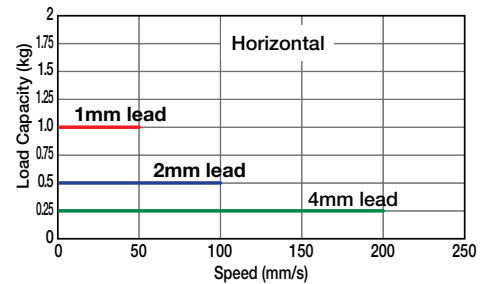
Technical References Appendix P.5



- (1) The load capacity is based on operation at an acceleration of 0.2G. This value is the upper limit for the acceleration.
- (2) The actuator cannot be used on its side or in a vertical orientation.
- (3) If used in a dusty environment, the service life will decrease significantly.
- (4) This model uses a lead screw, therefore please ensure that your usage is appropriate for its characteristics. (See page Pre-52.)
- (5) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

Model number	Feed screw	Lead (mm)	Max. Load Capacity		Positioning Repeatability (mm)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCP3-SA2AC-I-20P-4S-①-P3-②-③-④	Lead screw	4	0.25	—	±0.05	25~100 (every 50mm)
RCP3-SA2AC-I-20P-2S-①-P3-②-③-④		2	0.5	—		
RCP3-SA2AC-I-20P-1S-①-P3-②-③-④		1	1	—		

#### Stroke and Maximum Speed

Lead	Stroke	25 (mm)		50~100 (mm)	
		25 (mm)	50~100 (mm)	25 (mm)	50~100 (mm)
Lead screw	4	180	200	—	—
	2	—	100	—	—
	1	—	50	—	—

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
25	—
50	—
75	—
100	—

#### ③ Cable Length

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

\* The standard cable for the RCP3 is the robot cable.  
\* See page A-59 for cables for maintenance.

#### ④ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Lead screw, ø4mm, rolled C10
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide (*)	Slide guide
Ambient Operating Temp./Humidity	0 to 40°C, 85% RH or less (Non-condensing)
Service Life	10 million cycles

\* Offset load not supported.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

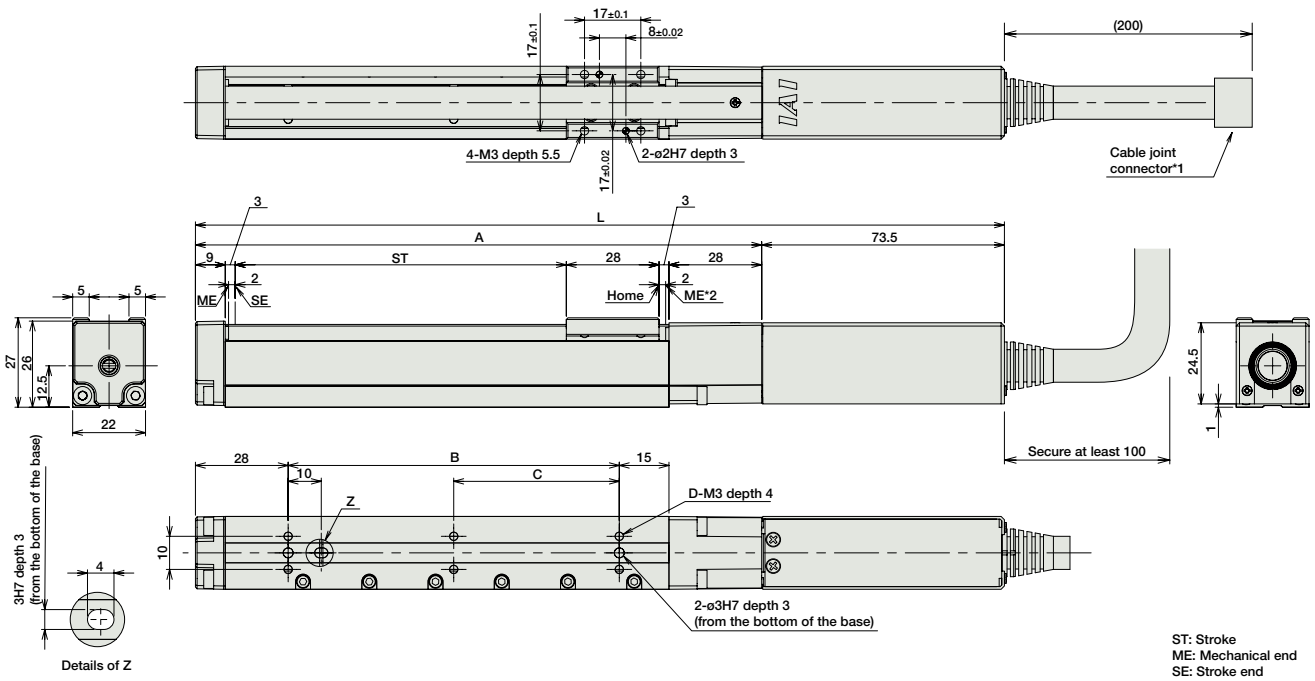
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- \*1 Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- \*2 During the homing operation, the slider moves to actuator's mechanical end, and then reverses. Therefore, watch for any interference with its surroundings.



Dimensions and Mass by Stroke

Stroke	25	50	75	100
L	169.5	194.5	219.5	244.5
A	96	121	146	171
B	25	50	75	100
C	0	0	0	50
D	4	4	4	6
Weight (kg)	0.25	0.27	0.29	0.3

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-20PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-20PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-20PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-20PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-20PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-20PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



RCP3-SA2AC & Servo Motor  
  
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[sales@electromate.com](mailto:sales@electromate.com)

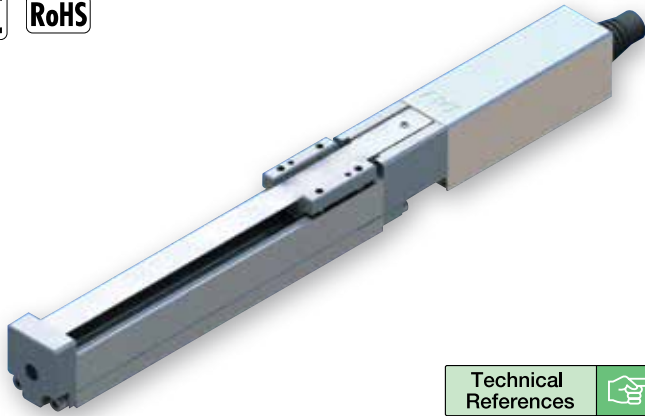


# RCP3-SA2BC

ROBO Cylinder, Mini Slider Type, Coupled Motor, 28mm Width, Pulse Motor, Lead Screw

Model Specification Items	<b>RCP3</b>	<b>SA2BC</b>	<b>I</b>	<b>20P</b>					
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental *The Simple absolute encoder is also considered type "I".	20P: Pulse motor, 20□ size	6S: 6mm lead screw 4S: 4mm lead screw 2S: 2mm lead screw	25: 25mm ? 150: 150mm (25mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□: Custom length	NM: Non-motor end

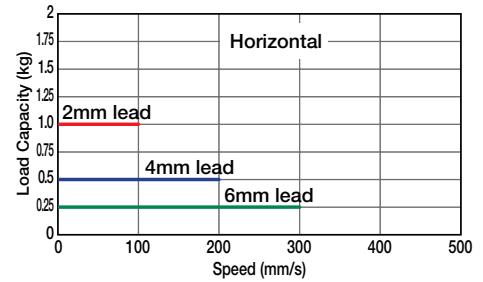
\* See page Pre-47 for details on the model descriptions.



Technical References Appendix P.5

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



- POINT** Notes on selection
- The load capacity is based on operation at an acceleration of 0.2G. This value is the upper limit for the acceleration.
  - The actuator cannot be used on its side or in a vertical orientation.
  - If used in a dusty environment, the service life will decrease significantly.
  - This model uses a lead screw, therefore please ensure that your usage is appropriate for its characteristics. (See page Pre-52.)
  - See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Feed screw	Lead (mm)	Max. Load Capacity		Positioning Repeatability (mm)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCP3-SA2BC-I-20P-6S-①-②-③-④	Lead screw	6	0.25	—	±0.05	25~150 (every 25mm)
RCP3-SA2BC-I-20P-4S-①-②-③-④		4	0.5	—		
RCP3-SA2BC-I-20P-2S-①-②-③-④		2	1	—		

#### Stroke and Maximum Speed

Lead	Stroke	25 (mm)	50 (mm)	75~150 (mm)
		Lead screw	6	180
	4	180	200	
	2	100		

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
25	—
50	—
75	—
100	—
125	—
150	—

#### ③ Cable Length

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

\* The standard cable for the RCP3 is the robot cable.  
\* See page A-59 for cables for maintenance.

#### ④ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Lead screw, ø6mm, rolled C10
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide (*)	Slide guide
Ambient Operating Temp./Humidity	0 to 40°C, 85% RH or less (Non-condensing)
Service Life	10 million cycles

\* Offset load not supported.

Dimensional Drawings

CAD drawings can be downloaded from the website.

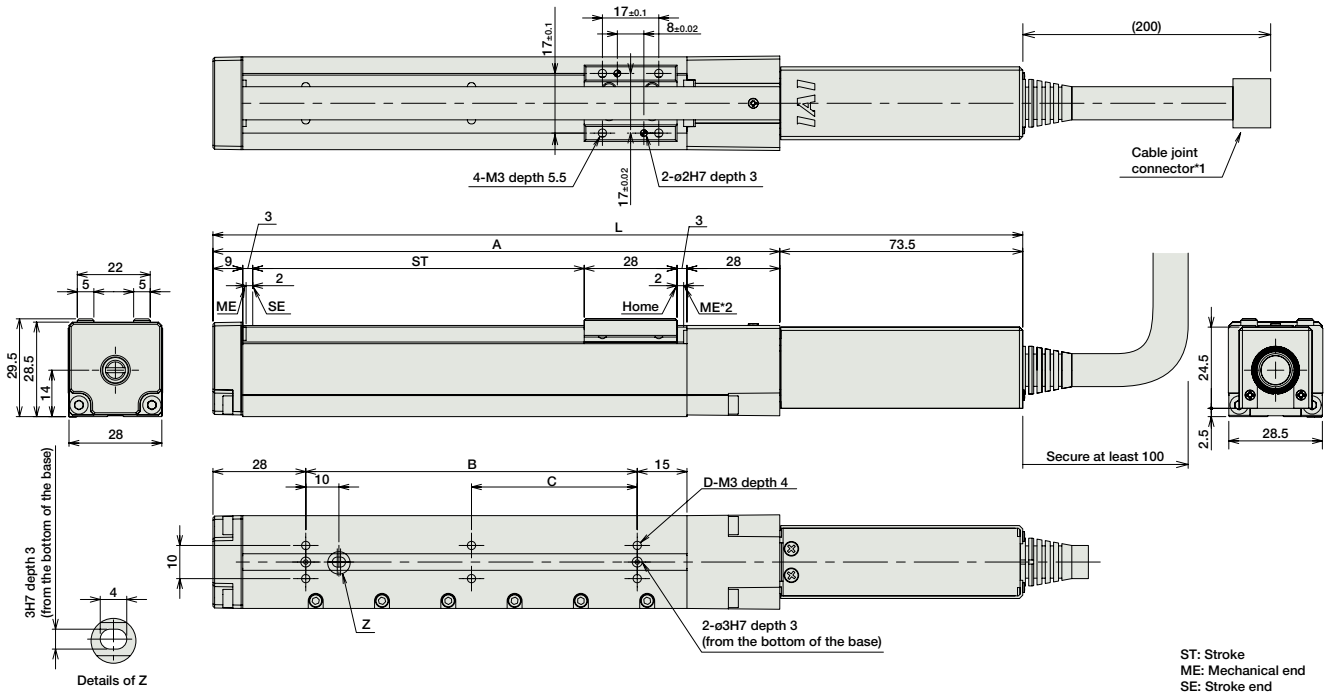
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For Special Orders

Appendix P.15



- \*1 Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- \*2 During the homing operation, the slider moves to the actuator's mechanical end, and then reverses. Therefore, watch for any interference with its surroundings.



Dimensions and Mass by Stroke

Stroke	25	50	75	100	125	150
L	169.5	194.5	219.5	244.5	269.5	294.5
A	96	121	146	171	196	221
B	25	50	75	100	125	150
C	0	0	0	50	62.5	75
D	4	4	4	6	6	6
Weight (kg)	0.3	0.32	0.35	0.37	0.4	0.42

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-20PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-20PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-20PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-20PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-20PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P665
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-20PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

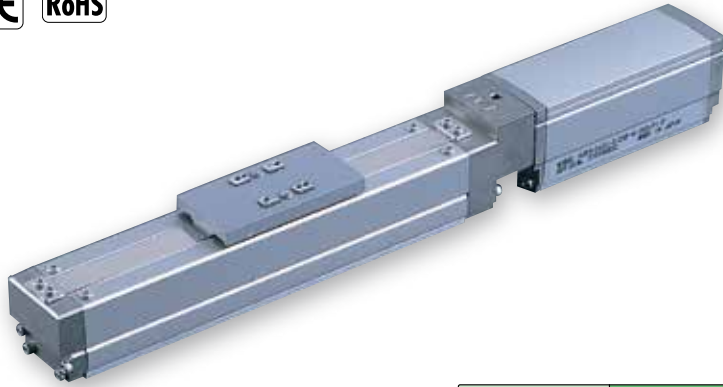
\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

# RCP3-SA3C

ROBO Cylinder, Slider Type, 32mm Width, Pulse Motor, Coupled

Model Specification Items	<b>RCP3</b> — <b>SA3C</b> — <b>I</b> — <b>28P</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I".	28P: Pulse motor, 28□ size
	6 : 6mm 4 : 4mm 2 : 2mm	50: 50mm ? 300: 300mm (50mm pitch increments)
		P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP
		N: None P: 1m S: 3m M: 5m X□□: Custom length
		See Options below.

\* See page Pre-47 for details on the model descriptions.



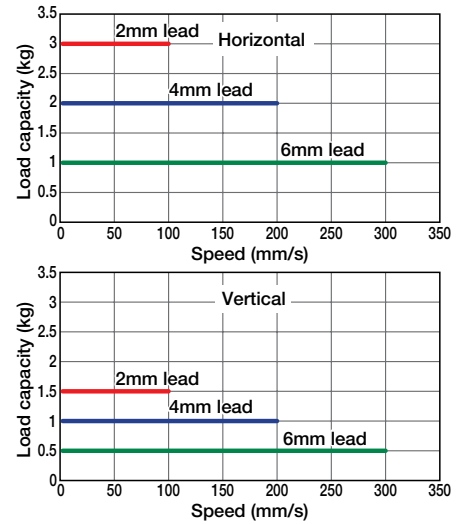
Technical References Appendix P.5

**POINT** Notes on selection

- (1) Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA3C-I-28P-6-①-②-③-④	6	1	0.5	50~300 (every 50mm)
RCP3-SA3C-I-28P-4-①-②-③-④	4	2	1	
RCP3-SA3C-I-28P-2-①-②-③-④	2	3	1.5	

#### Stroke and Maximum Speed

Lead	Stroke	50~300 (every 50mm)
		300
4	200	
2	100	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover	Without cover
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-59 for cables for maintenance.

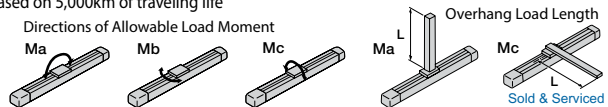
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø6mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 5.0 N·m, Mb: 7.1 N·m, Mc: 7.9 N·m
Allowable dynamic moment (*)	Ma: 1.96 N·m, Mb: 2.84 N·m, Mc: 3.14 N·m
Allowable overhang	100mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



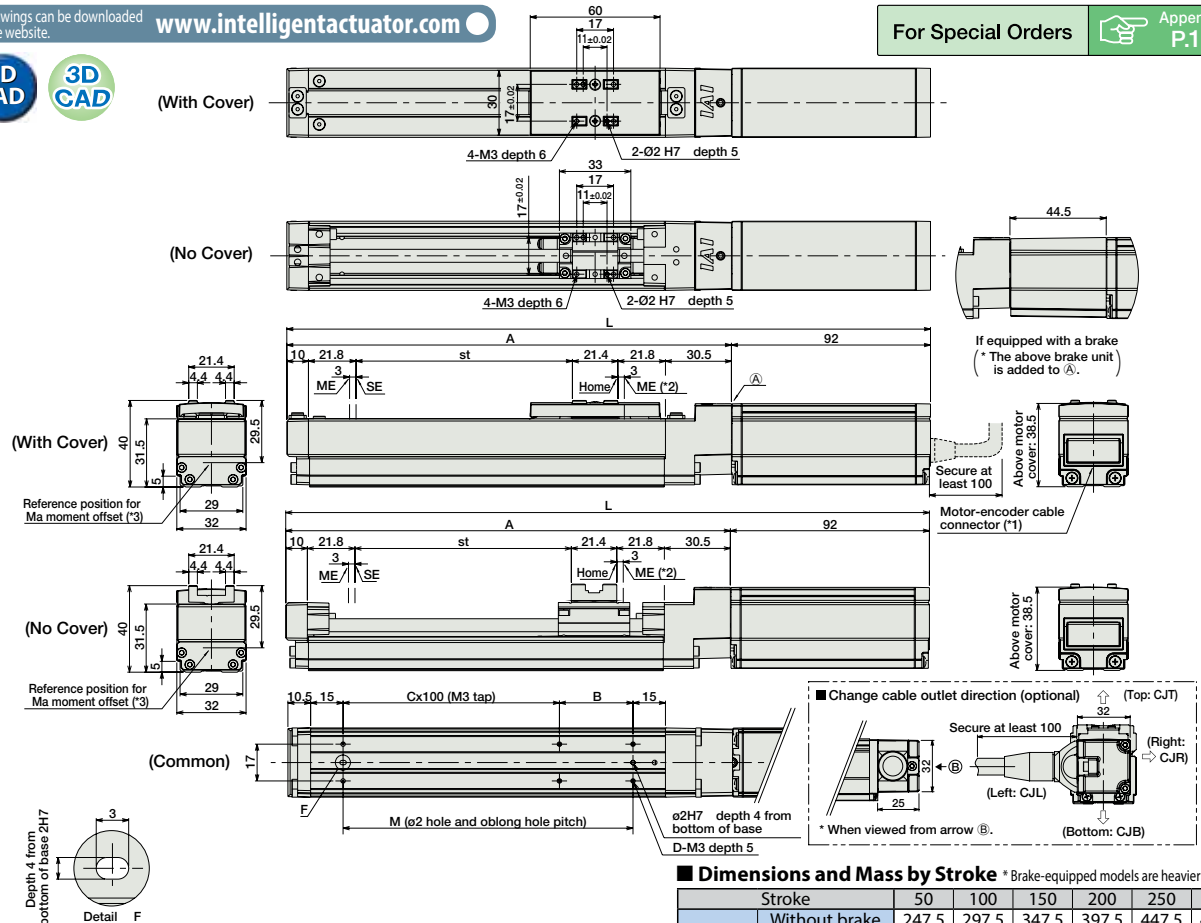
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Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



(\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.  
 (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end  
 (\*3) Reference position for calculating the Ma moment

Dimensions and Mass by Stroke \* Brake-equipped models are heavier by 0.2kg.

Stroke	Stroke						
	50	100	150	200	250	300	
L	Without brake	247.5	297.5	347.5	397.5	447.5	497.5
	With brake	292	342	392	442	492	542
A	155.5	205.5	255.5	305.5	355.5	405.5	
B	84	34	84	34	84	34	
C	0	1	1	2	2	3	
D	4	6	6	8	8	10	
M	84	134	184	234	284	334	
Weight (kg)	With cover	0.7	0.7	0.8	0.9	0.9	1
	Without cover	0.6	0.7	0.7	0.8	0.8	0.9

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-28PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-28PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-②-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type High-output specification		PCON-CA-28PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-28PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-28PI-②-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-28PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-28PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-28PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

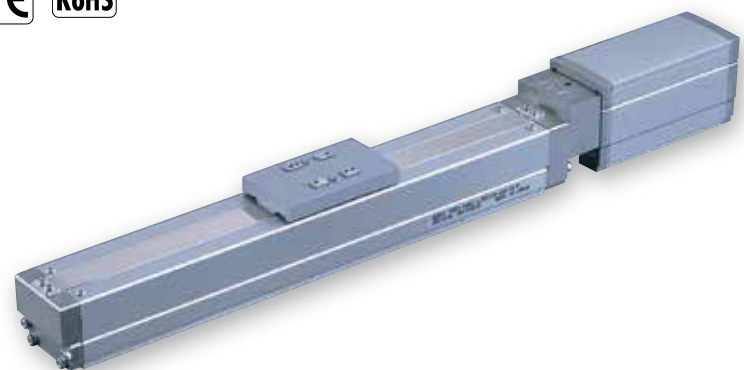
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCP3-SA4C

ROBO Cylinder, Slider Type, 40mm Width, Pulse Motor, Coupled

<b>Model Specification Items</b>	<b>RCP3</b> — <b>SA4C</b> — <b>I</b> — <b>35P</b> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>	<b>Series</b> — <b>Type</b>	<b>Encoder type</b> — Motor type	<b>Lead</b> — Stroke	<b>Applicable controller</b> — Cable length	<b>Options</b>		
			I: Incremental *The Simple absolute encoder is also considered type "I".	35P: Pulse motor, 35□ size 10 : 10mm 5 : 5mm 2.5: 2.5mm	50: 50mm ? 500: 500mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□: Custom length	See Options below.

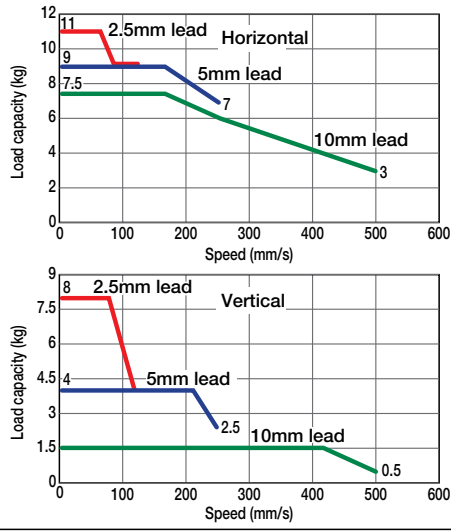
\* See page Pre-47 for details on the model descriptions.



**Technical References** Appendix P.5

- POINT** Notes on selection
- (1) Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2.5 mm-lead model, or when used vertically). The maximum acceleration is 0.7G (0.3G when used vertically), however, note that the load capacity decreases at high accelerations. For more information, see the table of load capacity by acceleration, on page A-108.
  - (3) See page A-71 for details on push motion.

**Speed vs. Load Capacity**  
Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications				
<b>Leads and Payloads</b>				
Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA4C-I-35P-10-①-②-③-④	10	~ 7.5	~ 1.5	50~500 (every 50mm)
RCP3-SA4C-I-35P-5-①-②-③-④	5	~ 9	~ 4	
RCP3-SA4C-I-35P-2.5-①-②-③-④	2.5	~11	~ 8	
<b>Stroke and Maximum Speed</b>				
Lead	Stroke	50~500 (every 50mm)		
	10	500		
5	250			
2.5	125			

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

**① Stroke**

① Stroke (mm)	Standard price	
	With cover	Without cover
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

**③ Cable Length**

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

\* See page A-59 for cables for maintenance.

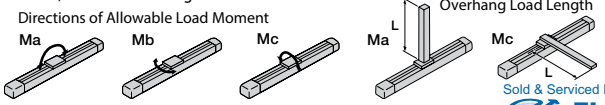
**④ Options**

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

**Actuator Specifications**

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 6.8 N·m, Mb: 9.7 N·m, Mc: 13.3 N·m
Allowable dynamic moment (*)	Ma: 3.04 N·m, Mb: 4.31 N·m, Mc: 5.00 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life

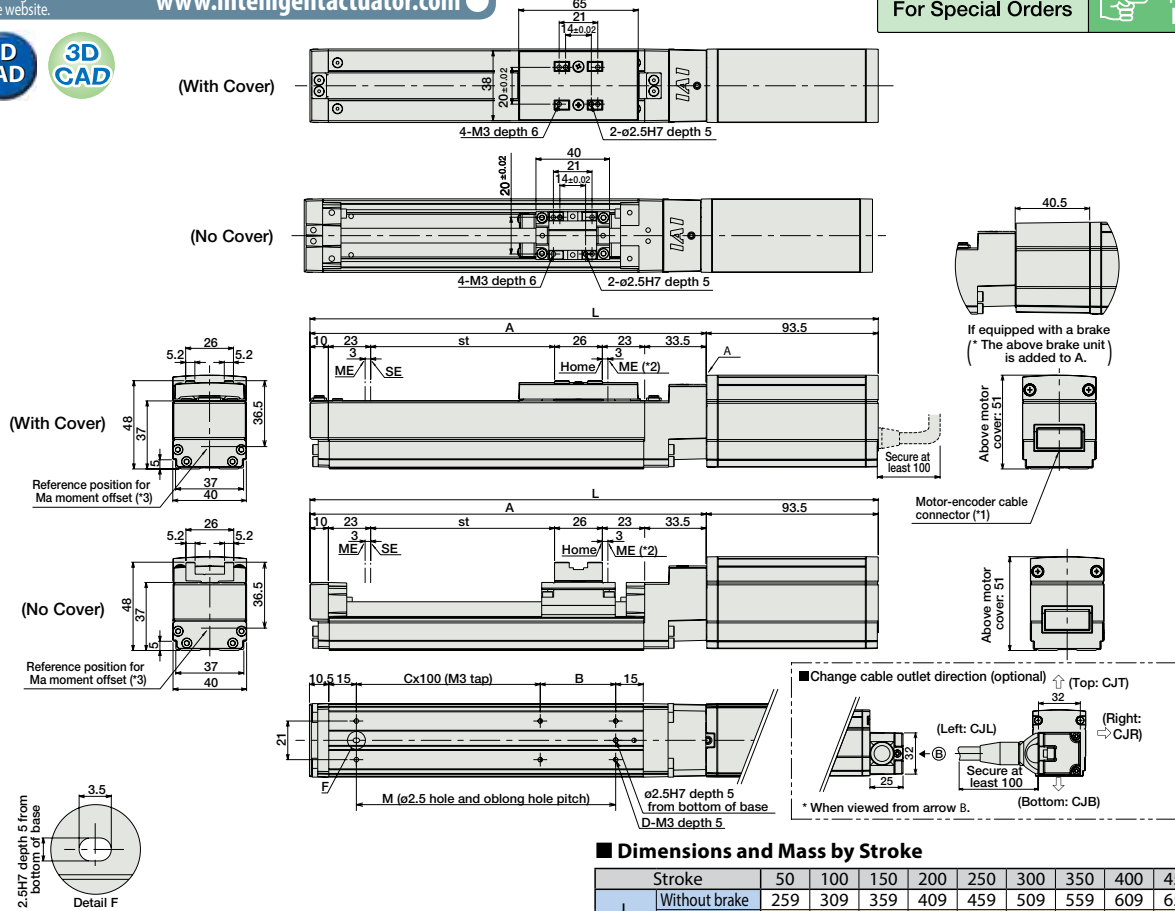




Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	
L	Without brake	259	309	359	409	459	509	559	609	659	709
	With brake	299.5	349.5	399.5	449.5	499.5	549.5	599.5	649.5	699.5	749.5
A	91	41	91	41	91	41	91	41	91	41	41
B	0	1	1	2	2	3	3	4	4	5	5
C	4	6	6	8	8	10	10	12	12	14	14
D	91	141	191	241	291	341	391	441	491	541	541
M	0.9	1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8
Weight (kg)	With cover	0.9	0.9	1	1.1	1.2	1.2	1.3	1.4	1.5	1.5
	Without cover	0.9	0.9	1	1.1	1.2	1.2	1.3	1.4	1.5	1.5

(\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.  
 (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end  
 (\*3) Reference position for calculating the Ma moment

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-35PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-35PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-35PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-35PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-35PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-35PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-35PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-35PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-35PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

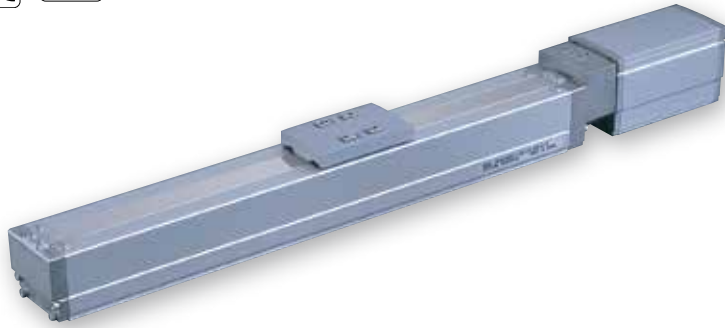


# RCP3-SA5C

ROBO Cylinder, Slider Type, 50mm Width, Pulse Motor, Coupled

Model Specification Items	<b>RCP3</b> — <b>SA5C</b> — <b>I</b> — <b>42P</b> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Series — Type	Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I". 42P: Pulse motor, 42□ size 20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm 50: 50mm } 800: 800mm (50mm pitch increments) P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP N: None P: 1m S: 3m M: 5m X□□: Custom length See Options below.

\* See page Pre-47 for details on the model descriptions.



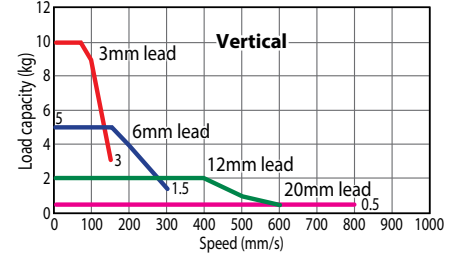
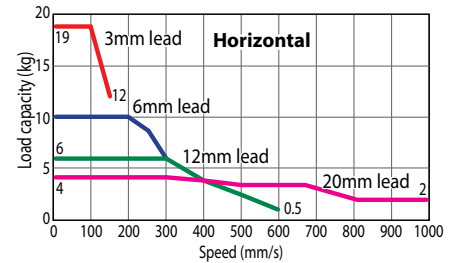
Technical References Appendix P.5



- Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm lead model and when using vertically). The maximum acceleration is 0.7G (0.3G when used vertically), however, note that the load capacity decreases at high accelerations. For more information, see the table of load capacity by acceleration, on page A-108.
- See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA5C-I-42P-20-①-②-③-④	20	~ 4	~ 0.5	50~800 (every 50mm)
RCP3-SA5C-I-42P-12-①-②-③-④	12	~ 6	~ 2	
RCP3-SA5C-I-42P-6-①-②-③-④	6	~10	~ 5	
RCP3-SA5C-I-42P-3-①-②-③-④	3	~19	~ 10	

#### Stroke and Maximum Speed

Stroke Lead	Maximum Speed (mm/s)					
	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	1000	910	790	690	610	
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

(Unit: mm/s)

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

#### ① Stroke

① Stroke (mm)	Standard price		① Stroke (mm)	Standard price	
	With cover	Without cover		With cover	Without cover
50	—	—	450	—	—
100	—	—	500	—	—
150	—	—	550	—	—
200	—	—	600	—	—
250	—	—	650	—	—
300	—	—	700	—	—
350	—	—	750	—	—
400	—	—	800	—	—

#### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

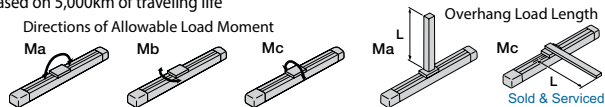
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, Special alumite treated
Allowable static moment	Ma: 10.2 N·m, Mb: 14.6 N·m, Mc: 22.4 N·m
Allowable dynamic moment (*)	Ma: 3.92 N·m, Mb: 5.58 N·m, Mc: 8.53 N·m
Allowable overhang	130mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



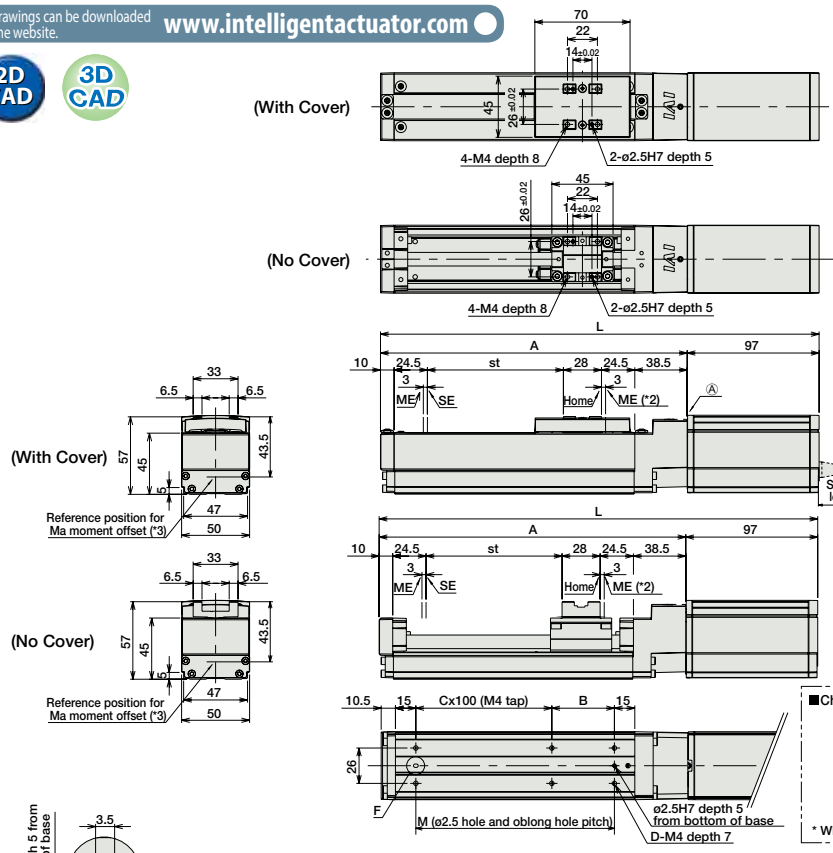


Dimensional Drawings

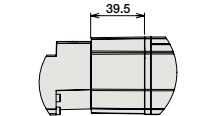
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



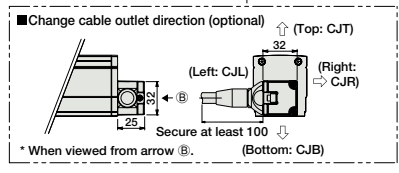
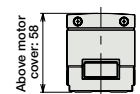
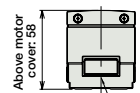
For Special Orders Appendix P.15



- (\*1) Connect the motor-encoder integrated cable here.. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME : Mechanical end SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



If equipped with a brake (\* The above brake unit is added to A.)



Dimensions and Mass by Stroke \* Brake-equipped models are heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	Without brake	272.5	322.5	372.5	422.5	472.5	522.5	572.5	622.5	672.5	722.5	772.5	822.5	872.5	922.5	972.5	1022.5
	With brake	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062
A	175.5	225.5	275.5	325.5	375.5	425.5	475.5	525.5	575.5	625.5	675.5	725.5	775.5	825.5	875.5	925.5	
B	96	46	96	46	96	46	96	46	96	46	96	46	96	46	96	46	
C	0	1	1	2	2	3	3	4	4	5	6	6	7	7	8	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
M	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	
Weight (kg)	With cover	1.4	1.5	1.6	1.8	1.9	2	2.2	2.3	2.5	2.6	2.7	2.9	3.0	3.2	3.3	3.4
	Without cover	1.3	1.4	1.5	1.6	1.7	1.8	2	2.1	2.2	2.3	2.4	2.5	2.6	2.8	2.9	3.0

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve			Refer to P555	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-②-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected			Refer to P618	—	→ P607
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)		Refer to P628	—	→ P623
Field network type High-output specification		PCON-CA-42PI-②-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points		Refer to P671	—	→ P665
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support			Refer to P671	—	→ P665
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

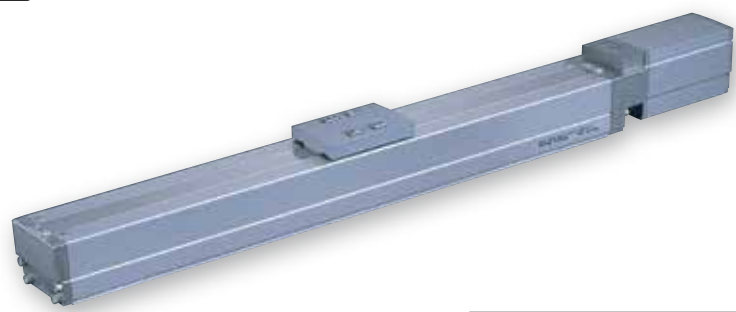
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCP3-SA6C

ROBO Cylinder, Slider Type, 60mm Width, Pulse Motor, Coupled

<b>Model Specification Items</b>	<b>RCP3</b> — <b>SA6C</b> — <b>I</b> — <b>42P</b> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>
Series — Type	Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
I: Incremental * The Simple absolute encoder is also considered type "I".	42P: Pulse motor, 42□ size 20 : 20mm 12 : 12mm 6 : 6mm 3 : 3mm 50: 50mm ? 800: 800mm (50mm pitch increments) P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP N: None P: 1m S: 3m M: 5m X□□: Custom length See Options below.

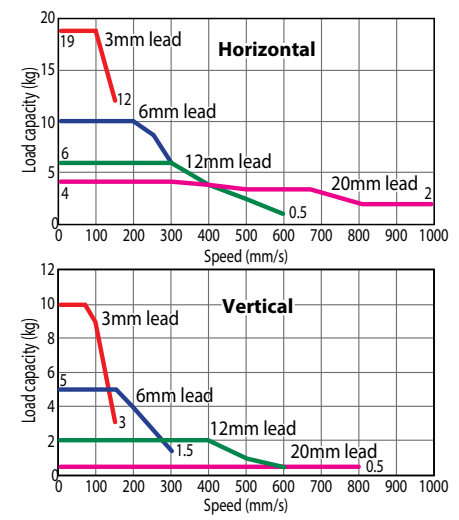
\* See page Pre-47 for details on the model descriptions.



**Technical References** Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm lead model and when using vertically). The maximum acceleration is 0.7G (0.3G when used vertically), however, note that the load capacity decreases at high accelerations. For more information, see the table of load capacity by acceleration, on page A-108.
  - (4) See page A-71 for details on push motion.

**Speed vs. Load Capacity**  
Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications				
Leads and Payloads				
Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA6C-I-42P-20-①-②-③-④	20	~ 4	~ 0.5	50~800 (every 50mm)
RCP3-SA6C-I-42P-12-①-②-③-④	12	~ 6	~ 2	
RCP3-SA6C-I-42P-6-①-②-③-④	6	~ 10	~ 5	
RCP3-SA6C-I-42P-3-①-②-③-④	3	~19	~ 10	

Stroke and Maximum Speed							
Stroke Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)	
	20	1000	910	790	690	610	
12	600	570	490	425	370	330	
6	300	285	245	210	185	165	
3	150	140	120	105	90	80	

(Unit: mm/s)

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

① Stroke					
① Stroke (mm)	Standard price		① Stroke (mm)	Standard price	
	With cover	Without cover		With cover	Without cover
50	—	—	450	—	—
100	—	—	500	—	—
150	—	—	550	—	—
200	—	—	600	—	—
250	—	—	650	—	—
300	—	—	700	—	—
350	—	—	750	—	—
400	—	—	800	—	—

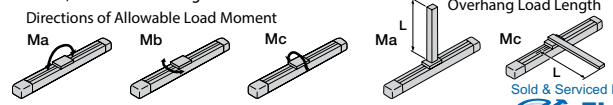
③ Cable Length		
Type	Cable symbol	Standard price
Standard (Robot Cables)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
		—

\* See page A-59 for cables for maintenance.

④ Options				
Name	Option code	See page	Standard price	
Brake	B	→ A-42	—	
Optional cable exit direction (top)	CJT	→ A-42	—	
Optional cable exit direction (right)	CJR	→ A-42	—	
Optional cable exit direction (left)	CJL	→ A-42	—	
Optional cable exit direction (bottom)	CJB	→ A-42	—	
No cover	NCO	→ A-52	—	
Non-motor end specification	NM	→ A-52	—	

Actuator Specifications	
Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less (initial value)
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 17.6 N·m, Mb: 25.2 N·m, Mc: 44.5 N·m
Allowable dynamic moment (*)	Ma: 4.31 N·m, Mb: 6.17 N·m, Mc: 10.98 N·m
Allowable overhang	150mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life

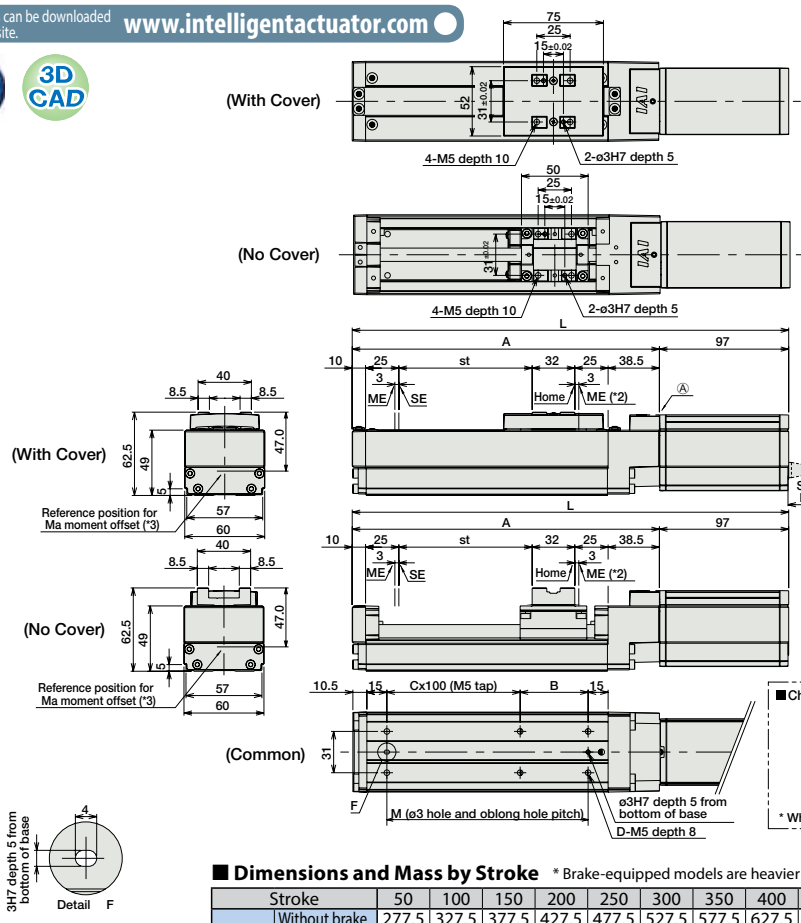


25

RCP3-SA6C

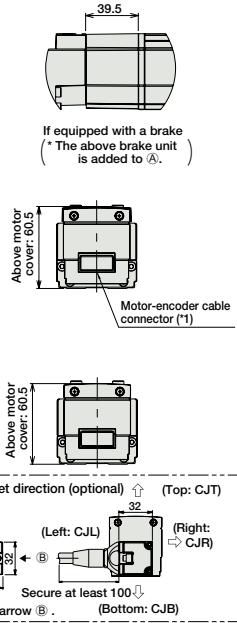
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders Appendix P.15

- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions and Mass by Stroke \* Brake-equipped models are heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	Without brake	277.5	327.5	377.5	427.5	477.5	527.5	577.5	627.5	677.5	727.5	777.5	827.5	877.5	927.5	1027.5
	With brake	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017
A	180.5	230.5	280.5	330.5	380.5	430.5	480.5	530.5	580.5	630.5	680.5	730.5	780.5	830.5	880.5	930.5
B	101	51	101	51	101	51	101	51	101	51	101	51	101	51	101	51
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
M	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851
Weight (kg)	With cover	1.6	1.8	2	2.1	2.3	2.5	2.7	2.8	3	3.2	3.3	3.5	3.7	3.9	4.0
	Without cover	1.5	1.7	1.8	2	2.1	2.3	2.4	2.6	2.7	2.8	3	3.1	3.3	3.4	3.6

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P555	—	→ P547
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-②-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-42PI-②-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCP3-SA2AR

ROBO Cylinder, Mini Slider Type, Side-mounted Motor, 22mm Width, Pulse Motor, Lead Screw

Model Specification Items	<b>RCP3</b>	<b>SA2AR</b>	<b>I</b>	<b>20P</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental *The Simple absolute encoder is also considered type "I".	20P: Pulse motor, 20□ size	4S: lead screw 4mm 2S: lead screw 2mm 1S: lead screw 1mm	25: 25mm ? 100: 100mm (25mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length	See options below. *Be sure to specify which side the motor is to be mounted (ML/MR)

\* See page Pre-47 for details on the model descriptions.

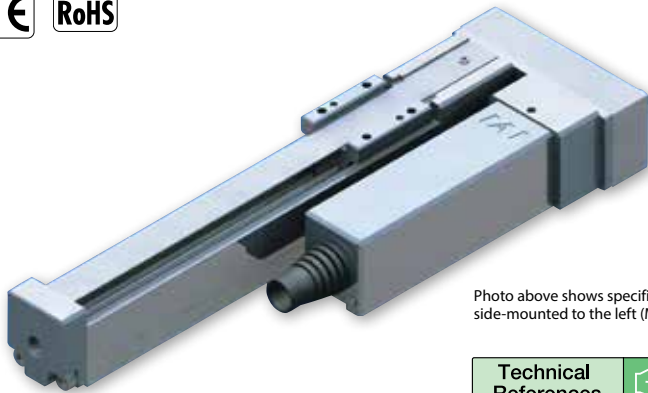
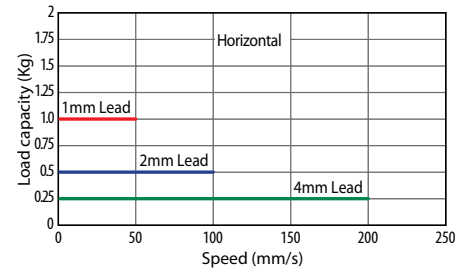


Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



- POINT** Notes on selection
- The load capacity is based on operation at an acceleration of 0.2G. This value is the upper limit for the acceleration.
  - The actuator cannot be used on its side or in a vertical orientation.
  - If used in a dusty environment, the service life will decrease significantly.
  - This model uses a lead screw, therefore please ensure that your usage is appropriate for its characteristics. (See page Pre-52.)
  - See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Feed screw	Lead (mm)	Max. Load Capacity		Positioning Repeatability (mm)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCP3-SA2AR-I-20P-4S-①-②-③-④	Lead screw	4	0.25	—	±0.05	25~100 (every 25mm)
RCP3-SA2AR-I-20P-2S-①-②-③-④		2	0.5	—		
RCP3-SA2AR-I-20P-1S-①-②-③-④		1	1	—		

#### Stroke and Maximum Speed

Lead	Stroke	25 (mm)	50~100 (mm)
		Lead screw	4
	2	100	
	1	50	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
25	—
50	—
75	—
100	—

#### ③ Cable Length

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

\* The standard cable for the RCP3 is the robot cable.  
\* See page A-59 for cables for maintenance.

#### ④ Options

Name	Option code	See page	Standard price
Left-mounted motor (Standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Lead screw, ø4mm, rolled C10
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide (*)	Slide guide
Ambient Operating Temp./Humidity	0 to 40°C, 85% RH or less (Non-condensing)
Service Life	10 million cycles

\* Offset load not supported.

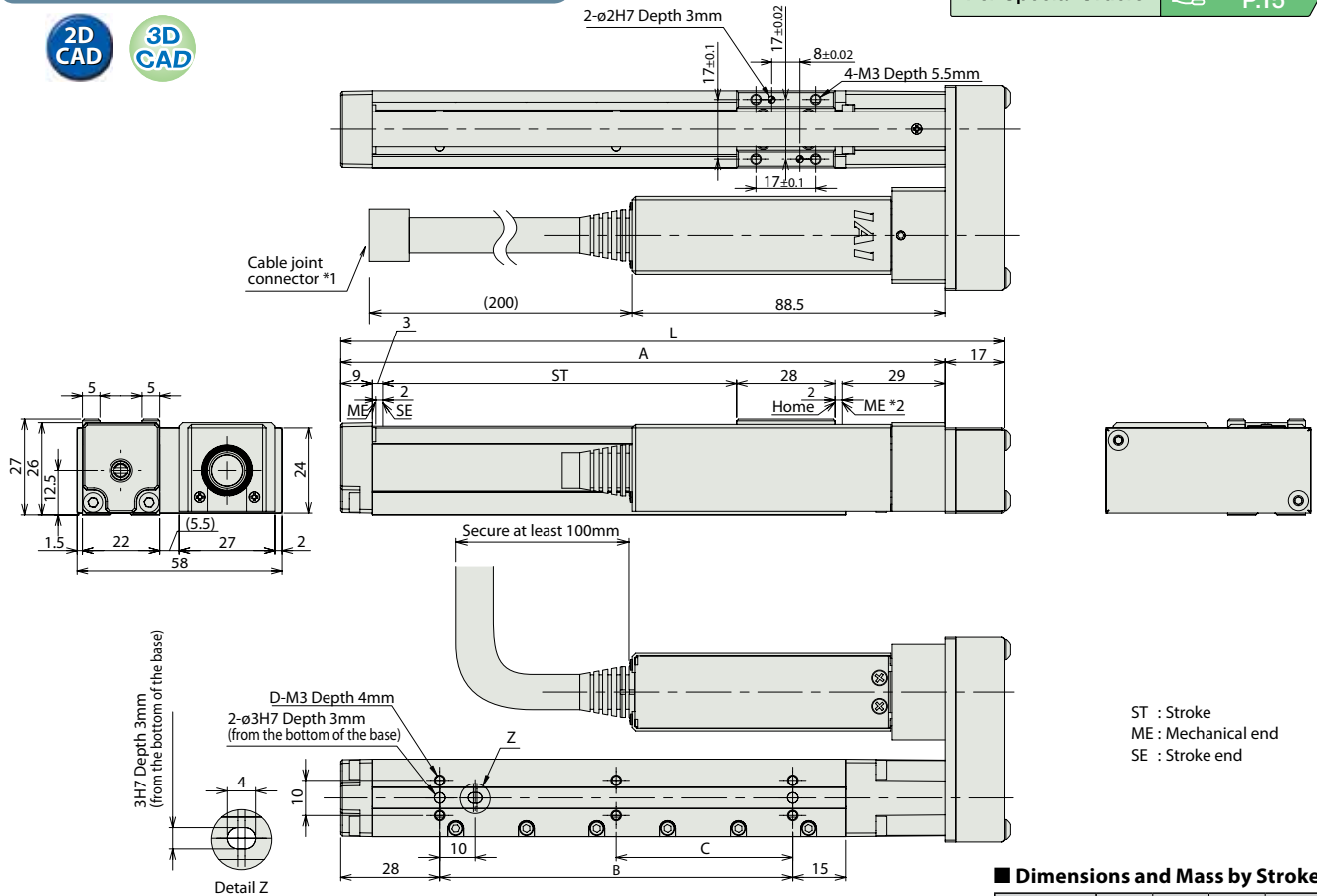
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders

Appendix P.15



Dimensions and Mass by Stroke

Stroke	25	50	75	100
L	113	138	163	188
A	96	121	146	171
B	25	50	75	100
C	0	0	0	50
D	4	4	4	6
Weight (kg)	0.28	0.3	0.32	0.33

\*1 Connect the motor-encoder integrated cable here. See page A-59 for details on cables.  
 \*2 During the homing operation, the slider moves to the actuator's mechanical end, and then reverses. Therefore, watch for any interference with its surroundings.  
 \* The diagram above shows a left-mounted motor model.

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-20PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-20PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-20PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-20PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-20PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P665
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-20PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor



# RCP3-SA2BR

ROBO Cylinder, Mini Slider Type, Side-mounted Motor, 28mm Width, Pulse Motor, Lead Screw

Model Specification Items	<b>RCP3</b>	<b>SA2BR</b>	<b>I</b>	<b>20P</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental * The Simple absolute encoder is also considered type "I".	20P: Pulse motor, 20□ size	6S: lead screw 6mm 4S: lead screw 4mm 2S: lead screw 2mm	25: 25mm ? 150: 150mm (25mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length	See options below. *Be sure to specify which side the motor is to be mounted (ML/MR)

\* See page Pre-47 for details on the model descriptions.

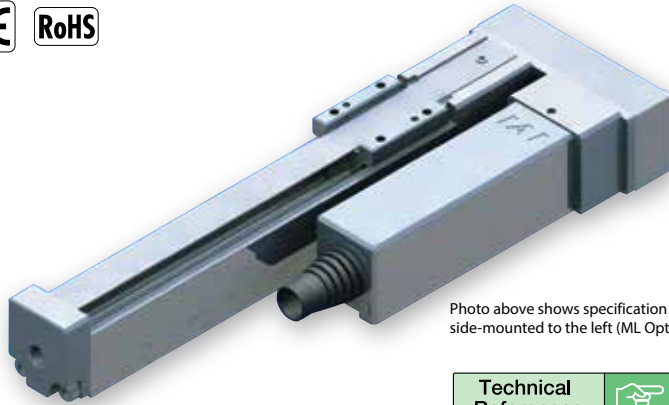
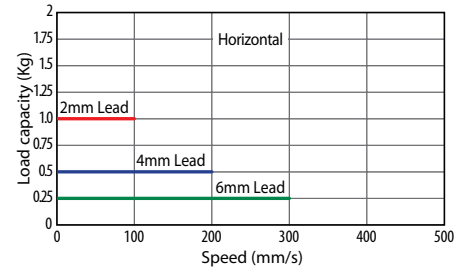


Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



- The load capacity is based on operation at an acceleration of 0.2G. This value is the upper limit for the acceleration.
- The actuator cannot be used on its side or in a vertical orientation.
- If used in a dusty environment, the service life will decrease significantly.
- This model uses a lead screw, therefore please ensure that your usage is appropriate for its characteristics. (See page Pre-52.)
- See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Feed screw	Lead (mm)	Max. Load Capacity		Positioning Repeatability (mm)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCP3-SA2BR-I-20P-6S-①-②-③-④	Lead screw	6	0.25	—	±0.05	25~150 (every 25mm)
RCP3-SA2BR-I-20P-4S-①-②-③-④		4	0.5	—		
RCP3-SA2BR-I-20P-2S-①-②-③-④		2	1	—		

#### Stroke and Maximum Speed

Lead	Stroke	25 (mm)	50 (mm)	75~150 (mm)
		Lead screw	6	180
	4	180	200	
	2	100		

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
25	—
50	—
75	—
100	—
125	—
150	—

#### ③ Cable Length

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

\* The standard cable for the RCP3 is the robot cable.  
\* See page A-59 for cables for maintenance.

#### ④ Options

Name	Option code	See page	Standard price
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Lead screw, ø6mm, rolled C10
Lost Motion	0.3mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide (*)	Slide guide
Ambient Operating Temp./Humidity	0 to 40°C, 85% RH or less (Non-condensing)
Service Life	10 million cycles

\* Offset load not supported.

Dimensional Drawings

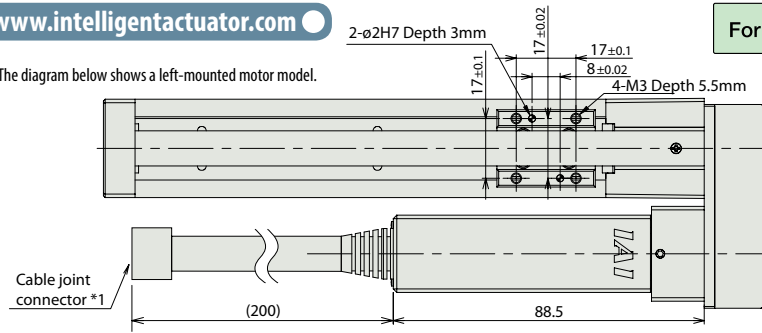
CAD drawings can be downloaded from the website.

www.intelligentactuator.com

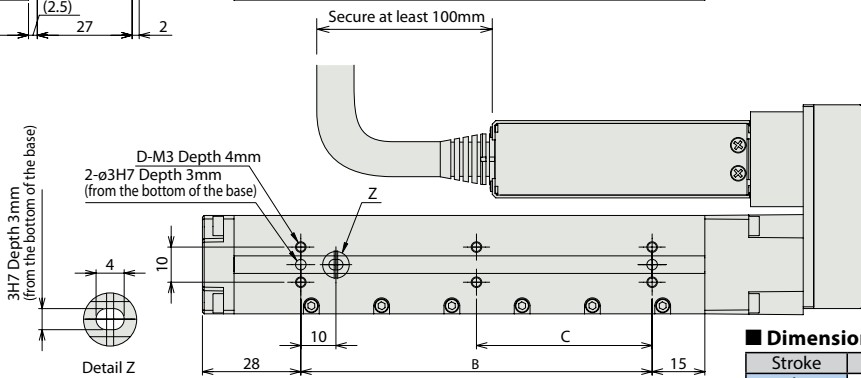
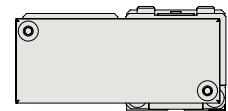
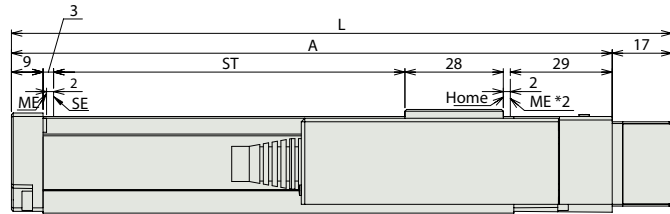
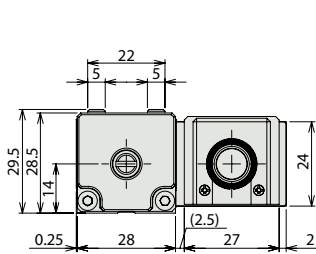


\*The diagram below shows a left-mounted motor model.

For Special Orders



- \*1 Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- \*2 During the homing operation, the slider moves to the actuator's mechanical end, and then reverses. Therefore, watch for any interference with its surroundings.



ST : Stroke  
ME : Mechanical end  
SE : Stroke end

Dimensions and Mass by Stroke

Stroke	25	50	75	100	125	150
L	113	138	163	188	213	238
A	96	121	146	171	196	221
B	25	50	75	100	125	150
C	0	0	0	50	62.5	75
D	4	4	4	6	6	6
Weight (kg)	0.32	0.34	0.37	0.39	0.42	0.46

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-20PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-20PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③④⑤⑥⑦⑧-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③④⑤⑥⑦⑧-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-20PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-20PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-20PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-20PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③④⑤⑥⑦⑧ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



# RCP3-SA3R

ROBO Cylinder, Slider Type, 32mm Width, Pulse Motor, Side-mounted Motor

Model Specification Items	<b>RCP3</b> — <b>SA3R</b> — <b>I</b> — <b>28P</b> — □ — □ — □ — □ — □
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental *The Simple absolute encoder is also considered type "I". 28P: Pulse motor, 28□ size 6 : 6mm 4 : 4mm 2 : 2mm 50: 50mm 300: 300mm (50mm pitch increments) P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP N: None P: 1m S: 3m M: 5m X□□: Custom length See options below. *Be sure to specify which side the motor is to be mounted (ML/MR)

\* See page Pre-47 for details on the model descriptions.



Photo above shows specification with motor side-mounted to the left (ML Option).

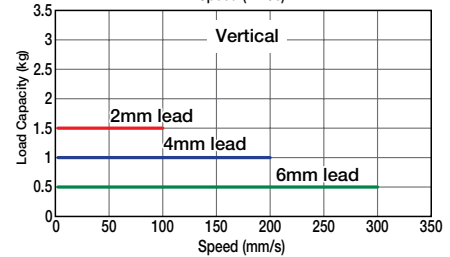
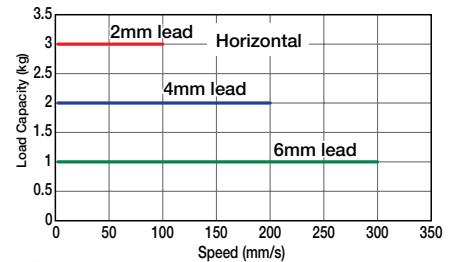
Technical References Appendix P.5

**POINT** Notes on selection

- (1) Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA3R-I-28P-6-①-P3-②-③-④	6	1	0.5	50~300 (every 50mm)
RCP3-SA3R-I-28P-4-①-P3-②-③-④	4	2	1	
RCP3-SA3R-I-28P-2-①-P3-②-③-④	2	3	1.5	

#### Stroke and Maximum Speed

Lead	Stroke	50~300 (every 50mm)
		6
4	200	
2	100	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover	Without cover
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoderintegrated robot cable.  
\* See page A-59 for cables for maintenance.

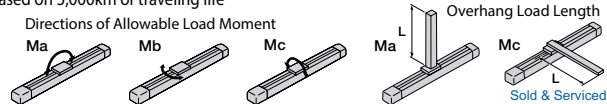
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø6mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 5.0 N·m, Mb: 7.1 N·m, Mc: 7.9 N·m
Allowable dynamic moment (*)	Ma: 1.96 N·m, Mb: 2.84 N·m, Mc: 3.14 N·m
Allowable overhang	100mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



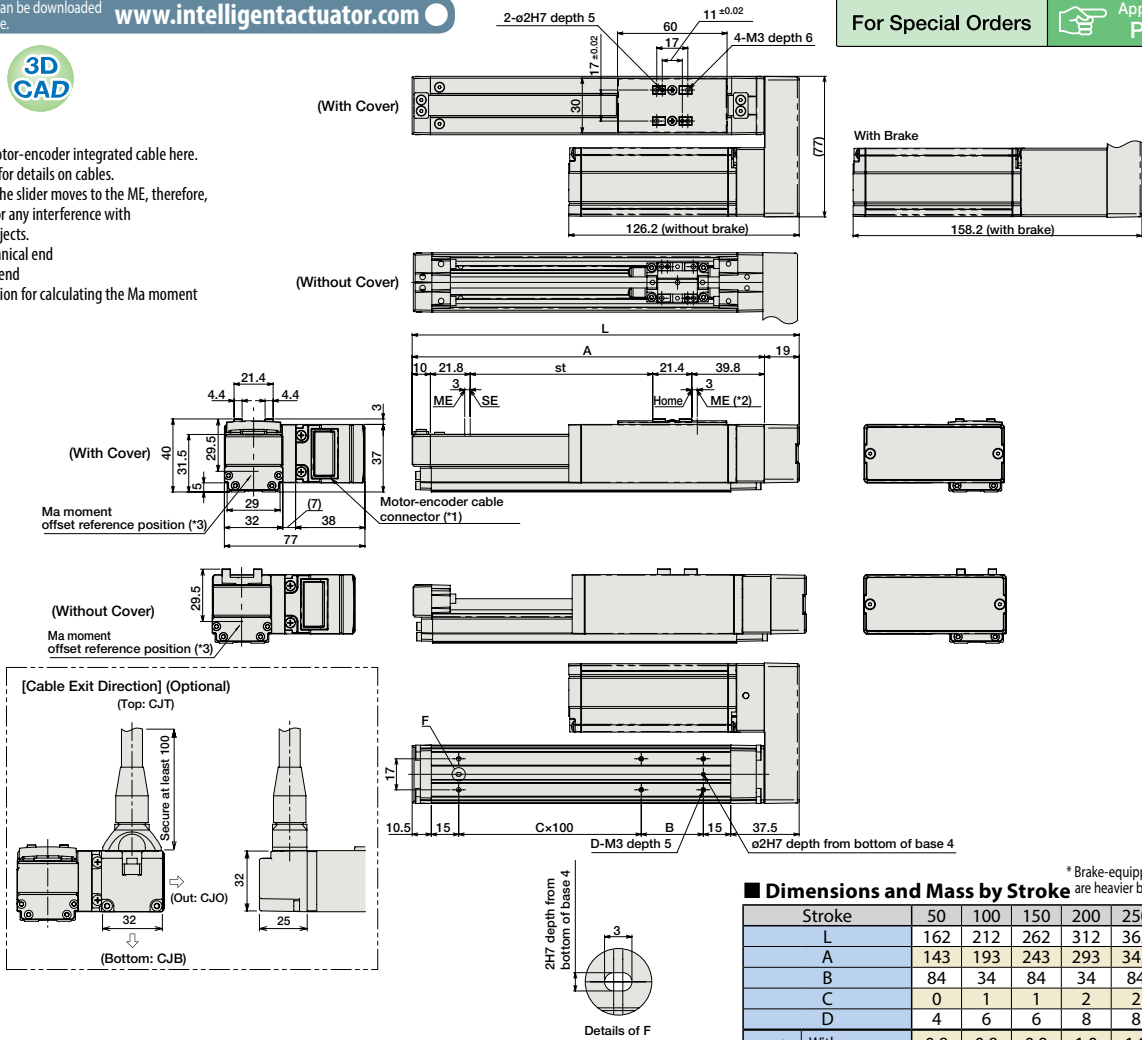
Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com



- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



For Special Orders Appendix P.15

■ Dimensions and Mass by Stroke \* Brake-equipped models are heavier by 0.2kg.

Stroke	50	100	150	200	250	300
L	162	212	262	312	362	412
A	143	193	243	293	343	393
B	84	34	84	34	84	34
C	0	1	1	2	2	3
D	4	6	6	8	8	10
Weight (kg)	With cover	0.8	0.8	0.9	1.0	1.1
	Without cover	0.7	0.8	0.8	0.9	1.0

② Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-28PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-28PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-28PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-28PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-28PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-28PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-28PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-28PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

# RCP3-SA4R

ROBO Cylinder, Slider Type, 40mm Width, Pulse Motor, Side-mounted Motor

Model Specification Items	<b>RCP3</b> — <b>SA4R</b> — <b>I</b> — <b>35P</b> — □ — □ — □ — □ — □
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I".
	35P: Pulse motor, 35□ size
	10 : 10mm 5 : 5mm 2.5 : 2.5mm
	50: 50mm ? 500: 500mm (50mm pitch increments)
	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP
	N: None P: 1m S: 3m M: 5m X□□: Custom length
	See options below. *Be sure to specify which side the motor is to be mounted (ML/MR)

\* See page Pre-47 for details on the model descriptions.

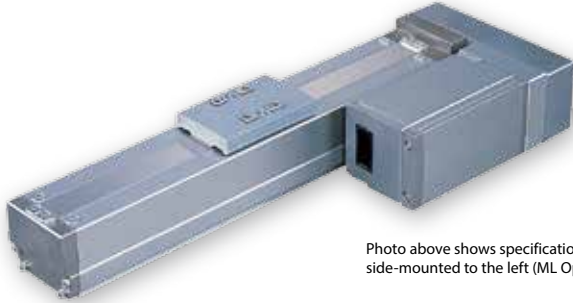


Photo above shows specification with motor side-mounted to the left (ML Option).

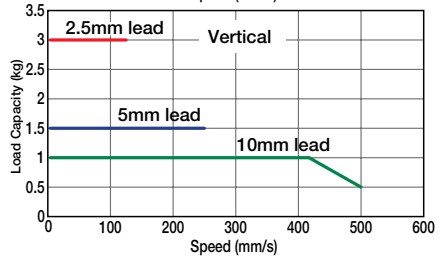
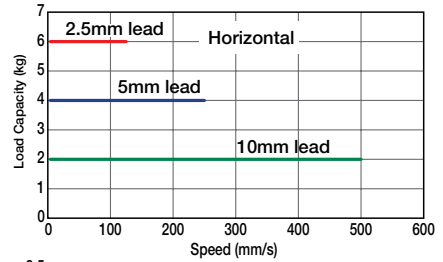
Technical References Appendix P.5



- (1) Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2.5mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA4R-I-35P-10-①-②-③-④	10	2	~1	50~500 (every 50mm)
RCP3-SA4R-I-35P-5-①-②-③-④	5	4	1.5	
RCP3-SA4R-I-35P-2.5-①-②-③-④	2.5	6	3	

#### Stroke and Maximum Speed

Lead	Stroke	50~500 (every 50mm)
		500
5	250	
2.5	125	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover	Without cover
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoderintegrated robot cable.  
 \* See page A-59 for cables for maintenance.

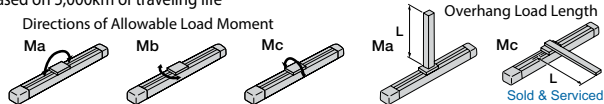
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 6.8 N·m, Mb: 9.7 N·m, Mc: 13.3 N·m
Allowable dynamic moment (*)	Ma: 3.04 N·m, Mb: 4.31 N·m, Mc: 5.00 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life

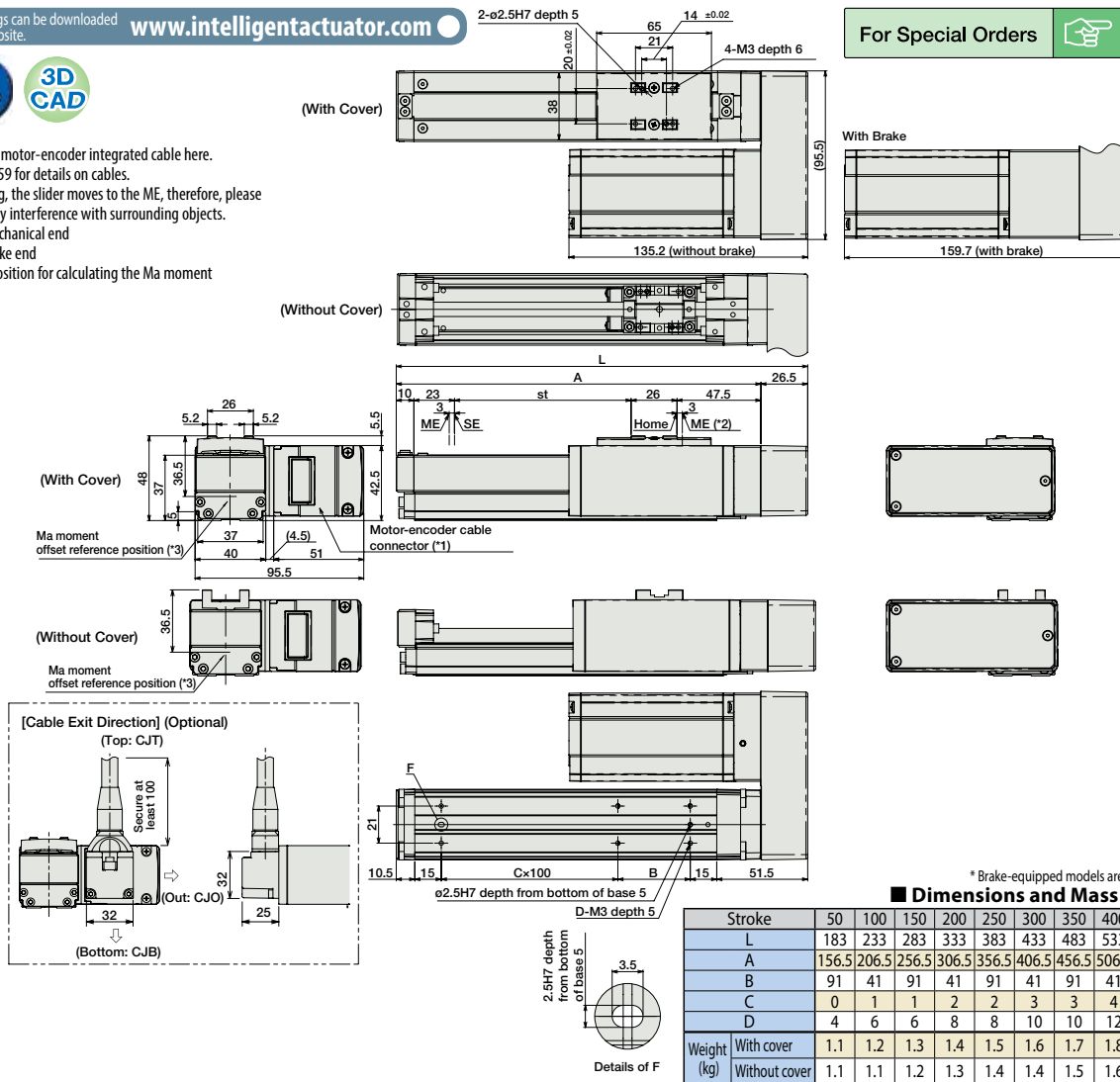


Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



\* Brake-equipped models are heavier by 0.3kg.

Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	183	233	283	333	383	433	483	533	583	633
A	156.5	206.5	256.5	306.5	356.5	406.5	456.5	506.5	556.5	606.5
B	91	41	91	41	91	41	91	41	91	41
C	0	1	1	2	2	3	3	4	4	5
D	4	6	6	8	8	10	10	12	12	14
Weight (kg)	With cover	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9
	Without cover	1.1	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7

Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page		
Solenoid Valve Type		PMEC-C-35PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537		
		PSEP-C-35PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547		
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563		
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607		
Positioner type High-output specification		PCON-CA-35PI-①-2-0	Equipped with a high-output driver					512 points	Refer to P618	—
Pulse-train type High-output specification		PCON-CA-35PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)	DC24V	Refer to P618	—	→ P607		
Field network type High-output specification		PCON-CA-35PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				Refer to P628	—	→ P623
Pulse Train Input Type (Differential Line Driver)		PCON-PL-35PI-①-2-0	Pulse train input type with differential line driver support	(—)				Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)	PCON-PO-35PI-①-2-0	Pulse train input type with open collector support	(—)							
Serial Communication Type		PCON-SE-35PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665		
Program Control Type		PSEL-CS-1-35PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points				Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCP3-SA5R

ROBO Cylinder, Slider Type, 50mm Width, Pulse Motor, Side-mounted Motor

Model Specification Items	<b>RCP3</b> — <b>SA5R</b> — <b>I</b> — <b>42P</b> — □ — □ — □ — □ — □
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I".
	42P: Pulse motor, 42□ size
	12: 12mm 6: 6mm 3: 3mm
	50: 50mm ? 800: 800mm (50mm pitch increments)
	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP
	N: None P: 1m S: 3m M: 5m X□□: Custom length
	See options below. *Be sure to specify which side the motor is to be mounted (ML/MR)

\* See page Pre-47 for details on the model descriptions.

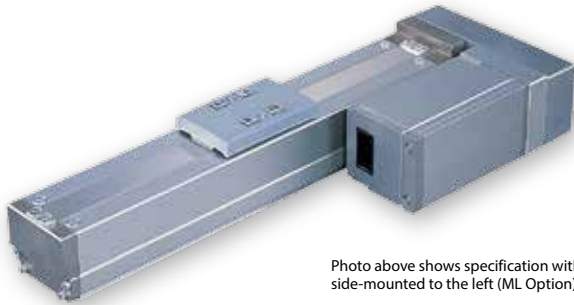


Photo above shows specification with motor side-mounted to the left (ML Option).

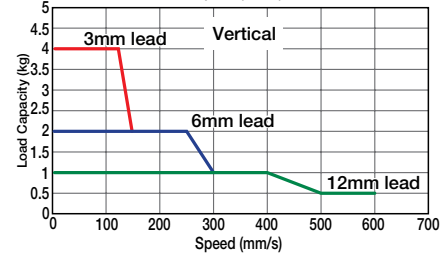
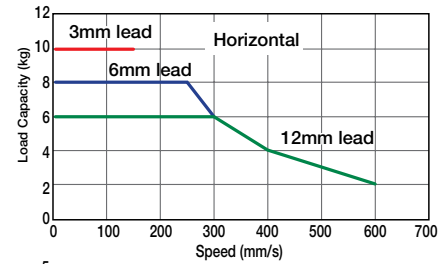
Technical References Appendix P.5



- (1) Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA5R-I-42P-12-①-②-③-④	12	~6	~1	50~800 (every 50mm)
RCP3-SA5R-I-42P-6-①-②-③-④	6	~8	~2	
RCP3-SA5R-I-42P-3-①-②-③-④	3	10	~4	

#### Stroke and Maximum Speed

Stroke / Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price		① Stroke (mm)	Standard price	
	With cover	Without cover		With cover	Without cover
50	—	—	450	—	—
100	—	—	500	—	—
150	—	—	550	—	—
200	—	—	600	—	—
250	—	—	650	—	—
300	—	—	700	—	—
350	—	—	750	—	—
400	—	—	800	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoderintegrated robot cable.  
\* See page A-59 for cables for maintenance.

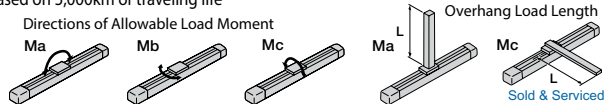
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 10.2 N·m, Mb: 14.6 N·m, Mc: 22.4 N·m
Allowable dynamic moment (*)	Ma: 3.92 N·m, Mb: 5.58 N·m, Mc: 8.53 N·m
Allowable overhang	130mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



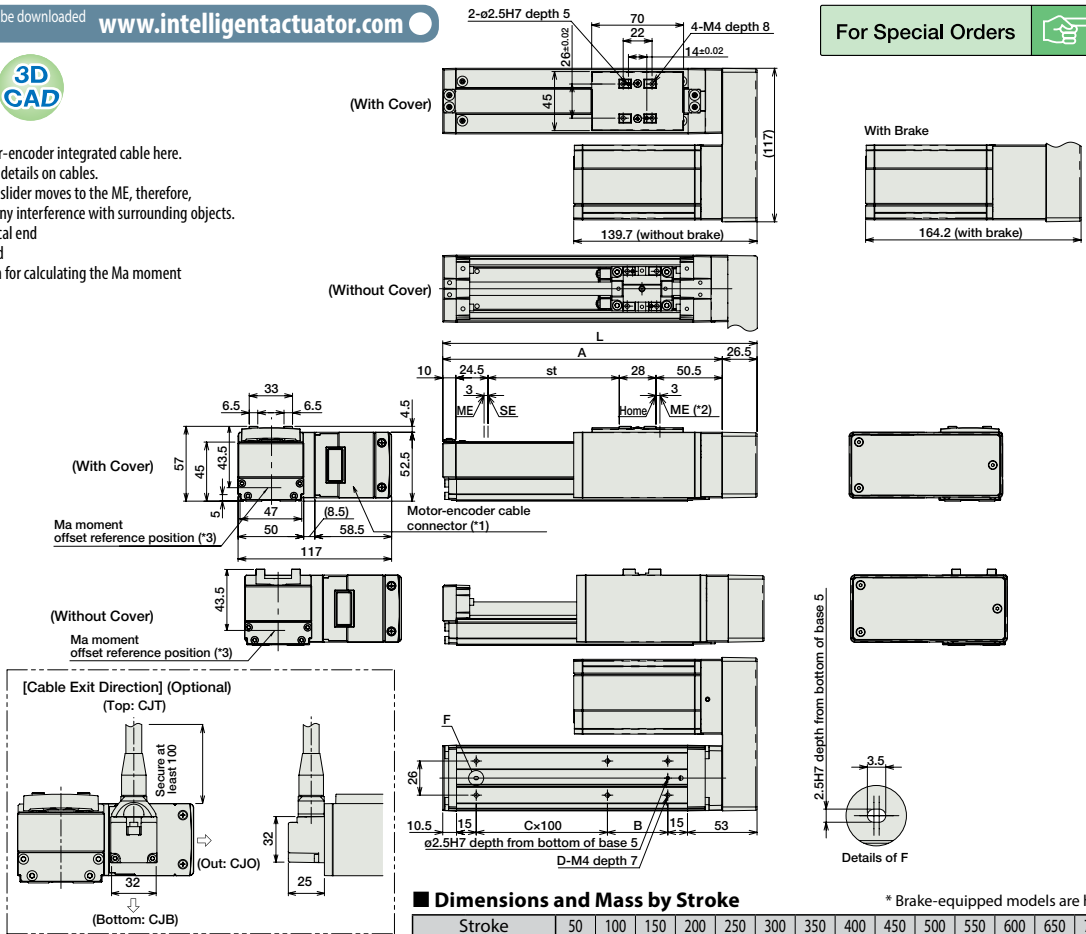


Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



For Special Orders Appendix P.15

■ Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	189.5	239.5	289.5	339.5	389.5	439.5	489.5	539.5	589.5	639.5	689.5	739.5	789.5	839.5	889.5	939.5	
A	163	213	263	313	363	413	463	513	563	613	663	713	763	813	863	913	
B	96	46	96	46	96	46	96	46	96	46	96	46	96	46	96	46	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
Weight (kg)	With cover	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.8	2.9	3.0	3.2	3.3	3.4	3.6	3.7
	Without cover	1.6	1.7	1.8	1.9	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.2	3.3

② Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



# RCP3-SA6R

ROBO Cylinder, Slider Type, 60mm Width, Pulse Motor, Side-mounted Motor

Model Specification Items	<b>RCP3</b> — <b>SA6R</b> — <b>I</b> — <b>42P</b> — □ — □ — □ — □ — □
Series — Type	Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I".
	42P: Pulse motor, 42□ size
	12: 12mm 6: 6mm 3: 3mm
	50: 50mm 800: 800mm (50mm pitch increments)
	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP
	N: None P: 1m S: 3m M: 5m X□□: Custom length
	See options below. * Be sure to specify which side the motor is to be mounted (ML/MR)

\* See page Pre-47 for details on the model descriptions.

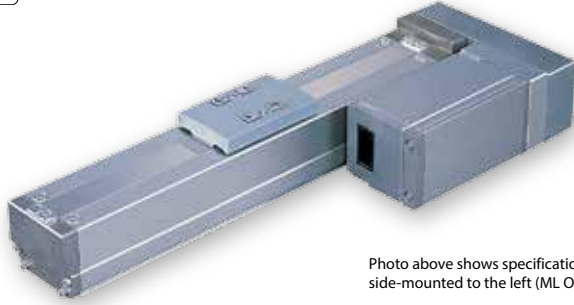


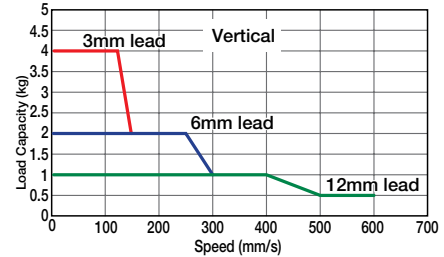
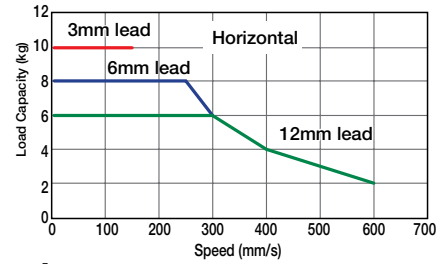
Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

- POINT** Notes on selection
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - Since the RCP3 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
  - See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

Model number	Lead (mm)	Max. Load Capacity		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP3-SA6R-I-42P-12-①-②-③-④	12	~6	~1	50~800 (every 50mm)
RCP3-SA6R-I-42P-6-①-②-③-④	6	~8	~2	
RCP3-SA6R-I-42P-3-①-②-③-④	3	10	~4	

#### Stroke and Maximum Speed

Stroke Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

(Unit: mm/s)

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

#### ① Stroke

① Stroke (mm)	Standard price		① Stroke (mm)	Standard price	
	With cover	Without cover		With cover	Without cover
50	—	—	450	—	—
100	—	—	500	—	—
150	—	—	550	—	—
200	—	—	600	—	—
250	—	—	650	—	—
300	—	—	700	—	—
350	—	—	750	—	—
400	—	—	800	—	—

#### ③ Cable Length

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

\* The standard cable for the RCP3 is the robot cable.  
\* See page A-59 for cables for maintenance.

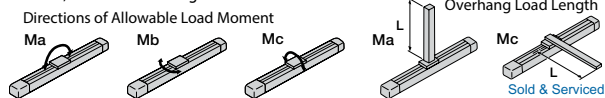
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 17.6 N·m, Mb: 25.2 N·m, Mc: 44.5 N·m
Allowable dynamic moment (*)	Ma: 4.31 N·m, Mb: 6.17 N·m, Mc: 10.98 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



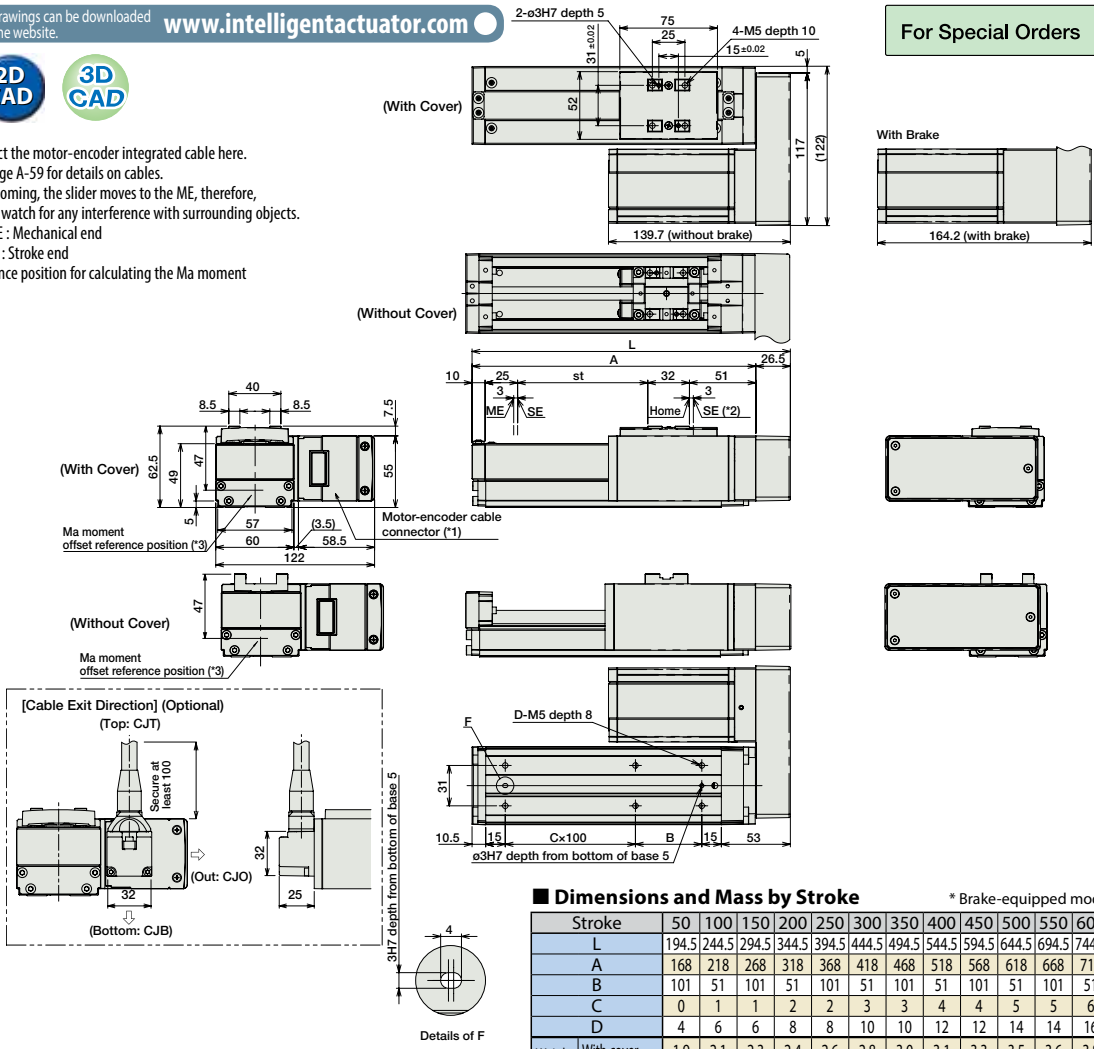
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders Appendix P.15

- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



**■ Dimensions and Mass by Stroke** \* Brake-equipped models are heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	194.5	244.5	294.5	344.5	394.5	444.5	494.5	544.5	594.5	644.5	694.5	744.5	794.5	844.5	894.5	944.5	
A	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	
B	101	51	101	51	101	51	101	51	101	51	101	51	101	51	101	51	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
Weight (kg)	With cover	1.9	2.1	2.3	2.4	2.6	2.8	3.0	3.1	3.3	3.5	3.6	3.8	4.0	4.2	4.3	4.5
	Without cover	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.6	3.7	3.9	4.0

② Applicable Controllers

RCP3 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control					512 points
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)	DC24V	Refer to P618	—	→ P607
Field network type High-output specification		PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)				Refer to P628
Pulse Train Input Type (Open Collector)	PCON-PO-42PI-①-2-0	Pulse train input type with open collector support						
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points				

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCP2-SS7C

ROBO Cylinder, Slider Type, 60mm Width, Pulse Motor, Straight Type, Steel Base, Coupled

Model Specification Items	<b>RCP2</b> — <b>SS7C</b> — <b>I</b> — <b>42P</b> — □ — □ — □ — □ — □
Series — Type	Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental *The Simple absolute encoder is also considered type "I". 42P: Pulse motor, 42□ size 12 : 12mm 6 : 6mm 3 : 3mm 50: 50mm 600: 600mm (50mm pitch increments) P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable B : Brake NM: Non-motor end SR : Slider Roller

\* See page Pre-47 for details on the model descriptions.

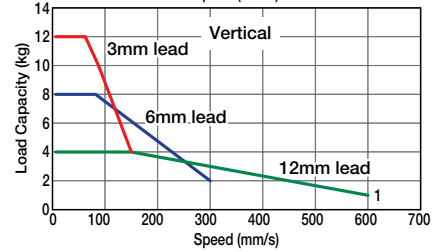
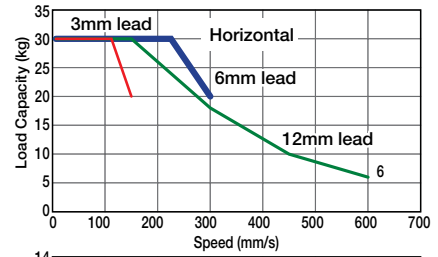


Technical References Appendix P.5

- POINT** Notes on selection
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
  - See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS7C-I-42P-12-①-②-③-④	12	~30	~4	50~600 (every 50mm)
RCP2-SS7C-I-42P-6-①-②-③-④	6	~30	~8	
RCP2-SS7C-I-42P-3-①-②-③-④	3	~30	~12	

#### Stroke and Maximum Speed

Stroke Lead	Maximum Speed	
	50~500 (every 50mm)	~600 (mm)
12	600	470
6	300	230
3	150	115

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50/100	—
150/200	—
250/300	—
350/400	—
450/500	—
550/600	—

#### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

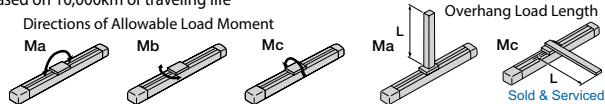
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 10mm, rolled C10
Positioning repeatability	$\pm$ 0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 79.4 N·m, Mb: 79.4 N·m, Mc: 172.9 N·m
Allowable dynamic moment (*)	Ma: 14.7 N·m, Mb: 14.7 N·m, Mc: 33.3 N·m
Allowable overhang	300mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 10,000km of traveling life



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

**Dimensional Drawings**

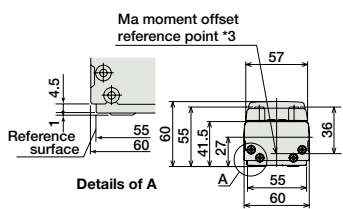
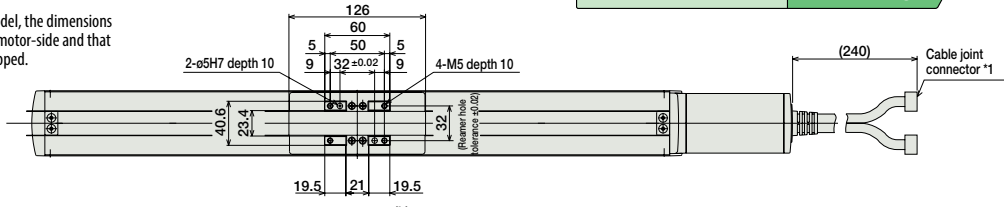
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15

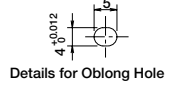
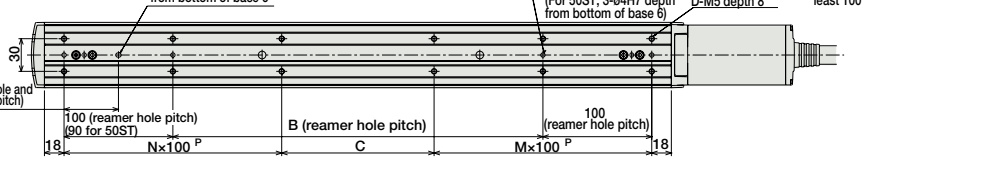
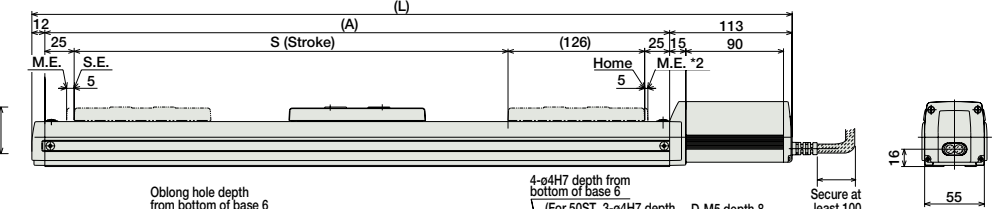


\* For the Non-motor end model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

(\*3) Reference position for calculating the Ma moment

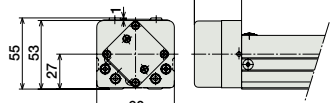


- \*1: Connect the motor and encoder cables here. See page A-59 for details on cables.
- \*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.
- ME: Mechanical end
- SE: Stroke end
- The dimensions enclosed in "( )" are reference dimensions.



**Dimensions of the brake section**

\* Adding a brake will increase the actuator's overall length by 24.5mm, and its weight by 0.3kg.



\* Brake cable is passed through the actuator body and connected to the motor cable.

**Dimensions and Mass by Stroke**

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	351	401	451	501	551	601	651	701	751	801	851	901
A	226	276	326	376	426	476	526	576	626	676	726	776
B	0	40	90	140	190	240	290	340	390	440	490	540
C	90	40	90	140	190	40	90	140	190	40	90	140
D	6	8	8	8	8	12	12	12	12	16	16	16
M	1	1	1	1	1	2	2	2	2	3	3	3
N	0	1	1	1	1	2	2	2	2	3	3	3
Weight (kg)	3.1	3.4	3.7	4.0	4.3	4.7	5.0	5.4	5.7	6.1	6.4	6.7

**Applicable Controllers**

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve			Refer to P555	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected			Refer to P618	—	→ P607
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)		Refer to P628	—	
Field network type High-output specification		PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points		Refer to P671	—	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support			Refer to P671	—	
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



RCP2-SS7C & Servo Motor
   
 Toll Free Phone (877) SERV098
   
 Toll Free Fax (877) SERV099
   
[www.electromate.com](http://www.electromate.com)
  
[sales@electromate.com](mailto:sales@electromate.com)



# RCP2-SS8C

ROBO Cylinder, Slider Type, 80mm Width, Pulse Motor, Straight Type, Steel Base, Coupled

Model Specification Items	<b>RCP2</b> — <b>SS8C</b> — <b>I</b> — <b>56P</b> — □ — □ — □ — □ — □							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental *The Simple absolute encoder is also considered type "I".	56P: Pulse motor, 56□ size	20 : 20mm 10 : 10mm 5 : 5mm	50: 50mm ? 1000: 1000mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	B : Brake NM: Non-motor end SR : Slider Roller

\* See page Pre-47 for details on the model descriptions.

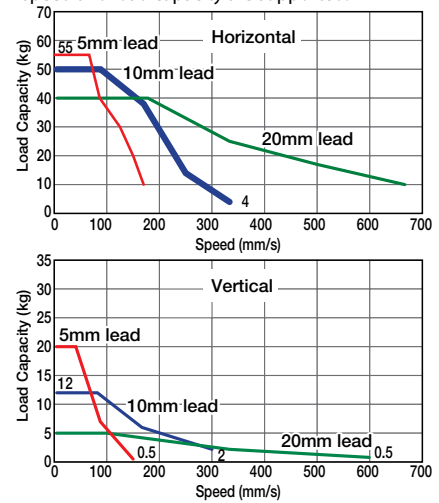


Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 5mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
  - (4) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS8C-I-56P-20-①-②-③-④	20	~40	~5	50~1000 (every 50mm)
RCP2-SS8C-I-56P-10-①-②-③-④	10	~50	~12	
RCP2-SS8C-I-56P-5-①-②-③-④	5	~55	~20	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

#### Stroke and Maximum Speed

Stroke Lead	50~800 (every 50mm)	~900 (mm)	~1000 (mm)
20	666 <600>	625 <600>	515
10	333 <300>	310 <300>	255
5	165 <150>	155 <150>	125

\* The values enclosed in < > apply to vertical settings. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50/100	—
150/200	—
250/300	—
350/400	—
450/500	—
550/600	—
650/700	—
750/800	—
850/900	—
950/1000	—

#### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

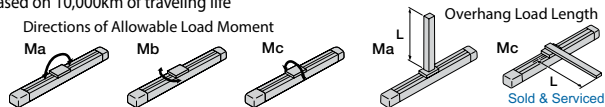
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 16mm, rolled C10
Positioning repeatability	$\pm$ 0.02mm
Lost Motion	0.1mm or less (initial value)
Base	Material: Special alloy steel
Allowable static moment	Ma: 198.9 N·m, Mb: 198.9 N·m, Mc: 416.7 N·m
Allowable dynamic moment (*)	Ma: 36.3 N·m, Mb: 36.3 N·m, Mc: 77.4 N·m
Allowable overhang	450mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 10,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

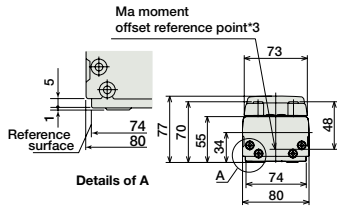
For Special Orders

Appendix P.15



\* For the Non-motor end model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

(\*3) Reference position for calculating the Ma moment



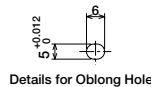
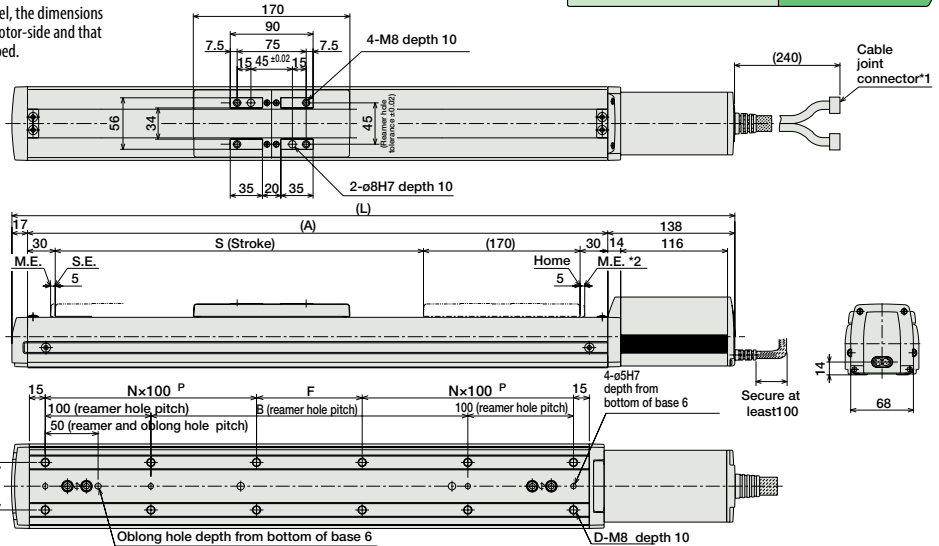
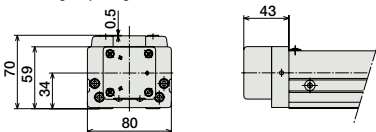
\*1: Connect the motor and encoder cables here. See page A-59 for details on cables.

\*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.

ME: Mechanical end  
SE: Stroke end  
The dimensions enclosed in " ( ) " are reference dimensions.

Dimensions of the brake section

\* Adding a brake will increase the actuator's overall length by 26mm, and its weight by 0.5kg.



\* Brake cable is passed through the actuator body and connected to the motor cable.

■ 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	1000
L	435	485	535	585	635	685	735	785	835	885	935	985	1035	1085	1135	1185	1235	1285	1335	1385
A	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230
B	50	100	150	200	250	300	350	400	450	500	550	600	700	46	750	800	850	900	950	1000
D	8	8	8	10	12	12	12	14	16	16	16	18	20	7	20	22	24	24	24	26
F	50	100	150	0	50	100	150	0	50	100	150	0	100	18	150	0	50	100	150	0
N	1	1	1	2	2	2	2	3	3	3	3	4	4	18	4	5	5	5	5	6
Weight (kg)	6.6	7.1	7.6	8.1	8.6	9.2	9.7	10.2	10.7	11.3	11.7	12.3	13.4	3.4	13.9	14.5	15.0	15.5	16.1	16.6

② Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-56PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-56PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-56PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-56PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-56PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P665
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-56PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

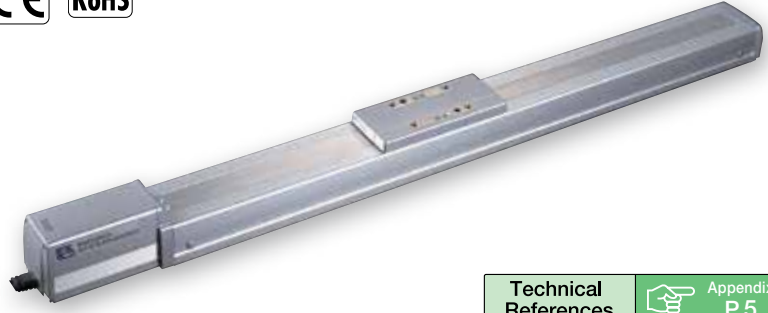
\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

# RCP2-HS8C

ROBO Cylinder, High-Speed Slider Type, 80mm Width, Pulse Motor, Straight Type, Steel Base, Coupled

Model Specification Items	<b>RCP2</b> — <b>HS8C</b> — <b>I</b> — <b>86P</b> — <b>30</b> — <input type="checkbox"/> — <b>P4</b> — <input type="checkbox"/> — <input type="checkbox"/>
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental    86P: Pulse motor, 56□size high-output    30: 30mm    50: 50mm ? 1000: 1000mm (50mm pitch increments)    P4: PCON-CFA    N: None P: 1m    S: 3m    M: 5m X□□: Custom length    R□□: Robot cable    B : Brake NM: Non-motor end    SR : Slider Roller

\* See page Pre-47 for details on the model descriptions.

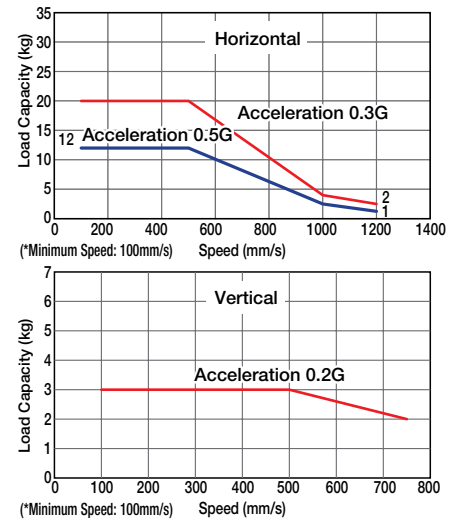


Technical References Appendix P.5

- POINT** Notes on selection
- (1) Due to the large head of the ball screw in high-speed actuators, operating at low speeds may cause vibration and/or noise. Therefore, use the actuator at speeds over 100mm/s.
  - (2) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (3) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (4) The load capacity is based on operation at an acceleration of 0.3G (0.2G when used vertically). The upper limit for the acceleration is 0.5G for horizontal use and 0.2G for vertical use.
  - (5) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

**Lead and Payloads** (Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-HS8C-I-86P-30-①-P4-②-③	30	~20	~3	50~1000 (every 50mm)

Code explanation ① Stroke ② Cable length ③ Options \*See page A-71 for details on push motion.

### Stroke and Maximum Speed

Stroke Lead	50~800 (every 50mm)	~900 (mm)	~1000 (mm)
30	1200 <750>	1000 <750>	800 <750>

\* The values enclosed in < > apply to vertical settings. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50/100	—
150/200	—
250/300	—
350/400	—
450/500	—
550/600	—
650/700	—
750/800	—
850/900	—
950/1000	—

#### ② Cable Length

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

\* See page A-59 for cables for maintenance.

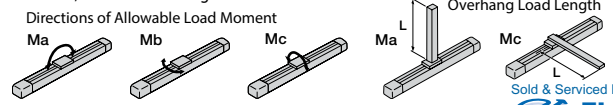
#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 16mm, rolled C10
Positioning repeatability	$\pm$ 0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 198.9 N·m, Mb: 198.9 N·m, Mc: 416.7 N·m
Allowable dynamic moment (*)	Ma: 36.3 N·m, Mb: 36.3 N·m, Mc: 77.4 N·m
Allowable overhang	450mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 10,000km of traveling life



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

**Dimensional Drawings**

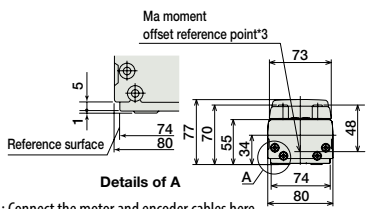
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



\* For the Non-motor end model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

(\*3) Reference position for calculating the Ma moment

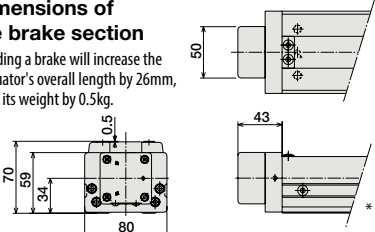


Details of A

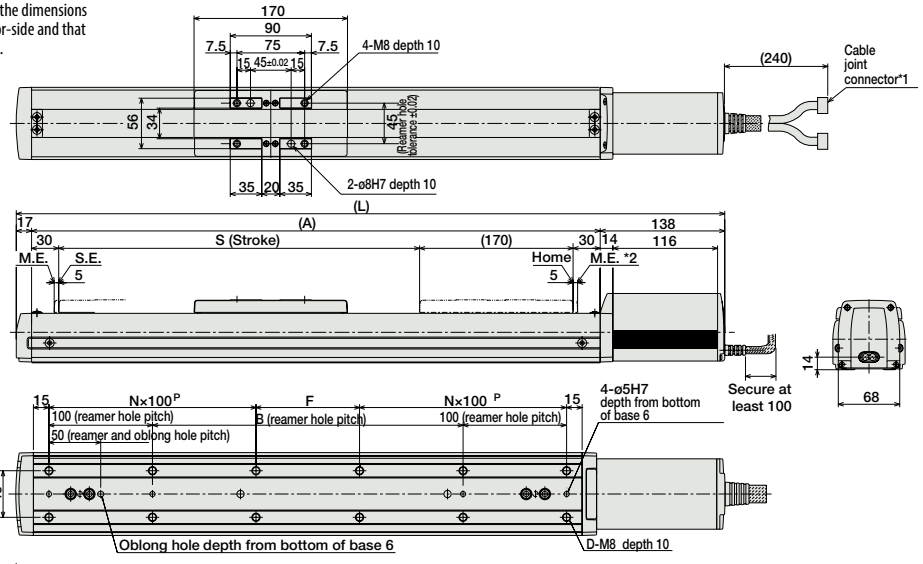
- \*1: Connect the motor and encoder cables here. See page A-59 for details on cables.
- \*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.
- ME: Mechanical end
- SE: Stroke end
- The dimensions enclosed in "( )" are reference dimensions.

**Dimensions of the brake section**

\* Adding a brake will increase the actuator's overall length by 26mm, and its weight by 0.5kg.



Details for Oblong Hole



\* Brake cable is passed through the actuator body and connected to the motor cable.

**■ 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	1000
L	435	485	535	585	635	685	735	785	835	885	935	985	1035	1085	1135	1185	1235	1285	1335	1385
A	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230
B	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
D	8	8	8	10	12	12	12	14	16	16	16	18	20	20	22	24	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	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6
Weight (kg)	6.6	7.1	7.6	8.1	8.6	9.2	9.7	10.2	10.7	11.3	11.7	12.3	12.8	13.4	13.9	14.5	15.0	15.5	16.1	16.6

**Applicable Controllers**

The controller for the RCP2-HS8C type is a dedicated controller.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner Type		PCON-CFA-86PI-①-2-0	Positioning is possible for up to 512 points	512 points	DC24V	6A max.	—	→ P607

\* ① indicates I/O type.

Note: • Please note that the encoder cable is a dedicated CFA-type cable. (See page A-59.)  
• Note that a simple absolute unit cannot be used.

# RCP2-SS7R

ROBO Cylinder, Slider Type, 60mm Width, Pulse Motor, Side-mounted Motor, Steel Base

Model Specification Items	<b>RCP2</b> — <b>SS7R</b> — <b>I</b> — <b>42P</b> — □ — □ — □ — □ — □							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental *The Simple absolute encoder is also considered type "I".	42P: Pulse motor, 42□ size	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? : 600: 600mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below. * Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.

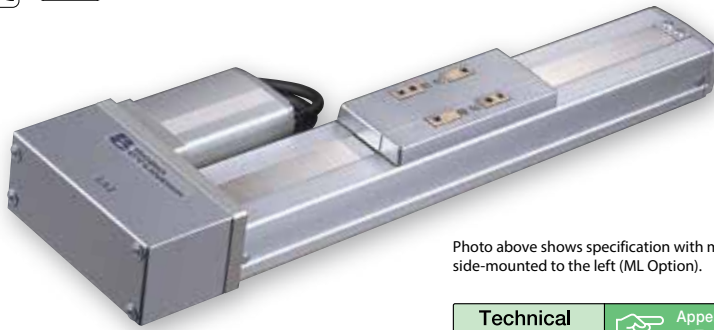


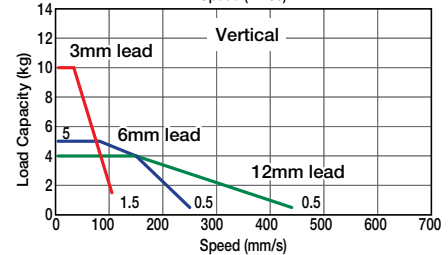
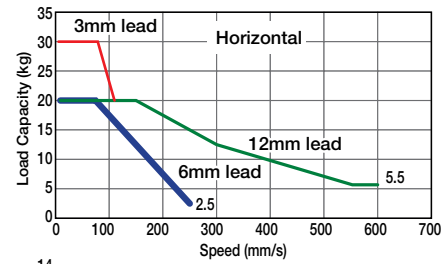
Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

- POINT**  
Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
  - (4) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS7R-I-42P-12-①-②-③-④	12	~20	~4	50~600 (every 50mm)
RCP2-SS7R-I-42P-6-①-②-③-④	6	~20	~5	
RCP2-SS7R-I-42P-3-①-②-③-④	3	~30	~10	

#### Stroke and Maximum Speed

Lead	Stroke	50~500 (every 50mm)	~600 (mm)
		12	600 <440>
6		250	230
3		105	105

\* The values enclosed in < > apply to vertical settings. (Unit: mm/s)

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

#### ① Stroke

① Stroke (mm)	Standard price
50/100	—
150/200	—
250/300	—
350/400	—
450/500	—
550/600	—

#### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

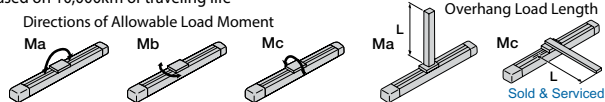
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 79.4 N·m, Mb: 79.4 N·m, Mc: 172.9 N·m
Allowable dynamic moment (*)	Ma: 14.7 N·m, Mb: 14.7 N·m, Mc: 33.3 N·m
Allowable overhang	300mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 10,000km of traveling life



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Dimensional Drawings

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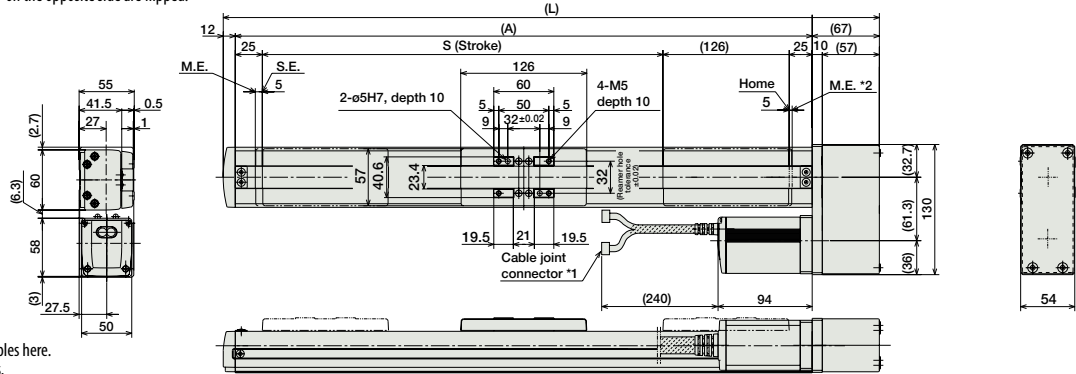
For Special Orders Appendix P.15



\* For the Non-motor end model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

\* The reference surface is the same as the SS7C type. (See P40)

\* The offset reference position for the Ma moment is the same as the SS7C type. (See P40)



\*1: Connect the motor and encoder cables here. See page A-59 for details on cables.

\*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.

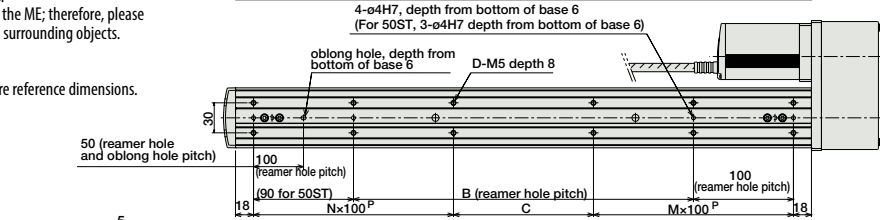
ME: Mechanical end

SE: Stroke end

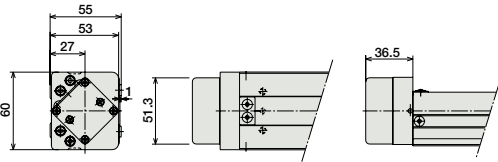
The dimensions enclosed in "( )" are reference dimensions.

Dimensions of the brake section

\* Adding a brake will increase the actuator's overall length by 24.5mm, and its weight by 0.3kg.



Details for Oblong Hole



\*The bend radius R of the cable is the same as other models.

Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	305	355	405	455	505	555	605	655	705	755	805	855
A	226	276	326	376	426	476	526	576	626	676	726	776
B	0	40	90	140	190	240	290	340	390	440	490	540
C	90	40	90	140	190	40	90	140	190	40	90	140
D	6	8	8	8	8	12	12	12	12	16	16	16
M	1	1	1	1	1	2	2	2	2	3	3	3
N	0	1	1	1	1	2	2	2	2	3	3	3
Weight (kg)	3.8	4.1	4.4	4.7	5.1	5.4	5.8	6.1	6.4	6.7	7.1	7.4

\* Brake cable is passed through the actuator body and connected to the motor cable.

Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

# RCP2-SS8R

ROBO Cylinder, Slider Type, 80mm Width, Pulse Motor, Side-mounted Motor, Steel Base

Model Specification Items	<b>RCP2</b> — <b>SS8R</b> — <b>I</b> — <b>56P</b> — □ — □ — □ — □ — □
Series — Type	Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I". 56P: Pulse motor, 56□ size 20 : 20mm 10 : 10mm 5 : 5mm 50: 50mm 1000: 1000mm (50mm pitch increments) P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable See Options below. * Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.

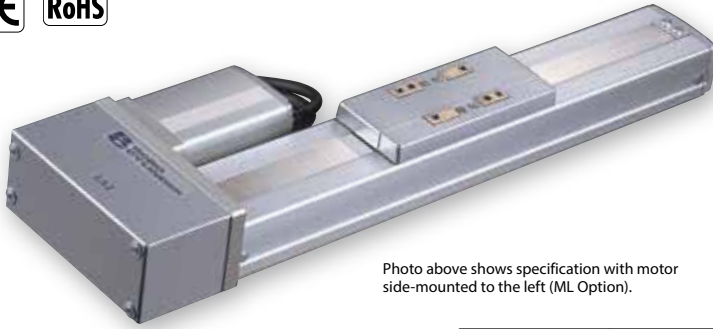


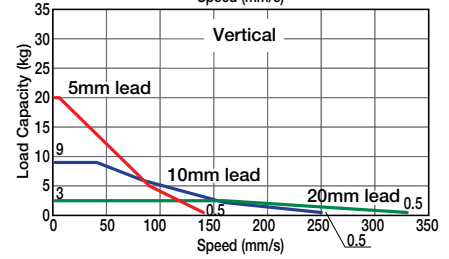
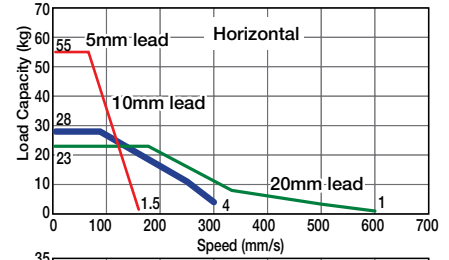
Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

- POINT** Notes on selection
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for 5mm lead model and when using vertically). These values are the upper limits for the acceleration.
  - See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS8R-I-56P-20-①-②-③-④	20	~23	~3	50~1000 (every 50mm)
RCP2-SS8R-I-56P-10-①-②-③-④	10	~28	~9	
RCP2-SS8R-I-56P-5-①-②-③-④	5	~55	~20	

#### Stroke and Maximum Speed

Stroke Lead	50~800 (every 50mm)	~900 (mm)	~1000 (mm)
	20	600 <333>	600 <333>
10	300 <250>	300 <250>	255 <250>
5	160 <140>	155 <140>	125 <140>

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

\* The values enclosed in < > apply to vertical settings. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50/100	—
150/200	—
250/300	—
350/400	—
450/500	—
550/600	—
650/700	—
750/800	—
850/900	—
950/1000	—

#### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

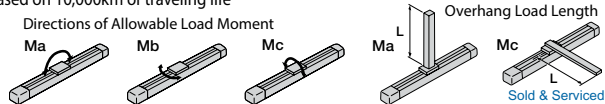
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor specification	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 16mm, rolled C10
Positioning repeatability	$\pm 0.02$ mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 198.9 N·m, Mb: 198.9 N·m, Mc: 416.7 N·m
Allowable dynamic moment (*)	Ma: 36.3 N·m, Mb: 36.3 N·m, Mc: 77.4 N·m
Allowable overhang	450mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 10,000km of traveling life



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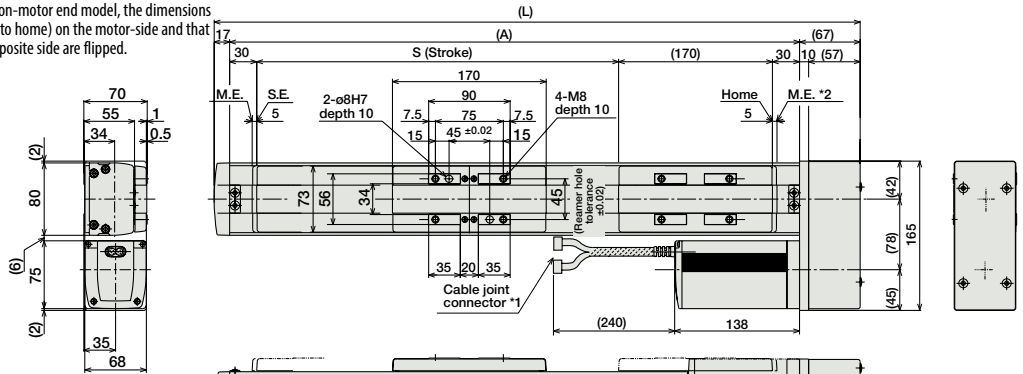
For Special Orders

Appendix P.15



\* For the Non-motor end model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

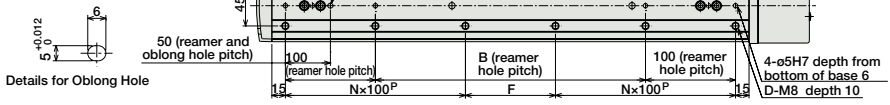
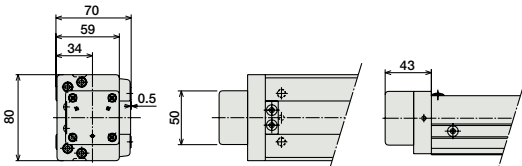
\* The reference surface is the same as the SS8C type. (See P42)  
 \* The offset reference position for the Ma moment is the same as the SS8C type. (See P42)



- \*1: Connect the motor and encoder cables here. See page A-59 for details on cables.
- \*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end  
 The dimensions enclosed in "( )" are reference dimensions.

Dimensions of the brake section

\* Adding a brake will increase the actuator's overall length by 26mm, and its weight by 0.5kg.



\* Brake cable is passed through the actuator body and connected to the motor cable.

■ 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	1000
L	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164	1214	1264	1314
A	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230
B	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
D	8	8	8	10	12	12	12	14	16	16	16	18	20	20	22	24	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	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6
Weight (kg)	7.4	7.9	8.5	9.0	8.6	10	10.5	11.1	11.6	12.1	12.7	13.2	13.7	14.3	14.8	15.3	15.8	16.4	16.9	17.4

② Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-56PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-56PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type High-output specification		PCON-CA-56PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-56PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-56PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-56PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

# RCP2-HS8R

ROBO Cylinder, High-Speed Slider Type, 80mm Width, Pulse Motor, Side-mounted Motor, Steel Base

Model Specification Items	<b>RCP2</b> — <b>HS8R</b> — <b>I</b> — <b>86P</b> — <b>30</b> — <input type="checkbox"/> — <b>P4</b> — <input type="checkbox"/> — <input type="checkbox"/>
Series — Type	Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental 86P: Pulse motor, 56□ size high-output 30: 30mm 50: 50mm 1000: 1000mm (50mm pitch increments) P4: PCON-CFA N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable B : Brake NM : Non-motor end ML : Left-mounted motor (Standard) MR : Right-mounted motor SR : Slider roller

\* See page Pre-47 for details on the model descriptions.

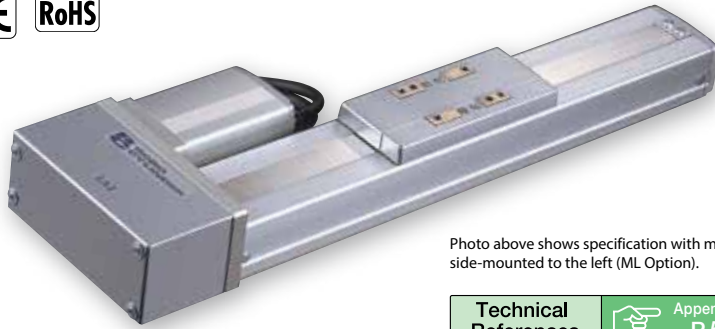


Photo above shows specification with motor side-mounted to the left (ML Option).

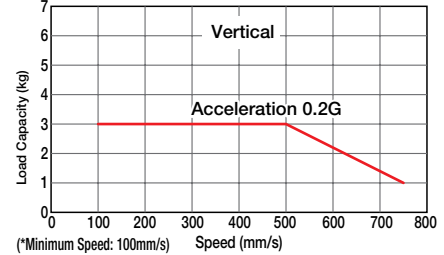
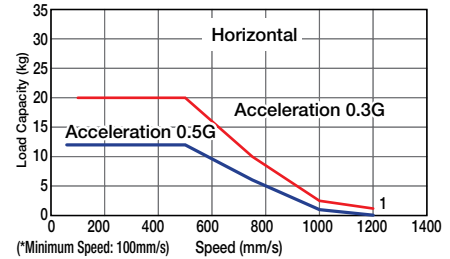
Technical References Appendix P.5



- (1) Due to the large head of the ball screw in high-speed actuators, operating at low speeds may cause vibration and/or noise. Therefore, use the actuator at speeds over 100mm/s.
- (2) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (3) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (4) The load capacity is based on operation at an acceleration of 0.3G (0.2G when used vertically). The upper limit for the acceleration is 0.5G for horizontal use and 0.2G for vertical use.
- (5) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Lead and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-HS8R-I-86P-30-①-P4-②-③	30	~20	~3	50~1000 (every 50mm)

Code explanation ① Stroke ② Cable length ③ Options \*See page A-71 for details on push motion.

#### Stroke and Maximum Speed

Stroke Lead	50~800 (every 50mm)	~900 (mm)	~1000 (mm)
30	1200 <750>	1000 <750>	800 <750>

\* The values enclosed in < > apply to vertical settings. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50/100	—
150/200	—
250/300	—
350/400	—
450/500	—
550/600	—
650/700	—
750/800	—
850/900	—
950/1000	—

#### ② Cable Length

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

\* See page A-59 for cables for maintenance.

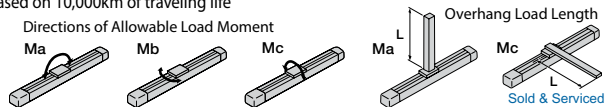
#### ③ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 16mm, rolled C10
Positioning repeatability	$\pm$ 0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 198.9 N·m, Mb: 198.9 N·m, Mc: 416.7 N·m
Allowable dynamic moment (*)	Ma: 36.3 N·m, Mb: 36.3 N·m, Mc: 77.4 N·m
Allowable overhang	450mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 10,000km of traveling life



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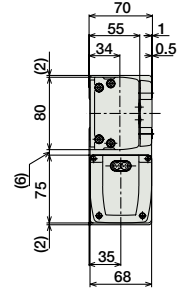
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



\* For the Non-motor end model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

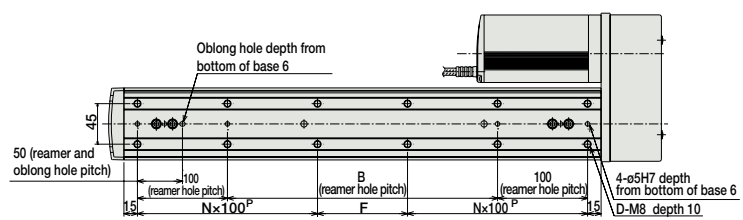
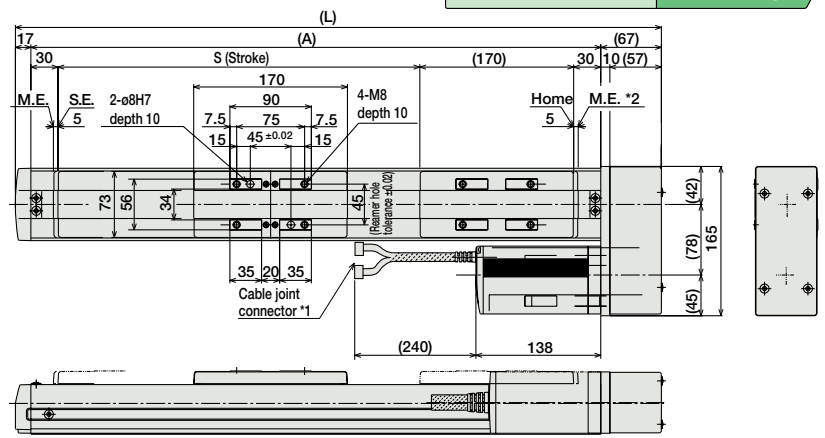
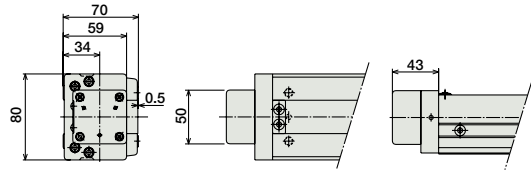
- \* The reference surface is the same as the HS8C type. (See P44)
- \* The offset reference position for the Ma moment is the same as the HS8C type. (See P44)



- \*1: Connect the motor and encoder cables here. See page A-59 for details on cables.
- \*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects. ME: Mechanical end SE: Stroke end The dimensions enclosed in "( )" are reference dimensions.

Dimensions of the brake section

\* Adding a brake will increase the actuator's overall length by 26mm, and its weight by 0.5kg.



\* Brake cable is passed through the actuator body and connected to the motor cable.

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	1000
L	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164	1214	1264	1314
A	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230
B	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
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	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6
Weight (kg)	7.4	7.9	8.5	9.0	9.5	10	10.5	11.1	11.6	12.1	12.7	13.2	13.7	14.3	14.8	15.3	15.8	16.4	16.9	17.4

Applicable Controllers

The controller for the RCP2-HS8R type is a dedicated controller.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner Type		PCON-CFA-86PI-①-2-0	Positioning is possible for up to 512 points	512 points	DC24V	6A max.	—	→ P607

\* ① indicates I/O type.

Note: • Please note that the encoder cable is a dedicated CFA-type cable. (See page A-59.)  
• Note that a simple absolute unit cannot be used.



# RCP2-BA6/BA6U

ROBO Cylinder, Belt Type, 58mm Width, Pulse Motor, Top-mounted Motor/Bottom-mounted Motor

Model Specification Items	RCP2	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	BA6	Belt type Top-mounted motor	I: Incremental *The Simple absolute encoder is also considered type "I".	42P: Pulse motor, 42□ size	54 : 54mm equivalent	500: 500mm 1000: 1000mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	NM: Non-motor end	

\* See page Pre-47 for details on the model descriptions.



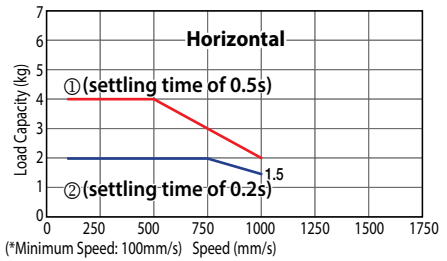
Technical References Appendix P.5



- (1) Operating the belt type actuator at low speeds may cause vibration and/or resonance. Therefore, please set the speed at 100mm/s or faster.
- (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.5G. 0.5G is the upper limit for the acceleration.
- (4) BA6/BA6U only supports horizontal-flat installation, and horizontal-ceiling-mounted installation. See page A-7 for details.
- (5) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



(\*Minimum Speed: 100mm/s)

Note:

Graph ① is for standard specifications, with settling time of 0.5s for calculating the positioning time.

Graph ② reflects some changes in the controller settings. The load capacity is lower, however the settling time is decreased to 0.2s.

If the load capacity is lower than graph ②, and you want to shorten the positioning time, change the controller settings. (See the manual for details.)

(Vertical operation is not possible.)

### Actuator Specifications

#### Lead and Payload

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

#### Stroke and Maximum Speed

Model number	Motor Mounting Direction	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)	Stroke and Maximum Speed	
			Horizontal (kg)	Vertical (kg)		Lead	500~1000 (every 50mm)
RCP2-BA6-I-42P-54-①-②-③-④	Top	54 equivalent	~4	Not Allowed	500~1000 (every 50mm)	54 equivalent	1000
RCP2-BA6U-I-42P-54-①-②-③-④	Bottom						

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion.

(Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
500	—
550	—
600	—
650	—
700	—
750	—
800	—
850	—
900	—
950	—
1000	—

#### ④ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—

#### ③ Cable Length

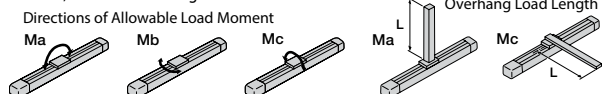
Type	Cable symbol	Standard Price
Standard	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
	R01 (1m) ~ R03 (3m)	—
Robot Cable	R04 (4m) ~ R05 (5m)	—
	R06 (6m) ~ R10 (10m)	—
	R11 (11m) ~ R15 (15m)	—
	R16 (16m) ~ R20 (20m)	—

\* See page A-59 for cables for maintenance.

### Actuator Specifications

Item	Description
Drive System	Timing Belt
Positioning repeatability	±0.1mm
Lost Motion	0.1mm or less
Dynamic allowable moment (*)	Ma: 8.9 N-m, Mb: 12.7 N-m, Mc: 18.6 N-m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



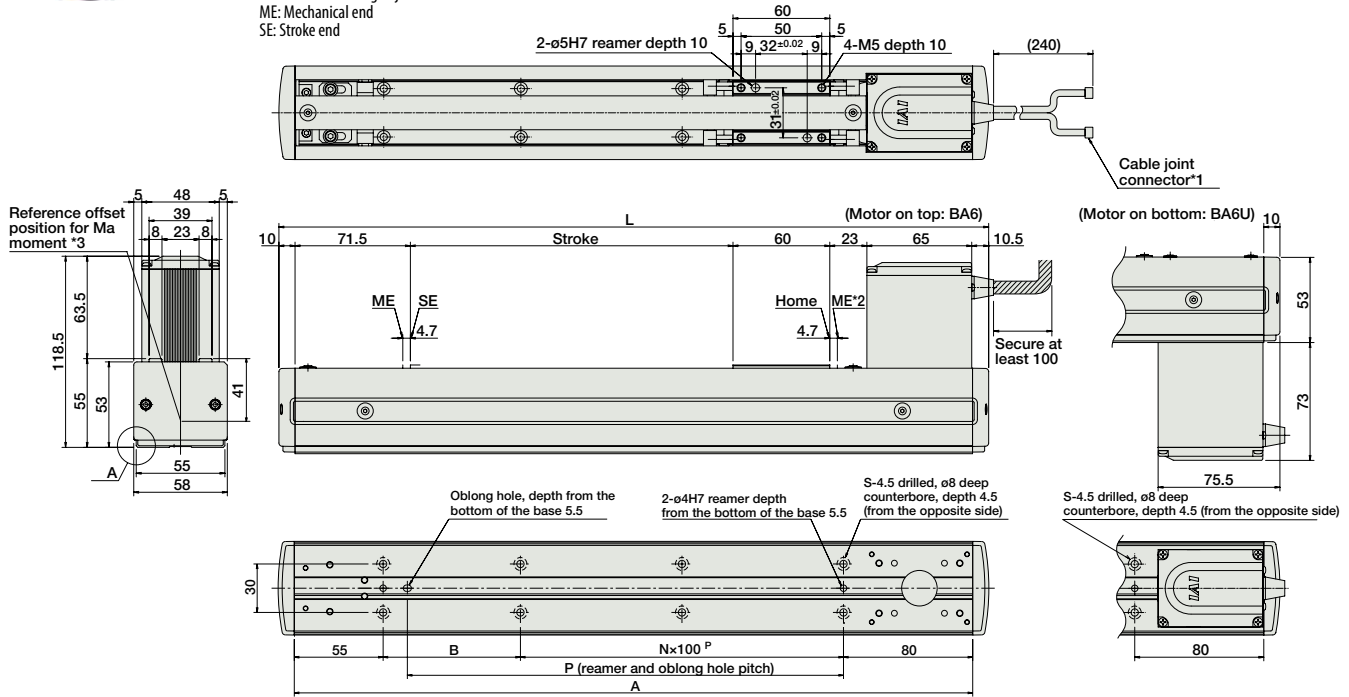
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- \*1: Connect the motor and encoder cables here. See page A-59 for details on cables.
- \*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- \*3: Reference offset position used when calculating the Ma moment.



■ Dimensions and Mass by Stroke

Stroke	500	550	600	650	700	750	800	850	900	950	1000
L	740	790	840	890	940	990	1040	1090	1140	1190	1240
A	720	770	820	870	920	970	1020	1070	1120	1170	1220
B	85	35	85	35	85	35	85	35	85	35	85
N	5	6	6	7	7	8	8	9	9	10	10
P	570	620	670	720	770	820	870	920	970	1020	1070
S	14	16	16	18	18	20	20	22	22	24	24
Weight (kg)	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.7	3.8	3.9	4.1

② Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P665
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.



# RCP2-BA7/BA7U

ROBO Cylinder, Belt Type, 68mm Width, Pulse Motor, Top-mounted Motor/Bottom-mounted Motor

Model Specification Items	<b>RCP2</b> — <input type="checkbox"/> — <b>I</b> — <b>42P</b> — <b>54</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	BA7 : Belt type Top-mounted motor	I: Incremental * The Simple absolute encoder is also considered type "I".	42P: Pulse motor, 42□ size	54: 54mm equivalent	600: 600mm 1200: 1200mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	NM: Non-motor end		
	BA7U: Belt type Bottom-mounted motor					P3: PCON-CA PMEC/PSEP MSEP				

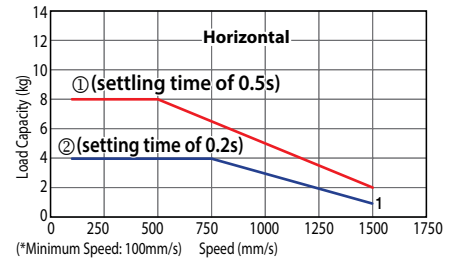
\* See page Pre-47 for details on the model descriptions.



Technical References Appendix P.5

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Note:

Graph ① is for standard specifications, with settling time of 0.5s for calculating the positioning time. Graph ② reflects some changes in the controller settings. The load capacity is lower, however the settling time is decreased to 0.2s.

If the load capacity is lower than graph ②, and you want to shorten the positioning time, change the controller settings. (See the manual for details.)

(Vertical operation is not possible.)

- POINT** Notes on selection
- Operating the belt type actuator at low speeds may cause vibration and/or resonance. Therefore, please set the speed at 100mm/s or faster.
  - Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - The load capacity is based on operation at an acceleration of 0.5G. 0.5G is the upper limit for the acceleration.
  - BA7/BA7U only supports horizontal-flat installation, and horizontal-ceiling-mounted installation. See page A-7 for details.
  - See page A-71 for details on push motion.

### Actuator Specifications

#### Lead and Payload

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

#### Stroke and Maximum Speed

Model number	Motor Mounting Direction	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP2-BA7-I-42P-54-①-②-③-④	Top	54 equivalent	~8	Not Allowed	600~1200 (every 50mm)
RCP2-BA7U-I-42P-54-①-②-③-④	Bottom				

Lead	Stroke	600~1200 (every 50mm)
	54 equivalent	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
600	—
650	—
700	—
750	—
800	—
850	—
900	—
950	—
1000	—
1050	—
1100	—
1150	—
1200	—

#### ④ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—

#### ③ Cable Length

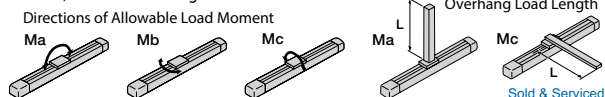
Type	Cable symbol	Standard Price
Standard	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
Robot Cable	R01 (1m) ~ R03 (3m)	—
	R04 (4m) ~ R05 (5m)	—
	R06 (6m) ~ R10 (10m)	—
	R11 (11m) ~ R15 (15m)	—
	R16 (16m) ~ R20 (20m)	—

\* See page A-59 for cables for maintenance.

### Actuator Specifications

Item	Description
Drive System	Timing Belt
Positioning repeatability	±0.1mm
Lost Motion	0.1mm or less
Dynamic allowable moment (*)	Ma: 13.8 N·m, Mb: 19.7 N·m, Mc: 29.0 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website.

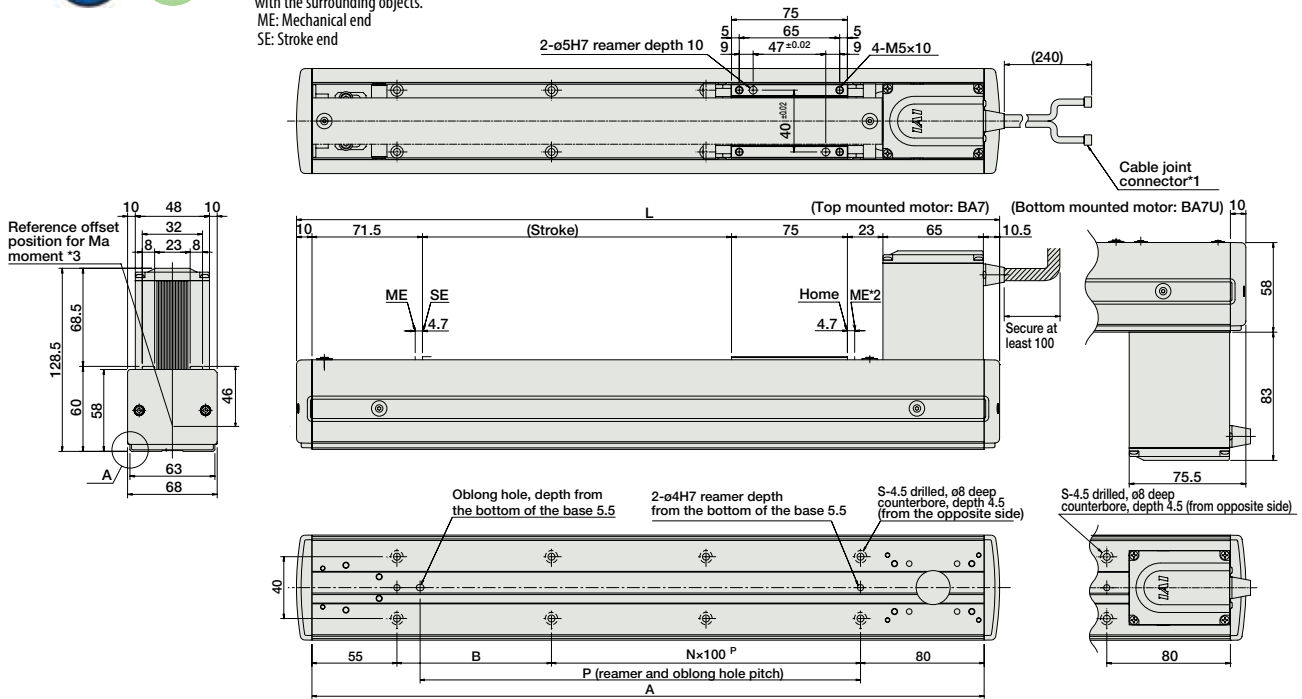
www.intelligentactuator.com

For Special Orders

Appendix P.15



- \*1: Connect the motor and encoder cables here. See page A-59 for details on cables.
- \*2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- \*3: Reference offset position used when calculating the Ma moment.



■ Dimensions and Mass by Stroke

Stroke	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455
A	835	885	935	985	1035	1085	1135	1185	1235	1285	1335	1385	1435
B	100	50	100	50	100	50	100	50	100	50	100	50	100
N	6	7	7	8	8	9	9	10	10	11	11	12	12
P	685	735	785	835	885	935	985	1035	1085	1135	1185	1235	1285
S	16	18	18	20	20	22	22	24	24	26	26	28	28
Weight (kg)	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.9	5.0	5.2	5.3

② Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P607
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P623
Pulse-train type High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(-)				
Field network type High-output specification		PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(-)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

\* This is for the single-axis PSEL. \* ① indicates I/O type (NP/PN). \* ② indicates power supply voltage (1: 100V / 2: 100~240V). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.

# ERC3-SA5C

Controller-Integrated, Slider Type, Actuator Width 50mm, Pulse Motor, Straight Type

Model Specification Items	<b>ERC3</b>	<b>SA5C</b>	<b>I</b>	<b>42P</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Controller type	Options
			I: Incremental	42□ Pulse motor	20:20mm 12:12mm 6: 6mm 3: 3mm	50:50mm ? 800:800mm (50mm pitch increments)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIO type PLN: Pulse-train (NPN) type PLP: Pulse-train (PNP) type	N: None P: 1m S: 3 m M: 5m X□□: Custom length	CN: CON type MC: MEC type	B : Brake NM : Non-motor end specification ABU: Simple absolute specification

\* See page Pre-47 for details on the model descriptions.



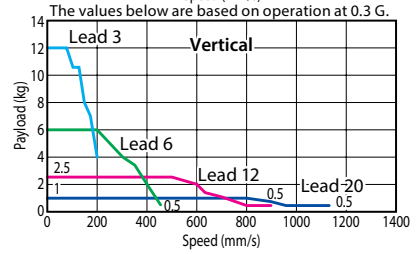
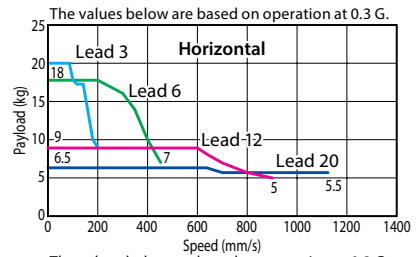
Technical References Appendix P.5



- (1) If the high-output setting is enabled (factory default), the duty must be limited. (Refer to page A-95.) If the high-output setting is disabled, the payload and maximum speed become lower, but the actuator can be used at a duty of 100%. Refer to the operation manual for information on how to change the high-output setting.
- (2) Refer to page A-99 for the payload at each speed/acceleration when the high-output setting is enabled.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



High-output setting enabled (Factory default)

### Actuator Specifications (High-output Setting Enabled)

#### Leads and Payloads (Note 1) Take caution that the maximum payload decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
ERC3-SA5C-I-42P-20-①-②-③-④	20	6.5	1	50~800 (every 50mm)
ERC3-SA5C-I-42P-12-①-②-③-④	12	9	2.5	
ERC3-SA5C-I-42P-6-①-②-③-④	6	18	6	
ERC3-SA5C-I-42P-3-①-②-③-④	3	20	12	

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

Stroke Lead	50~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	1120	1115	935	795	680	585	510	
12	900	805	665	560	475	405	350	300
6	450	400	330	280	235	200	175	150
3	225	200	165	140	115	200	85	75

Code explanation ① Stroke ② I/O type ③ Cable length ④ Options \*See page A-71 for details on push motion.

\*The values of lead 3 apply when acceleration is at 0.1G.

#### ① Stroke

① Stroke (mm)	Standard price	① Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ③ Cable Length

Type	Cable symbol	Standard price
Standard (Robot Cables)	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—

\* See page 586 for cables for maintenance.

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Non-motor end specification	<b>NM</b>	→ A-52	—
Simple absolute specification	<b>ABU</b>	→ A-42	— (*)

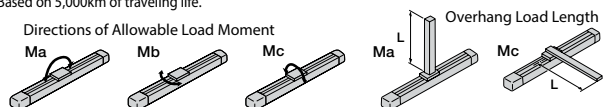
(\*) If the simple absolute specification is selected, SE (SIO type) I/O type and the separately sold PIO converter with simple absolute specification (with battery) are required.

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost Motion	0.1mm or less
Allowable static moment	Ma: 29.4 N·m, Mb: 42.0 N·m, Mc: 60.5 N·m
Allowable dynamic moment (*2)	Ma: 7.1 N·m, Mb: 10.2 N·m, Mc: 14.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

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

(\*2) Based on 5,000km of traveling life.



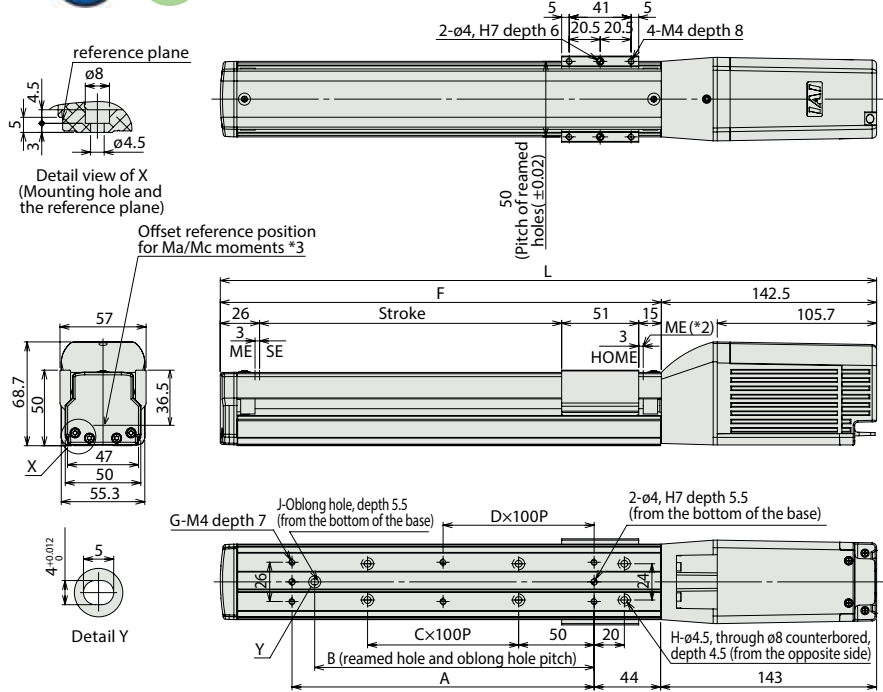


Dimensional Drawings

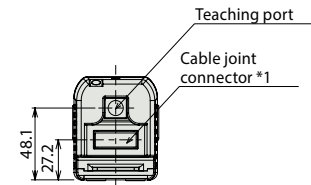
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



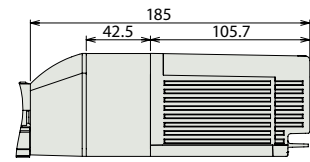
For Special Orders Appendix P.15



- \*1 Connect the power & I/O cable. Refer to page 586 for details on this cable SE: Stroke End ME: Mechanical End
- \*2 The slider moves to the ME during home return, so pay attention to possible contact with surrounding structures.
- \*3 Reference position is used when calculating the Ma and Mc moments.



External view of the brake specification The overall length of the brake specification is 42.5 mm longer than the standard specification and is 0.4 kg heavier.



Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	284.5	334.5	384.5	434.5	484.5	534.5	584.5	634.5	684.5	734.5	784.5	834.5	884.5	934.5	984.5	1034.5
A	73	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
B	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
C	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
D	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
F	142	192	242	292	342	392	442	492	542	592	642	692	742	792	842	892
G	4	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18
H	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
J	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Weight (kg)	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.7	2.8	2.9	3.0	3.1

Controllers (Built into the Actuator)

I/O type

With the ERC3 series, one of the following five types of built-in controllers can be selected depending on the external input/output (I/O) type. Select the type that meets your purpose.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
PIO type (NPN specification)		ERC3-SA5C-I-42P-□-□-NP-□-□	Simple control type accommodating up to 16 positioning points	16	DC24V	High-output setting enabled: 3.5A rated 4.2A max. High-output setting disabled: 2.2A	—	→ P577
PIO type (PNP specification)		ERC3-SA5C-I-42P-□-□-PN-□-□	I/O type supporting inputs/outputs of the PNP specification often used overseas	16				
SIO type		ERC3-SA5C-I-42P-□-□-SE-□-□	High-function type accommodating up to 512 positioning points (PIO converter is used)	512				
Pulse-train type (NPN specification)		ERC3-SA5C-I-42P-□-□-PLN-□-□	Pulse-train input type supporting the NPN specification	—				
Pulse-train type (PNP specification)		ERC3-SA5C-I-42P-□-□-PLP-□-□	Pulse-train input type supporting the PNP specification	—				



# ERC3-SA7C

Controller-Integrated, Slider Type, Actuator Width 74mm, Pulse Motor, Straight Type

Model Specification Items	<b>ERC3</b>	<b>SA7C</b>	<b>I</b>	<b>56P</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Controller type	Options
	I: Incremental	56□ Pulse motor	24:24mm 16:16mm 8: 8mm 4: 4mm	50:50mm 800:800mm (50mm pitch increments)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIO type PLN: Pulse-train (NPN) type PLP: Pulse-train (PNP) type	N: None P: 1m S: 3 m M: 5m X□□: Custom length	CN: CON type MC: MEC type	B : Brake NM : Non-motor end specification ABU: Simple absolute specification		

\* See page Pre-47 for details on the model descriptions.



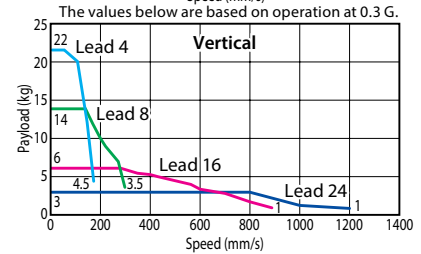
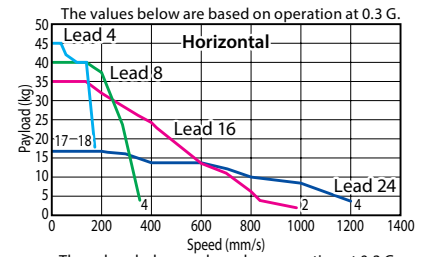
Technical References Appendix P.5



- If the high-output setting is enabled (factory default), the duty must be limited. (Refer to page A-95.) If the high-output setting is disabled, the payload and maximum speed become lower, but the actuator can be used at a duty of 100%. Refer to the operation manual for information on how to change the high-output setting.
- Refer to page A-99 for the payload at each speed/acceleration when the high-output setting is enabled.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



High-output setting enabled (Factory default)

### Actuator Specifications (High-output Setting Enabled)

#### Leads and Payloads (Note 1) Take caution that the maximum payload decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
ERC3-SA7C-I-56P-24-①-②-③-④	24	17	3	50~800 (every 50mm)
ERC3-SA7C-I-56P-16-①-②-③-④	16	35	6	
ERC3-SA7C-I-56P-8-①-②-③-④	8	40	14	
ERC3-SA7C-I-56P-4-①-②-③-④	4	45	22	

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

Stroke Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
24	1200	1130	975	850	745	
16	980 <840>	880 <840>	750	645	565	495
8	490	440	375	320	280	245
4	210	185	160	140	120	

Code explanation ① Stroke ② I/O type ③ Cable length ④ Options \*See page A-71 for details on push motion.

\* The values enclosed in < > apply to vertical settings.  
\* The values of lead 8 and lead 4 apply when acceleration is at 0.1G.

#### ① Stroke

① Stroke (mm)	Standard price	① Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Non-motor end specification	<b>NM</b>	→ A-52	—
Simple absolute specification	<b>ABU</b>	→ A-42	— (*)

(\*) If the simple absolute specification is selected, SE (SIO type) I/O type and the separately sold PIO converter with simple absolute specification (with battery) are required.

#### ③ Cable Length

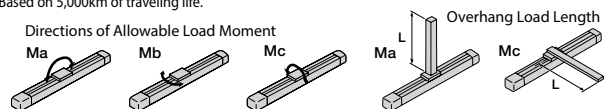
Type	Cable symbol	Standard price
Standard (Robot Cables)	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—

\* See page 586 for cables for maintenance.

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø12mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost Motion	0.1mm or less
Allowable static moment	Ma: 70.0 N·m, Mb: 100.0 N·m, Mc: 159.5 N·m
Allowable dynamic moment (*2)	Ma: 15.0 N·m, Mb: 21.4 N·m, Mc: 34.1 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

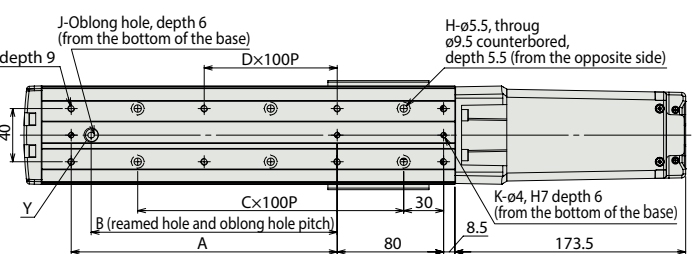
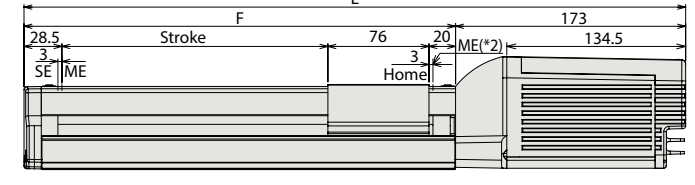
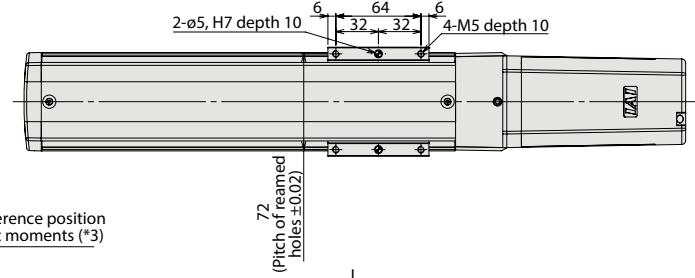
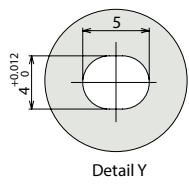
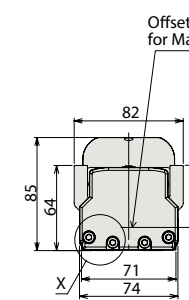
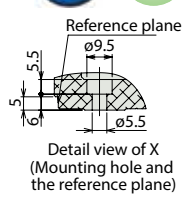
(\*1) The specification in [ ] applies when the lead is 24mm.  
(\*2) Based on 5,000km of traveling life.



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

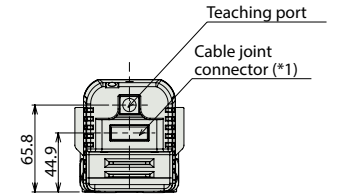
For Special Orders Appendix P.15



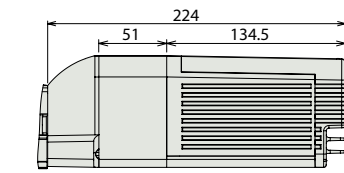
\*1 Connect the power & I/O cable. Refer to page 586 for details on this cable  
SE: Stroke End  
ME: Mechanical End

\*2 The slider moves to the ME during home return, so pay attention to possible contact with surrounding structures.

\*3 Reference position is used when calculating the Ma and Mc moments.



**External view of the brake specification**  
The overall length of the brake specification is 51 mm longer than the standard specification and is 0.5 kg heavier.



Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	347.5	397.5	447.5	497.5	547.5	597.5	647.5	697.5	747.5	797.5	847.5	897.5	947.5	997.5	1047.5	1097.5
A	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
B	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
F	174.5	224.5	274.5	324.5	374.5	424.5	474.5	524.5	574.5	624.5	674.5	724.5	774.5	824.5	874.5	924.5
G	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
H	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
J	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
K	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Weight (kg)	3.2	3.4	3.6	3.8	4.0	4.3	4.5	4.7	4.9	5.1	5.4	5.6	5.8	6.0	6.2	6.5

Controllers (Built into the Actuator)

@I/O type  
With the ERC3 series, one of the following five types of built-in controllers can be selected depending on the external input/output (I/O) type. Select the type that meets your purpose.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
PIO type (NPN specification)		ERC3-SA7C-I-56P-□-□-NP-□-□	Simple control type accommodating up to 16 positioning points	16	DC24V	High-output setting enabled: 3.5A rated 4.2A max. High-output setting disabled: 2.2A	—	→ P577
PIO type (PNP specification)		ERC3-SA7C-I-56P-□-□-PN-□-□	I/O type supporting inputs/outputs of the PNP specification often used overseas	16				
SIO type		ERC3-SA7C-I-56P-□-□-SE-□-□	High-function type accommodating up to 512 positioning points (PIO converter is used)	512				
Pulse-train type (NPN specification)		ERC3-SA7C-I-56P-□-□-PLN-□-□	Pulse-train input type supporting the NPN specification	—				
Pulse-train type (PNP specification)		ERC3-SA7C-I-56P-□-□-PLP-□-□	Pulse-train input type supporting the PNP specification	—				

# ERC3D-SA5C

Controller-Integrated, Simple-dustproof Slider Type, Actuator Width 50mm, Pulse Motor, Straight Type

Model Specification Items	<b>ERC3D-SA5C</b>	<b>I</b>	<b>42P</b>							
	Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Controller type	Options
		I: Incremental	42□ Pulse motor		20:20mm 12:12mm 6: 6mm 3: 3mm	50:50mm ? 800:800mm (50mm pitch increments)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIO type PLN: Pulse-train (NPN) type PLP: Pulse-train (PNP) type	N: None P: 1m S: 3 m M: 5m X□□: Custom length	CN: CON type MC: MEC type	B : Brake NM : Non-motor end specification ABU: Simple absolute specification

\* See page Pre-47 for details on the model descriptions.



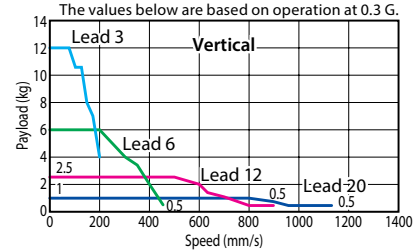
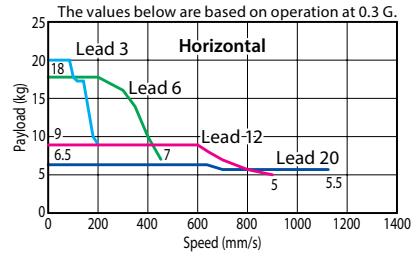
Technical References Appendix P.5



- (1) If the high-output setting is enabled (factory default), the duty must be limited. (Refer to page A-95.) If the high-output setting is disabled, the payload and maximum speed become lower, but the actuator can be used at a duty of 100%. Refer to the operation manual for information on how to change the high-output setting.
- (2) Refer to page A-99 for the payload at each speed/acceleration when the high-output setting is enabled.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



High-output setting enabled (Factory default)

### Actuator Specifications (High-output Setting Enabled)

#### Leads and Payloads (Note 1) Take caution that the maximum payload decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
ERC3D-SA5C-I-42P-20-①-②-③-④	20	6.5	1	50~800 (every 50mm)
ERC3D-SA5C-I-42P-12-①-②-③-④	12	9	2.5	
ERC3D-SA5C-I-42P-6-①-②-③-④	6	18	6	
ERC3D-SA5C-I-42P-3-①-②-③-④	3	20	12	

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

Stroke Lead	50~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	1120			1045	900	785	690	610
12	900	795	665	570	490	425	375	330
6	450	395	335	285	245	215	185	165
3	225	195	165	140	120	105	90	80

Code explanation ① Stroke ② I/O type ③ Cable length ④ Options \*See page A-71 for details on push motion.

\*The values of lead 3 apply when acceleration is at 0.1G.

#### ① Stroke

① Stroke (mm)	Standard price	① Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Non-motor end specification	<b>NM</b>	→ A-52	—
Simple absolute specification	<b>ABU</b>	→ A-42	— (*)

(\*) If the simple absolute specification is selected, SE (SIO type) I/O type and the separately sold PIO converter with simple absolute specification (with battery) are required.

#### ③ Cable Length

Type	Cable symbol	Standard price
Standard (Robot Cables)	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—

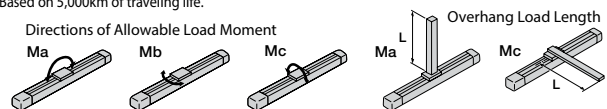
\* See page 586 for cables for maintenance.

#### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 10mm, rolled C10
Positioning repeatability (*1)	$\pm 0.02$ mm [ $\pm 0.03$ mm]
Lost Motion	0.1mm or less
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*2)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

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

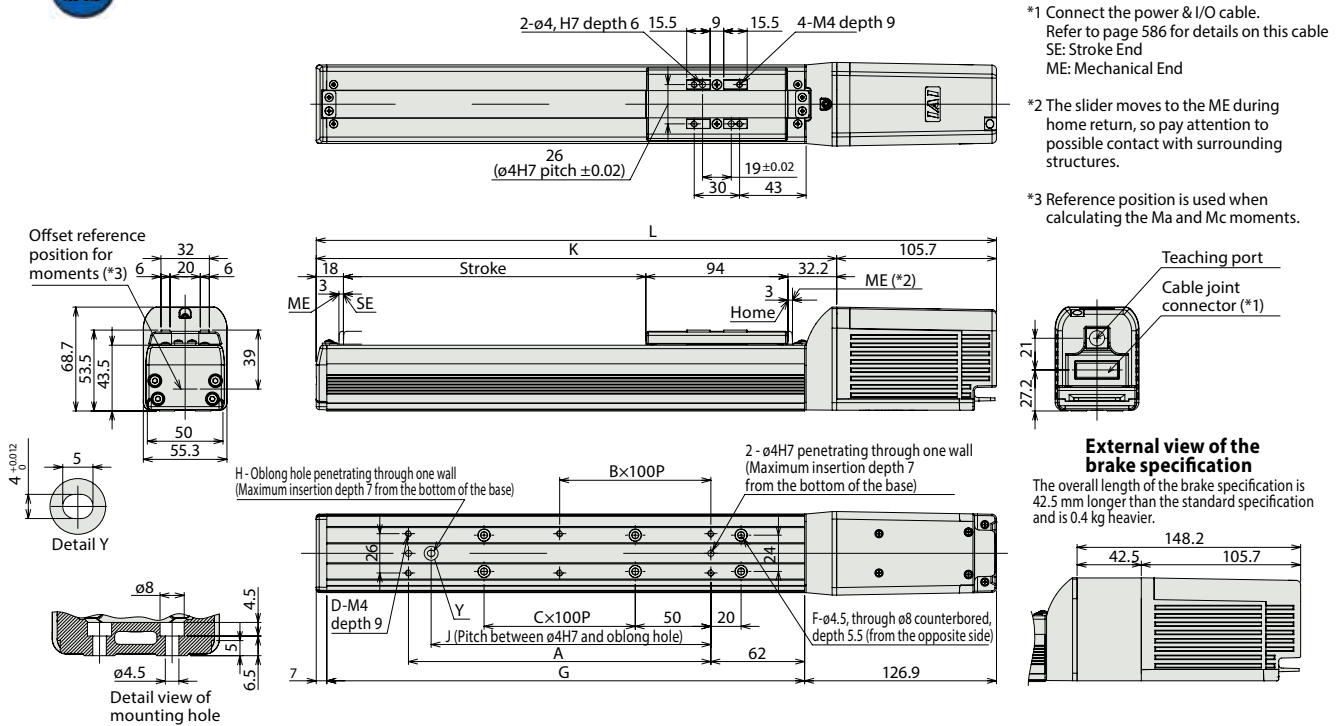
(\*2) Based on 5,000km of traveling life.



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- \*1 Connect the power & I/O cable. Refer to page 586 for details on this cable SE: Stroke End ME: Mechanical End
- \*2 The slider moves to the ME during home return, so pay attention to possible contact with surrounding structures.
- \*3 Reference position is used when calculating the Ma and Mc moments.

Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	299.9	349.9	399.9	449.9	499.9	549.9	599.9	649.9	699.9	749.9	799.9	849.9	899.9	949.9	999.9	1049.9
A	73	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	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18
F	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
G	166	216	266	316	366	416	466	516	566	616	666	716	766	816	866	916
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
K	194.2	244.2	294.2	344.2	394.2	444.2	494.2	544.2	594.2	644.2	694.2	744.2	794.2	844.2	894.2	944.2
Weight (kg)	1.6	1.8	2.0	2.1	2.3	2.5	2.6	2.8	3.0	3.1	3.3	3.5	3.6	3.8	4.0	4.1

Controllers (Built into the Actuator)

@I/O type

With the ERC3 series, one of the following five types of built-in controllers can be selected depending on the external input/output (I/O) type. Select the type that meets your purpose.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
PIO type (NPN specification)		ERC3D-SA5C-I-42P-□-□-NP-□-□	Simple control type accommodating up to 16 positioning points	16	DC24V	High-output setting enabled: 3.5A rated 4.2A max. High-output setting disabled: 2.2A	—	→ P577
PIO type (PNP specification)		ERC3D-SA5C-I-42P-□-□-PN-□-□	I/O type supporting inputs/outputs of the PNP specification often used overseas	16				
SIO type		ERC3D-SA5C-I-42P-□-□-SE-□-□	High-function type accommodating up to 512 positioning points (PIO converter is used)	512				
Pulse-train type (NPN specification)		ERC3D-SA5C-I-42P-□-□-PLN-□-□	Pulse-train input type supporting the NPN specification	—				
Pulse-train type (PNP specification)		ERC3D-SA5C-I-42P-□-□-PLP-□-□	Pulse-train input type supporting the PNP specification	—				



# ERC3D-SA7C

Controller-Integrated, Simple-dustproof Slider Type, Actuator Width 73mm, Pulse Motor, Straight Type

Model Specification Items	<b>ERC3D-SA7C</b>	<b>I</b>	<b>56P</b>							
	Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Controller type	Options
			I: Incremental	42□ Pulse motor	24:24mm 16:16mm 8: 8mm 4: 4mm	50:50mm ? 800:800mm (50mm pitch increments)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIO type PLN: Pulse-train (NPN) type PLP: Pulse-train (PNP) type	N: None P: 1m S: 3 m M: 5m X□□: Custom length	CN: CON type MC: MEC type	B : Brake NM : Non-motor end specification ABU: Simple absolute specification

\* See page Pre-47 for details on the model descriptions.

**RoHS**



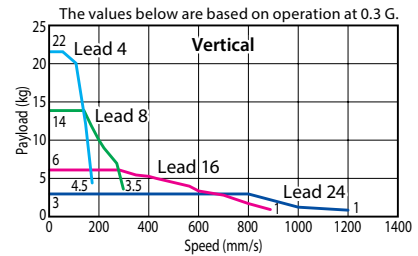
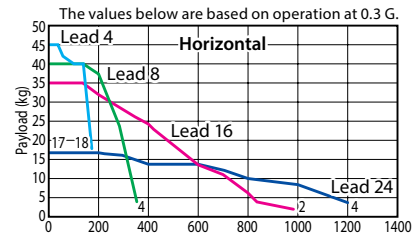
Technical References Appendix P.5

**POINT**  
Notes on selection

- (1) If the high-output setting is enabled (factory default), the duty must be limited. (Refer to page A-95.) If the high-output setting is disabled, the payload and maximum speed become lower, but the actuator can be used at a duty of 100%. Refer to the operation manual for information on how to change the high-output setting.
- (2) Refer to page A-99 for the payload at each speed/acceleration when the high-output setting is enabled.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC3 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



High-output setting enabled (Factory default)

### Actuator Specifications (High-output Setting Enabled)

#### Leads and Payloads (Note 1) Take caution that the maximum payload decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
ERC3D-SA7C-I-56P-24-①-②-③-④	24	17	3	50~800 (every 50mm)
ERC3D-SA7C-I-56P-16-①-②-③-④	16	35	6	
ERC3D-SA7C-I-56P-8-①-②-③-④	8	40	14	
ERC3D-SA7C-I-56P-4-①-②-③-④	4	45	22	

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

Stroke Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
24	1200	1155	1010	890	790	
16	980 <840>	865 <840>	750	655	580	515
8	490	430	375	325	290	255
4	210	185	160	145	125	

Code explanation ① Stroke ② I/O type ③ Cable length ④ Options \*See page A-71 for details on push motion.

\* The values enclosed in < > apply to vertical settings.  
\* The values of lead 8 and lead 4 apply when acceleration is at 0.1G.

#### ① Stroke

① Stroke (mm)	Standard price	① Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Non-motor end specification	<b>NM</b>	→ A-52	—
Simple absolute specification	<b>ABU</b>	→ A-42	— (*)

(\*) If the simple absolute specification is selected, SE (SIO type) I/O type and the separately sold PIO converter with simple absolute specification (with battery) are required.

#### ③ Cable Length

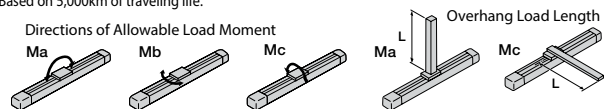
Type	Cable symbol	Standard price
Standard (Robot Cables)	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—

\* See page 586 for cables for maintenance.

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø12mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost Motion	0.1mm or less
Allowable static moment	Ma: 50.4 N·m, Mb: 71.9 N·m, Mc: 138.0 N·m
Allowable dynamic moment (*2)	Ma: 13.9 N·m, Mb: 19.9 N·m, Mc: 38.3 N·m
Allowable overhang	230mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

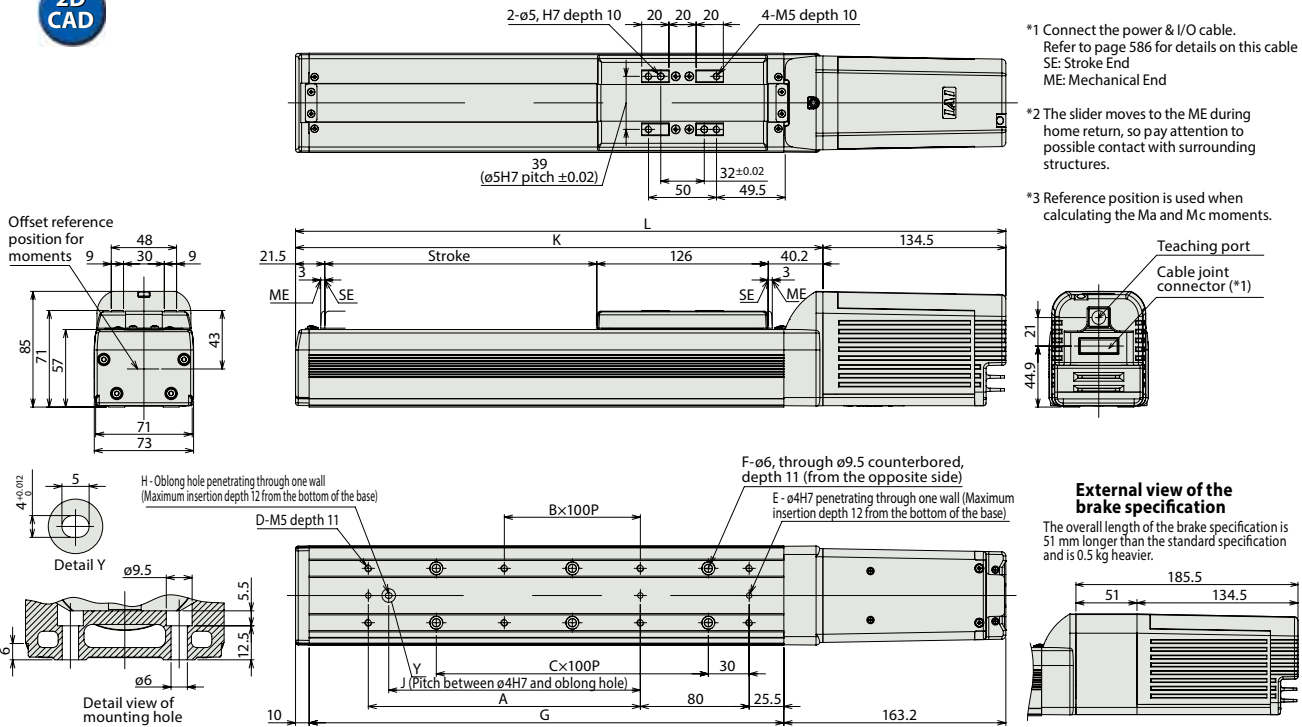
(\*1) The specification in [ ] applies when the lead is 24mm.  
(\*2) Based on 5,000km of traveling life.



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- \*1 Connect the power & I/O cable. Refer to page 586 for details on this cable  
SE: Stroke End  
ME: Mechanical End
- \*2 The slider moves to the ME during home return, so pay attention to possible contact with surrounding structures.
- \*3 Reference position is used when calculating the Ma and Mc moments.

Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	372.2	422.2	472.2	522.2	572.2	622.2	672.2	722.2	772.2	822.2	872.2	922.2	972.2	1022.2	1072.2	1122.2
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	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
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
G	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
K	237.7	287.7	337.7	387.7	437.7	487.7	537.7	587.7	637.7	687.7	737.7	787.7	837.7	887.7	937.7	987.7
Weight (kg)	3.6	3.9	4.1	4.4	4.7	4.9	5.2	5.5	5.7	6.0	6.3	6.5	6.8	7.1	7.3	7.6

Controllers (Built into the Actuator)

I/O type

With the ERC3 series, one of the following five types of built-in controllers can be selected depending on the external input/output (I/O) type. Select the type that meets your purpose.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
PIO type (NPN specification)		ERC3D-SA7C-I-56P-□-□-NP-□-□	Simple control type accommodating up to 16 positioning points	16	DC24V	High-output setting enabled: 3.5A rated 4.2A max. High-output setting disabled: 2.2A	—	→ P577
PIO type (PNP specification)		ERC3D-SA7C-I-56P-□-□-PN-□-□	I/O type supporting inputs/outputs of the PNP specification often used overseas	16				
SIO type		ERC3D-SA7C-I-56P-□-□-SE-□-□	High-function type accommodating up to 512 positioning points (PIO converter is used)	512				
Pulse-train type (NPN specification)		ERC3D-SA7C-I-56P-□-□-PLN-□-□	Pulse-train input type supporting the NPN specification	—				
Pulse-train type (PNP specification)		ERC3D-SA7C-I-56P-□-□-PLP-□-□	Pulse-train input type supporting the PNP specification	—				

# ERC2-SA6C

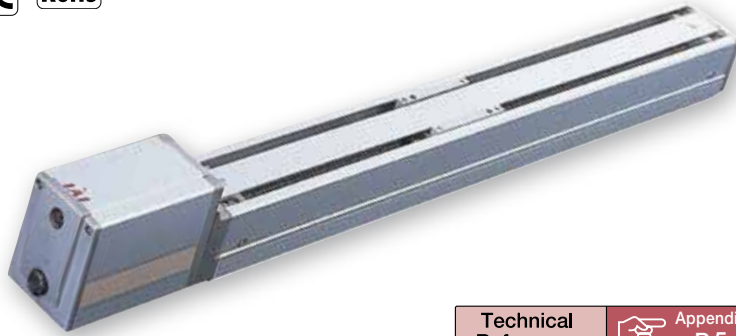
Controller-Integrated, Slider Type, Actuator Width 58mm, Pulse Motor, Straight Type

Model Specification Items

**ERC2** — **SA6C** — **I** — **PM** —  —  —  —  —

Series — Type — Encoder type — Motor type — Lead — Stroke — I/O Type — Cable length — Options  
 I: Incremental PM: Pulse motor 12: 12mm 50: 50mm 6: 6mm 3: 3mm 600: 600mm (50mm pitch increments)  
 NP: P:IO (NPN) Type PN: P:IO (PNP) Type SE: S:IO Type N: None P: 1m S: 3m M: 5m X: Custom length W: Cable with connectors on both ends R: Robot cable RW: Robot cable with connectors on both ends B: Brake NM: Non-motor end

\* See page Pre-47 for details on the model descriptions.

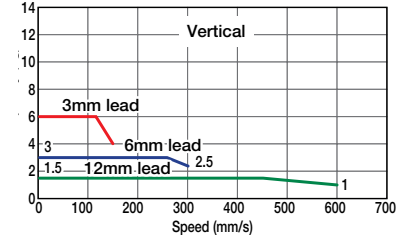
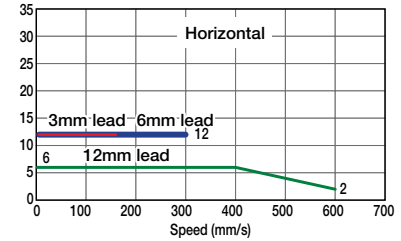


Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model and when used vertically). These values are the upper limits for the acceleration.
  - (4) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
ERC2-SA6C-I-PM-12-①-②-③-④	12	~6	~1.5	50~600 (every 50mm)
ERC2-SA6C-I-PM-6-①-②-③-④	6	12	~3	
ERC2-SA6C-I-PM-3-①-②-③-④	3	12	~6	

#### Stroke and Maximum Speed

Stroke Lead	50~550 (every 50mm)	600 (mm)
12	600	515
6	300	255
3	150	125

Code explanation ① Stroke ② I/O type ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—
550	—
600	—

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Non-motor end specification	<b>NM</b>	→ A-52	—

#### ③ Cable Length

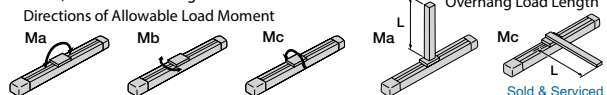
Type	Cable symbol	Standard Price
Standard	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special Lengths	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—
Connectors on Both Ends	<b>W01</b> (1m) ~ <b>W03</b> (3m)	—
	<b>W04</b> (4m) ~ <b>W05</b> (5m)	—
	<b>W06</b> (6m) ~ <b>W10</b> (10m)	—
Robot Cable	<b>R01</b> (1m) ~ <b>R03</b> (3m)	—
	<b>R04</b> (4m) ~ <b>R05</b> (5m)	—
	<b>R06</b> (6m) ~ <b>R10</b> (10m)	—
Connectors on Both Ends Robot Cable	<b>RW01</b> (1m) ~ <b>RW03</b> (3m)	—
	<b>RW04</b> (4m) ~ <b>RW05</b> (5m)	—
	<b>RW06</b> (6m) ~ <b>RW10</b> (10m)	—

\* < > values are applicable to the SE type. \* See page 606 for cables for maintenance.

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



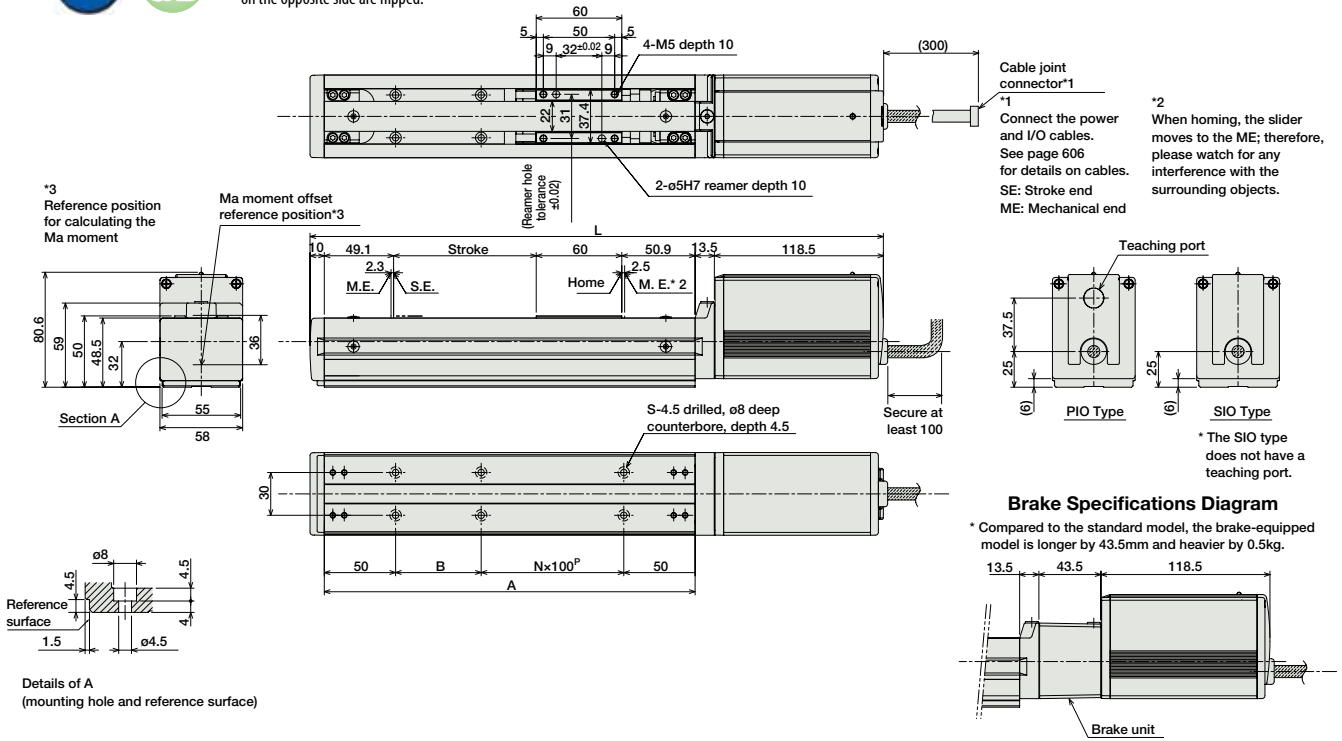
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



\* For the Non-motor end model, the dimensions (distance from ME to home) on the motor-side and that on the opposite side are flipped.

For Special Orders Appendix P.15



■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	352	402	452	502	552	602	652	702	752	802	852	902
A	210	260	310	360	410	460	510	560	610	660	710	760
B	10	60	10	60	10	60	10	60	10	60	10	60
N	1	1	2	82	3	3	4	4	5	5	6	6
S	6	6	8	8	10	10	12	12	14	14	16	16
Weight (kg)	1.9	2.0	2.1	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.3	3.4

I/O type (Controller built into the Actuator)

② I/O type

With the ERC2 series, one of the following three types of built-in controllers can be selected depending on the external input/output (I/O) type. Select the type that meets your purpose.

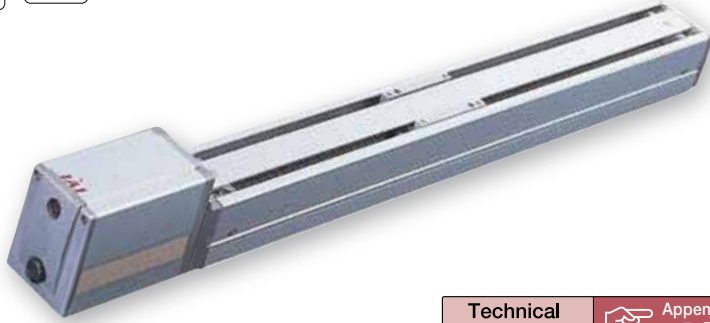
Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
PIO Type (NPN Specification)		ERC2-SA6C-I-PM-□-□-NP-□-□	Simple control type with up to 16-point positioning	16	DC24V	2A max.	—	→ P597
PIO Type (PNP Specification)		ERC2-SA6C-I-PM-□-□-PN-□-□	Supports the PNP I/O commonly used overseas.	16				
SIO Type		ERC2-SA6C-I-PM-□-□-SE-□-□	Field Network Connection Serial (Gateway unit used)	64				

# ERC2-SA7C

Controller-Integrated, Slider Type, Actuator Width 68mm, Pulse Motor, Straight Type

Model Specification Items	<b>ERC2</b>	<b>SA7C</b>	<b>I</b>	<b>PM</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	I/O Type	Cable length	Options
			I: Incremental	PM: Pulse motor	16: 16mm 8: 8mm 4: 4mm	50: 50mm { 600: 600mm (50mm pitch increments)	NP: PIO (NPN) Type PN: PIO (PNP) Type SE: SIO Type	N: None S: 3m M: 5m X: Custom length W: Cable with connectors on both ends R: Robot cable RW: Robot cable with connectors on both ends	B: Brake NM: Non-motor end

\* See page Pre-47 for details on the model descriptions.

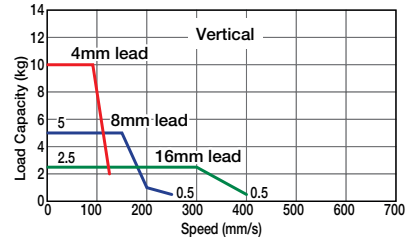
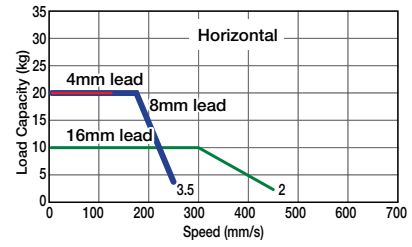


Technical References Appendix P.5

- POINT**  
Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) Since the ERC2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
  - (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 4mm-lead model and when used vertically). These values are the upper limits for the acceleration.
  - (4) See page A-71 for details on push motion.

### Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



### Actuator Specifications

#### Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
ERC2-SA7C-I-PM-16-①-②-③-④	16	~10	~2.5	50~600 (every 50mm)
ERC2-SA7C-I-PM-8-①-②-③-④	8	~20	~5	
ERC2-SA7C-I-PM-4-①-②-③-④	4	20	~10	

#### Stroke and Maximum Speed

(Unit: mm/s)

Lead	Stroke	50~600 (every 50mm)
	16	
8		250
4		125

Code explanation ① Stroke ② I/O type ③ Cable length ④ Options \*See page A-71 for details on push motion.

\* The values enclosed in < > apply to vertical settings.

#### ① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—
550	—
600	—

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Non-motor end specification	<b>NM</b>	→ A-52	—

#### ③ Cable Length

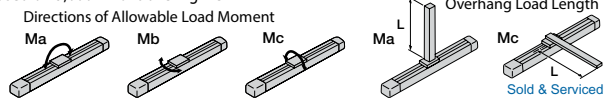
Type	Cable symbol	Standard Price
Standard	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special Lengths	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—
Connectors on Both Ends	<b>W01</b> (1m) ~ <b>W03</b> (3m)	—
	<b>W04</b> (4m) ~ <b>W05</b> (5m)	—
	<b>W06</b> (6m) ~ <b>W10</b> (10m)	—
Robot Cable	<b>R01</b> (1m) ~ <b>R03</b> (3m)	—
	<b>R04</b> (4m) ~ <b>R05</b> (5m)	—
	<b>R06</b> (6m) ~ <b>R10</b> (10m)	—
Connectors on Both Ends Robot Cable	<b>RW01</b> (1m) ~ <b>RW03</b> (3m)	—
	<b>RW04</b> (4m) ~ <b>RW05</b> (5m)	—
	<b>RW06</b> (6m) ~ <b>RW10</b> (10m)	—

\* < > values are applicable to the SE type. \* See page 606 for cables for maintenance.

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Allowable static moment	Ma: 63.0 N·m, Mb: 90.0 N·m, Mc: 132.5 N·m
Allowable dynamic moment (*)	Ma: 13.8 N·m, Mb: 19.7 N·m, Mc: 29.0 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life





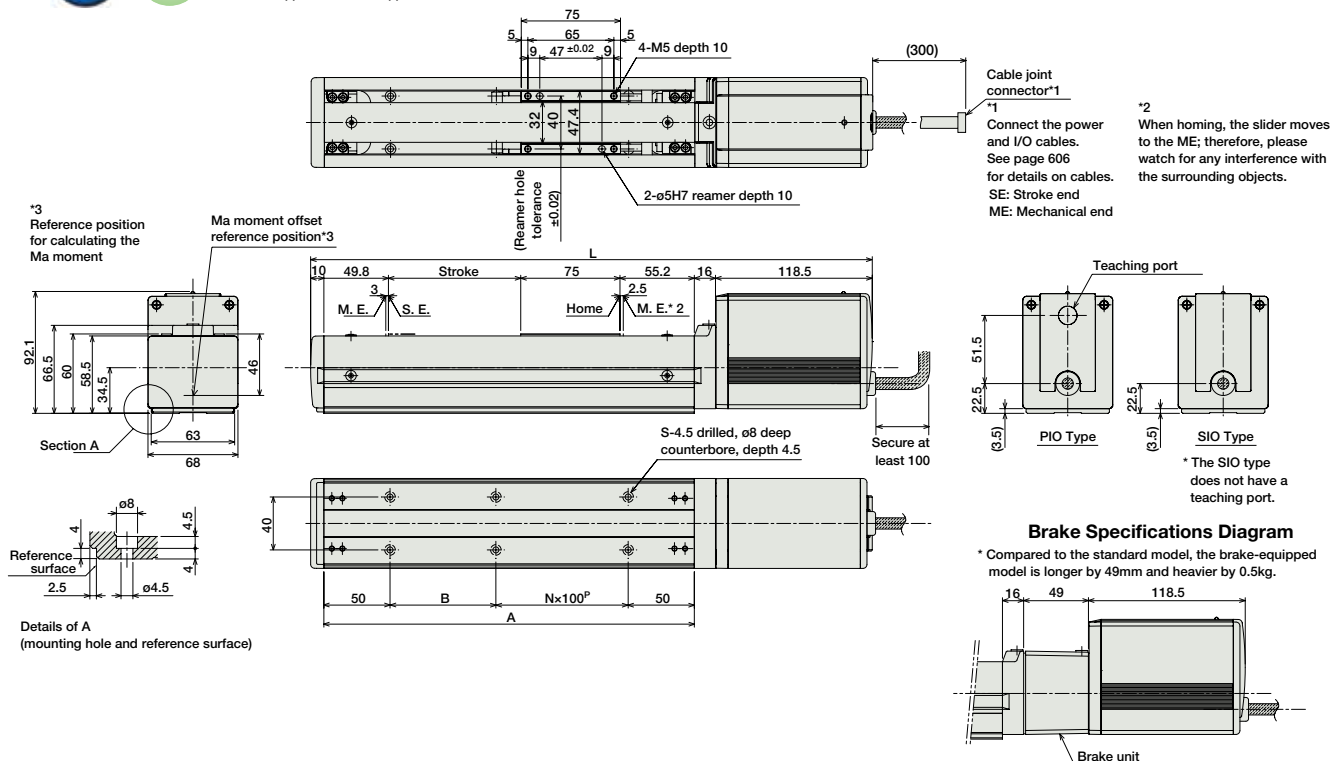
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



\* For the Non-motor end model, the dimensions (distance from ME to home) on the motor-side and that on the opposite side are flipped.

For Special Orders Appendix P.15



Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	374.5	424.5	474.5	524.5	574.5	624.5	674.5	724.5	774.5	824.5	874.5	924.5
A	230	280	330	380	430	480	530	580	630	680	730	780
B	30	80	30	80	30	80	30	80	30	80	30	80
N	1	1	2	2	3	3	4	4	5	5	6	6
S	6	6	8	8	10	10	12	12	14	14	16	16
Weight (kg)	3.1	3.2	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.8

I/O type (Controller built into the Actuator)

I/O type With the ERC2 series, one of the following three types of built-in controllers can be selected depending on the external input/output (I/O) type. Select the type that meets your purpose.

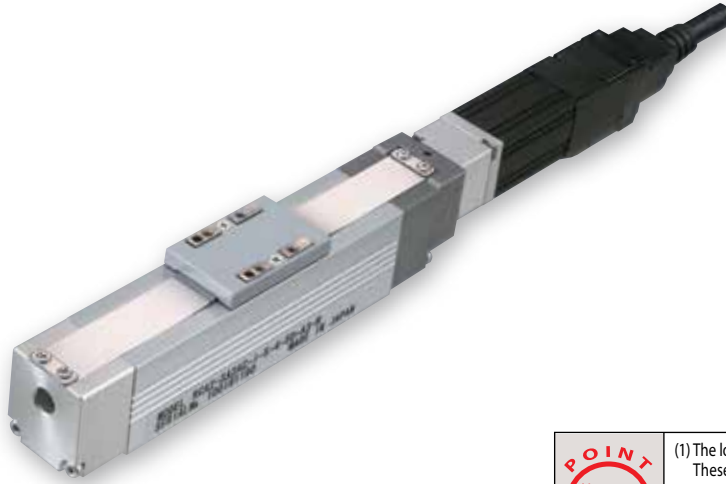
Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
PIO Type (NPN Specification)		ERC2-SA7C-I-PM-□-□-NP-□-□	Simple control type with up to 16-point positioning	16	DC24V	2A max.	—	→ P597
PIO Type (PNP Specification)		ERC2-SA7C-I-PM-□-□-PN-□-□	Supports the PNP I/O commonly used overseas.	16				
SIO Type		ERC2-SA7C-I-PM-□-□-SE-□-□	Field Network Connection Serial (Gateway unit used)	64				

# RCA2-SA2AC

ROBO Cylinder, Mini Slider Type, Motor Unit Coupled, Actuator Width 20mm, 24V Servo Motor, Ball Screw Specification

Model Specification Items	<b>RCA2</b> — <b>SA2AC</b> —	<b>I</b> —	<b>5</b> —	<input type="checkbox"/> —	<input type="checkbox"/> —	<b>A3</b> —	<input type="checkbox"/> —	<input type="checkbox"/>
	Series — Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	5: Servo motor SW	4 : 4mm 2 : 2mm 1 : 1mm	25: 25mm 100: 100mm (25mm pitch increments)	A3: ASEP MSEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length	See Options below.

\* See page Pre-47 for details on the model descriptions.



Technical References Appendix P.5

- POINT** Notes on selection
- (1) The load capacity is based on operation at an acceleration of 0.3G. These values are the upper limits for the acceleration.
  - (2) Take note that, since there is no brake, the slider may come down when the power is turned off if the actuator is used vertically.
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Feed screw	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-SA2AC-I-5-4-①-A3-②-③	5	Ball screw	4	0.5	0.25	21.4	±0.02	25~100 (every 25mm)
RCA2-SA2AC-I-5-2-①-A3-②-③			2	1	0.5	42.3		
RCA2-SA2AC-I-5-1-①-A3-②-③			1	2	1	85.5		

#### Stroke and Maximum Speed

Lead	Stroke	25 (mm)	50~100 (mm)
		Ball screw	4
	2	100	
	1	50	

Code explanation ① Stroke ② Cable length ③ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
25	—
50	—
75	—
100	—

#### ② Cable Length

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

\* The standard cable for the RCA2 is the robot cable.  
\* See page A-59 for cables for maintenance.

#### ③ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø4mm, rolled C10
Lost Motion	0.1mm or less (initial value)
Base	Material: Aluminum, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*)	Ma: 0.22 N·m, Mb: 0.31 N·m, Mc: 0.28 N·m
Allowable overhang	40mm or less in Ma, Mb and Mc directions
Ambient Operating Temp./Humidity	0 to 40°C, 85% RH or less (Non-condensing)
Service Life	5,000km

(\*) Based on 5,000km travel life.



# RCA2-SA3C

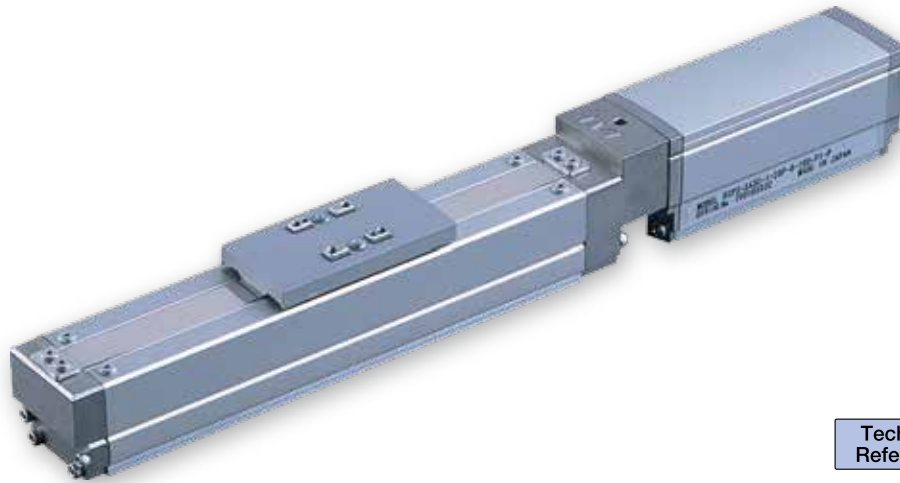
ROBO Cylinder, Slider Type, Actuator Width 32mm, Servo Motor, Coupled

Model Specification Items	<b>RCA2</b> — <b>SA3C</b> — <b>I</b> — <b>10</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>
Series — Type	Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
I: Incremental * The Simple absolute encoder is also considered type "I".	10P: 10W Servo motor 6 : 6mm 4 : 4mm 2 : 2mm 50: 50mm 300: 300mm (50mm pitch increments) A1: ACON ASEL A3: AMEC ASEP MSEP N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5



- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2mm-lead model and when using vertically). These values are the upper limits for the acceleration.
- (2) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA3C-I-10-6-①-②-③-④	10	6	1	0.5	28	50~300 (every 50mm)
RCA2-SA3C-I-10-4-①-②-③-④		4	2	1	43	
RCA2-SA3C-I-10-2-①-②-③-④		2	3	1.5	85	

#### Stroke and Maximum Speed

Stroke / Lead	50~300 (every 50mm)	
	Stroke	50~300 (every 50mm)
6	300	
4	200	
2	100	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

#### ③ Cable Length

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

\* The standard cable for the RCA2 is the robot cable.  
\* See page A-59 for cables for maintenance.

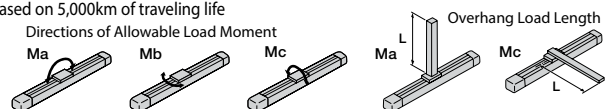
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Power-saving	LA	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø6mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 5.0 N·m, Mb: 7.1 N·m, Mc: 7.9 N·m
Allowable dynamic moment (*)	Ma: 1.96 N·m, Mb: 2.84 N·m, Mc: 3.14 N·m
Allowable overhang	100mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

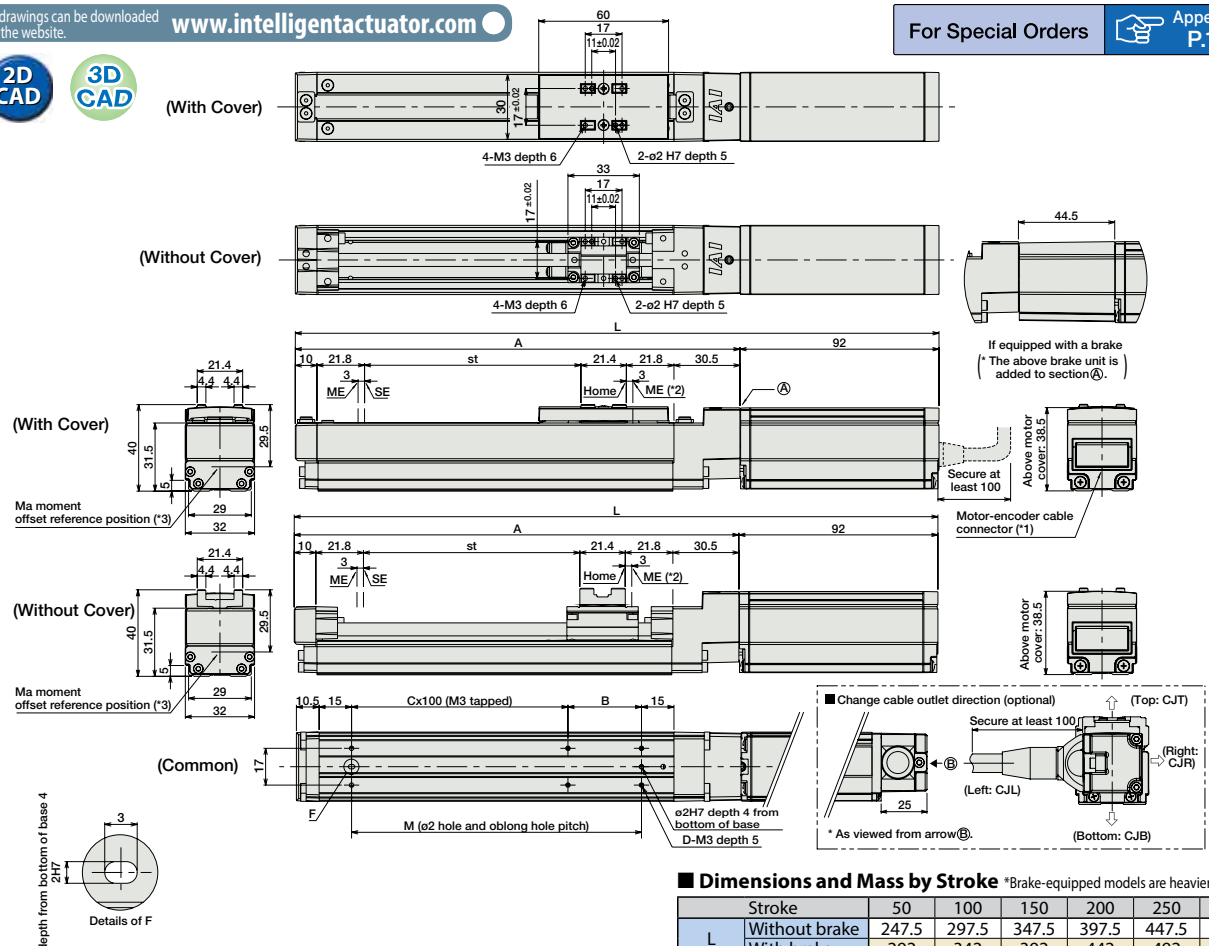
(\*) Based on 5,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



■ Dimensions and Mass by Stroke \*Brake-equipped models are heavier by 0.2kg.

Stroke	Stroke						
	50	100	150	200	250	300	
L	Without brake	247.5	297.5	347.5	397.5	447.5	497.5
	With brake	292	342	392	442	492	542
A	155.5	205.5	255.5	305.5	355.5	405.5	
B	84	34	84	34	84	34	
C	0	1	1	2	2	3	
D	4	6	6	8	8	10	
M	84	134	184	234	284	334	
Weight (kg)	With cover	0.6	0.6	0.7	0.8	0.8	0.9
	Without cover	0.5	0.6	0.6	0.7	0.7	0.8

(\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.  
 (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end  
 (\*3) Reference position for calculating the Ma moment

② Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-10I①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-10I①-②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P631
Positioner type		ACON-C-10I①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-10I①-②-2-0	Positioning is possible for up to 512 points	512 points				
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10I①-②-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-10I①-②-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-10I①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-10I①-②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points				

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ① indicates I/O type (NP/PN).  
 \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.



RCA2-S&S & Servo By **70 ELECTROMATE**

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- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor



# RCA2-SA4C

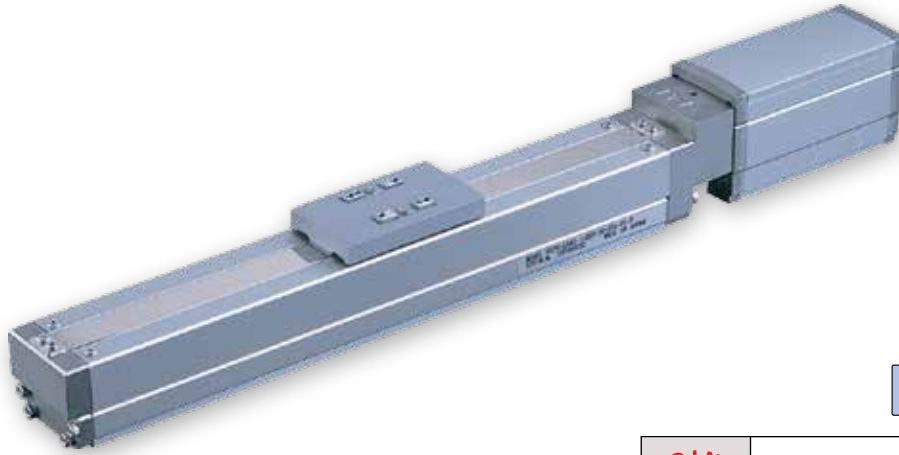
ROBO Cylinder, Slider Type, Actuator Width 40mm, Servo Motor, Coupled

Model Specification Items	<b>RCA2</b> — <b>SA4C</b> — <b>I</b> — <b>20</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	20P: 20W Servo motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm { 500: 500mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length	See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5



- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2.5mm-lead model and when using vertically). These values are the upper limits for the acceleration.
- (2) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA4C-I-20-10- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>	20	10	2	1	34	50~500 (every 50mm)
RCA2-SA4C-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		5	4	1.5	68	
RCA2-SA4C-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>		2.5	6	3	136	

#### Stroke and Maximum Speed

Lead	Stroke	50~500 (every 50mm)
		10
5		250
2.5		125

Code explanation  Stroke  Applicable Controller  Cable length  Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Optional cable exit direction (top)	<b>CJT</b>	→ A-42	—
Optional cable exit direction (right)	<b>CJR</b>	→ A-42	—
Optional cable exit direction (left)	<b>CJL</b>	→ A-42	—
Optional cable exit direction (bottom)	<b>CJB</b>	→ A-42	—
Power-saving	<b>LA</b>	→ A-52	—
No cover	<b>NCO</b>	→ A-52	—
Non-motor end specification	<b>NM</b>	→ A-52	—

#### ③ Cable Length

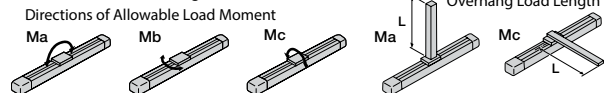
Type	Cable symbol	Standard price
Standard (Robot Cables)	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—
	<b>X11</b> (11m) ~ <b>X15</b> (15m)	—
	<b>X16</b> (16m) ~ <b>X20</b> (20m)	—

\* The standard cable for the RCA2 is the robot cable.  
\* See page A-59 for cables for maintenance.

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 6.8 N·m, Mb: 9.7 N·m, Mc: 13.3 N·m
Allowable dynamic moment (*)	Ma: 3.04 N·m, Mb: 4.31 N·m, Mc: 5.00 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website.

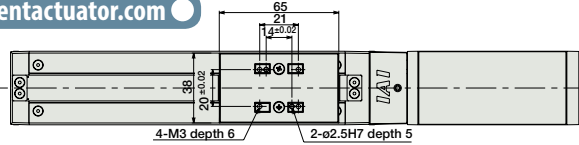
www.intelligentactuator.com

For Special Orders

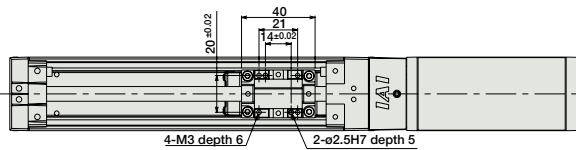
Appendix P.15



(With Cover)

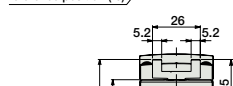


(Without Cover)



(With Cover)

Ma moment offset reference position (\*3)

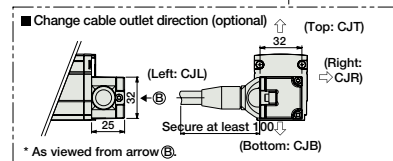
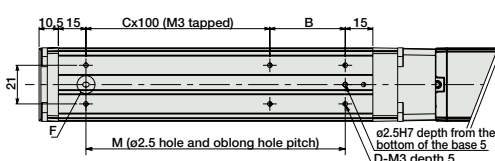
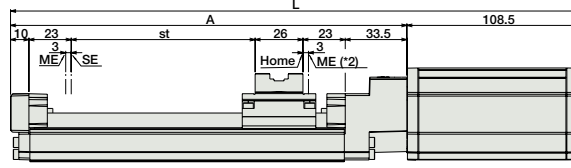
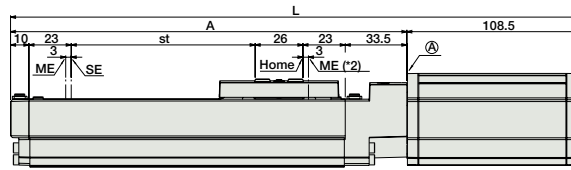
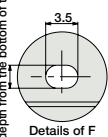


(Without Cover)

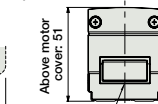
Ma moment offset reference position (\*3)



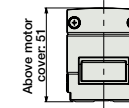
2.5H7 depth from the bottom of the base 5



If equipped with a brake (\* The above brake unit is added to section @.)



Motor-encoder cable connector (\*1)



Dimensions and Mass by Stroke

\*Brake-equipped models are heavier by 0.3kg.

L	Stroke	50	100	150	200	250	300	350	400	450	500
	Without brake	274	324	374	424	474	524	574	624	674	724
With brake	314.5	364.5	414.5	464.5	514.5	564.5	614.5	664.5	714.5	764.5	
A	165.5	215.5	265.5	315.5	365.5	415.5	465.5	515.5	565.5	615.5	
B	91	41	91	41	91	41	91	41	91	41	
C	0	1	1	2	2	3	3	4	4	5	
D	4	6	6	8	8	10	10	12	12	14	
M	91	141	191	241	291	341	391	441	491	541	
Weight (kg)	With cover	0.9	1	1.1	1.1	1.2	1.3	1.4	1.5	1.5	1.6
	Without cover	0.8	0.9	1	1	1.1	1.2	1.3	1.3	1.4	1.5

- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME: Mechanical end SE: Stroke end
- (\*3) Reference position for calculating the Ma moment

Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20SI ①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20SI ①-②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.7A rated 5.1A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P631
Positioner type		ACON-C-20SI ①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20SI ①-②-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI ①-②-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20SI ①-②-2-0						
Serial Communication Type		ACON-SE-20SI ①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	—
Program Control Type		ASEL-CS-1-20SI ①-②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ② indicates I/O type (NP/PN). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.

Slider Type

Mini

Standard

Controller Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/ Arm/ Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor

# RCA2-SA5C

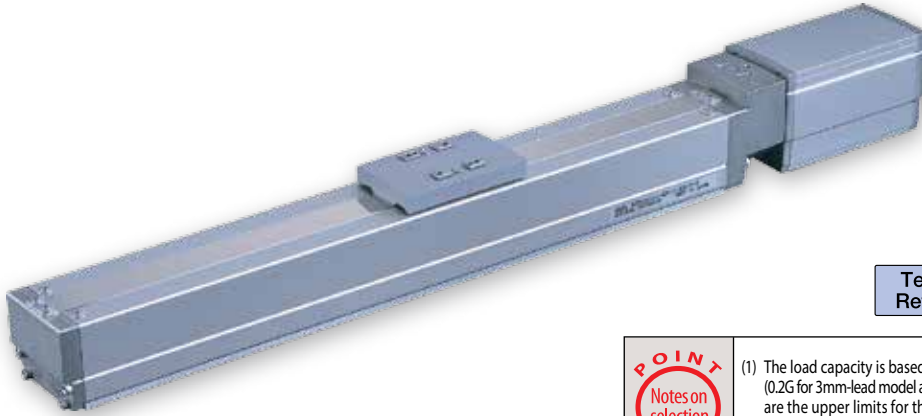
ROBO Cylinder, Slider Type, Actuator Width 50mm, Servo Motor, Coupled

Model Specification Items	<b>RCA2</b> — <b>SA5C</b> — <b>I</b> — <b>20</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	20P: 20W Servo motor	20: 20mm 12: 12mm 6: 6mm 3: 3mm	50: 50mm { 800: 800mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length	See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5



- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model and when using vertically). These values are the upper limits for the acceleration.
- (2) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA5C-I-20-20-①-②-③-④	20	20	2	0.5	10.1	50~800 (every 50mm)
RCA2-SA5C-I-20-12-①-②-③-④		12	3	1	17	
RCA2-SA5C-I-20-6-①-②-③-④		6	6	1.5	34	
RCA2-SA5C-I-20-3-①-②-③-④		3	9	3	68	

#### Stroke and Maximum Speed

Stroke Lead	Maximum Speed (mm/s)					
	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	1000	910	790	690	610	
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—
650	—	—
700	—	—
750	—	—
800	—	—

#### ③ Cable Length

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

\* The standard cable for the RCA2 is the robot cable.  
\* See page A-59 for cables for maintenance.

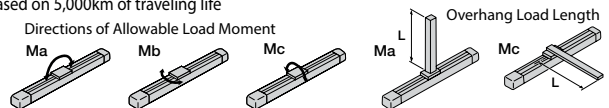
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Power-saving	LA	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 10.2 N-m, Mb: 14.6 N-m, Mc: 22.4 N-m
Allowable dynamic moment (*)	Ma: 3.92 N-m, Mb: 5.58 N-m, Mc: 8.53 N-m
Allowable overhang	130mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

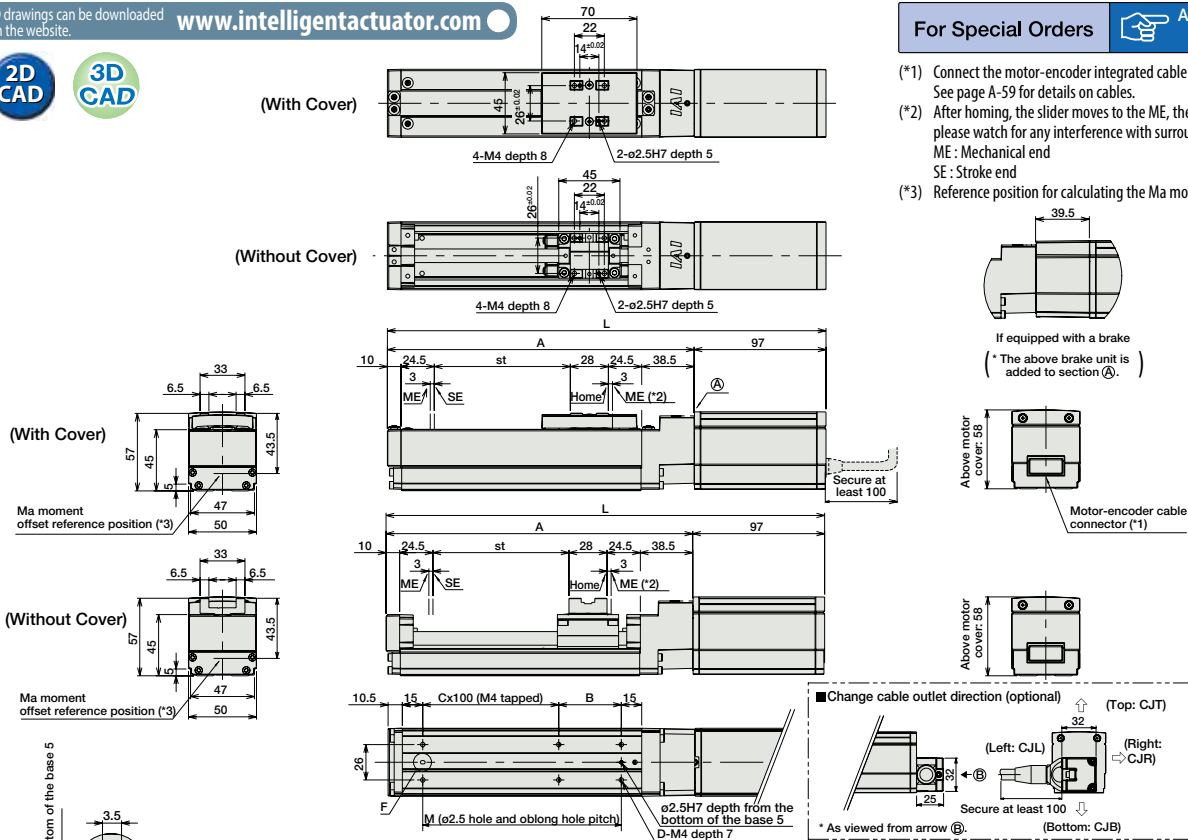
(\*) Based on 5,000km of traveling life



## Dimensional Drawings

CAD drawings can be downloaded from the website.

[www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders Appendix P.15

- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment

### ■ Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.4kg.

L	Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
	Without brake	272.5	322.5	372.5	422.5	472.5	522.5	572.5	622.5	672.5	722.5	772.5	822.5	872.5	922.5	972.5	1022.5
With brake	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062	
A	175.5	225.5	275.5	325.5	375.5	425.5	475.5	525.5	575.5	625.5	675.5	725.5	775.5	825.5	875.5	925.5	
B	96	46	96	46	96	46	96	46	96	46	96	46	96	46	96	46	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
M	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	
Weight (kg)	With cover	1.2	1.4	1.5	1.6	1.8	1.9	2	2.2	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.2
	Without cover	1.1	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2	2.3	2.4	2.5	2.6	2.7

## ② Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I(1)-(II)-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I(1)-(II)-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-(III)-(IV)-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-(III)-(IV)-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I(1)-(II)-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I(1)-(II)-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I(1)-(II)-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I(1)-(II)-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I(1)-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-20I(1)-(II)-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* (II) indicates I/O type (NP/PN). \* (III) indicates number of axes (1 to 8). \* (IV) indicates field network specification symbol.

# RCA2-SA6C

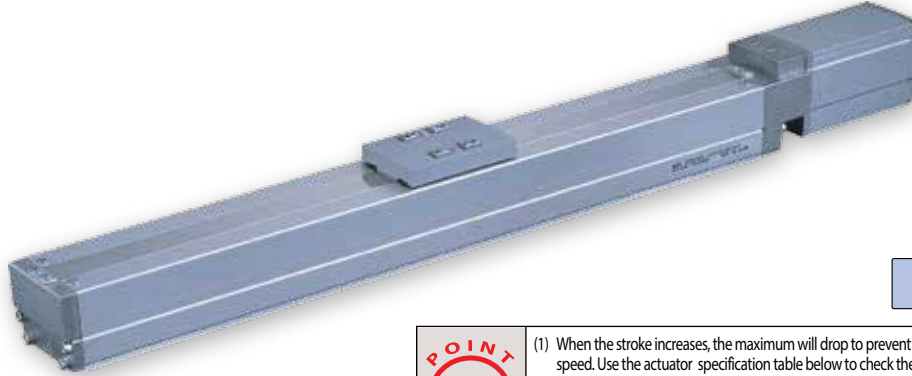
ROBO Cylinder, Slider Type, Actuator Width 60mm, Servo Motor, Coupled

Model Specification Items	<b>RCA2</b> — <b>SA6C</b> — <b>I</b> — <b>30</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	I: Incremental * The Simple absolute encoder is also considered type "I".	30P: 30W Servo motor	20: 20mm 12: 12mm 6: 6mm 3: 3mm	50: 50mm { 800: 800mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length	See Options below.			

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5



- When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model and when using vertically). These values are the upper limits for the acceleration.
- See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA6C-I-30-20-①-②-③-④	30	20	3	0.5	16	50~800 (every 50mm)
RCA2-SA6C-I-30-12-①-②-③-④		12	4	1.5	26	
RCA2-SA6C-I-30-6-①-②-③-④		6	7	2	53	
RCA2-SA6C-I-30-3-①-②-③-④		3	10	4	105	

#### Stroke and Maximum Speed

Stroke Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
	20	1000	910	790	690	610
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—
650	—	—
700	—	—
750	—	—
800	—	—

#### ④ Options

Name	Option code	See page	Standard price
Brake	<b>B</b>	→ A-42	—
Optional cable exit direction (top)	<b>CJT</b>	→ A-42	—
Optional cable exit direction (right)	<b>CJR</b>	→ A-42	—
Optional cable exit direction (left)	<b>CJL</b>	→ A-42	—
Optional cable exit direction (bottom)	<b>CJB</b>	→ A-42	—
Power-saving	<b>LA</b>	→ A-52	—
No cover	<b>NCO</b>	→ A-52	—
Non-motor end specification	<b>NM</b>	→ A-52	—

#### ③ Cable Length

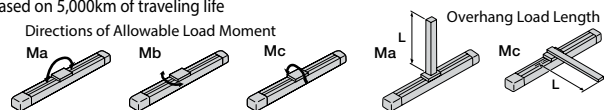
Type	Cable symbol	Standard price
Standard (Robot Cables)	<b>P</b> (1m)	—
	<b>S</b> (3m)	—
	<b>M</b> (5m)	—
Special length	<b>X06</b> (6m) ~ <b>X10</b> (10m)	—
	<b>X11</b> (11m) ~ <b>X15</b> (15m)	—
	<b>X16</b> (16m) ~ <b>X20</b> (20m)	—

\* The standard cable for the RCA2 is the robot cable.  
\* See page A-59 for cables for maintenance.

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 17.6 N-m, Mb: 25.2 N-m, Mc: 44.5 N-m
Allowable dynamic moment (*)	Ma: 4.31 N-m, Mb: 6.17 N-m, Mc: 10.98 N-m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



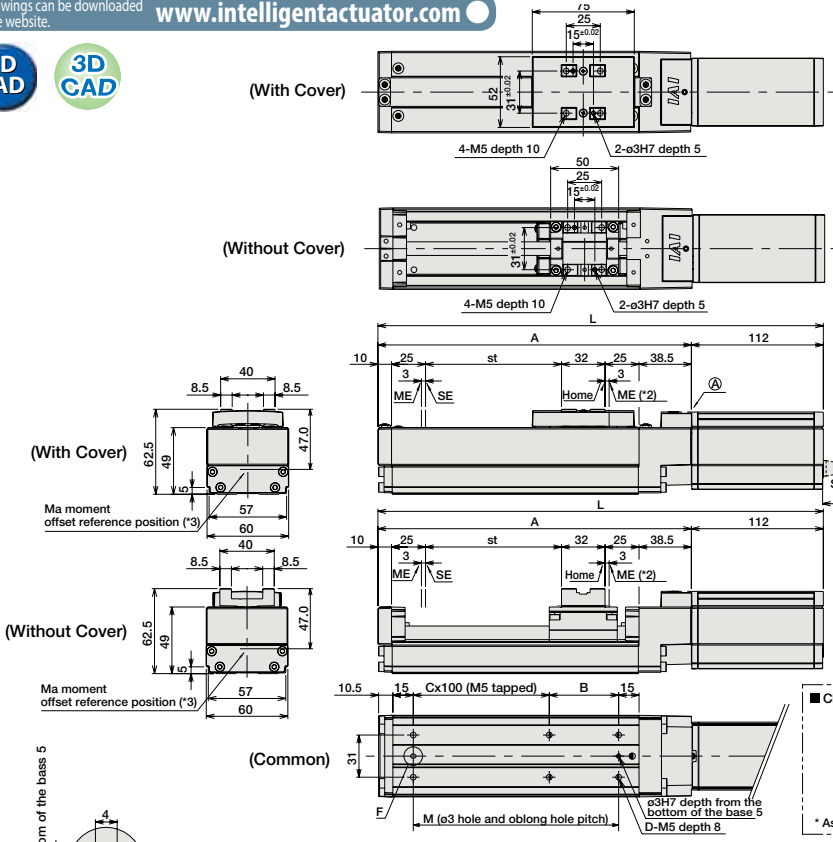
75 RCA2-SA6C



Dimensional Drawings

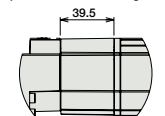
CAD drawings can be downloaded from the website.

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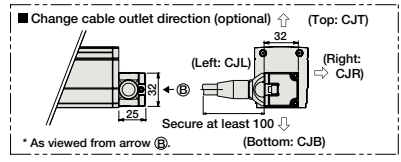
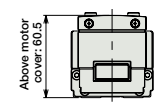
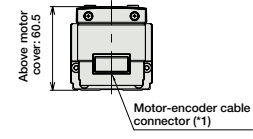


For Special Orders Appendix P.15

- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME : Mechanical end SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



If equipped with a brake (\* The above brake unit is added to section A.)



Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	Without brake	292.5	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5
	With brake	332	382	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082
A	180.5	230.5	280.5	330.5	380.5	430.5	480.5	530.5	580.5	630.5	680.5	730.5	780.5	830.5	880.5	930.5	
B	101	51	101	51	101	51	101	51	101	51	101	51	101	51	101	51	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
M	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	
Weight (kg)	With cover	1.6	1.7	1.9	2.1	2.3	2.4	2.6	2.8	2.9	3.1	3.3	3.5	3.6	3.8	4.0	4.1
	Without cover	1.5	1.6	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7

\* Brake-equipped models are heavier by 0.4kg.

Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-30I①②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-30I①②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③④⑤⑥⑦⑧⑨⑩-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③④⑤⑥⑦⑧⑨⑩-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P631
Positioner type		ACON-C-30I①②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-30I①②-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I①②-2-0	Pulse train input type with differential line driver support	—	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-30I①②-2-0	Pulse train input type with open collector support					→ P675
Serial Communication Type		ACON-SE-30I①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	—
Program Control Type		ASEL-CS-1-30I①②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ② indicates I/O type (NP/PN). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA2-SA2AR

ROBO Cylinder, Mini Slider Type, Side-mounted Motor Type, Actuator Width 20mm, 24V Servo Motor, Ball Screw Specification

Model Specification Items	<b>RCA2</b> — <b>SA2AR</b> —	<b>I</b> —	<b>5</b> —	<input type="checkbox"/> —	<input type="checkbox"/> —	<b>A3</b> —	<input type="checkbox"/> —	<input type="checkbox"/>
	Series — Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	5: Servo motor 5W	4 : 4mm 2 : 2mm 1 : 1mm	25: 25mm } 100: 100mm (25mm pitch increments)	A3: ASEP MSEP	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length	See Options below. * Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

- POINT**  
Notes on selection
- (1) The load capacity is based on operation at an acceleration of 0.3G. This value is the upper limit for the acceleration.
  - (2) Take note that, since there is no brake, the slider may come down when the power is turned off if the actuator is used vertically.
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Feed screw	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Positioning Repeatability (mm)	Stroke (mm)
				Horizontal (kg)	Vertical (kg)			
RCA2-SA2AR-I-5-4- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>	5	Ball screw	4	0.5	0.25	21.4	±0.02	25~100 (every 25mm)
RCA2-SA2AR-I-5-2- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			2	1	0.5	42.3		
RCA2-SA2AR-I-5-1- <input type="checkbox"/> -A3- <input type="checkbox"/> - <input type="checkbox"/>			1	2	1	85.5		

#### Stroke and Maximum Speed

Lead	Stroke	25 (mm)	50~100 (mm)
		Ball screw	4
	2	100	
	1	50	

Code explanation  Stroke  Cable length  Options \*See page A-71 for details on push motion.

(Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
25	—
50	—
75	—
100	—

#### ② Cable Length

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

\* The standard cable for the RCA2 is the robot cable.  
\* See page A-59 for cables for maintenance.

#### ③ Options

Name	Option code	See page	Standard price
Non-motor end specification	NM	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø4mm, rolled C10
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*)	Ma: 0.22 N·m, Mb: 0.31 N·m, Mc: 0.28 N·m
Allowable overhang	40mm or less in Ma, Mb and Mc directions
Ambient Operating Temp./Humidity	0 to 40°C, 85% RH or less (Non-condensing)
Service Life	5,000km

(\*) Based on 5,000km travel life.

Dimensional Drawings

CAD drawings can be downloaded from the website.

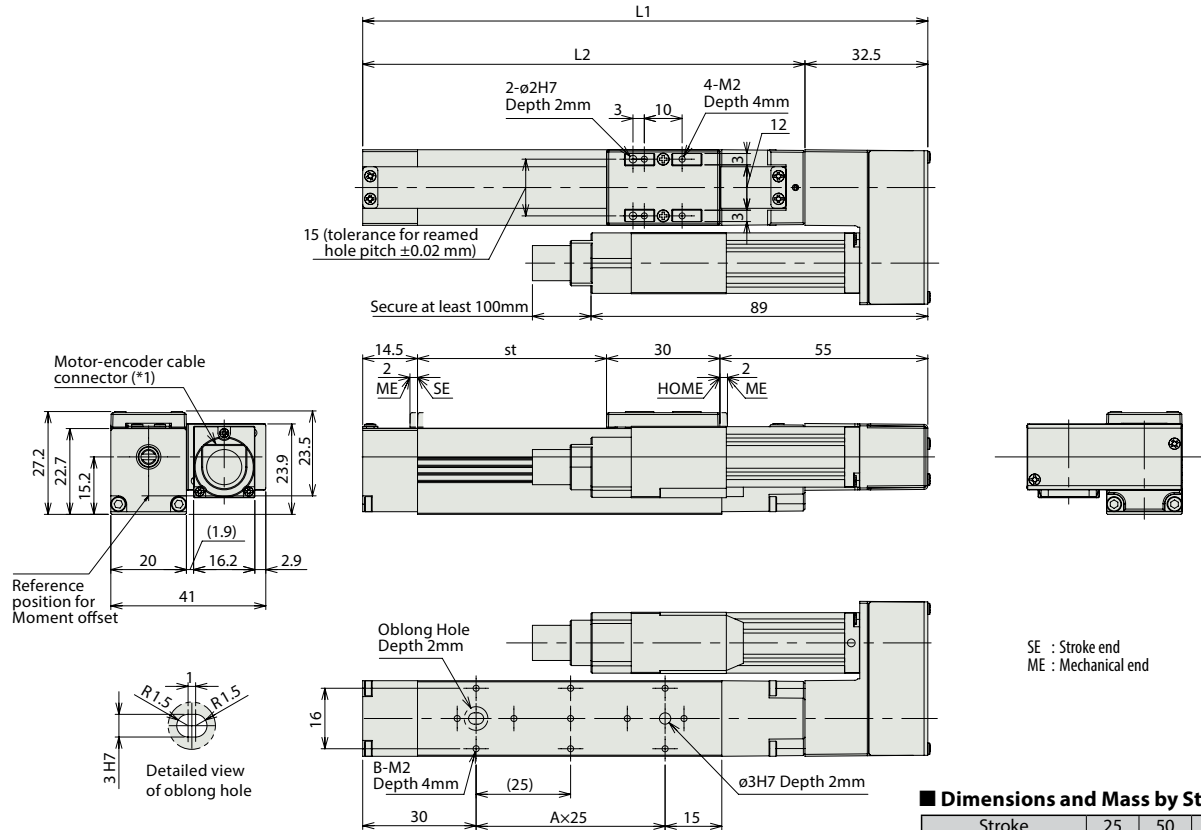
[www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders

Appendix P.15



- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
  - (\*2) During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
- \*The drawing below shows the specification of the motor side-mounted to the left.



SE : Stroke end  
ME : Mechanical end

Dimensions and Mass by Stroke

Stroke	25	50	75	100
L1	124.5	149.5	174.5	199.5
L2	92	117	142	167
A	1	2	3	4
B	4	6	8	10
Weight (kg)	0.23	0.25	0.26	0.28

Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Solenoid valve type		ASEP-C-5SI-①-2-0	Simple controller operable with the same signal as a solenoid valve	3 points	DC24V	1A rated 2A max.	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-①-①-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected					→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-①-①-①-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points			—	—

\*① indicates I/O type (NP/PN). \*①① indicates number of axes (1 to 8). \*①①① indicates field network specification symbol.

# RCA2-SA3R

ROBO Cylinder, Slider Type, Actuator Width 32mm, Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCA2</b> — <b>SA3R</b> — <b>I</b> — <b>10</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>
	Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I".
	10: 10W motor motor
	6 : 6mm 4 : 4mm 2 : 2mm
	50: 50mm } 300: 300mm (50mm pitch increments)
	A1:ACON ASEL A3:AMEC ASEP MSEP
	N: None P: 1m S: 3m M:5m X <input type="checkbox"/> : Custom length
	See Options below. *Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Power-saving



Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5



- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2mm-lead model and when using vertically). These values are the upper limits for the acceleration.
- (2) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA3R-I-10-6-①-②-③-④	10	6	1	0.5	28	50~300 (every 50mm)
RCA2-SA3R-I-10-4-①-②-③-④		4	2	1	43	
RCA2-SA3R-I-10-2-①-②-③-④		2	3	1.5	85	

#### Stroke and Maximum Speed

Stroke Lead	50~300 (every 50mm)	
	6	300
4	200	
2	100	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-59 for cables for maintenance.

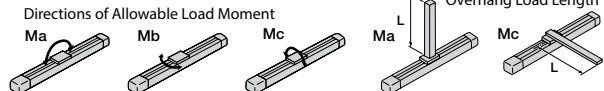
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Power-saving	LA	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø6mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 5.0 N-m, Mb: 7.1 N-m, Mc: 7.9 N-m
Allowable dynamic moment (*)	Ma: 1.96 N-m, Mb: 2.84 N-m, Mc: 3.14 N-m
Allowable overhang	100mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



79 RCA2-SA3R

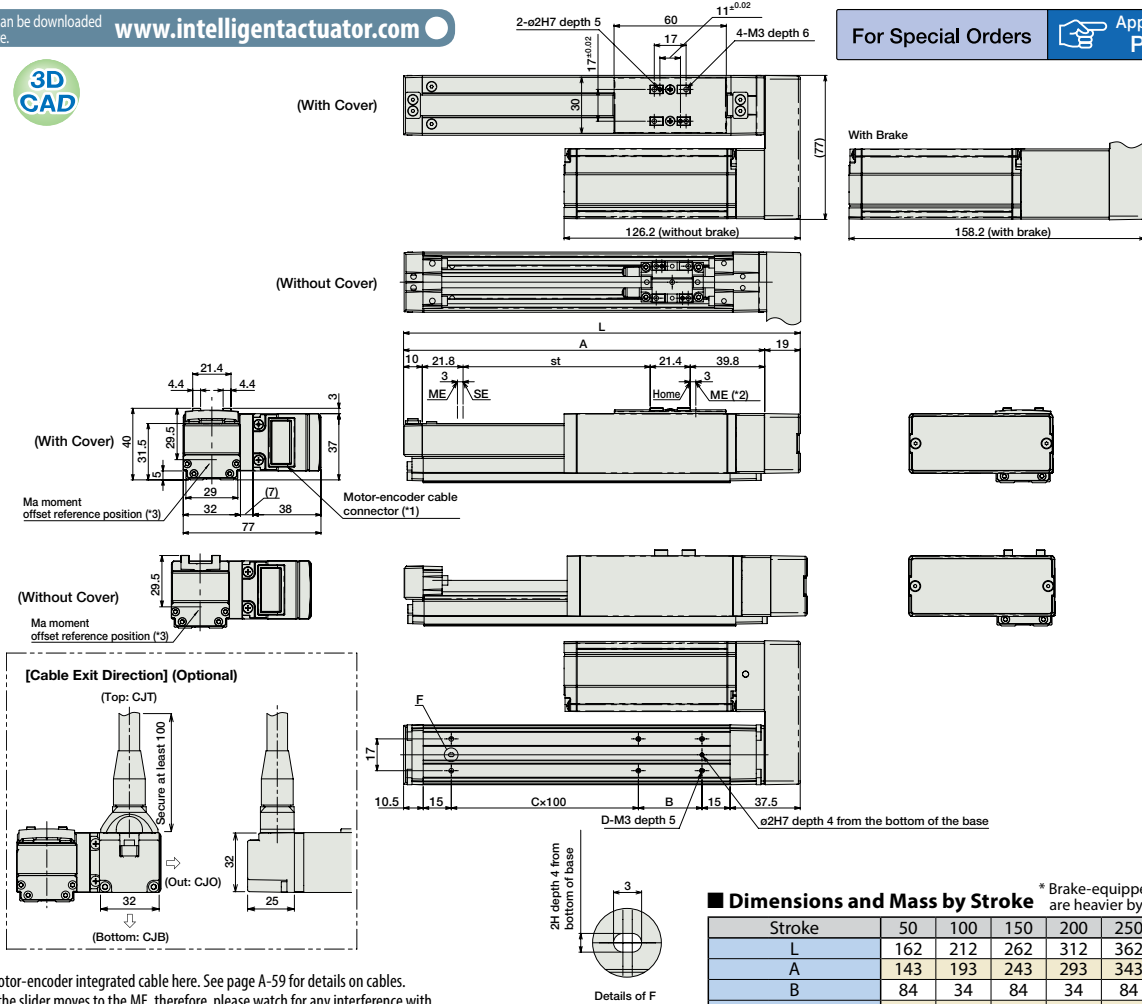
Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com



For Special Orders Appendix P.15



- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment

■ Dimensions and Mass by Stroke \* Brake-equipped models are heavier by 0.2kg.

Stroke	50	100	150	200	250	300
L	162	212	262	312	362	412
A	143	193	243	293	343	393
B	84	34	84	34	84	34
C	0	1	1	2	2	3
D	4	6	6	8	8	10
Weight (kg)	With cover	0.7	0.7	0.8	0.9	1.0
	Without cover	0.6	0.7	0.7	0.8	0.9

② Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-10I-①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-10I-①-②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-④-④-②-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-④-④-④-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-10I-①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-10I-①-②-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-10I-①-②-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-10I-①-②-2-0						
Serial Communication Type		ACON-SE-10I-①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675
Program Control Type		ASEL-CS-1-10I-①-②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ① indicates I/O type (NP/PN). \* ④ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor



# RCA2-SA4R

ROBO Cylinder, Slider Type, Actuator Width 40mm, Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCA2</b> — <b>SA4R</b> — <b>I</b> — <b>20</b> — [ ] — [ ] — [ ] — [ ] — [ ]							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental *The Simple absolute encoder is also considered type "I".	20: 20W Servo motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm ? 500: 500mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X [ ]: Custom length	See Options below. *Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Power-saving

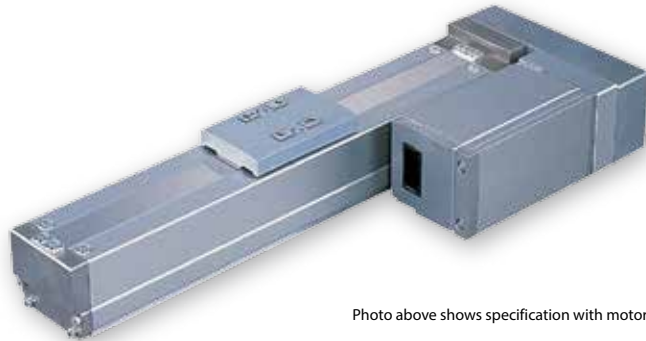


Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5



- (1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2.5mm-lead model and when using vertically). These values are the upper limits for the acceleration.
- (2) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA4R-I-20-10-①-②-③-④	20	10	2	1	34	50~500 (every 50mm)
RCA2-SA4R-I-20-5-①-②-③-④		5	4	1.5	68	
RCA2-SA4R-I-20-2.5-①-②-③-④		2.5	6	3	136	

#### Stroke and Maximum Speed

Stroke / Lead	50~500 (every 50mm)	
	10	500
5	250	
2.5	125	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-59 for cables for maintenance.

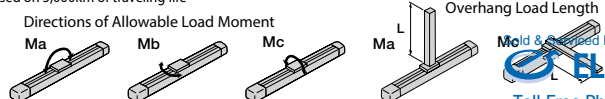
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Power-saving	LA	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 6.8 N·m, Mb: 9.7 N·m, Mc: 13.3 N·m
Allowable dynamic moment (*)	Ma: 3.04 N·m, Mb: 4.31 N·m, Mc: 5.00 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



Dimensional Drawings

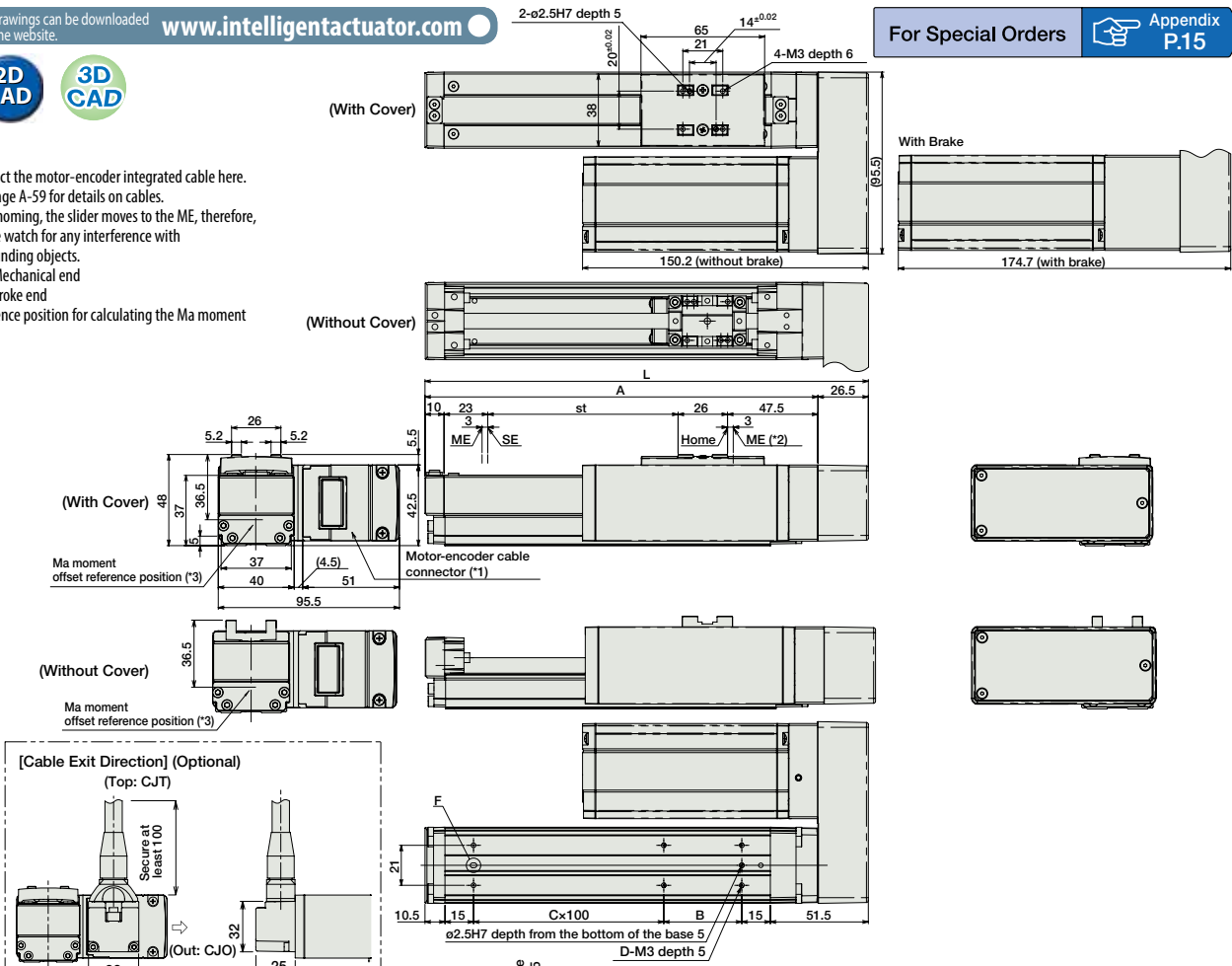
CAD drawings can be downloaded from the website.

www.intelligentactuator.com



For Special Orders Appendix P.15

- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400	450	500		
L	183	233	283	333	383	433	483	533	583	633		
A	156.5	206.5	256.5	306.5	356.5	406.5	456.5	506.5	556.5	606.5		
B	91	41	91	41	91	41	91	41	91	41		
C	0	1	1	2	2	3	3	4	4	5		
D	4	6	6	8	8	10	10	12	12	14		
Weight (kg)	With cover		Without cover		With cover		Without cover		With cover		Without cover	
	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.8	1.9
	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.5	1.6	1.7	1.6	1.7

② Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20SI①-②-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20SI①-②-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-②-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.7A rated 5.1A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P631
Positioner type		ACON-C-20SI①-②-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20SI①-②-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI①-②-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20SI①-②-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20SI①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	—
Program Control Type		ASEL-CS-1-20SI①-②-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.7A rated 3.4A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ① indicates I/O type (NP/PN). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA2-SA5R

ROBO Cylinder, Slider Type, Actuator Width 50mm, Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCA2</b> — <b>SA5R</b> — <b>I</b> — <b>20</b> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> — <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span>							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	20: 20W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? : 800: 800mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length	See Options below. *Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Power-saving

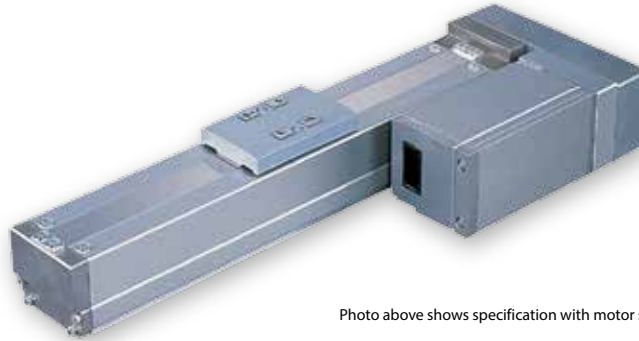


Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

**POINT**  
Notes on selection

(1) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model and when using vertically). These values are the upper limits for the acceleration.

(2) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA5R-I-20-12-①-②-③-④	20	12	3	1	17	50~800 (every 50mm)
RCA2-SA5R-I-20-6-①-②-③-④		6	6	1.5	34	
RCA2-SA5R-I-20-3-①-②-③-④		3	9	3	68	

#### Stroke and Maximum Speed

Stroke Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—
650	—	—
700	—	—
750	—	—
800	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-59 for cables for maintenance.

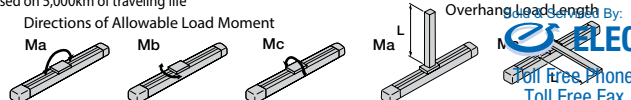
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Power-saving	LA	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 10.2 N·m, Mb: 14.6 N·m, Mc: 22.4 N·m
Allowable dynamic moment (*)	Ma: 3.92 N·m, Mb: 5.58 N·m, Mc: 8.53 N·m
Allowable overhang	130mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



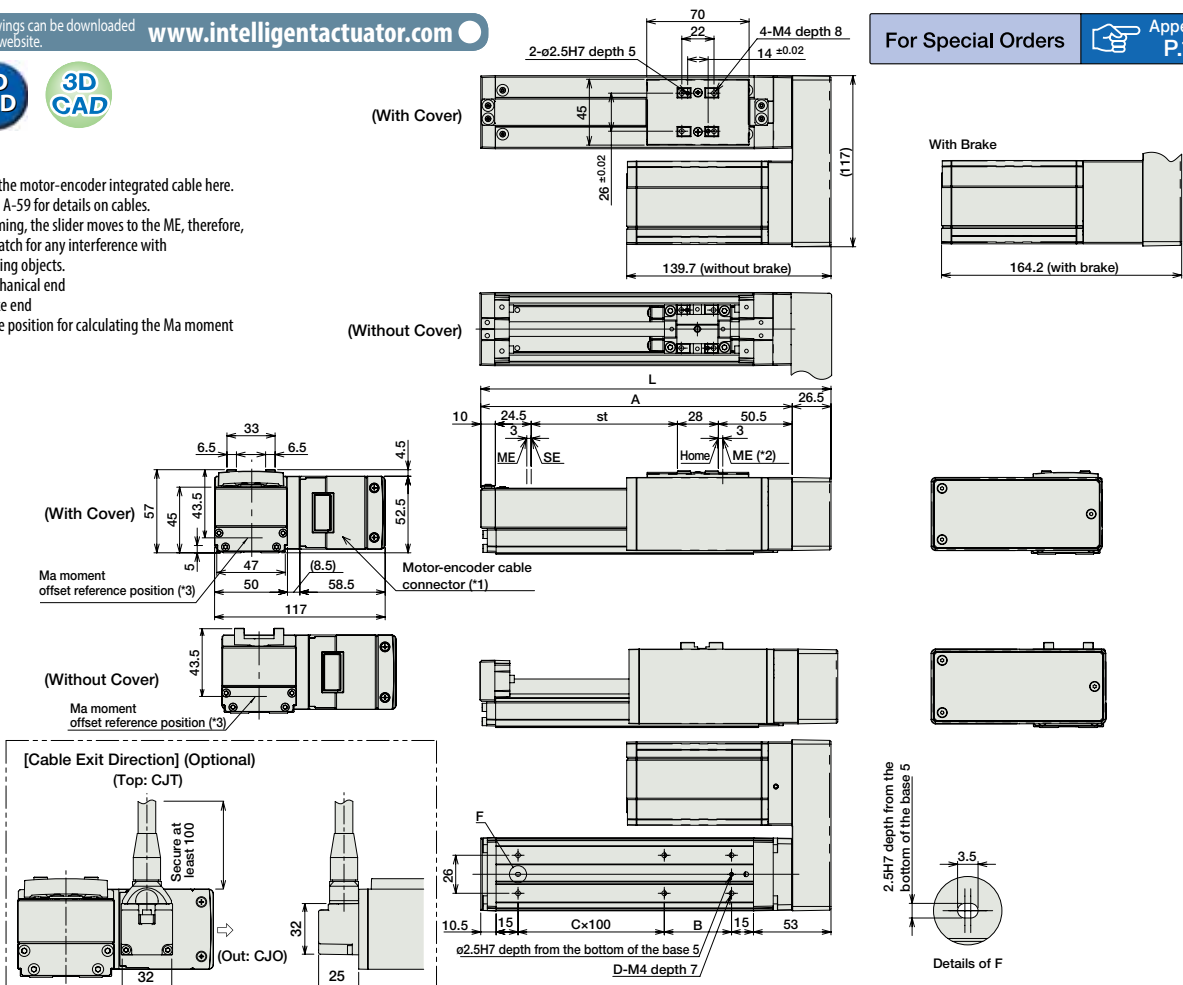
Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com



- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



For Special Orders Appendix P.15

Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	189.5	239.5	289.5	339.5	389.5	439.5	489.5	539.5	589.5	639.5	689.5	739.5	789.5	839.5	889.5	939.5	
A	163	213	263	313	363	413	463	513	563	613	663	713	763	813	863	913	
B	96	46	96	46	96	46	96	46	96	46	96	46	96	46	96	46	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
Weight (kg)	With cover	1.5	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.5
	Without cover	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I①-②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I①-②-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-②-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I①-②-2-0						Pulse train input type with open collector support
Serial Communication Type		ACON-SE-20I①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	—
Program Control Type		ASEL-CS-1-20I①-②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ① indicates I/O type (NP/PN). \* ③-⑧ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/ Arm/ Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor



# RCA2-SA6R

ROBO Cylinder, Slider Type, Actuator Width 60mm, Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCA2</b> — <b>SA6R</b> — <b>I</b> — <b>30</b> — [ ] — [ ] — [ ] — [ ] — [ ]							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 800: 800mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X [ ]: Custom length	See Options below. * Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Power-saving

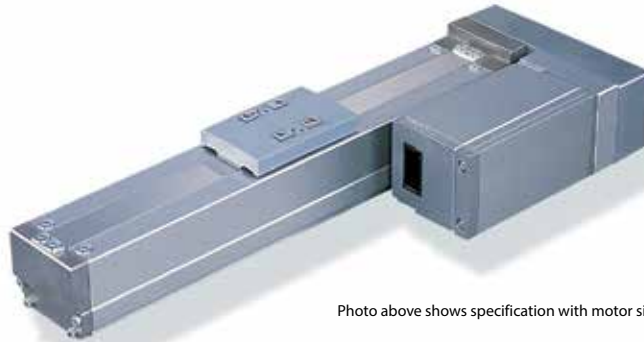


Photo above shows specification with motor side-mounted to the left (ML Option).

Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA6R-I-30-12-①-②-③-④	30	12	4	1.5	26	50~800 (every 50mm)
RCA2-SA6R-I-30-6-①-②-③-④		6	7	2	53	
RCA2-SA6R-I-30-3-①-②-③-④		3	10	4	105	

#### Stroke and Maximum Speed

Stroke Lead	50~550 (every 50mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
12	600	570	490	425	370	330
6	300	285	245	210	185	165
3	150	140	120	105	90	80

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \* See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price	
	With cover (standard)	Without cover (option)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—
650	—	—
700	—	—
750	—	—
800	—	—

#### ③ Cable Length

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

\* The standard cable is the motor-encoder integrated robot cable.  
\* See page A-59 for cables for maintenance.

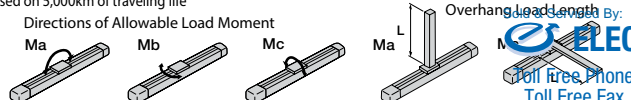
#### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Power-saving	LA	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
No cover	NCO	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm
Base	Material: Aluminum, special alumite treated
Allowable static moment	Ma: 17.6 N·m, Mb: 25.2 N·m, Mc: 44.5 N·m
Allowable dynamic moment (*)	Ma: 4.31 N·m, Mb: 6.17 N·m, Mc: 10.98 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life





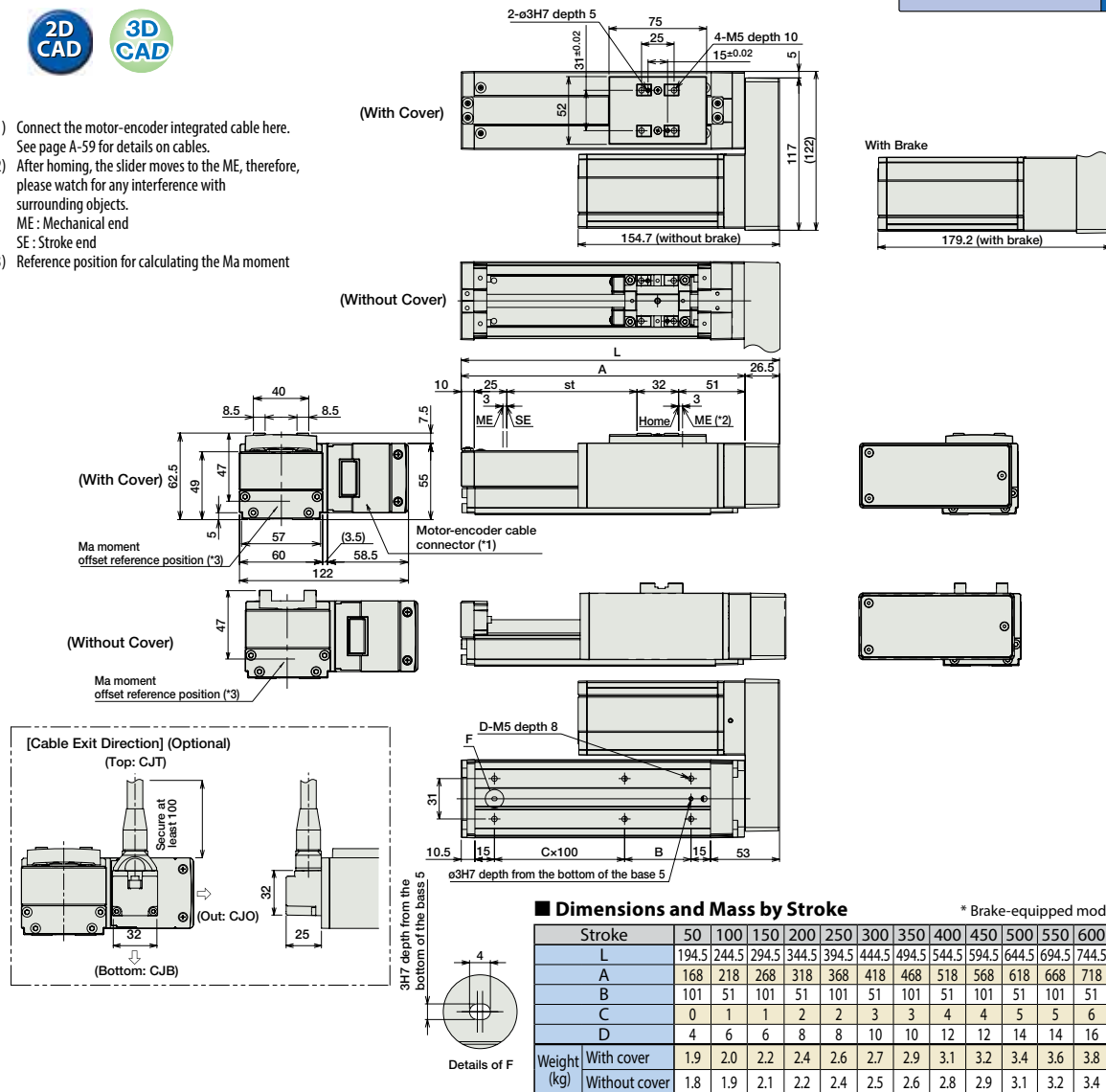
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



For Special Orders Appendix P.15

- (\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



■ Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.4kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	194.5	244.5	294.5	344.5	394.5	444.5	494.5	544.5	594.5	644.5	694.5	744.5	794.5	844.5	894.5	944.5	
A	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	
B	101	51	101	51	101	51	101	51	101	51	101	51	101	51	101	51	
C	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
Weight (kg)	With cover	1.9	2.0	2.2	2.4	2.6	2.7	2.9	3.1	3.2	3.4	3.6	3.8	3.9	4.1	4.3	4.5
	Without cover	1.8	1.9	2.1	2.2	2.4	2.5	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.8	3.9

② Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-30I(1)-(II)-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-30I(1)-(II)-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-(III)~(IV)-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-(III)~(IV)-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-30I(1)-(II)-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-30I(1)-(II)-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I(1)-(II)-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-30I(1)-(II)-2-0						Pulse train input type with open collector support
Serial Communication Type		ACON-SE-30I(1)-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	—
Program Control Type		ASEL-CS-1-30I(1)-(II)-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ① indicates I/O type (NP/PN). \* ② indicates number of axes (1 to 8). \* ③ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA-SA4C

ROBO Cylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Coupled

Model Specification Items

**RCA** — **SA4C** —  — **20** —  —  —  —  —  —

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

20: 20W Servo motor

10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
?  
400: 400mm (50mm pitch increments)

A1: ACON  
ASEL  
A3: AMEC  
ASEP  
MSEP

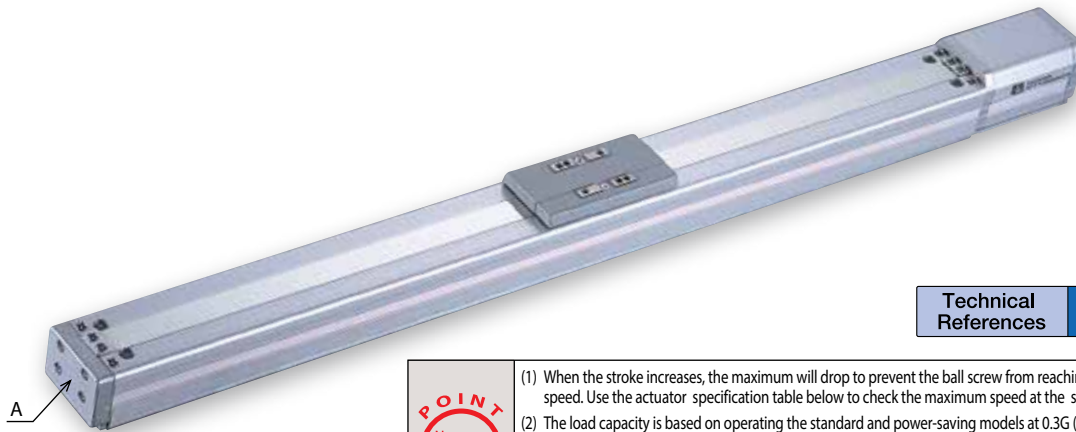
N: None  
P: 1m  
S: 3m  
M: 5m  
X: Custom length  
R: Robot cable

See Options below.

\* See page Pre-47 for details on the model descriptions.



**For High Acceleration/Deceleration** **Power-saving**  
(excluding the 2.5-mm lead model)



Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operating the standard and power-saving models at 0.3G (0.2G for 2.5mm-lead), and the high acceleration/deceleration model at 1G (excluding the 2.5mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
- (3) See page A-71 for details on push motion.

\* This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
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	

### Stroke and Maximum Speed

Stroke / Lead	50~400 (every 50mm)	
	10	665
5	330	
2.5	165	

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	I	A
150	I	A
200	I	A
250	I	A
300	I	A
350	I	A
400	I	A

### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

### ⑤ Options

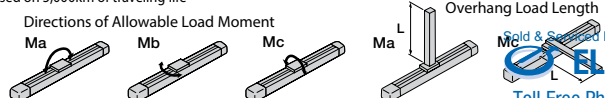
Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Foot bracket	FT	→ A-47	—
For high acceleration/deceleration	HA	→ A-50	—
Home sensor	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—
Slider spacer	SS	→ A-55	—

\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high-acceleration/deceleration option cannot be used on the 2.5mm-lead model.  
\* The high-acceleration/deceleration option and the power saving option cannot be used 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, white alumite treated
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

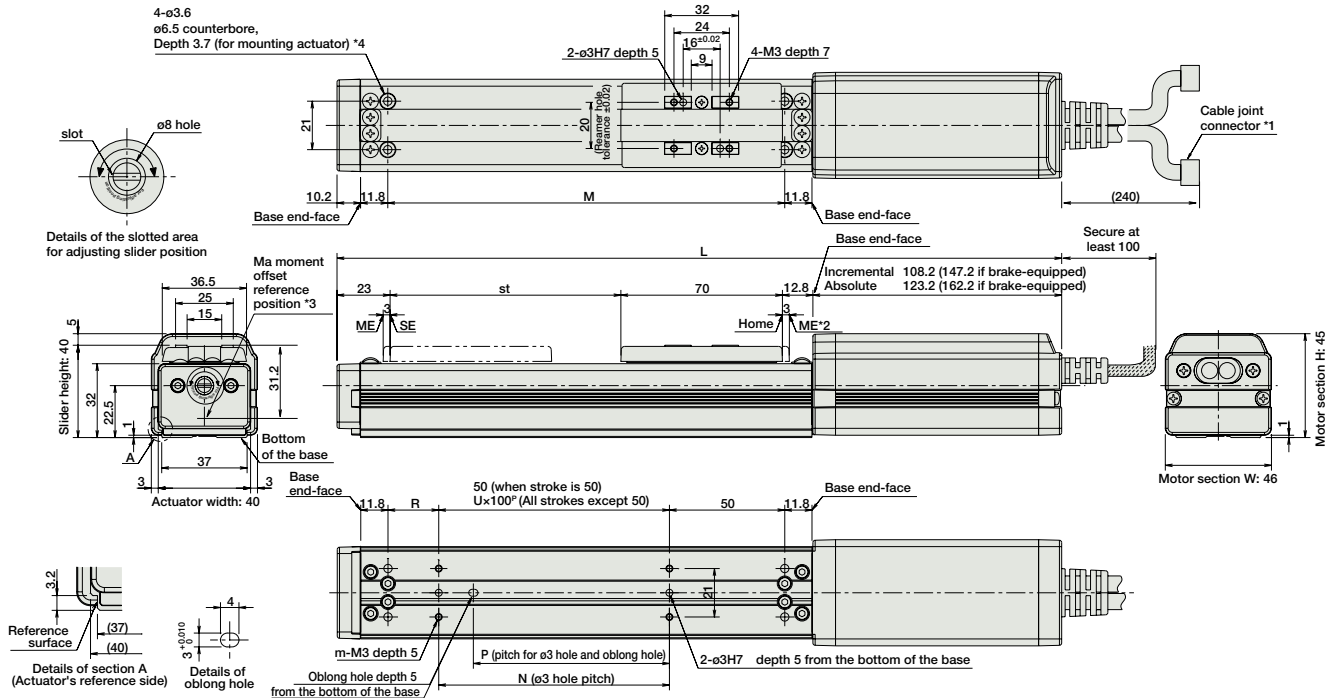
For Special Orders

Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end

- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.



■ Dimensions and Mass by Stroke \* Brake-equipped models are heavier by 0.3kg.

Stroke		50	100	150	200	250	300	350	400	
L	Incremental	Without brake	264	314	364	414	464	514	564	614
		With brake	303	353	403	453	503	553	603	653
	Absolute	Without brake	279	329	379	429	479	529	579	629
		With brake	318	368	418	468	518	568	618	668
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	
Weight (kg)		0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I-①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I-①-③-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-④-⑤-⑥-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-④-⑤-⑦-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I-①-③-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I-①-③-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-①-③-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I-①-③-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I-①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-20-①-③-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* ① indicates encoder type (I: incremental, A: absolute) \* Enter the code "HA" or "LA" in ① when the high-acceleration/deceleration option or the power-saving option is specified. \* ④ indicates I/O type (NP/PN). \* ⑤ indicates number of axes (1 to 8). \* ⑦ indicates field network specification symbol.

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Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm/Flat Type

Mini

Standard

Gripper/Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor

# RCA-SA5C

ROBO Cylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Coupled

Model Specification Items

RCA — SA5C — [ ] — 20 — [ ] — [ ] — [ ] — [ ] — [ ]

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

20: 20W Servo motor

20: 20mm  
12: 12mm  
6: 6mm  
3: 3mm

50: 50mm  
?  
500: 500mm (50mm pitch increments)

A1: ACON  
ASEL  
A3: AMEC  
ASEP  
MSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X[ ]: Custom length  
R[ ]: Robot cable

See Options below.

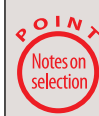
\* See page Pre-47 for details on the model descriptions.



**For High Acceleration/Deceleration** **Power-saving**  
(excluding the 3-mm lead model)



Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operating the standard and power-saving models at 0.3G (0.2G for 3mm-lead), and the high acceleration/deceleration model at 0.8G (excluding the 3mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
- (3) See page A-71 for details on push motion.

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
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	

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

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

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. \*The values enclosed in < > apply to vertical settings.

#### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	I	A
150	I	A
200	I	A
250	I	A
300	I	A
350	I	A
400	I	A
450	I	A
500	I	A

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

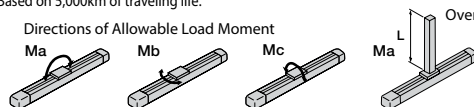
Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Foot bracket	FT	→ A-47	—
For high acceleration/deceleration	HA	→ A-50	—
Home sensor	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high-acceleration/deceleration option cannot be used on the 3mm-lead model.  
\* The high-acceleration/deceleration option and the power saving option cannot be used together.

#### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 10mm, rolled C10
Positioning repeatability	$\pm 0.02\text{mm}$ [ $\pm 0.03\text{mm}$ ]
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

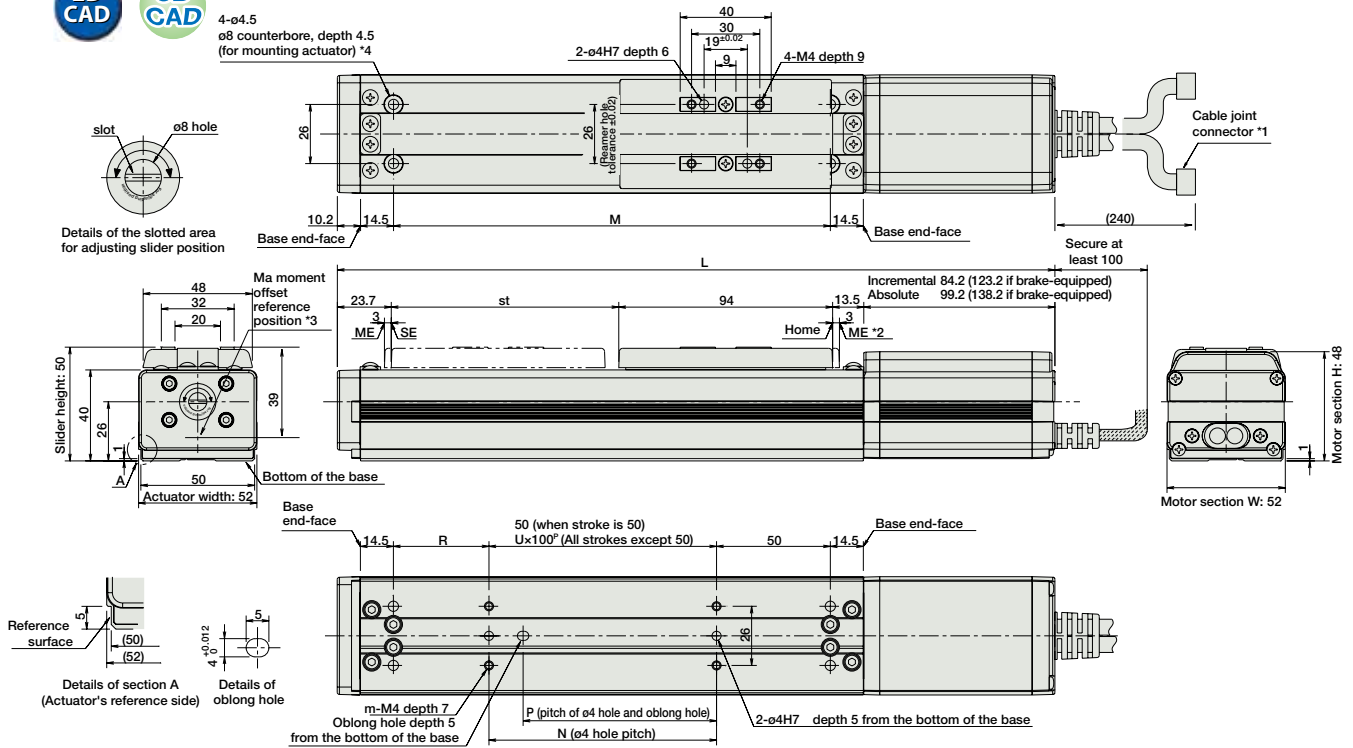
(\*)1 The specification in [ ] applies when the lead is 20mm.  
(\*)2 Based on 5,000km of traveling life.



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



■ Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.3kg.

		Stroke										
		50	100	150	200	250	300	350	400	450	500	
L	Incremental	Without brake	265.4	315.4	365.4	415.4	465.4	515.4	565.4	615.4	665.4	715.4
		With brake	304.4	354.4	404.4	454.4	504.4	554.4	604.4	654.4	704.4	754.4
	Absolute	Without brake	280.4	330.4	380.4	430.4	480.4	530.4	580.4	630.4	680.4	730.4
		With brake	319.4	369.4	419.4	469.4	519.4	569.4	619.4	669.4	719.4	769.4
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	
Weight (kg)		1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2	

- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I(II)-(III)-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I(II)-(III)-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-IV(II)-(III)-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-IV(II)-(III)-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I(II)-(III)-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-20I(II)-(III)-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I(II)-(III)-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I(II)-(III)-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I(II)-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Program Control Type		ASEL-CS-1-20I(II)-(III)-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* (I) indicates encoder type (I: incremental, A: absolute) \* Enter the code "HA" or "LA" in (II) when the high-acceleration/deceleration option or the power-saving option is specified. \* (III) indicates I/O type (NP/PN). \* (IV) indicates number of axes (1 to 8). \* (V) indicates field network specification symbol.

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Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/ Arm/ Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor



# RCA-SA6C

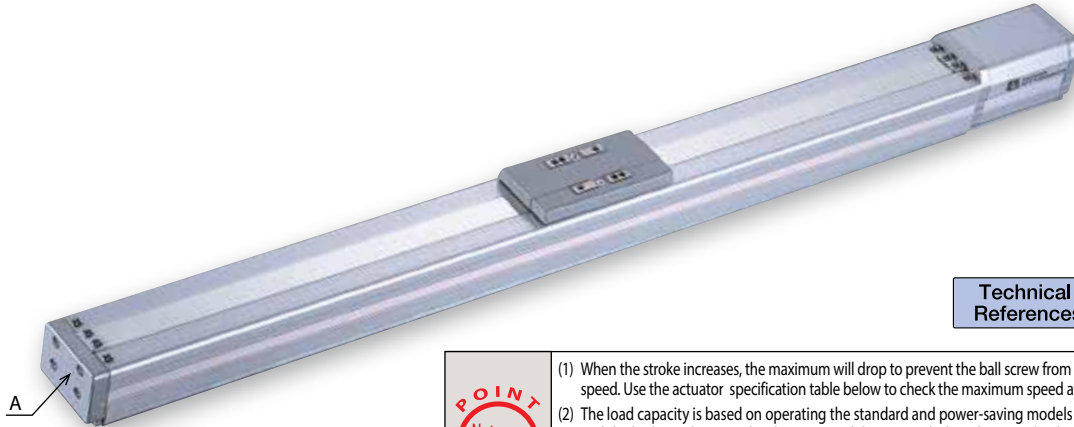
ROBO Cylinder, Slider Type, Actuator Width 58mm, 24V Servo Motor, Coupled

Model Specification Items	<b>RCA</b> — <b>SA6C</b> — [ ] — <b>30</b> — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]
Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options	
I: Incremental A: Absolute * Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.	30: 30W Servo motor
	20: 20mm 12: 12mm 6: 6mm 3: 3mm
	50: 50mm ? 600: 600mm (50mm pitch increments)
	A1: ACON ASEL A3: AMEC ASEP MSEP
	N: None P: 1m S: 3m M: 5m X[ ]: Custom length R[ ]: Robot cable
	See Options below.

\* See page Pre-47 for details on the model descriptions.



**For High Acceleration/Deceleration** **Power-saving**  
(excluding the 3-mm lead model)



Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operating the standard and power-saving models at 0.3G (0.2G for 3mm-lead), and the high acceleration/deceleration model at 1G (excluding the 3mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
- (3) See page A-71 for details on push motion.

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
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	

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

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

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. \*The values enclosed in < > apply to vertical settings.

#### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	I	A
150	I	A
200	I	A
250	I	A
300	I	A
350	I	A
400	I	A
450	I	A
500	I	A
550	I	A
600	I	A

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

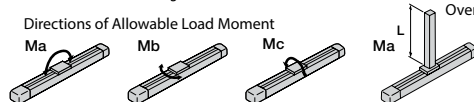
Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Foot bracket	FT	→ A-47	—
For high acceleration/deceleration	HA	→ A-50	—
Home sensor	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high-acceleration/deceleration option cannot be used on the 3mm-lead model.  
\* The high-acceleration/deceleration option and the power saving option cannot be used together.

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm [±0.03mm]
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*)1 The specification in [ ] applies when the lead is 20mm.  
(\*)2 Based on 5,000km of traveling life.



Dimensional Drawings

CAD drawings can be downloaded from the website.

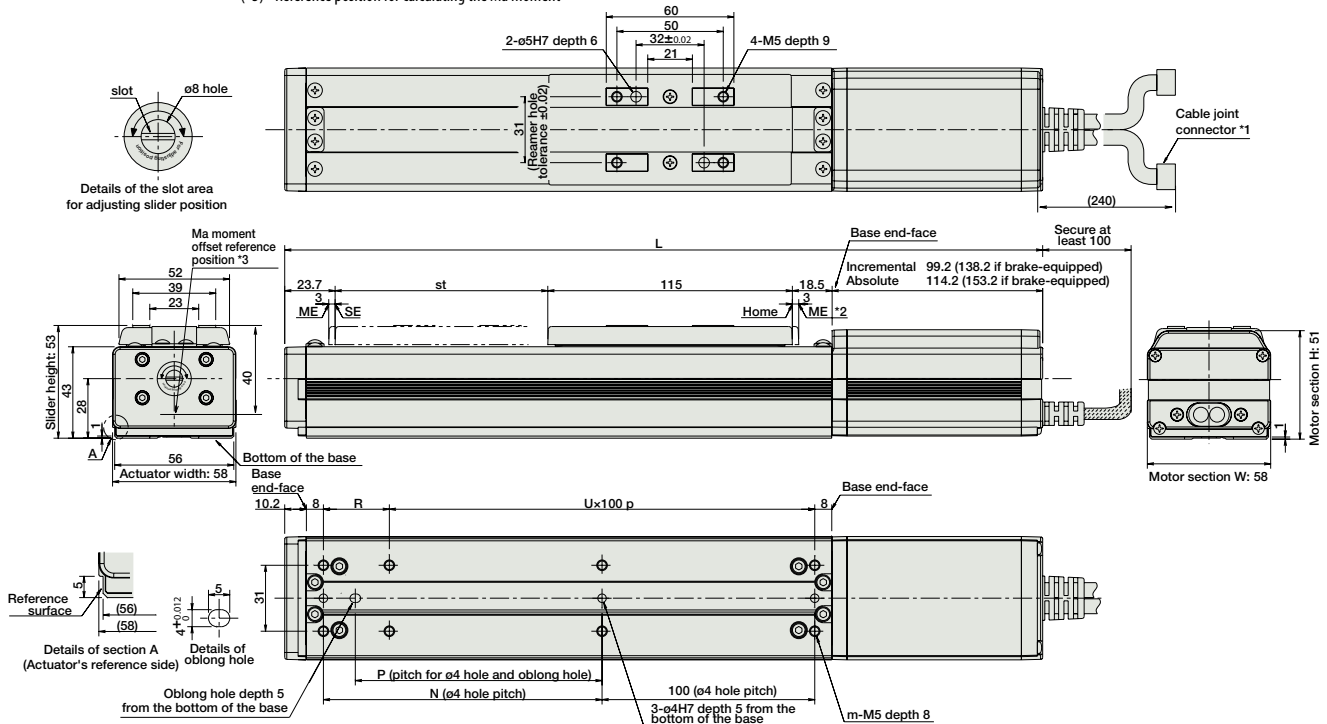
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For Special Orders

Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



■ Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.3kg.

		Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	Incremental	Without brake	306.4	356.4	406.4	456.4	506.4	556.4	606.4	656.4	706.4	756.4	806.4	856.4
		With brake	345.4	395.4	445.4	495.4	545.4	595.4	645.4	695.4	745.4	795.4	845.4	895.4
	Absolute	Without brake	321.4	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4	871.4
		With brake	360.4	410.4	460.4	510.4	560.4	610.4	660.4	710.4	760.4	810.4	860.4	910.4
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
Weight (kg)			1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-30I(I)-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-30I(I)-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-30I(I)-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-30I(V)-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-30I(I)-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.3A rated 2.2A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-30I(I)-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I(I)-2-0	Pulse train input type with differential line driver support	(—)	DC24V	1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-30I(I)-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-30I(I)-N-0-0	Dedicated Serial Communication	64 points	DC24V	1.3A rated 2.2A max.	—	→ P675
Program Control Type		ASEL-CS-1-30I(I)-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	1.3A rated 2.2A max.	—	→ P675

\* This is for the single-axis ASEL. \* (I) indicates encoder type (I: incremental, A: absolute) \* Enter the code "HA" or "LA" in (I) when the high-acceleration/deceleration option or the power-saving option is specified. \* (N) indicates I/O type (NP/PN). \* (V) indicates number of axes (1 to 8). \* (V) indicates field network specification symbol.

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Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm/Flat Type

Mini

Standard

Gripper/Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor

# RCA-SA4D

ROBO Cylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Motor Build-in (Direct Coupled)

Model Specification Items

**RCA** — **SA4D** —  — **20** —  —  —  —  —  —

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

20: 20W Servo motor

10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
?  
300: 300mm (50mm pitch increments)

A1: ACON  
ASEL  
A3: AMEC  
ASEP  
MSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X: Custom length  
R: Robot cable

See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model.) These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA2-SA4D-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50~300 (every 50mm)
RCA2-SA4D-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCA2-SA4D-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

### Stroke and Maximum Speed

Stroke / Lead	50~300 (every 50mm)	
	10	665
5	330	
2.5	165	

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

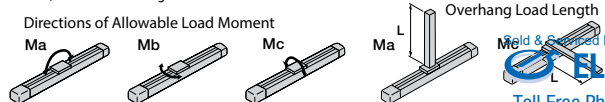
### ⑤ Options

Name	Option code	See page	Standard price
Brake (cable exiting end)	BE	→ A-42	—
Brake (cable exiting left)	BL	→ A-42	—
Brake (cable exiting right)	BR	→ A-42	—
Foot bracket	FT	→ A-47	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



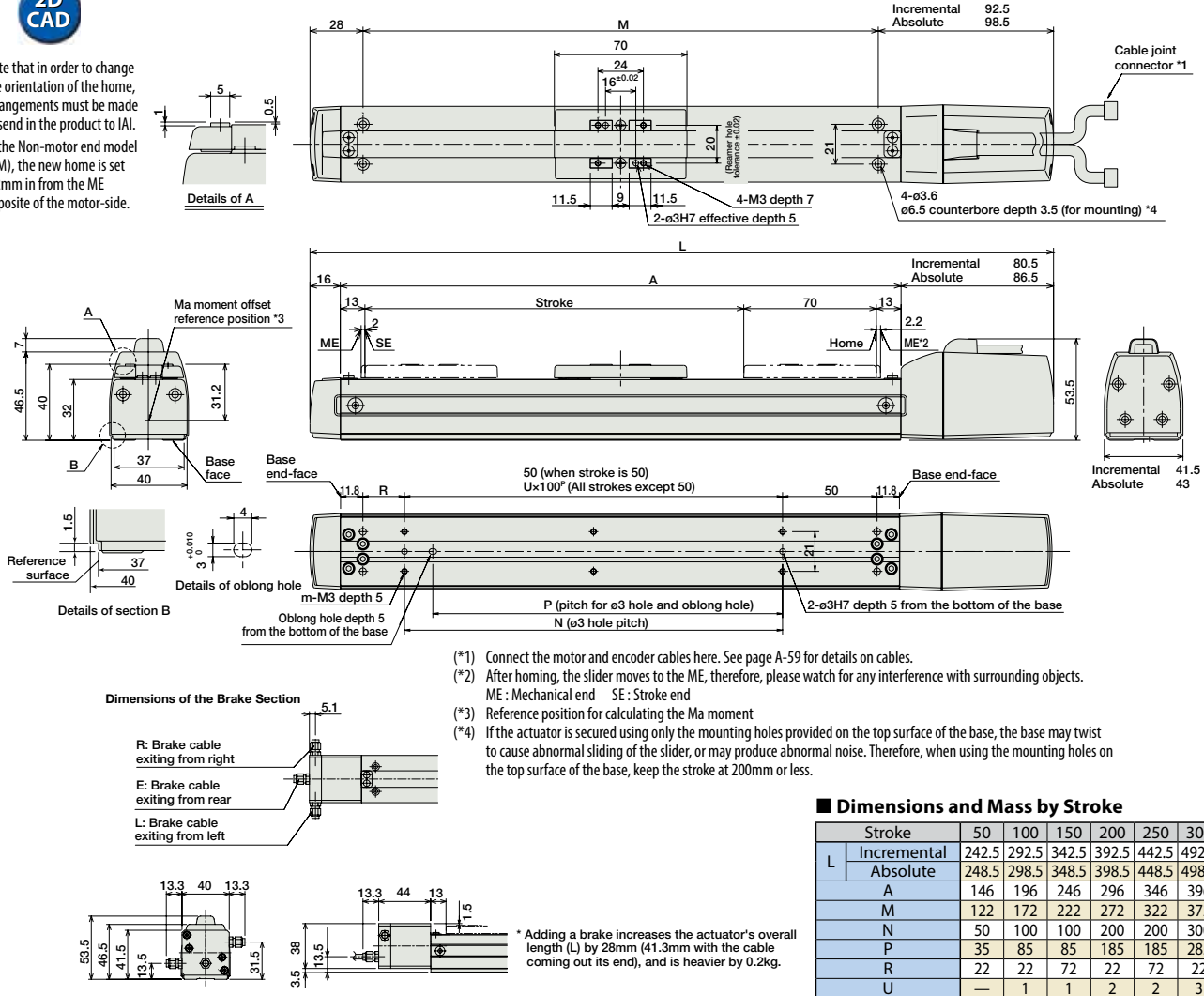
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15

2D CAD

\* Note that in order to change the orientation of the home, arrangements must be made to send in the product to IAI.  
 \* In the Non-motor end model (NM), the new home is set 2.2mm from the ME opposite of the motor-side.



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME: Mechanical end SE: Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.

■ Dimensions and Mass by Stroke

Stroke	Stroke						
	50	100	150	200	250	300	
L	Incremental	242.5	292.5	342.5	392.5	442.5	492.5
	Absolute	248.5	298.5	348.5	398.5	448.5	498.5
A	146	196	246	296	346	396	
M	122	172	222	272	322	372	
N	50	100	100	200	200	300	
P	35	85	85	185	185	285	
R	22	22	72	22	72	22	
U	—	1	1	2	2	3	
m	4	4	4	6	6	8	
Weight (kg)	0.6	0.7	0.8	0.9	1.0	1.1	

\* Adding a brake increases the actuator's overall length (L) by 28mm (41.3mm with the cable coming out its end), and is heavier by 0.2kg.

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-20I-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-20I-V-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P631
Positioner type		ACON-C-20I-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-2-0	Pulse train input type with differential line driver support	—	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-20I-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* (I) indicates encoder type (I: incremental, A: absolute)  
 \* (II) indicates I/O type (NP/PN). \* (V) indicates number of axes (1 to 8).  
 \* Enter the code "LA" in (II) when the power-saving option is specified.  
 \* (V) indicates field network specification symbol.



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- Slider Type
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- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA-SA5D

ROBO Cylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Motor Built-in (Direct-Coupled)

Model Specification Items

**RCA** — **SA5D** —  — **20** —  —  —  —  —  —

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

20: 20W Servo motor

12: 12mm  
6: 6mm  
3: 3mm

50: 50mm  
?  
500: 500mm (50mm pitch increments)

A1: ACON  
ASEL  
A3: AMEC  
ASEP  
MSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X: Custom length  
R: Robot cable

See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model.) These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-SA5D-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50~500 (every 50mm)
RCA-SA5D-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCA-SA5D-①-20-3-②-③-④-⑤		3	12	4	78.4	

### Stroke and Maximum Speed

Stroke / Lead	50~450 (every 50mm)	500 (mm)
	12	800
6	400	380
3	200	190

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

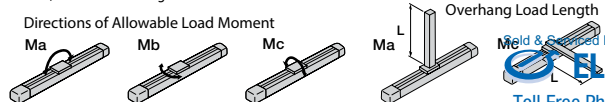
### ⑤ Options

Name	Option code	See page	Standard price
Brake (cable exiting end)	BE	→ A-42	—
Brake (cable exiting left)	BL	→ A-42	—
Brake (cable exiting right)	BR	→ A-42	—
Foot bracket	FT	→ A-47	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, $\phi$ 10mm, rolled C10
Positioning repeatability	$\pm 0.02$ mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life





Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

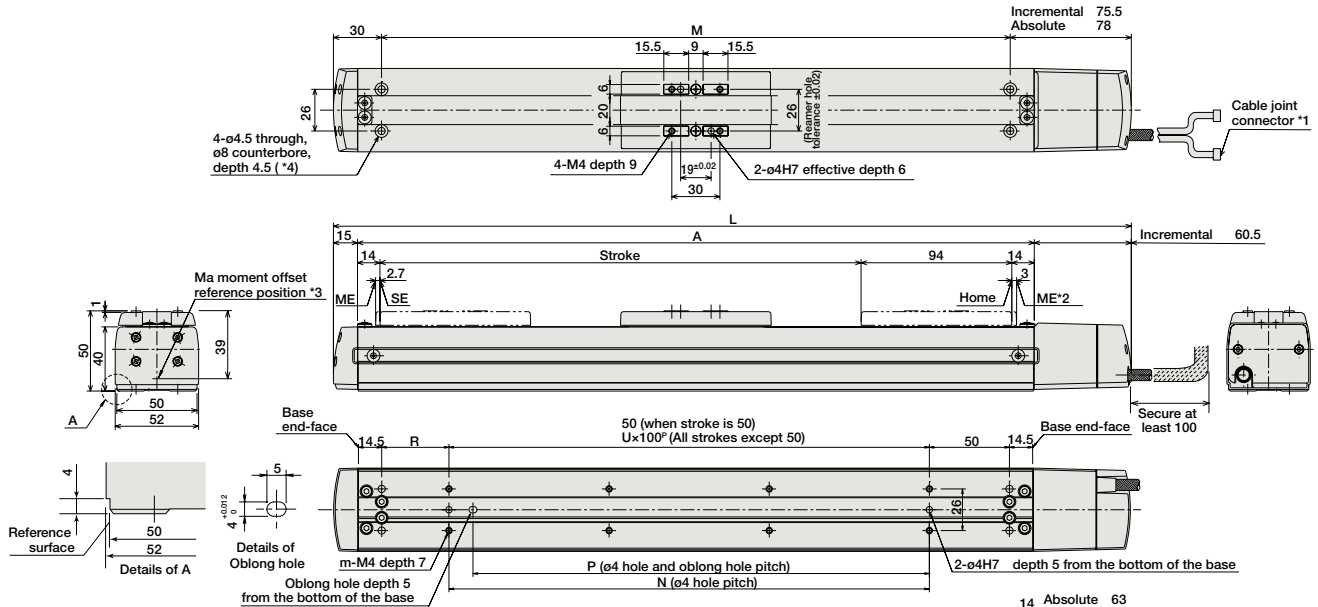
For Special Orders

Appendix P.15

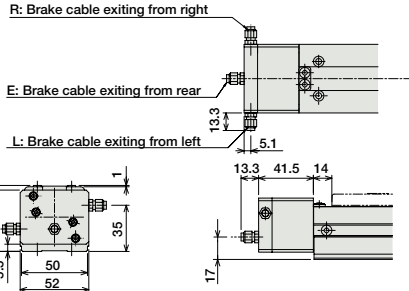


- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME : Mechanical end SE : Stroke end

- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out its end), and is heavier by 0.3kg.

■ Dimensions and Mass by Stroke

Stroke	Stroke										
	50	100	150	200	250	300	350	400	450	500	
L	Incremental	247.5	297.5	347.5	397.5	447.5	497.5	547.5	597.5	647.5	697.5
	Absolute	250	300	350	400	450	500	550	600	650	700
A	172	222	272	322	372	422	472	522	572	622	
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	22	42	92	42	
U	—	1	1	2	2	3	3	4	4	5	
m	4	4	4	6	6	8	8	10	10	12	
Weight (kg)	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I(I)-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I(I)-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-20I(V)-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-20I(V)-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I(I)-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I(I)-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I(I)-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I(I)-2-0						Pulse train input type with open collector support
Serial Communication Type		ACON-SE-20I(I)-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-20I(I)-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL.  
 \* (I) indicates I/O type (NP/PN).

\* (I) indicates encoder type (I: incremental, A: absolute)  
 \* (V) indicates number of axes (1 to 8).

\* Enter the code "LA" in (I) when the power-saving option is specified.  
 \* (V) indicates field network specification symbol.

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Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/ Arm/ Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor

# RCA-SA6D

ROBO Cylinder, Slider Type, Actuator Width 58mm, 24V Servo Motor, Motor Built-in (Direct-Coupled)

Model Specification Items

**RCA** — **SA6D** —  — **30** —  —  —  —  —  —

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

30: 30W Servo motor

12: 12mm  
6: 6mm  
3: 3mm

50: 50mm  
?  
600: 600mm (50mm pitch increments)

A1: ACON  
ASEL  
A3: AMEC  
ASEP  
MSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X: Custom length  
R: Robot cable

See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model.) These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-SA6D-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50~600 (every 50mm)
RCA-SA6D-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCA-SA6D-①-30-3-②-③-④-⑤		3	18	6	96.8	

### Stroke and Maximum Speed

Stroke Lead	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

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—

### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

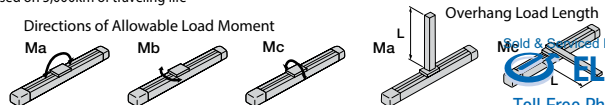
### ⑤ Options

Name	Option code	See page	Standard price
Brake (cable exiting end)	BE	→ A-42	—
Brake (cable exiting left)	BL	→ A-42	—
Brake (cable exiting right)	BR	→ A-42	—
Foot bracket	FT	→ A-47	—
Power-saving	LA	→ A-52	—
Non-motor end specificationw	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



Dimensional Drawings

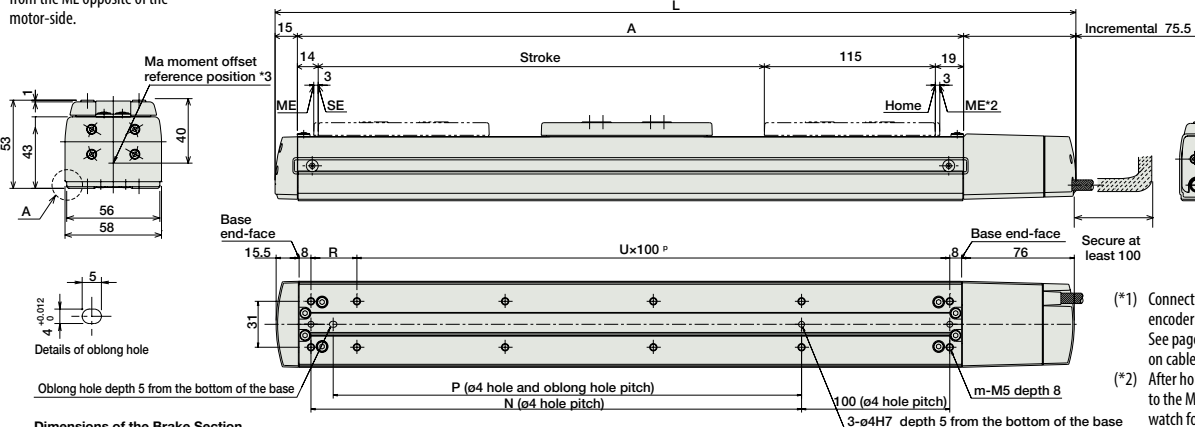
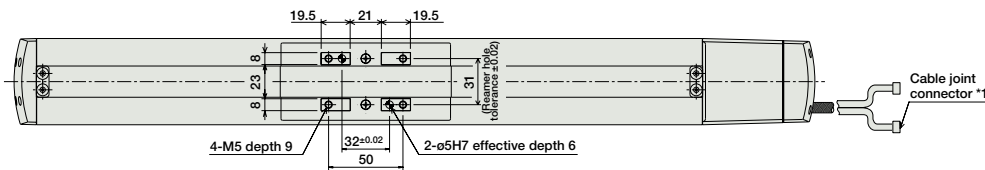
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15

2D CAD

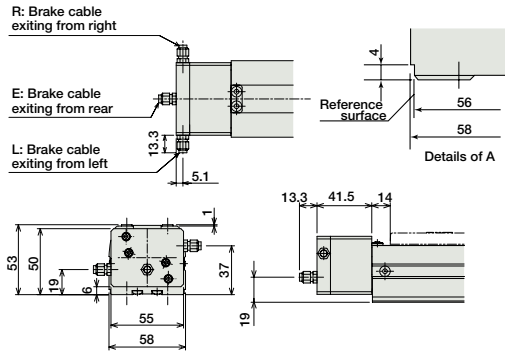
\* Note that in order to change the orientation of the home, arrangements must be made to send in the product to IAI.

\* In the Non-motore end model (NM), the new home is set 3mm in from the ME opposite of the motor-side.



Details of oblong hole

Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out its end), and is heavier by 0.3kg.

- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- (\*3) Reference position for calculating the Ma moment

■ Dimensions and Mass by Stroke

L	Stroke	Stroke											
		50	100	150	200	250	300	350	400	450	500	550	600
Incremental	Absolute	288.5	338.5	388.5	438.5	488.5	538.5	588.5	638.5	688.5	738.5	788.5	838.5
	A	198	248	298	348	398	448	498	548	598	648	698	748
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	
Weight (kg)		1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-30I①②③-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-30I①②③-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-④⑤⑥⑦⑧-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-④⑤⑥⑦⑧-V-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-30I①②③-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-30I①②③-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I①②③-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-30I①②③-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-30I①②-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	—
Program Control Type		ASEL-CS-1-30I①②③-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P675

\* This is for the single-axis ASEL. \* ① indicates encoder type (I: incremental, A: absolute) \* Enter the code "LA" in ① when the power-saving option is specified. \* ④⑤⑥⑦⑧ indicates I/O type (NP/PN). \* ④⑤⑥⑦⑧ indicates number of axes (1 to 8). \* ④⑤⑥⑦⑧ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA-SS4D

ROBO Cylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Motor Built-in (Direct-Coupled), Steel Base

Model Specification Items	<b>RCA</b> — <b>SS4D</b> — <b>I</b> — <b>20</b> — [ ] — [ ] — [ ] — [ ] — [ ]
Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options	I: Incremental * The Simple absolute encoder is also considered type "I". 20: 20W Servo motor 10: 10mm 5: 5mm 2.5: 2.5mm 50: 50mm ? 300: 300mm (50mm pitch increments) A1: ACON ASEL A3: AMEC ASEP MSEP N: None P: 1m S: 3m M: 5m X[ ]: Custom length R[ ]: Robot cable See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model.) These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-SS4D-I-20-10-[1]-[2]-[3]-[4]	20	10	4	1	19.6	50~300 (every 50mm)
RCA-SS4D-I-20-5-[1]-[2]-[3]-[4]		5	6	2.5	39.2	
RCA-SS4D-I-20-2.5-[1]-[2]-[3]-[4]		2.5	8	4.5	78.4	

#### Stroke and Maximum Speed

Stroke / Lead	50~300 (every 50mm)	
	10	665
5	330	
2.5	165	

Code explanation [1] Stroke [2] Applicable Controller [3] Cable length [4] Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—

#### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

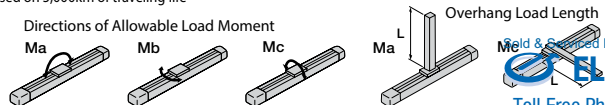
#### ④ Options

Name	Option code	See page	Standard price
Brake (cable exiting end)	BE	→ A-42	—
Brake (cable exiting left)	BL	→ A-42	—
Brake (cable exiting right)	BR	→ A-42	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



Dimensional Drawings

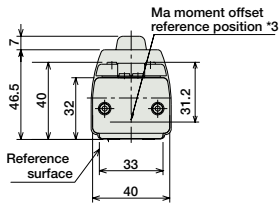
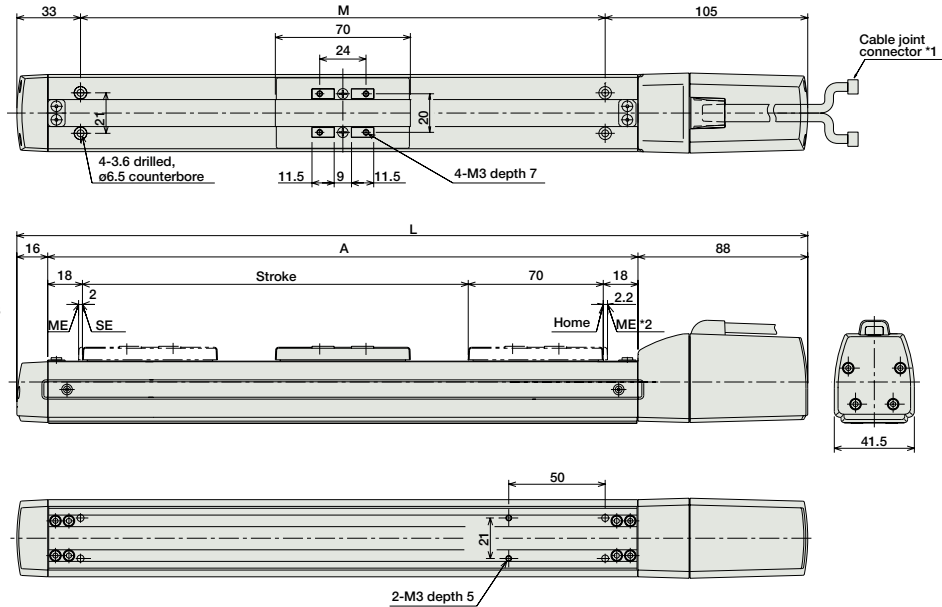
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15

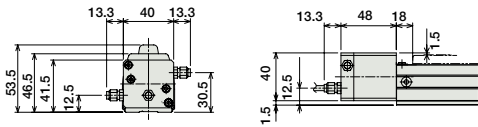
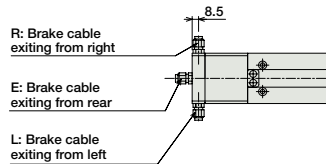


- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment

\* Note that in order to change the orientation of the home, arrangements must be made to send in the product to IAI.  
\* In the Non-motor end model (NM), the new home is set 2.2mm in from the ME opposite of the motor-side.



Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 32mm (45.3mm with the cable coming out its end), and is heavier by 0.2kg.

■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300
L	260	310	360	410	460	510
A	156	206	256	306	356	406
M	122	172	222	272	322	372
Weight (kg)	1.1	1.2	1.3	1.4	1.5	1.6

② Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I①-②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-20I①-②-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I①-②-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I①-②-2-0						
Serial Communication Type		ACON-SE-20I①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675
Program Control Type		ASEL-CS-1-20I①-②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ① indicates I/O type (NP/PN). \* ③-⑧ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm/Flat Type

Mini

Standard

Gripper/Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor



# RCA-SS5D

ROBO Cylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Motor Built-in (Direct-Coupled), Steel Base

Model Specification Items	<b>RCA</b>	<b>SS5D</b>	<b>I</b>	<b>20</b>					
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental * The Simple absolute encoder is also considered type "I".	20: 20W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 500: 500mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model.) These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-SS5D-I-20-12-①-②-③-④	20	12	4	1	16.7	50~500 (every 50mm)
RCA-SS5D-I-20-6-①-②-③-④		6	8	2	33.3	
RCA-SS5D-I-20-3-①-②-③-④		3	12	4	65.7	

#### Stroke and Maximum Speed

Stroke / Lead	50~450 (every 50mm)	500 (mm)
	12	800
6	400	380
3	200	190

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—

#### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

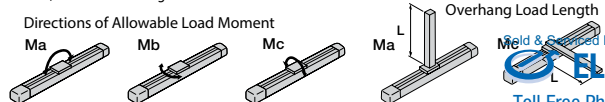
#### ④ Options

Name	Option code	See page	Standard price
Brake (cable exiting end)	BE	→ A-42	—
Brake (cable exiting left)	BL	→ A-42	—
Brake (cable exiting right)	BR	→ A-42	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



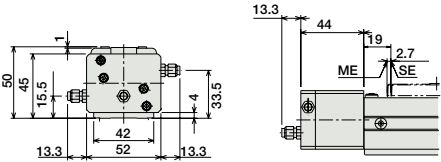
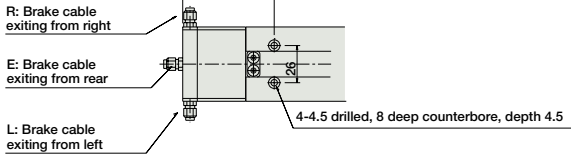
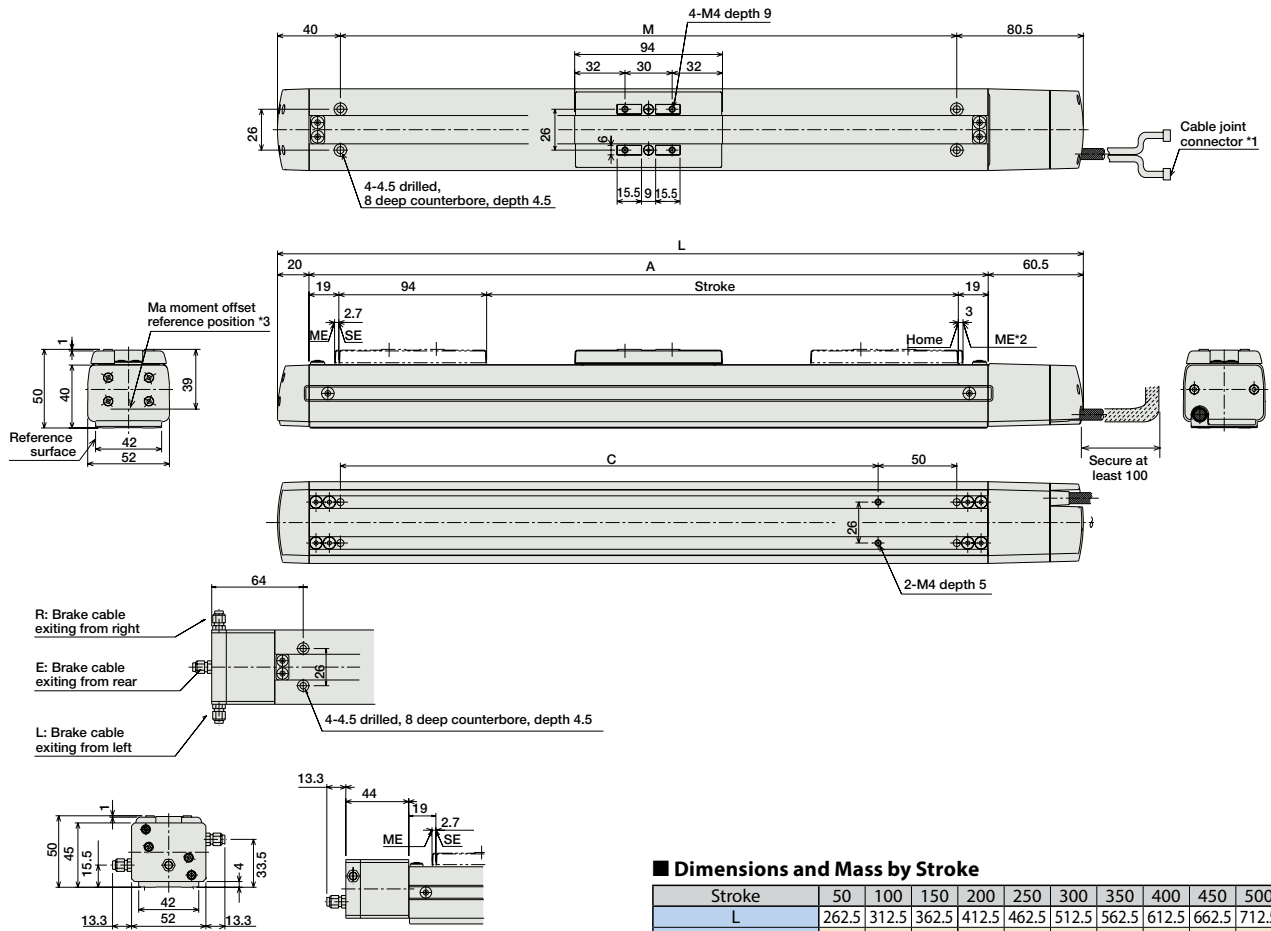
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	262.5	312.5	362.5	412.5	462.5	512.5	562.5	612.5	662.5	712.5
A	182	232	282	332	382	432	482	532	582	632
M	142	192	242	292	342	392	442	492	542	592
C	92	142	192	242	292	342	392	442	492	542
Weight (kg)	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3

\* Adding a brake will increase the actuator's overall length (L) by 24mm (37.3mm with the cable coming out from the end), and is heavier by 0.3kg.

Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I(1)-(II)-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I(1)-(II)-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C(III)-(IV)-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C(III)-(IV)-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I(1)-(II)-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I(1)-(II)-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I(1)-(II)-2-0	Pulse train input type with differential line driver support	—	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I(1)-(II)-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I(1)-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-20I(1)-(II)-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in (I) when the power-saving specification is specified. \* (II) indicates I/O type (NP/PN). \* (III) indicates number of axes (1 to 8). \* (IV) indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor



RCA-SS5D

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# RCA-SS6D

ROBO Cylinder, Slider Type, 5 Actuator Width 8mm, 24V Servo Motor, Motor Built-in (Direct-Coupled), Steel Base

Model Specification Items	<b>RCA</b> — <b>SS6D</b> — <b>I</b> — <b>30</b> — [ ] — [ ] — [ ] — [ ] — [ ]
Series	Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options
	I: Incremental * The Simple absolute encoder is also considered type "I".
	30: 30W Servo motor
	12: 12mm 6: 6mm 3: 3mm
	50: 50mm ? 600: 600mm (50mm pitch increments)
	A1: ACON ASEL A3: AMEC ASEP MSEP
	N: None P: 1m S: 3m M: 5m X [ ]: Custom length R [ ]: Robot cable
	See Options below.

\* See page Pre-47 for details on the model descriptions.



Power-saving



Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model.) These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-SS6D-I-30-12-[1]-[2]-[3]-[4]	30	12	6	1.5	24.2	50~600 (every 50mm)
RCA-SS6D-I-30-6-[1]-[2]-[3]-[4]		6	12	3	48.4	
RCA-SS6D-I-30-3-[1]-[2]-[3]-[4]		3	18	6	96.8	

### Stroke and Maximum Speed

Stroke Lead	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

Code explanation [1] Stroke [2] Applicable Controller [3] Cable length [4] Options \* See page A-71 for details on push motion. (Unit: mm/s)

### ① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—
550	—
600	—

### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

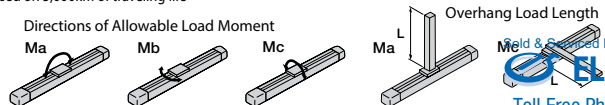
### ④ Options

Name	Option code	See page	Standard price
Brake (cable exiting end)	BE	→ A-42	—
Brake (cable exiting left)	BL	→ A-42	—
Brake (cable exiting right)	BR	→ A-42	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

## Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life



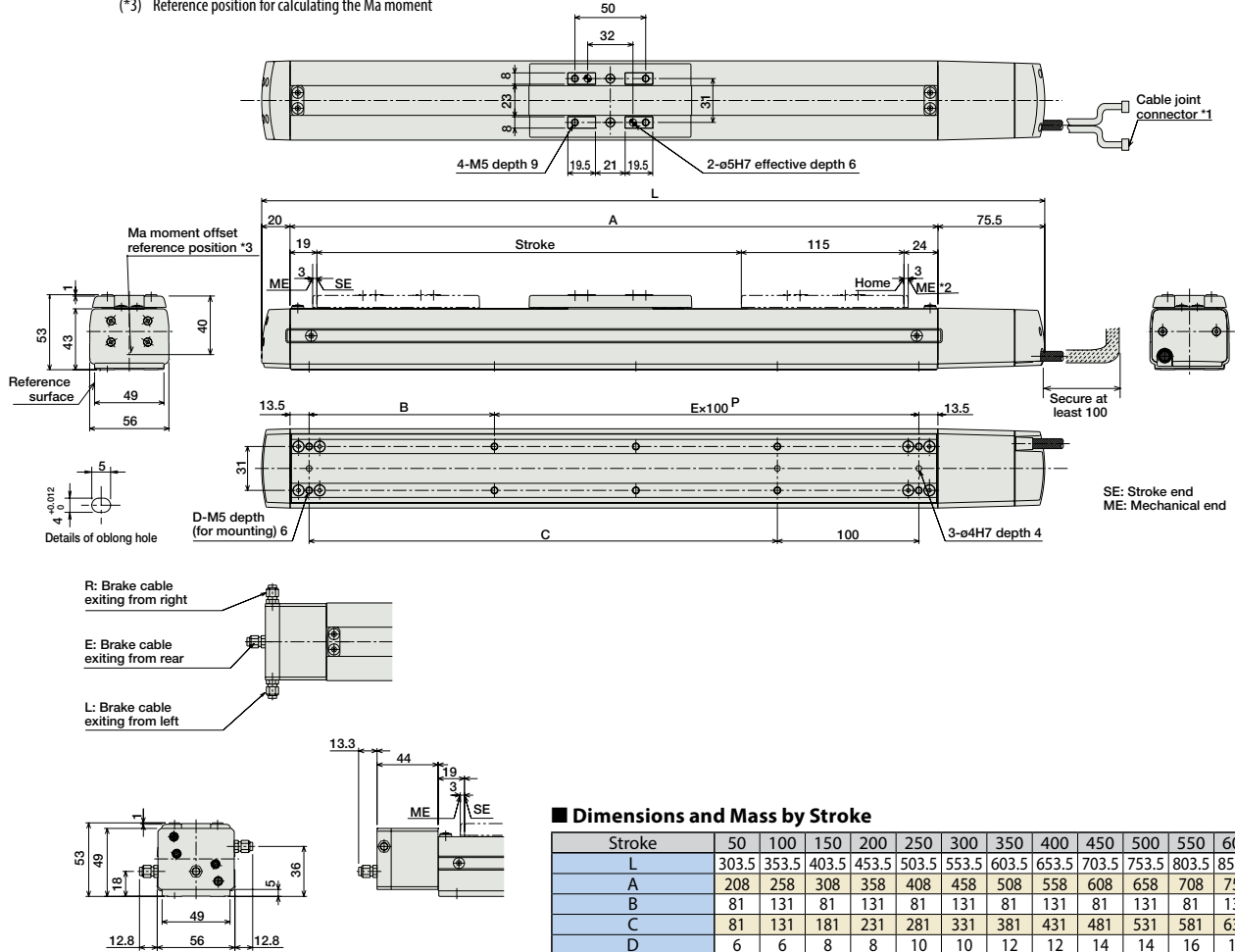
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment



\* Adding a brake will increase the actuator's overall length (L) by 24mm (37.3mm with the cable coming out from the end), and is heavier by 0.3kg.

Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	303.5	353.5	403.5	453.5	503.5	553.5	603.5	653.5	703.5	753.5	803.5	853.5
A	208	258	308	358	408	458	508	558	608	658	708	758
B	81	131	181	231	281	331	381	431	481	531	581	631
C	81	131	181	231	281	331	381	431	481	531	581	631
D	6	6	8	8	10	10	12	12	14	14	16	16
E	1	1	2	2	3	3	4	4	5	5	6	6
P	66	116	166	216	266	316	366	416	466	516	566	616
Weight (kg)	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.7

Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-30I①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-30I①-②-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-⑥-⑦-⑧-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P631
Positioner type		ACON-C-30I①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-30I①-②-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I①-②-2-0	Pulse train input type with differential line driver support	—	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-30I①-②-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-30I①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	—
Program Control Type		ASEL-CS-1-30I①-②-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.2A max.	—	→ P675

\* This is for the single-axis ASEL. \* Enter the code "LA" in ① when the power-saving specification is specified. \* ① indicates I/O type (NP/PN). \* ③ indicates number of axes (1 to 8). \* ④ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA-SA4R

ROBO Cylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Side-mounted Motor

Model Specification Items: **RCA** — **SA4R** — [ ] — **20** — [ ] — [ ] — [ ] — [ ] — [ ] — [ ]

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

20: 20W Servo motor

10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
?  
400: 400mm (50mm pitch increments)

A1: ACON  
ASEL  
A3: AMEC  
ASEP  
MSEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X [ ]: Custom length  
R [ ]: Robot cable

See Options below.  
\*Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Power-saving



Pictured: Left-mounted motor model (ML).

Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model.) These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
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-①-20-2.5-②-③-④-⑥		2.5	8	4.5	78.4	

#### Stroke and Maximum Speed

Stroke / Lead	50~400 (every 50mm)	
	10	665
5	330	
2.5	165	

Code explanation ①Encoder ②Stroke ③Applicable Controller ④Cable length ⑤Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder type/② Stroke

②Stroke (mm)	Standard price	
	①Encoder Type	
	Incremental	Absolute
50	I	A
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

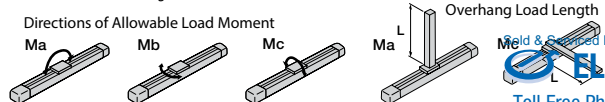
#### ⑤ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Home sensor	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—
Slider spacer	SS	→ A-55	—

#### Actuator Specifications

Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*) Based on 5,000km of traveling life

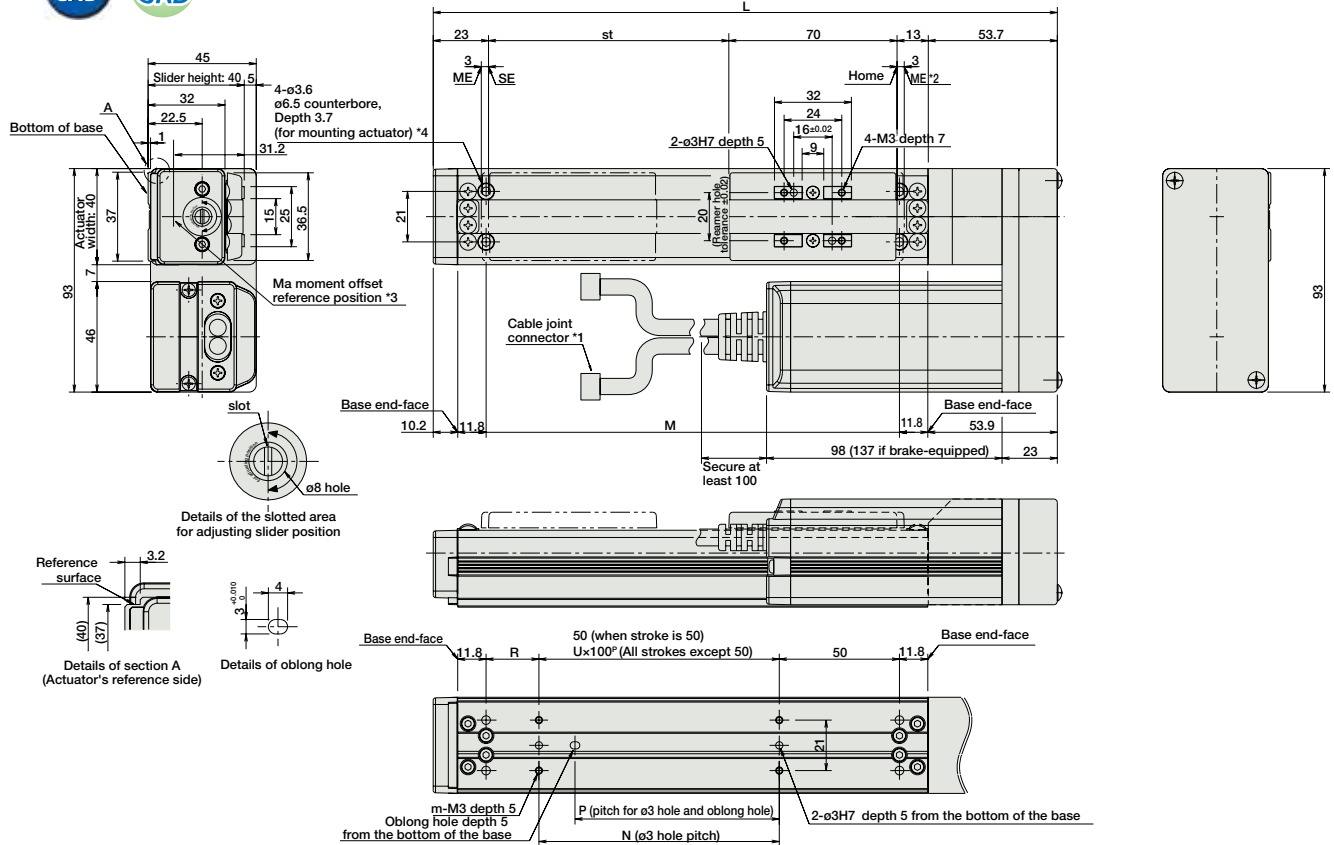




Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.

■ Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.3kg.

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
Weight (kg)	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I-①-②-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I-①-③-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-④-⑤-⑥-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-④-⑤-⑥-V-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					→ P631
Positioner type		ACON-C-20I-①-②-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I-①-③-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-①-③-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I-①-③-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I-①-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-20-①-③-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Power-saving) 1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* ① indicates encoder type (I: incremental, A: absolute)  
 \* ② indicates I/O type (NP/PN). \* ④ indicates number of axes (1 to 8). \* Enter the code "LA" in ① when the power-saving option is specified.  
 \* ⑤ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA-SA5R

ROBO Cylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCA</b> — <b>SA5R</b> — <input type="checkbox"/> — <b>20</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>
Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options	
I: Incremental A: Absolute * Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.	20: 20W Servo motor
	12: 12mm 6: 6mm 3: 3mm
	50: 50mm ? 500: 500mm (50mm pitch increments)
	A1: ACON ASEL A3: AMEC ASEP MSEP
	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable
	See Options below. *Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Power-saving



Pictured: Left-mounted motor model (ML).

Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model.) These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
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	

### Stroke and Maximum Speed

Stroke / Lead	50~450 (every 50mm)	500 (mm)
	12	800
6	400	380
3	200	190

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	I	A
150	I	A
200	I	A
250	I	A
300	I	A
350	I	A
400	I	A
450	I	A
500	I	A

### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

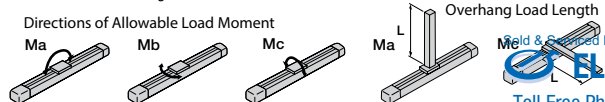
### ⑤ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Home sensor	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

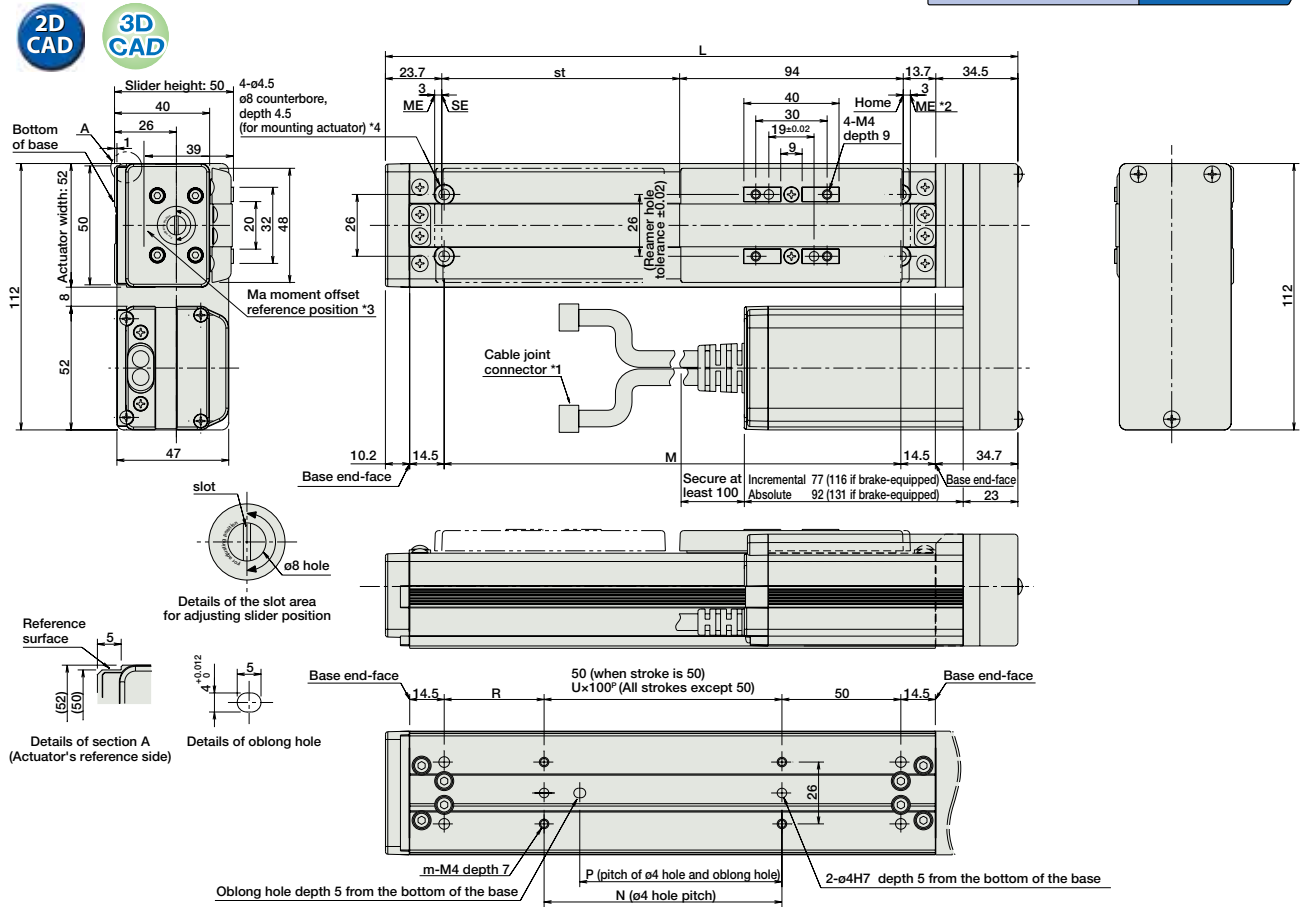
(\*) Based on 5,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



■ Dimensions and Mass by Stroke \* Brake-equipped models are heavier by 0.3kg.

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
Weight (kg)	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4

- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.

③ Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-20I-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20I-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-20I-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-20I-V-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-20I-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.3A rated 4.4A max.	—	—
Safety-Compliant Positioner Type		ACON-CG-20I-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I-2-0	Pulse train input type with differential line driver support	(—)	DC24V	1.3A rated 2.5A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-20I-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-20I-N-0-0	Dedicated Serial Communication	64 points	DC24V	1.3A rated 2.5A max.	—	—
Program Control Type		ASEL-CS-1-20I-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	1.3A rated 2.5A max.	—	→ P675

\* This is for the single-axis ASEL. \* (I) indicates encoder type (I: incremental, A: absolute)  
 \* (II) indicates I/O type (NP/PN). \* (V) indicates number of axes (1 to 8).  
 \* Enter the code "LA" in (I) when the power-saving option is specified.  
 \* (V) indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCA-SA6R

ROBO Cylinder, Slider Type, Actuator Width 58mm, 24V Servo Motor, Side-mounted Motor

Model Specification Items: **RCA** — **SA6R** — [ ] — **30** — [ ] — [ ] — [ ] — [ ] — [ ]

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental  
A: Absolute  
\* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.

30: 30W Servo motor

Lead  
12: 12mm  
6: 6mm  
3: 3mm

Stroke  
50: 50mm  
?  
600: 600mm (50mm pitch increments)

Applicable controller  
A1: ACON  
ASEL  
A3: AMEC  
ASEP  
MSEP

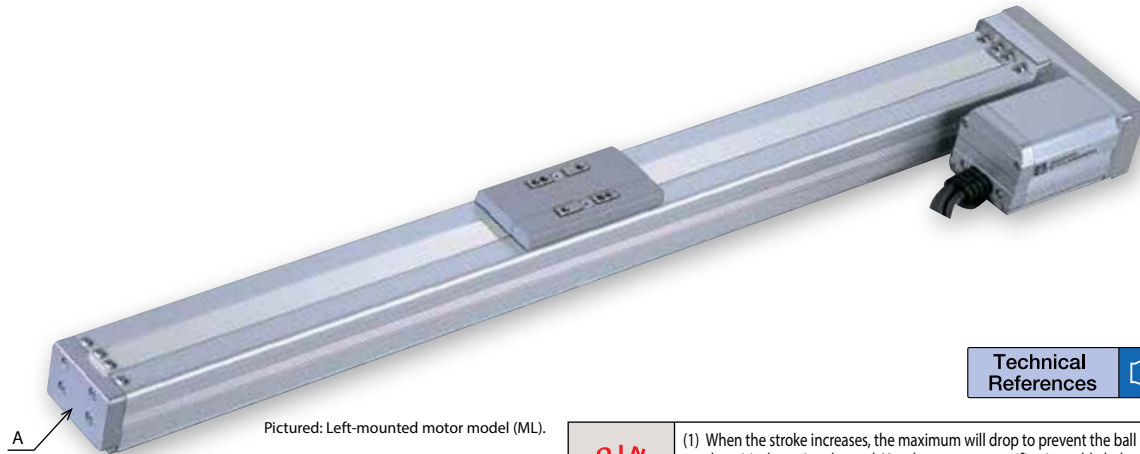
Cable length  
N: None  
P: 1m  
S: 3m  
M: 5m  
X[ ]: Custom length  
R[ ]: Robot cable

Options  
See Options below.  
\*Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-47 for details on the model descriptions.



Power-saving



Pictured: Left-mounted motor model (ML).

Technical References Appendix P.5



- When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model.) These values are the upper limits for the acceleration.
- See page A-71 for details on push motion.

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
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	

### Stroke and Maximum Speed

Stroke Lead	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

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

### ① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
50	I	A
100	I	A
150	I	A
200	I	A
250	I	A
300	I	A
350	I	A
400	I	A
450	I	A
500	I	A
550	I	A
600	I	A

### ③ Cable Length

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

\* See page A-59 for cables for maintenance.

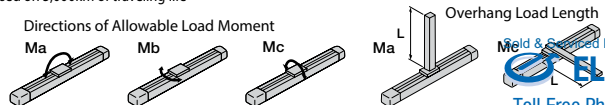
### ④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Home sensor	HS	→ A-50	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

### Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

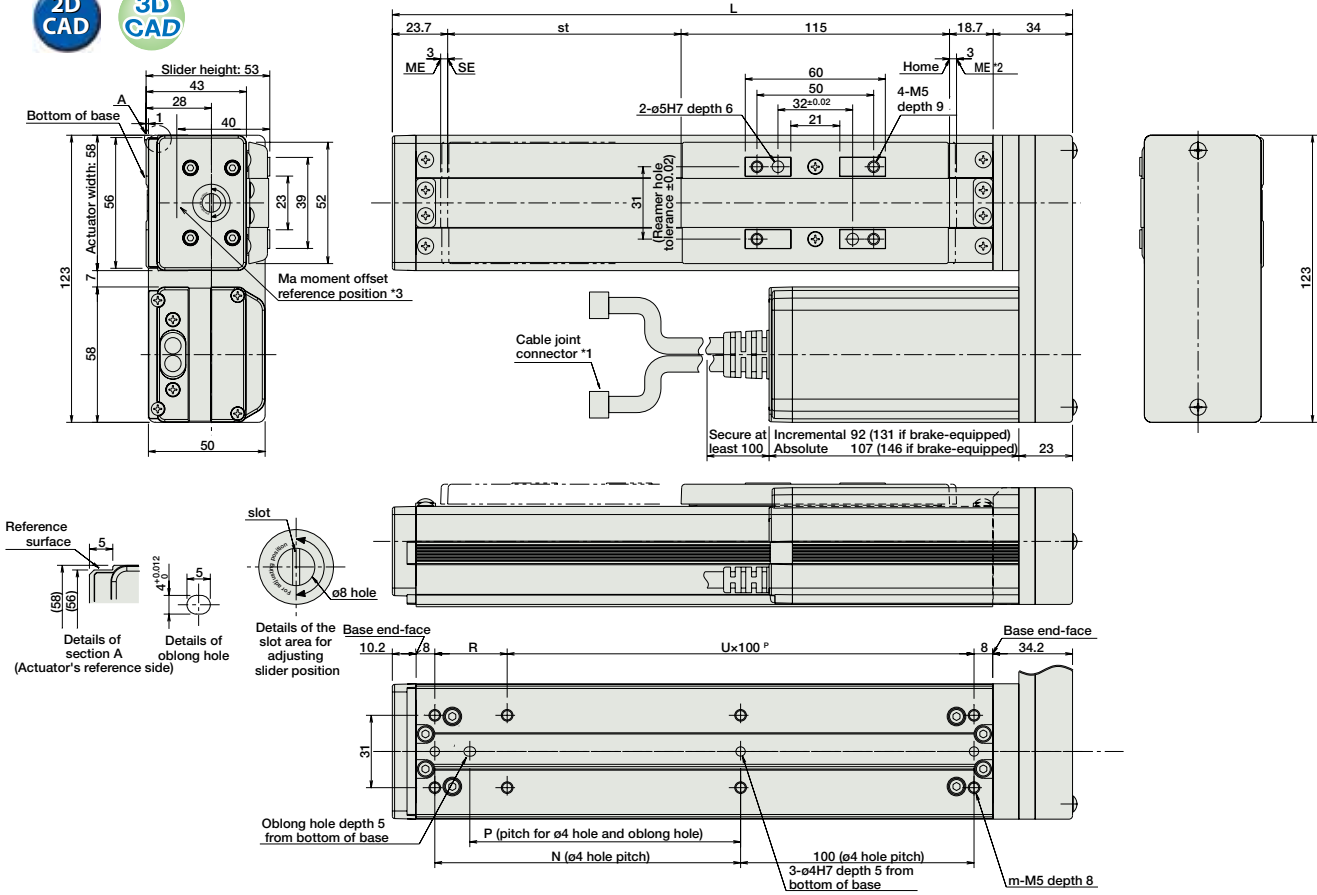
(\*) Based on 5,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



Dimensions and Mass by Stroke

\* Brake-equipped models are heavier by 0.3kg.

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

- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment

Applicable Controllers

RCA series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-30I-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-30I-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-30I-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	1.3A rated 4.4A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-30I-V-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-30I-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.3A rated 4.4A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-30I-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I-2-0	Pulse train input type with differential line driver support	(—)	DC24V	1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-30I-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-30I-N-0-0	Dedicated Serial Communication	64 points	DC24V	1.3A rated 2.2A max.	—	→ P675
Program Control Type		ASEL-CS-1-30I-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	1.3A rated 2.2A max.	—	→ P675

\* This is for the single-axis ASEL. \* Ⓜ indicates encoder type (I: incremental, A: absolute) \* Enter the code "LA" in Ⓜ when the power-saving option is specified.  
 \* Ⓜ indicates I/O type (NP/PN). \* Ⓜ indicates number of axes (1 to 8). \* Ⓜ indicates field network specification symbol.



- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCS3-SA8C

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Aluminum Base, Coupled

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# RCS3P-SA8C

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Aluminum Base, Coupled

**High-precision specification**

**Model Specification Items**

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

RCS3: Standard specification RCS3P: High-precision specification	SA8C I: Incremental A: Absolute	100: Servo motor, 100W 150: Servo motor, 150W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	50: 50mm ? 1100: 1100mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below. *Be sure to specify a code indicating your desired cable exit direction.
---	---------------------------------------	--	--	---	---	--	--

\* See page Pre-47 for details on the model descriptions.

**CE** **RoHS**  
 \*CE compliance is optional.



**Technical References** Appendix P.5

- POINT** Notes on selection
- (1) When the stroke is increased, the maximum speed will drop to prevent reaching dangerous speeds of ball screws. Confirm the maximum speed at the desired stroke by referring to the table of strokes and maximum speeds below.
  - (2) The payload represents a value when the actuator is operated at a horizontal acceleration of 0.3 G (lead 5: 0.2 G) and vertical acceleration of 0.2 G.
  - (3) The payload drops when the acceleration is raised. For details, refer to the list of payloads by acceleration provided on page A-108.
  - (4) See page A-71 for details on push motion.

Actuator Specifications							
Leads and Payloads				Stroke and Maximum Speed			
Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)	
			Horizontal (kg)	Vertical (kg)			
RCS3[RCS3P]-SA8C-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50 to 1100 (every 50mm)	
RCS3[RCS3P]-SA8C-①-100-20-②-③-④-⑤		20	20	4	84.9		
RCS3[RCS3P]-SA8C-①-100-10-②-③-④-⑤		10	40	8	169.8		
RCS3[RCS3P]-SA8C-①-100-5-②-③-④-⑤		5	80	16	339.7		
RCS3[RCS3P]-SA8C-①-150-30-②-③-④-⑤		150	30	12	3		85.1
RCS3[RCS3P]-SA8C-①-150-20-②-③-④-⑤			20	30	6		127.6
RCS3[RCS3P]-SA8C-①-150-10-②-③-④-⑤	10		60	12	255.3		

Stroke Lead	50 to 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

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

② Stroke (mm)	Standard Prices							
	RCS3-SA8C				RCS3P-SA8C			
	① Encoder Type							
	Incremental Motor wattage		Absolute Motor wattage		Incremental Motor wattage		Absolute Motor wattage	
	100W	150W	100W	150W	100W	150W	100W	150W
50/100	—	—	—	—	—	—	—	—
150/200	—	—	—	—	—	—	—	—
250/300	—	—	—	—	—	—	—	—
350/400	—	—	—	—	—	—	—	—
450/500	—	—	—	—	—	—	—	—
550/600	—	—	—	—	—	—	—	—
650/700	—	—	—	—	—	—	—	—
750/800	—	—	—	—	—	—	—	—
850/900	—	—	—	—	—	—	—	—
950/1000	—	—	—	—	—	—	—	—
1050/1100	—	—	—	—	—	—	—	—

④ Cable Length		
Type	Cable symbol	Standard price
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)	—

\* See page A-59 for cables for maintenance.

⑤ Options			
Name	Option code	Page	Standard Price
Cables exit from back left	A1E	→ A-41	—
Cables exit from left side	A1S	→ A-41	—
Cables exit from back right	A3E	→ A-41	—
Cables exit from right side	A3S	→ A-41	—
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Non-motor end specification	NM	→ A-52	—

**Actuator Specifications** RCS3P specifications are shown in [ ]. (Other items are the same.)

Item	Description
Drive method	Ball screw, ø16mm, rolled C10 (rolled C5)
Positioning repeatability	±0.02mm [±0.01mm]
Lost motion	0.1mm [0.05mm] or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 113.5 N·m, Mb: 117 N·m, Mc: 266 N·m
Allowable dynamic moment (*)	Ma: 23.1 N·m, Mb: 32.9 N·m, Mc: 54.1 N·m
Overhang load length	390mm max. in Ma direction, 390mm max. in Mb/Mc directions
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 10,000km.  
 Direction of allowable load moment.

Overhang load length

**111** RCS3/RCS3P-SA8C

Dimensional Drawings

CAD drawings can be downloaded from the website.

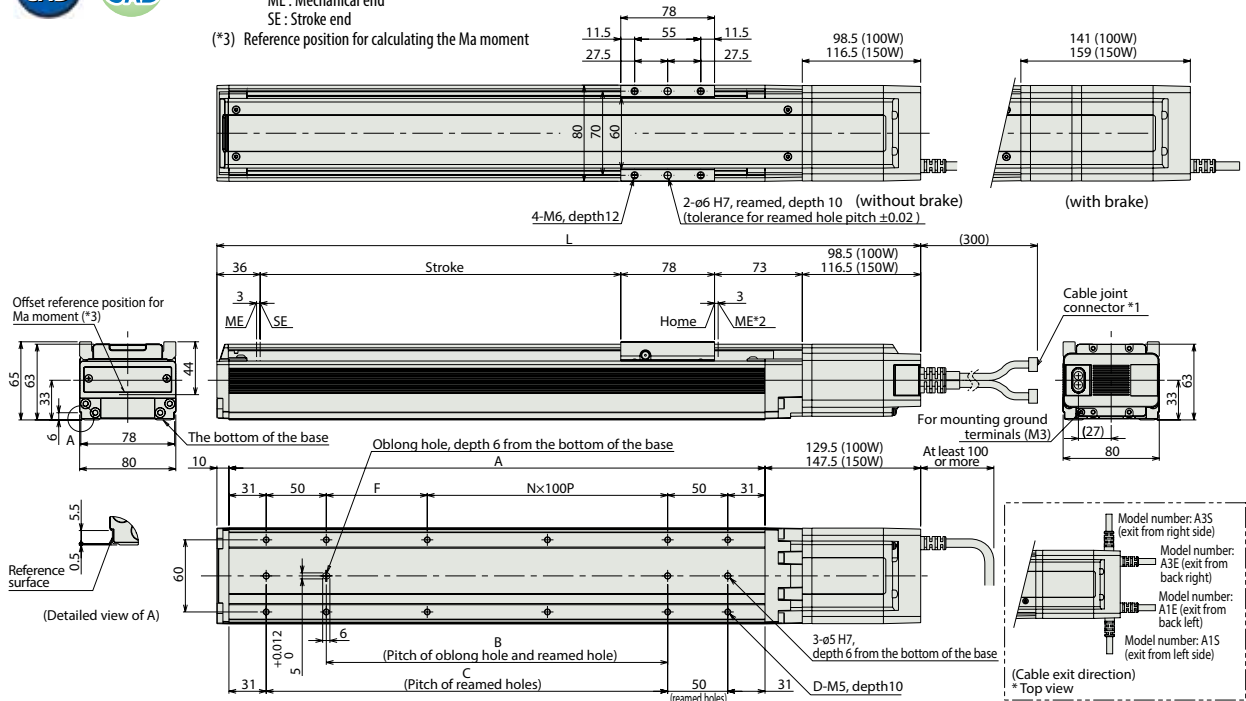
www.intelligentactuator.com

For Special Orders

Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions and Weights by Stroke

Stroke	Dimensions (mm)																							
	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100		
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	1035.5	1085.5	1135.5	1185.5	1235.5	1285.5	1335.5	1385.5
		with brake	378	428	478	528	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178	1228	1278	1328	1378	1428
	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	1003.5	1053.5	1103.5	1153.5	1203.5	1253.5	1303.5	1353.5	1403.5
		with brake	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196	1246	1296	1346	1396	1446
A	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196	1246	1296	1346
B	34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184
C	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184	1234
D	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
F	34	84	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	10	10
Weight (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

Applicable Controllers

RCS3-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page	
Positioner mode		SCON-CA-100①-NP-2-② SCON-CA-150①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC	388 VA max.	—	→ P643	
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points					
Field network type			Movement by numerical specification is supported.	768 points					
Pulse-train input control type			Dedicated pulse-train input type	(—)					
Positioner multi-axis, network type		MSCON-C-1-100①-④-0-① MSCON-C-1-150①-④-0-①	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	* 1-axis specification operated at 150W	—	→ P655	
Program control type, 1 to 2 axes		SSEL-CS-1-100①-NP-2-② SSEL-CS-1-150①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points	—				→ P685
Program control type, 1 to 8 axes		XSEL-③-1-100①-N1-EEE-2-④ XSEL-③-1-150①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected					

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ③ indicates the encoder type (I: Incremental / A: Absolute).  
 \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates field network specification symbol.

# RCS3-SS8C

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Iron Base, Coupled

# RCS3P-SS8C

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Iron Base, Coupled

High-precision specification

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCS3: Standard specification RCS3P: High-precision specification	SS8C		I: Incremental A: Absolute	100: Servo motor, 100W 150: Servo motor, 150W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	50: 50mm ? 1000: 1000mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below. *Be sure to specify a code indicating your desired cable exit direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Technical References Appendix P.5

- POINT** Notes on selection
- (1) When the stroke is increased, the maximum speed will drop to prevent reaching dangerous speeds of ball screws. Confirm the maximum speed at the desired stroke by referring to the table of strokes and maximum speeds below.
  - (2) The payload represents a value when the actuator is operated at a horizontal acceleration of 0.3 G (lead 5: 0.2 G) and vertical acceleration of 0.2 G.
  - (3) The payload drops when the acceleration is raised. For details, refer to the list of payloads by acceleration provided on page A-108.
  - (4) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS3[RCS3P]-SS8C-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50 to 1000 (every 50mm)
RCS3[RCS3P]-SS8C-①-100-20-②-③-④-⑤		20	20	4	84.9	
RCS3[RCS3P]-SS8C-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3[RCS3P]-SS8C-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3[RCS3P]-SS8C-①-150-30-②-③-④-⑤	150	30	12	3	85.1	
RCS3[RCS3P]-SS8C-①-150-20-②-③-④-⑤		20	30	6	127.6	
RCS3[RCS3P]-SS8C-①-150-10-②-③-④-⑤		10	60	12	255.3	

#### Stroke and Maximum Speed

Stroke Lead	Stroke (mm)									
	50 to 650 (every 50mm)	600	700	750	800	850	900	950	1000	
30	1800	1660	1460	1296	1155	1035	935	8530	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	

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard Prices							
	RCS3-SS8C				RCS3P-SS8C			
	① Encoder Type		① Encoder Type		① Encoder Type		① Encoder Type	
	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute
Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	
100W	150W	100W	150W	100W	150W	100W	150W	
50/100	—	—	—	—	—	—	—	
150/200	—	—	—	—	—	—	—	
250/300	—	—	—	—	—	—	—	
350/400	—	—	—	—	—	—	—	
450/500	—	—	—	—	—	—	—	
550/600	—	—	—	—	—	—	—	
650/700	—	—	—	—	—	—	—	
750/800	—	—	—	—	—	—	—	
850/900	—	—	—	—	—	—	—	
950/1000	—	—	—	—	—	—	—	

#### ④ Cable Length

Type	Cable symbol	Standard price
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)	—

\* See page A-59 for cables for maintenance.

#### ⑤ Options

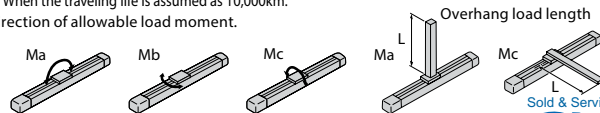
Name	Option code	Page	Standard Price
Cables exit from back left	A1E	→ A-41	—
Cables exit from left side	A1S	→ A-41	—
Cables exit from back right	A3E	→ A-41	—
Cables exit from right side	A3S	→ A-41	—
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications RCS3P specifications are shown in [ ]. (Other items are the same.)

Item	Description
Drive method	Ball screw, ø16mm, rolled C10 [rolled C5]
Positioning repeatability	±0.02mm [±0.01mm]
Lost motion	0.1mm [0.05mm] or less
Base	Material: Dedicated alloy steel
Allowable static moment	Ma: 198.9 N·m, Mb: 198.9 N·m, Mc: 416.7 N·m
Allowable dynamic moment (*)	Ma: 36.3 N·m, Mb: 36.3 N·m, Mc: 77.4 N·m
Overhang load length	450mm max. in Ma direction, 450mm max. in Mb/Mc directions
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 10,000km.

Direction of allowable load moment.



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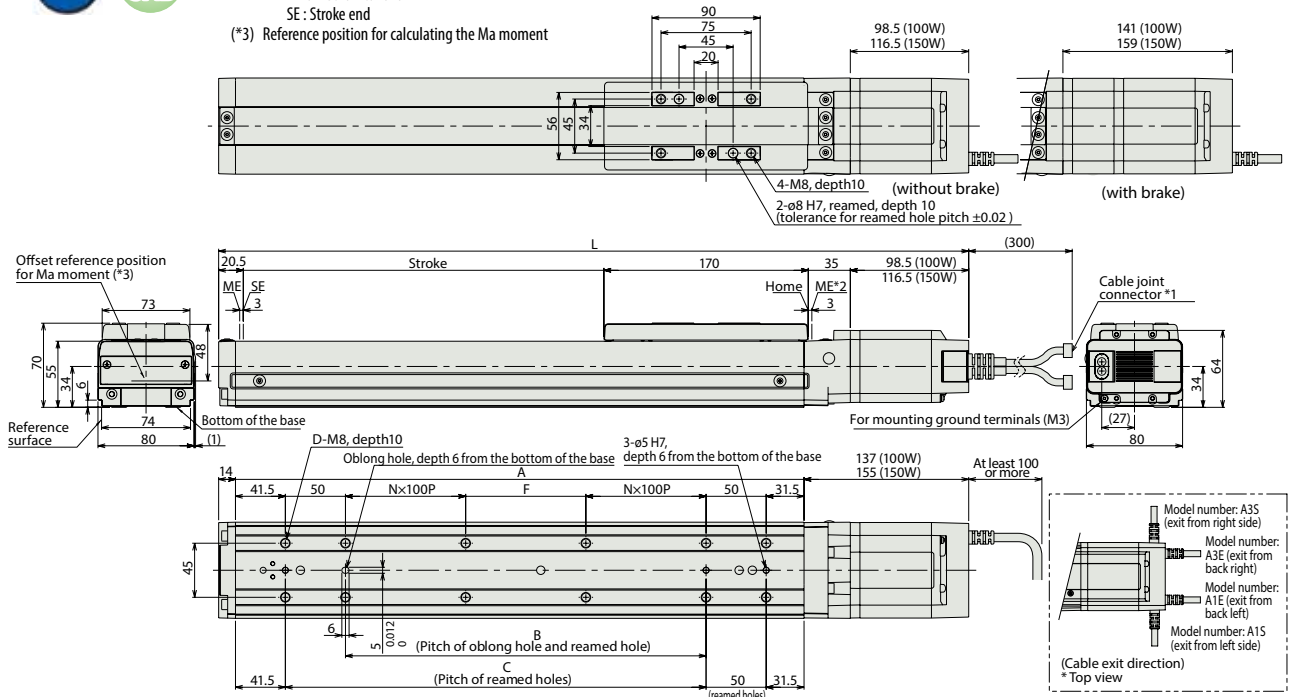
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For Special Orders

Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions and Weights by Stroke

L	Stroke	Stroke																			
		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
100W	without brake	374	424	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174	1224	1274	1324
	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	1016.5	1066.5	1116.5	1166.5	1216.5	1266.5	1316.5	1366.5
150W	without brake	392	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192	1242	1292	1342
	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	1034.5	1084.5	1134.5	1184.5	1234.5	1284.5	1334.5	1384.5
A		223	273	323	373	423	473	523	573	623	673	723	773	823	873	923	973	1023	1073	1123	1173
B		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
C		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
D		8	8	8	10	12	12	12	14	16	16	18	20	20	20	22	24	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	3	3	3	3	4	4	4	4	4	5
Weight (kg)	100W	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	5.5	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

Applicable Controllers

RCS3-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page	
Positioner mode		SCON-CA-100(I)-NP-2-(II) SCON-CA-150(I)-NP-2-(II)	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC	388 VA max.	—	→ P643	
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points					
Field network type			Movement by numerical specification is supported.	768 points					
Pulse-train input control type			Dedicated pulse-train input type	(—)					
Positioner multi-axis, network type		MSCON-C-1-100(I)-V-0-(II) MSCON-C-1-150(I)-V-0-(II)	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	* 1-axis specification operated at 150W	—	→ P655	
Program control type, 1 to 2 axes		SSEL-CS-1-100(I)-NP-2-(II) SSEL-CS-1-150(I)-NP-2-(II)	Program operation is supported. Up to 2 axes can be operated.	20,000 points	—				→ P685
Program control type, 1 to 8 axes		XSEL-(II)-1-100(I)-N1-EEE-2-(V) XSEL-(II)-1-150(I)-N1-EEE-2-(V)	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected					

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* (I) indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* (II) indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* (I) indicates the encoder type (I: Incremental / A: Absolute).  
 \* (II) indicates the XSEL type (J / K / P / Q / R / S).  
 \* (V) indicates field network specification symbol.



# RCS3-SA8R

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Aluminum Base, Side-mounted Motor

# RCS3P-SA8R

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Aluminum Base, Side-mounted Motor **High-precision specification**

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCS3: Standard specification RCS3P: High-precision specification	SA8R		I: Incremental A: Absolute	100: Servo motor, 100W 150: Servo motor, 150W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	50: 50mm ? 1100: 1100mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below. *Be sure to specify a code indicating your desired cable exit direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Technical References Appendix P.5



- When the stroke is increased, the maximum speed will drop to prevent reaching dangerous speeds of ball screws. Confirm the maximum speed at the desired stroke by referring to the table of strokes and maximum speeds below.
- The payload represents a value when the actuator is operated at a horizontal acceleration of 0.3 G (lead 5: 0.2 G) and vertical acceleration of 0.2 G.
- The payload drops when the acceleration is raised. For details, refer to the list of payloads by acceleration provided on page A-108.
- See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS3[RCS3P]-SA8R-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50 to 1100 (every 50mm)
RCS3[RCS3P]-SA8R-①-100-20-②-③-④-⑥		20	20	4	84.9	
RCS3[RCS3P]-SA8R-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3[RCS3P]-SA8R-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3[RCS3P]-SA8R-①-150-30-②-③-④-⑥	150	30	12	3	85.1	
RCS3[RCS3P]-SA8R-①-150-20-②-③-④-⑥		20	30	6	127.6	
RCS3[RCS3P]-SA8R-①-150-10-②-③-④-⑤		10	60	12	255.3	

#### Stroke and Maximum Speed

Stroke Lead	50 to 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

(Unit: mm/s)

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion.

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard Prices							
	RCS3-SA8R				RCS3P-SA8R			
	① Encoder Type				① Encoder Type			
	Incremental		Absolute		Incremental		Absolute	
	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	
	100W	150W	100W	150W	100W	150W	100W	150W
50/100	—	—	—	—	—	—	—	—
150/200	—	—	—	—	—	—	—	—
250/300	—	—	—	—	—	—	—	—
350/400	—	—	—	—	—	—	—	—
450/500	—	—	—	—	—	—	—	—
550/600	—	—	—	—	—	—	—	—
650/700	—	—	—	—	—	—	—	—
750/800	—	—	—	—	—	—	—	—
850/900	—	—	—	—	—	—	—	—
950/1000	—	—	—	—	—	—	—	—
1050/1100	—	—	—	—	—	—	—	—

#### ④ Cable Length

Type	Cable symbol	Standard price
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)	—

\* See page A-59 for cables for maintenance.

#### ⑤ Options

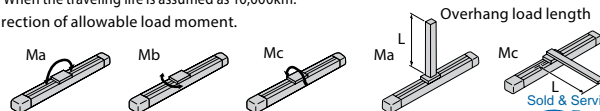
Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Motor mounted on left, cables exit from back	MLE	→ A-52	—
Motor mounted on left, cables exit from side	MLS	→ A-52	—
Motor mounted on right, cables exit from back	MRE	→ A-52	—
Motor mounted on right, cables exit from side	MRS	→ A-52	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications RCS3P specifications are shown in []. (Other items are the same.)

Item	Description
Drive method	Ball screw, ø16mm, rolled C10 [rolled C5]
Positioning repeatability	±0.02mm [±0.01mm]
Lost motion	0.1mm [0.05mm] or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 113.5 N·m, Mb: 117 N·m, Mc: 266 N·m
Allowable dynamic moment (*)	Ma: 23.1 N·m, Mb: 32.9 N·m, Mc: 54.1 N·m
Overhang load length	390mm max. in Ma direction, 390mm max. in Mb/Mc directions
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 10,000km.

Direction of allowable load moment.



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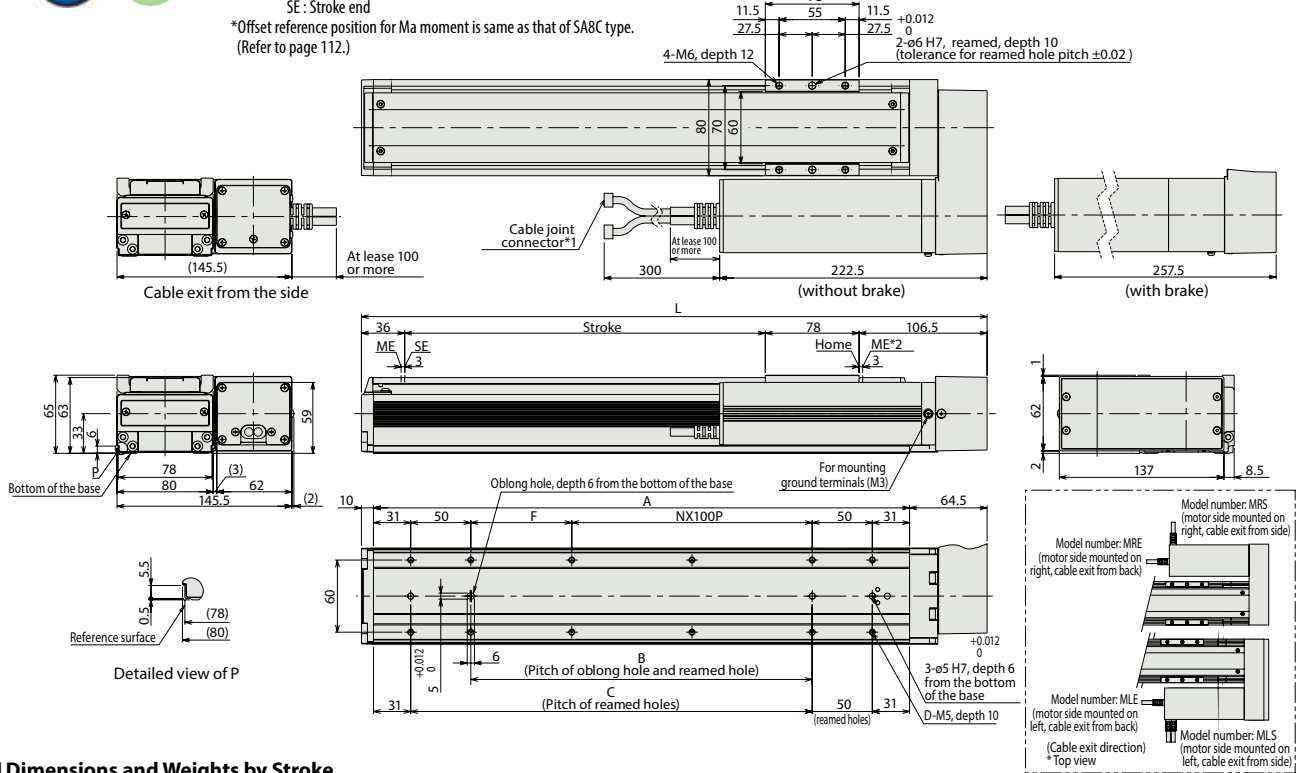
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Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- ME: Mechanical end
- SE: Stroke end
- \*Offset reference position for Ma moment is same as that of SA8C type. (Refer to page T12.)



Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100		
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	1020.5	1070.5	1120.5	1170.5	1220.5	1270.5	1320.5		
A	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196	1246		
B	34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084		
C	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134		
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		
Weight (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

Applicable Controllers

RCS3-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-100①-NP-2-② SCON-CA-150①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	388 VA max. * 1-axis specification operated at 150W	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-100①-④-V-0-② MSCON-C-1-150①-④-V-0-②	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	388 VA max. * 1-axis specification operated at 150W	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-100①-NP-2-② SSEL-CS-1-150①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points					—	→ P685
Program control type, 1 to 8 axes		XSEL-③-1-100①-N1-EEE-2-④ XSEL-③-1-150①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected						

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ③ indicates the encoder type (I: Incremental / A: Absolute).  
 \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates field network specification symbol.

# RCS3-SS8R

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Iron Base, Side-mounted Motor

# RCS3P-SS8R

ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Iron Base, Side-mounted Motor

High-precision specification

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCS3: Standard specification RCS3P: High-precision specification	SS8R		I: Incremental A: Absolute	100: Servo motor, 100W 150: Servo motor, 150W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	50: 50mm ? 1000: 1000mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below. *Be sure to specify a code indicating your desired cable exit direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Technical References Appendix P.5



- When the stroke is increased, the maximum speed will drop to prevent reaching dangerous speeds of ball screws. Confirm the maximum speed at the desired stroke by referring to the table of strokes and maximum speeds below.
- The payload represents a value when the actuator is operated at a horizontal acceleration of 0.3 G (lead 5: 0.2 G) and vertical acceleration of 0.2 G.
- The payload drops when the acceleration is raised. For details, refer to the list of payloads by acceleration provided on page A-108.
- See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS3[RCS3P]-SS8R-①-100-30-②-③-④-⑤	100	30	8	2	56.6	50 to 1000 (every 50mm)
RCS3[RCS3P]-SS8R-①-100-20-②-③-④-⑤		20	20	4	84.9	
RCS3[RCS3P]-SS8R-①-100-10-②-③-④-⑤		10	40	8	169.8	
RCS3[RCS3P]-SS8R-①-100-5-②-③-④-⑤		5	80	16	339.7	
RCS3[RCS3P]-SS8R-①-150-30-②-③-④-⑤	150	30	12	3	85.1	
RCS3[RCS3P]-SS8R-①-150-20-②-③-④-⑤		20	30	6	127.6	
RCS3[RCS3P]-SS8R-①-150-10-②-③-④-⑤		10	60	12	255.3	

#### Stroke and Maximum Speed

Stroke Lead	50 to 650 (every 50mm)									
	600	700	750	800	850	900	950	1000		
30	1800	1660	1460	1296	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	

(Unit: mm/s)

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion.

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard Prices							
	RCS3-SS8R				RCS3P-SS8R			
	① Encoder Type							
	Incremental		Absolute		Incremental		Absolute	
	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	Motor wattage	
	100W	150W	100W	150W	100W	150W	100W	150W
50/100	—	—	—	—	—	—	—	—
150/200	—	—	—	—	—	—	—	—
250/300	—	—	—	—	—	—	—	—
350/400	—	—	—	—	—	—	—	—
450/500	—	—	—	—	—	—	—	—
550/600	—	—	—	—	—	—	—	—
650/700	—	—	—	—	—	—	—	—
750/800	—	—	—	—	—	—	—	—
850/900	—	—	—	—	—	—	—	—
950/1000	—	—	—	—	—	—	—	—

#### ④ Cable Length

Type	Cable symbol	Standard price
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)	—

\* See page A-59 for cables for maintenance.

#### ⑤ Options

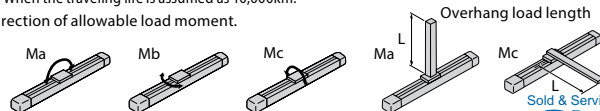
Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Motor mounted on left, cables exit from back	MLE	→ A-52	—
Motor mounted on left, cables exit from side	MLS	→ A-52	—
Motor mounted on right, cables exit from back	MRE	→ A-52	—
Motor mounted on right, cables exit from side	MRS	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications RCS3P specifications are shown in [ ]. (Other items are the same.)

Item	Description
Drive method	Ball screw, ø16mm, rolled C10 [rolled C5]
Positioning repeatability	±0.02mm [±0.01mm]
Lost motion	0.1mm [0.05mm] or less
Base	Material: Dedicated alloy steel
Allowable static moment	Ma: 198.9 N·m, Mb: 198.9 N·m, Mc: 416.7 N·m
Allowable dynamic moment (*)	Ma: 36.3 N·m, Mb: 36.3 N·m, Mc: 77.4 N·m
Overhang load length	450mm max. in Ma direction, 450mm max. in Mb/Mc directions
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 10,000km.

Direction of allowable load moment.



Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

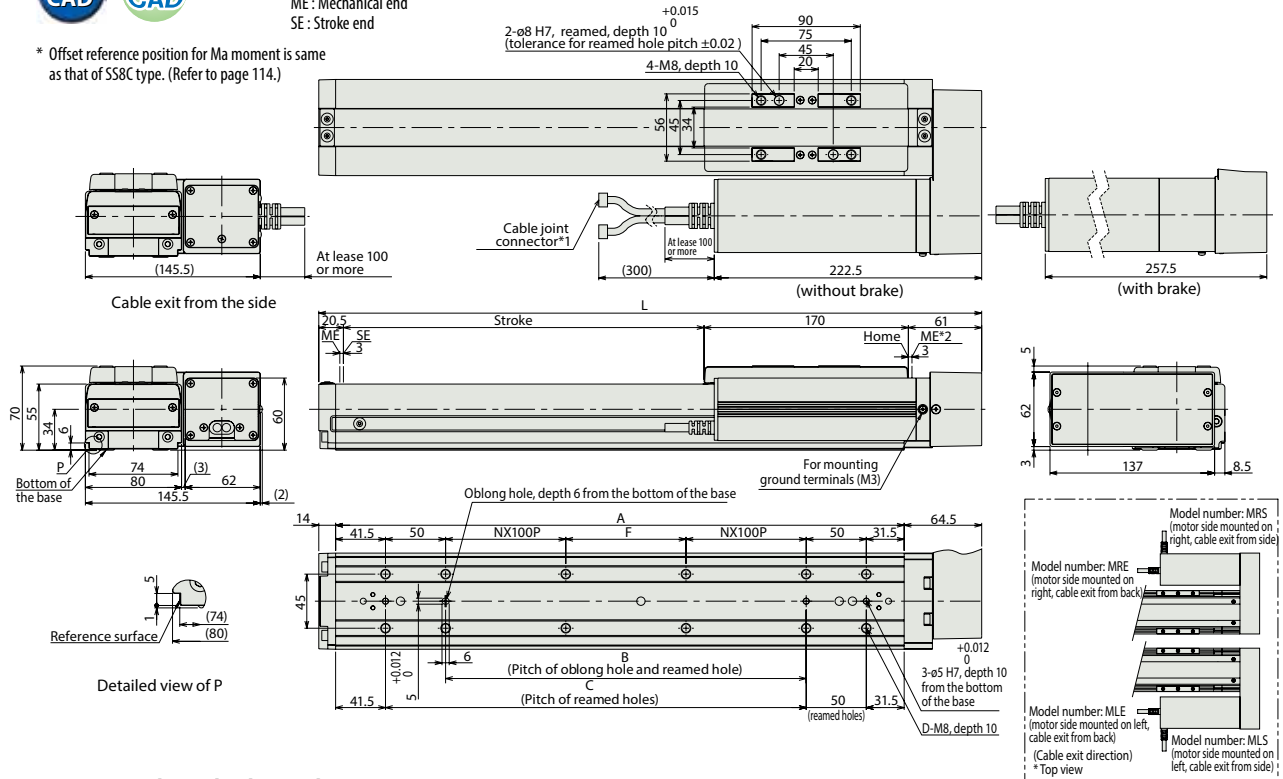
For Special Orders

Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
  - (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- ME: Mechanical end  
SE: Stroke end

\* Offset reference position for Ma moment is same as that of SS8C type. (Refer to page 114.)



Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
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	1001.5	1051.5	1101.5	1151.5	1201.5	1251.5	
A	223	273	323	373	423	473	523	573	623	673	723	773	823	873	923	973	1023	1073	1123	1173	
B	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
C	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	
D	8	8	8	10	12	12	14	16	16	16	18	20	20	20	22	24	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	
Weight (kg)	100W	without brake 6.0	with brake 6.3	without brake 6.5	with brake 6.8	without brake 7.1	with brake 7.4	without brake 7.6	with brake 7.9	without brake 8.2	with brake 8.5	without brake 8.7	with brake 9.0	without brake 9.3	with brake 9.6	without brake 9.9	with brake 10.1	without brake 10.4	with brake 10.7	without brake 11.0	with brake 11.2
	150W	without brake 6.1	with brake 6.4	without brake 6.6	with brake 6.9	without brake 7.2	with brake 7.5	without brake 7.7	with brake 8.0	without brake 8.3	with brake 8.6	without brake 8.8	with brake 9.1	without brake 9.4	with brake 9.7	without brake 10.0	with brake 10.2	without brake 10.5	with brake 10.8	without brake 11.1	with brake 11.3

Applicable Controllers

RCS3-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-100①-NP-2-②③ SCON-CA-150①-NP-2-②③	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	388 VA max. * 1-axis specification operated at 150W	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-100①-④-V-0-②③④ MSCON-C-1-150①-④-V-0-②③④	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	388 VA max. * 1-axis specification operated at 150W	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-100①-NP-2-②③④ SSEL-CS-1-150①-NP-2-②③④	Program operation is supported. Up to 2 axes can be operated.	20,000 points					—	→ P685
Program control type, 1 to 8 axes		XSEL-④-1-100①-N1-EEE-2-④⑤⑥⑦⑧ XSEL-④-1-150①-N1-EEE-2-④⑤⑥⑦⑧	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected						

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ③ indicates the encoder type (I: Incremental / A: Absolute).  
 \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates field network specification symbol.

# RCS2-SA4C

ROBO Cylinder, Slider Type, Actuator Width 40mm, 200-V Servo Motor, Coupled

Model Specification Items	<b>RCS2</b>	<b>SA4C</b>	<input type="checkbox"/>	<b>20</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	20: Servo motor, 20W	16: 16mm 10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm ? 400: 400mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.

## For High Acceleration/Deceleration

(excluding the 2.5-mm lead model)



\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation of the standard model at 0.3G (0.2G for 2.5mm-lead), and the high acceleration/deceleration model at 1G (excluding the 2.5mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
- (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA4C-①-20-16-②-③-④-⑤	20	16	2.5	0.6	12.25	50 to 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	

#### Stroke and Maximum Speed

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

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Foot bracket	FT	→ A-47	—
For High Acceleration/Deceleration	HA	→ A-50	—
Home sensor	HS	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Slider Roller specification	SR	→ A-55	—
Slider spacer	SS	→ A-55	—

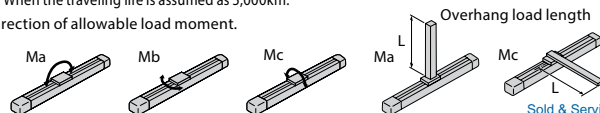
\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high-acceleration/deceleration option cannot be used on the 2.5mm-lead model.

#### Actuator Specifications RCS3P specifications are shown in [ ]. (Other items are the same.)

Item	Description
Drive method	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Overhang load length	Ma direction: 120mm or less Mb/Mc directions: 120mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.



# 119

RCS2-SA4C

Dimensional Drawings

CAD drawings can be downloaded from the website.

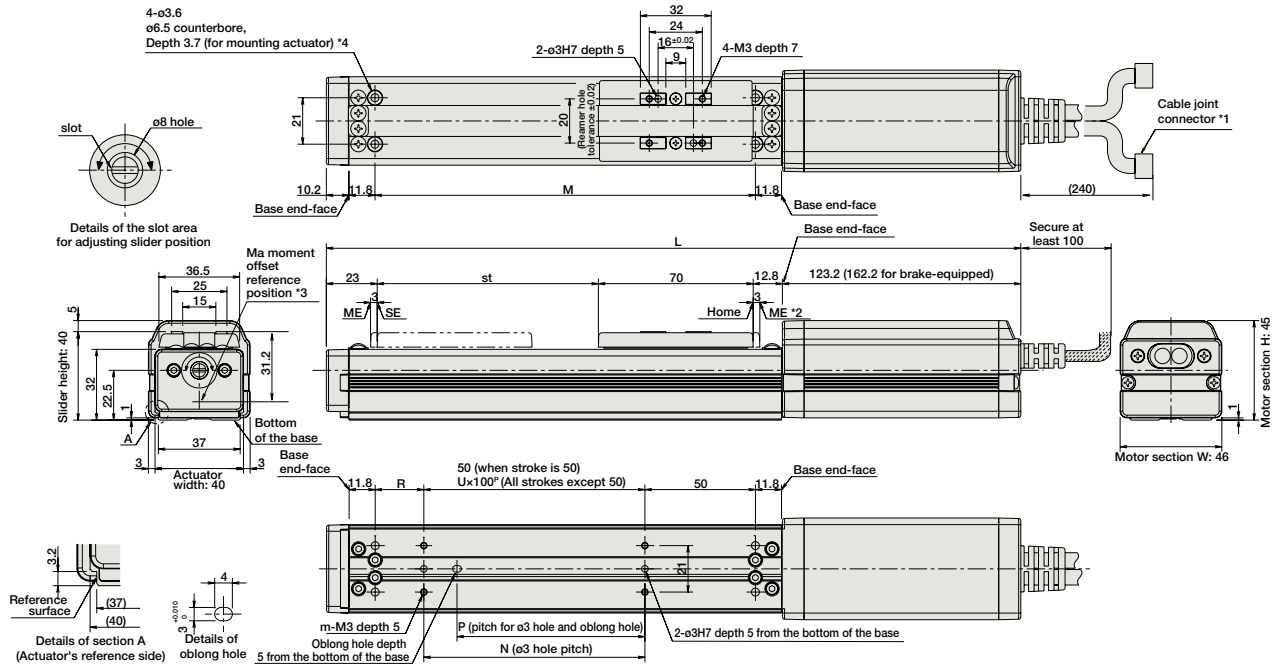
[www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders

Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.



■ Dimensions and Weights by Stroke \* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400
L	without brake	279	329	379	429	479	529	579
	with brake	318	368	418	468	518	568	618
M	122	172	222	272	322	372	422	472
N	35	100	150	200	250	300	350	400
P	22	134	184	234	284	334	384	434
R	8	8	10	10	12	12	14	14
U	—	1	1	2	2	3	3	4
m	4	4	4	6	6	8	8	10
Weight (kg)	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4

③ Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-20①②-NP-2-③④	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC	106 VA max.	—	→ P643
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points				
Field network type			Movement by numerical specification is supported.	768 points				
Pulse-train input control type			Dedicated pulse-train input type	(—)				
Positioner multi-axis, network type		MSCON-C-1-20①②-⑤⑥-0-⑦⑧	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	—	—	→ P655
Program control type, 1 to 2 axes		SSEL-CS-1-20①②-NP-2-③④	Program operation is supported. Up to 2 axes can be operated.	20,000 points	—	—	—	→ P685
Program control type, 1 to 8 axes		XSEL-⑨-1-20①②-N1-EEE-2-⑩	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected	—	—	—	→ P695

\* This is for the single-axis MSCON, SSEL, and XSEL. \* ① indicates the encoder type (I: Incremental / A: Absolute). \* Enter the code "HA" in ⑤ when the high-acceleration/deceleration option is specified.  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V). \* ③ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ④ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V). \* ⑥ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor



# RCS2-SA5C

ROBO Cylinder, Slider Type, Actuator Width 52mm, 200-V Servo Motor, Coupled

Model Specification Items	<b>RCS2</b>	<b>SA5C</b>	<input type="checkbox"/>	<b>20</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	20: Servo motor, 20W	20: 20mm 12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 500: 500mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.

## For High Acceleration/Deceleration

(excluding the 3-mm lead model)



Technical References Appendix P.5

**POINT Notes on selection**

- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- The load capacity is based on operation of standard model at 0.3G (0.2G for 3mm-lead), and operation of the high acceleration/deceleration model at 0.8G (excluding the 3mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
- See page A-71 for details on push motion.

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA5C-①-20-20-②-③-④-⑤	20	20	2	0.5	10.7	50 to 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	

#### Stroke and Maximum Speed

(Unit: mm/s)

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

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. \* The values enclosed in < > apply to vertical settings.

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

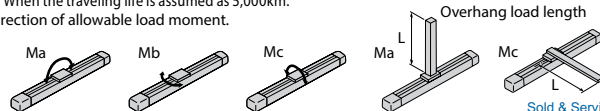
Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Foot bracket	FT	→ A-47	—
For High Acceleration/Deceleration	HA	→ A-50	—
Home sensor	HS	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high-acceleration/deceleration option cannot be used on the 3mm-lead model.

### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 5,000km. Direction of allowable load moment.



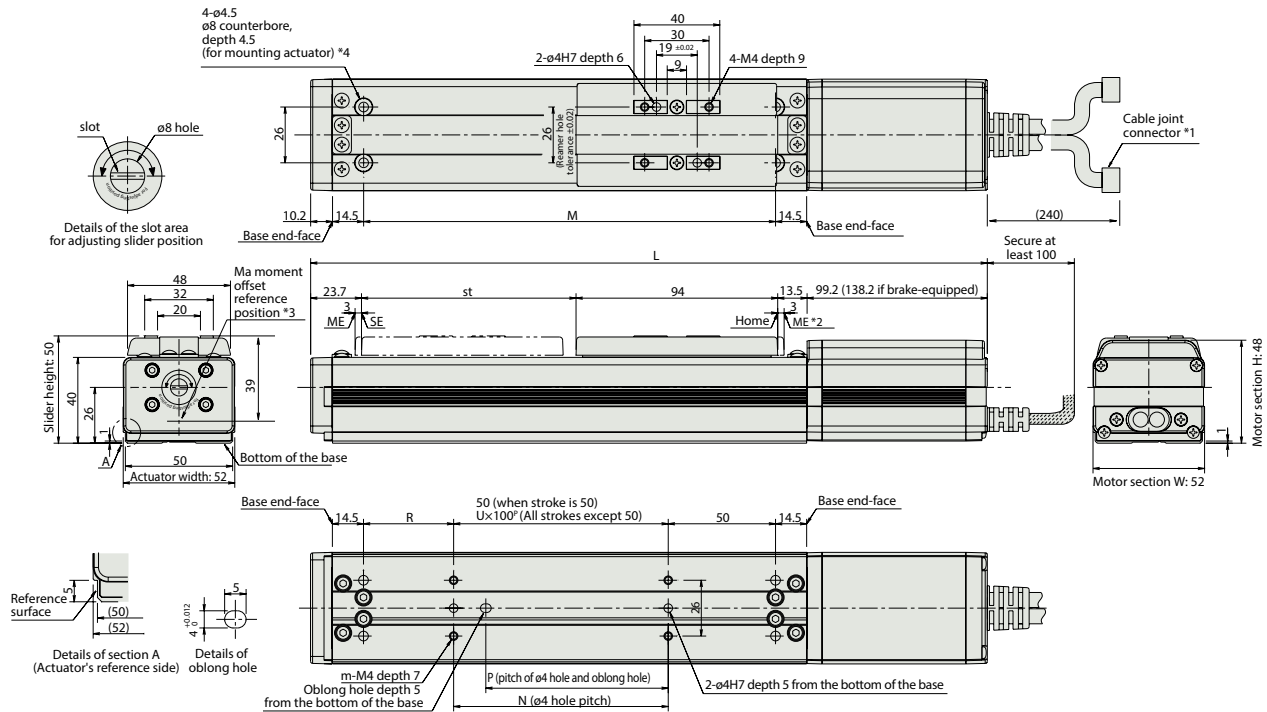
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME : Mechanical end SE : Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



**Dimensions and Weights by Stroke** \* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400	450	500
L	without brake	280.4	340.4	380.4	440.4	480.4	540.4	580.4	640.4	740.4
	with brake	319.4	369.4	419.4	469.4	519.4	569.4	619.4	679.4	769.4
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
Weight (kg)	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2

③ Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page	
Positioner mode		SCON-CA-20①②-NP-2-③④	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643	
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points					
Field network type			Movement by numerical specification is supported.	768 points					
Pulse-train input control type			Dedicated pulse-train input type	(—)					
Positioner multi-axis, network type		MSCON-C-1-20①②-⑤⑥-0-⑦⑧	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	—	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-20①②-NP-2-③④	Program operation is supported. Up to 2 axes can be operated.	20,000 points				—	→ P685
Program control type, 1 to 8 axes		XSEL-⑨-1-20①②-N1-EEE-2-⑩	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected					

\* This is for the single-axis MSCON, SSEL, and XSEL. \* ① indicates the encoder type (I: Incremental / A: Absolute). \* Enter the code "HA" in ② when the high-acceleration/deceleration option is specified.  
 \* ③ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V). \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V). \* ⑥ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCS2-SA6C

ROBO Cylinder, Slider Type, Actuator Width 58mm, 200-V Servo Motor, Coupled

Model Specification Items	<b>RCS2</b>	<b>SA6C</b>	<input type="checkbox"/>	<b>30</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	30: Servo motor, 30W	20: 20mm 12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 600: 600mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.

**For High Acceleration/Deceleration**

(excluding the 3-mm lead model)



\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

Technical References Appendix P.5

- POINT**  
Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation of standard model at 0.3G (0.2G for 3mm-lead), and operation of the high acceleration/deceleration model at 1G (excluding the 3mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA6C-①-30-20-②-③-④-⑤	30	20	3	0.5	15.8	50 to 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	

#### Stroke and Maximum Speed

(Unit: mm/s)

Stroke Lead	50~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)
	20	1300 <800>	1160 <800>	890 <800>
12	800	760	640	540
6	400	380	320	270
3	200	190	160	135

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. \* The values enclosed in < > apply to vertical settings.

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—

#### ⑤ Options

Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Foot bracket	FT	→ A-47	—
For High Acceleration/Deceleration	HA	→ A-50	—
Home sensor	HS	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high-acceleration/deceleration option cannot be used on the 3mm-lead model.

#### ④ Cable Length

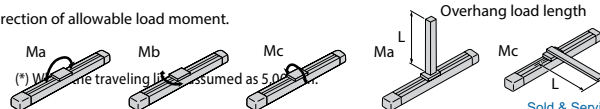
Type	Cable symbol	Standard price
Standard type	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
	R01 (1m) ~ R03 (3m)	—
Robot cable	R04 (4m) ~ R05 (5m)	—
	R06 (6m) ~ R10 (10m)	—
	R11 (11m) ~ R15 (15m)	—
	R16 (16m) ~ R20 (20m)	—

\* See page A-59 for cables for maintenance.

### Actuator Specifications

Item	Description
Drive method	Ball screw, $\phi$ 10mm, rolled C10
Positioning repeatability	$\pm 0.02$ mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Overhang load length	Ma direction: 220mm or less, Mb/Mc directions: 120mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

Direction of allowable load moment.



**123** RCS2-SA6C

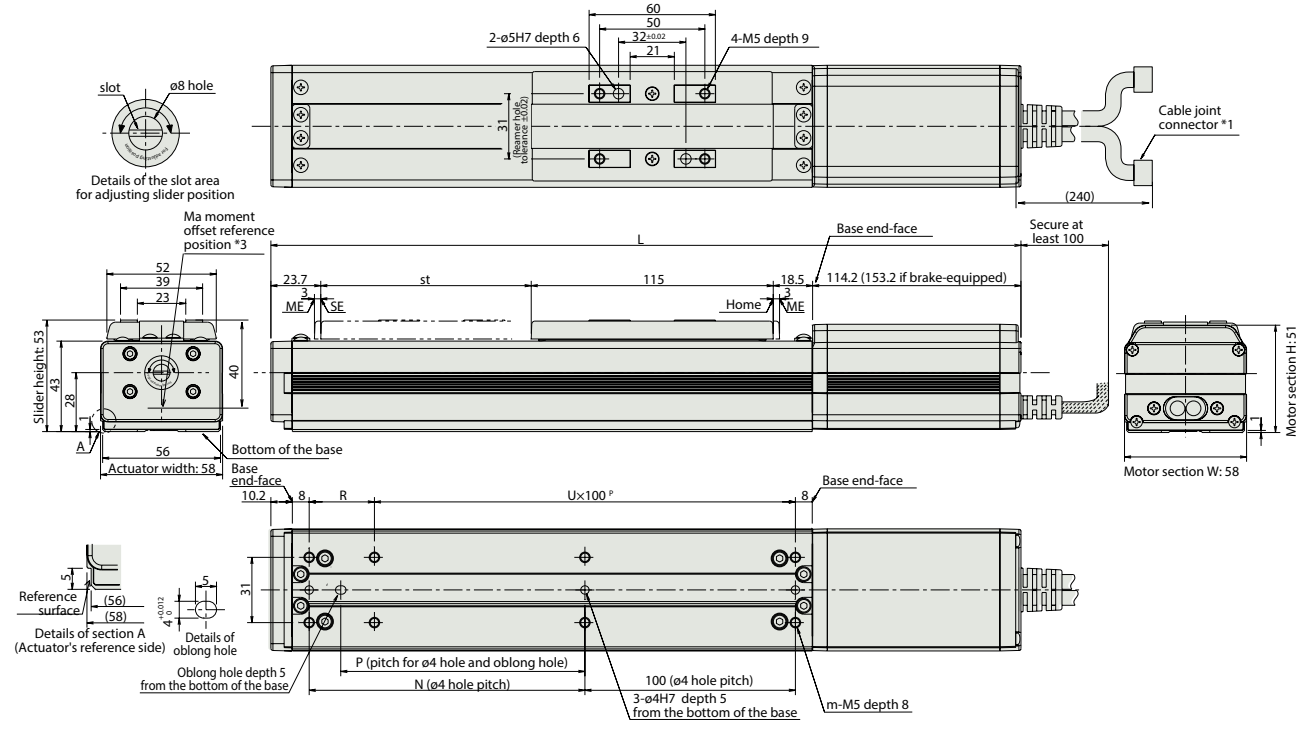
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions and Weights by Stroke

\* Brake-equipped models are heavier by 0.3kg.

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	without brake	321.4	371.4	421.4	471.4	521.4	571.4	621.4	671.4	721.4	771.4	821.4
	with brake	360.4	410.4	460.4	510.4	560.4	610.4	660.4	710.4	760.4	810.4	860.4
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
Weight (kg)	1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-30D①①-NP-2-②③	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	126 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-30D①①-V①-0-②③	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	126 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-30D①①-NP-2-②③	Program operation is supported. Up to 2 axes can be operated.	20,000 points					—	→ P685
Program control type, 1 to 8 axes		XSEL-V①-1-30D①①-N1-EEE-2-V①	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected					—	→ P695

\* This is for the single-axis MSCON, SSEL, and XSEL. \* ① indicates the encoder type (I: Incremental / A: Absolute). \* Enter the code "HA" in ① when the high-acceleration/deceleration option is specified.  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V). \* V indicates the XSEL type (U / K / P / Q / R / S).  
 \* V indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V). \* V indicates field network specification symbol.



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- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCS2-SA7C

ROBO Cylinder, Slider Type, Actuator Width 73mm, 200-V Servo Motor, Coupled

Model Specification Items	<b>RCS2</b>	<b>SA7C</b>	<input type="checkbox"/>	<b>60</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	60: Servo motor, 60W	24: 24mm 16: 16mm 8: 8mm 4: 4mm	50: 50mm ? 800: 800mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable	See Options below.

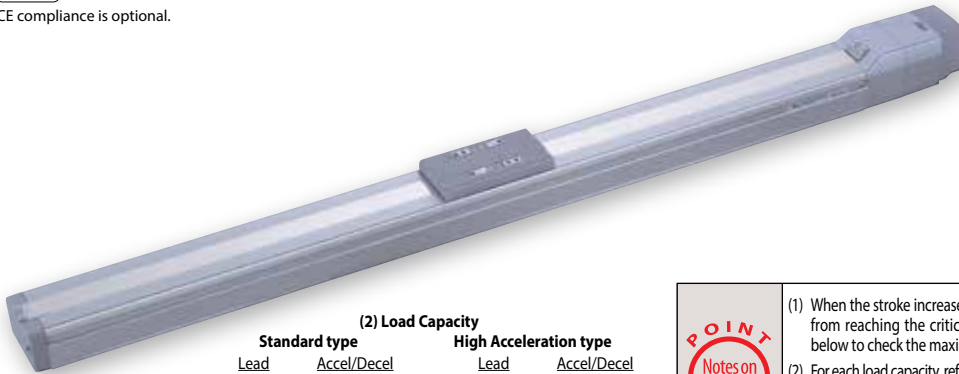
\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.

## For High Acceleration/Deceleration

(excluding the 4-mm lead model)



Technical References Appendix P.5

(2) Load Capacity

Standard type		High Acceleration type	
Lead	Accel/Decel	Lead	Accel/Decel
24mm	0.3G	24mm	0.8G
16mm	0.3G	16mm	1.0G
8mm	0.3G	8mm	0.8G
4mm	0.2G	(No HA option for the 4mm lead)	

- POINT**  
Notes on selection
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - For each load capacity, refer to the tables on the left. (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
  - See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA7C-①-60-24-②-③-④-⑤	60	24	8	1.4	42.4	50 to 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	

#### Stroke and Maximum Speed

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

(Unit: mm/s)

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion.

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50/100	—	—
150/200	—	—
250/300	—	—
350/400	—	—
450/500	—	—
550/600	—	—
650/700	—	—
750/800	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

Name	Option code	Page	Standard Price
Brake (Cable exiting end)	BE	→ A-42	—
Brake (Cable exiting left)	BL	→ A-42	—
Brake (Cable exiting right)	BR	→ A-42	—
CE compliance	CE	→ A-42	—
For High Acceleration/Deceleration	HA	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

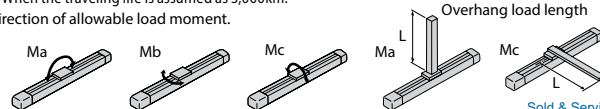
\* The high-acceleration/deceleration option and the slider roller option cannot be used together.  
\* The high-acceleration/deceleration option cannot be used on the 4mm-lead model.

### Actuator Specifications

Item	Description
Drive method	Ball screw, ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 50.4 N·m, Mb: 71.9 N·m, Mc: 138.0 N·m
Allowable dynamic moment (*)	Ma: 13.9 N·m, Mb: 19.9 N·m, Mc: 38.3 N·m
Overhang load length	Ma direction: 230mm or less, Mb/Mc directions: 230mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.



125 RCS2-SA7C

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Dimensional Drawings

CAD drawings can be downloaded from the website.

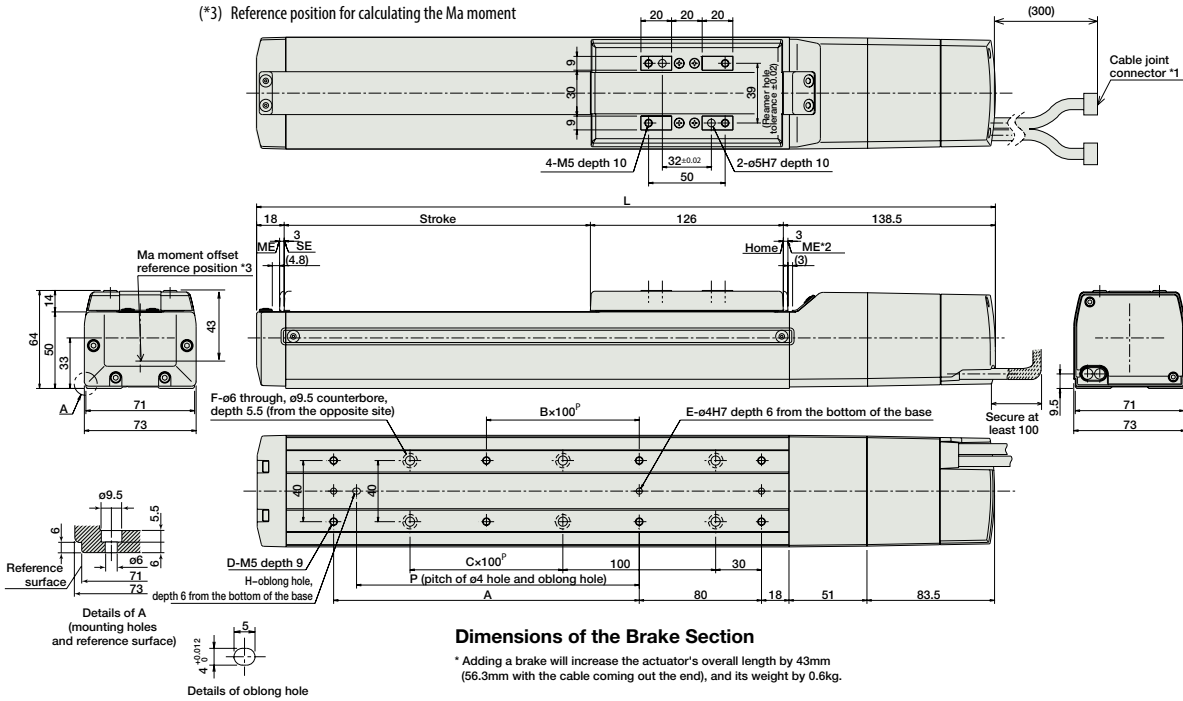
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For Special Orders

Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment

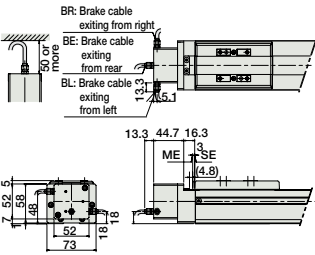


Dimensions of the Brake Section

\* Adding a brake will increase the actuator's overall length by 43mm (56.3mm with the cable coming out the end), and its weight by 0.6kg.

■ Dimensions and Weights 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	1032.5	1082.5
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
Weight (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



③ Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page	
Positioner mode		SCON-CA-60①②-NP-2-③④	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643	
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points					
Field network type			Movement by numerical specification is supported.	768 points					
Pulse-train input control type			Dedicated pulse-train input type	(—)					
Positioner multi-axis, network type		MSCON-C-1-60①②-V③-0-④⑤	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	—	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-60①②-NP-2-③④	Program operation is supported. Up to 2 axes can be operated.	20,000 points				—	→ P685
Program control type, 1 to 8 axes		XSEL-V③-1-60①②-N1-EEE-2-V④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected					

\* This is for the single-axis MSCON, SSEL, and XSEL. \* ① indicates the encoder type (I: Incremental / A: Absolute). \* Enter the code "HA" in ④ when the high-acceleration/deceleration option is specified.  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V). \* ③ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ④ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V). \* ⑤ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCS2-SS7C

ROBO Cylinder, Slider Type, Actuator Width 60 mm, 200-V Servo Motor, Coupled, Iron Base

Model Specification Items	<b>RCS2</b>	<b>SS7C</b>	<input type="checkbox"/>	<b>60</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	60: Servo motor, 60W	20: 20mm 12: 12mm 6: 6 mm	50: 50mm ? 600: 600mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Technical References Appendix P.5

**POINT**  
Notes on selection

- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G. This value is the upper limit for the acceleration.
- (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SS7C-①-60-20-②-③-④-⑤	60	20	9	2.4	51	50 to 600 (every 50mm)
RCS2-SS7C-①-60-12-②-③-④-⑤		12	15	4	85	
RCS2-SS7C-①-60-6-②-③-④-⑤		6	30	8	170	

#### Stroke and Maximum Speed

Stroke / Lead	50-500 (every 50mm)	550 (mm)	600 (mm)
	20	1000	1000
12	600	470	
6	300	230	

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50/100	—	—
150/200	—	—
250/300	—	—
350/400	—	—
450/500	—	—
550/600	—	—

#### ④ Cable Length

Type	Cable symbol	Standard price
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)	—
	R20 (20m)	—

\* See page A-59 for cables for maintenance.

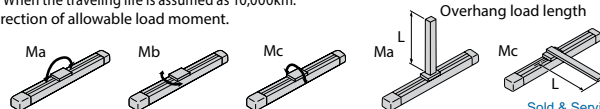
#### ⑤ Options

Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Dedicated alloy steel
Allowable static moment	Ma: 79.4 N·m Mb: 79.4 N·m Mc: 172.9 N·m
Allowable dynamic moment (*)	Ma: 14.7 N·m Mb: 14.7 N·m Mc: 33.3 N·m
Overhang load length	Ma direction: 300mm or less Mb/Mc directions: 300mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 10,000km. Direction of allowable load moment.



Dimensional Drawings

CAD drawings can be downloaded from the website.

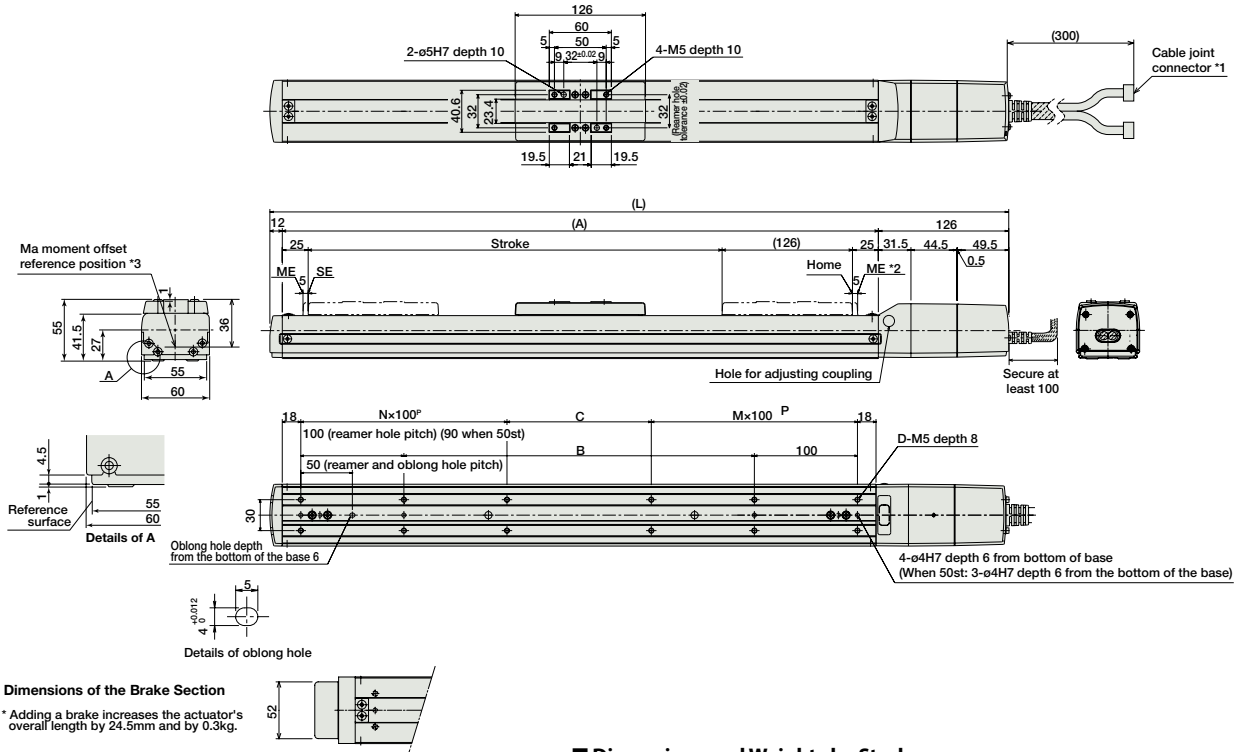
www.intelligentactuator.com

For Special Orders

Appendix P.15

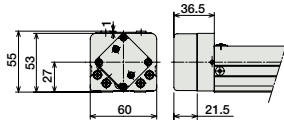


- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions of the Brake Section

\* Adding a brake increases the actuator's overall length by 24.5mm and by 0.3kg.



■ Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	364	414	464	514	564	614	664	714	764	814	864	914
A	226	276	326	376	426	476	526	576	626	676	726	776
B	0	40	90	140	190	240	290	340	390	440	490	540
C	90	40	90	140	190	40	90	140	190	40	90	140
D	6	8	8	8	8	12	12	12	12	16	16	16
M	1	1	1	1	1	2	2	2	2	3	3	3
N	0	1	1	1	1	2	2	2	2	3	3	3
Weight (kg)	2.9	3.2	3.5	3.8	4.2	4.5	4.8	5.1	5.5	5.8	6.1	6.4

③ Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-60①-NP-2-①①	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-60①-V-0-①①	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-60①-NP-2-①①	Program operation is supported. Up to 2 axes can be operated.	20,000 points					—	→ P685
Program control type, 1 to 8 axes		XSEL-①①-1-60①-N1-EEE-2-①①	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected						

\* This is for the single-axis MSCON, SSEL, and XSEL.

\* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).

\* ①① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).

\* ① indicates the encoder type (I: Incremental / A: Absolute).

\* ①① indicates the XSEL type (J / K / P / Q / R / S).

\* ①① indicates field network specification symbol.

# RCS2-SA4D

ROBO Cylinder, Slider Type, Actuator Width 40mm, 200-V Servo Motor, Motor Built-In (Direct Coupled)

Model Specification Items	<b>RCS2</b> — <b>SA4D</b> — <input type="checkbox"/> — <b>20</b> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>							
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I : Incremental A: Absolute	20: Servo motor, 20W	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50: 50mm ? 300: 300mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Technical References Appendix P.5

- POINT**  
Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2.5mm-lead model). These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA4D-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50 to 300 (every 50mm)
RCS2-SA4D-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCS2-SA4D-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

#### Stroke and Maximum Speed

Stroke Lead	50~300 (every 50mm)
10	665
5	330
2.5	165

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

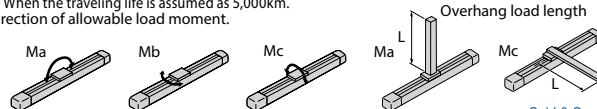
#### ⑤ Options

Name	Option code	Page	Standard Price
Brake (Cable exiting end)	BE	→ A-42	—
Brake (Cable exiting left)	BL	→ A-42	—
Brake (Cable exiting right)	BR	→ A-42	—
CE compliance	CE	→ A-42	—
Non-motor end specification	NM	→ A-52	—

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Overhang load length	Ma direction: 120mm or less Mb/Mc directions: 120mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 5,000km. Direction of allowable load moment.



Dimensional Drawings

CAD drawings can be downloaded from the website.

[www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders

Appendix P.15

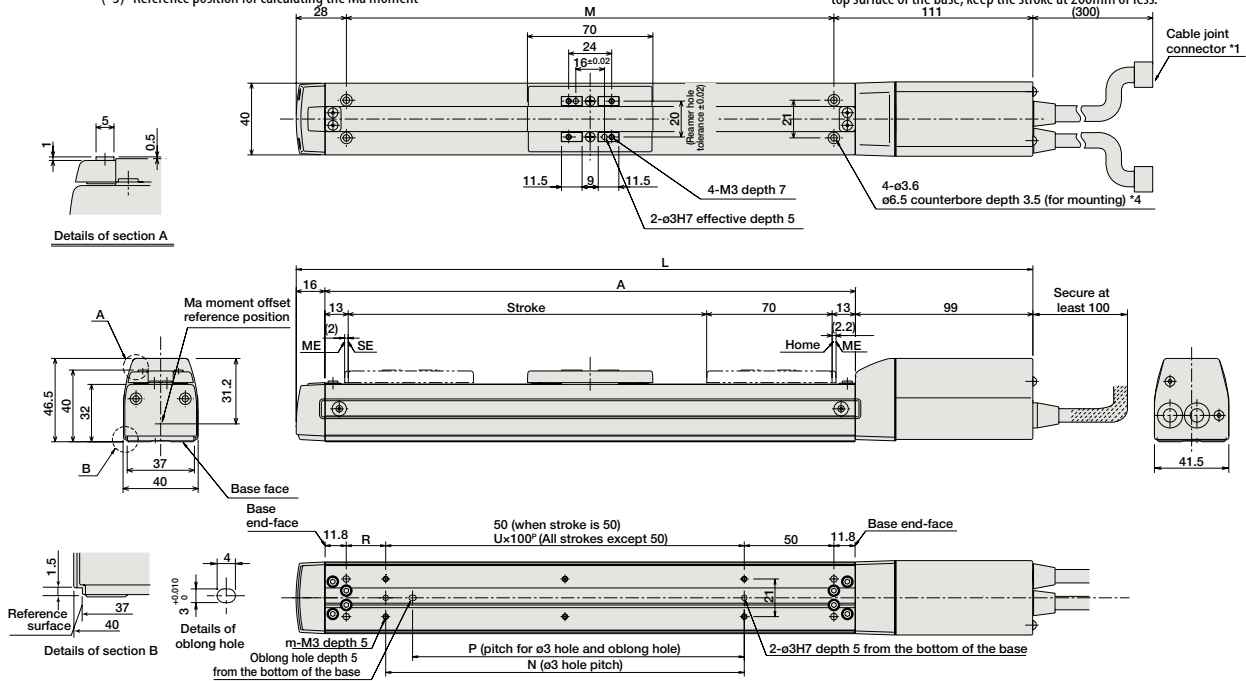


(\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.

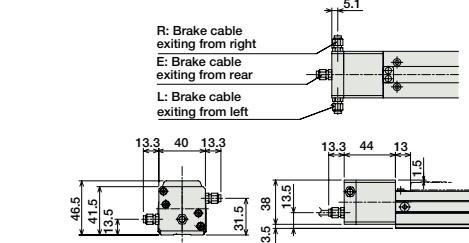
(\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME: Mechanical end  
SE: Stroke end

(\*3) Reference position for calculating the Ma moment

(\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.



Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 28mm (41.3mm with the cable coming out its end), and its weight by 0.2kg.

Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300
L	261	311	361	411	461	511
A	146	196	246	296	346	396
M	122	172	222	272	322	372
N	50	100	150	200	250	300
P	35	85	85	185	185	285
R	22	22	72	22	72	22
U	—	1	1	2	2	3
m	4	4	4	6	6	8
Weight (kg)	0.8	0.9	1	1.1	1.2	1.3

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-20①-NP-2-①	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-20①-④-0-①	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-20①-NP-2-①	Program operation is supported. Up to 2 axes can be operated.	20,000 points					—	→ P685
Program control type, 1 to 8 axes		XSEL-①-1-20①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected						

\* This is for the single-axis MSCON, SSEL, and XSEL.

\* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).

\* ④ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).

\* ① indicates the encoder type (I: Incremental / A: Absolute).

\* ④ indicates the XSEL type (J / K / P / Q / R / S).

\* ④ indicates field network specification symbol.

Slider Type

Mini

Standard

Controller Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/ Arm/ Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor



# RCS2-SA5D

ROBO Cylinder, Slider Type, Actuator Width 52mm, 200-V Servo Motor, Motor Built-In (Direct Coupled)

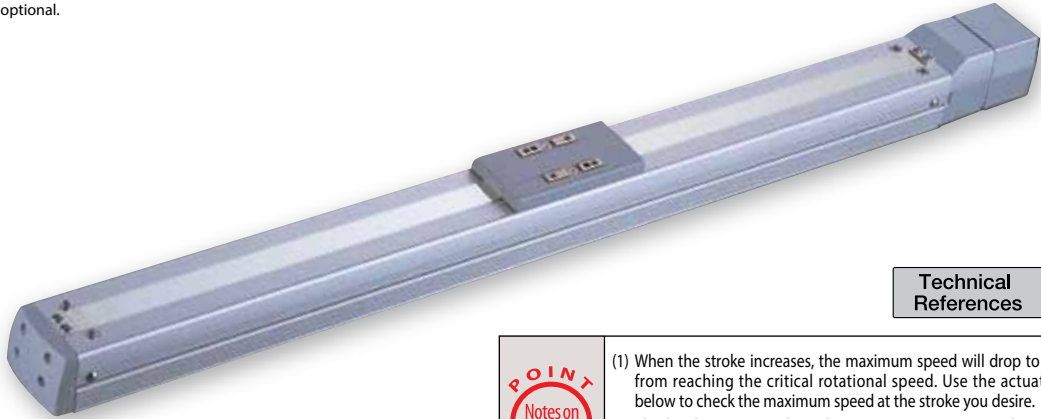
Model Specification Items

<b>RCS2</b>	<b>SA5D</b>	<input type="checkbox"/>	<b>20</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental A: Absolute	20: Servo motor, 20W	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 500: 500mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Technical References Appendix P.5



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA5D-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50 to 500 (every 50mm)
RCS2-SA5D-①-20-6-②-③-④-⑤		6	8	2	33.3	
RCS2-SA4D-①-20-3-②-③-④-⑤		3	12	4	65.7	

#### Stroke and Maximum Speed

Stroke Lead	50-450 (every 50mm)		500 (mm)
	12	800	760
6	400	380	
3	200	190	

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

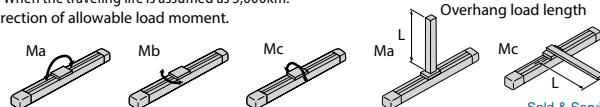
Name	Option code	Page	Standard Price
Brake (Cable exiting end)	BE	→ A-42	—
Brake (Cable exiting left)	BL	→ A-42	—
Brake (Cable exiting right)	BR	→ A-42	—
CE compliance	CE	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Overhang load length	Ma direction: 150mm or less Mb/Mc directions: 150mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.



Dimensional Drawings

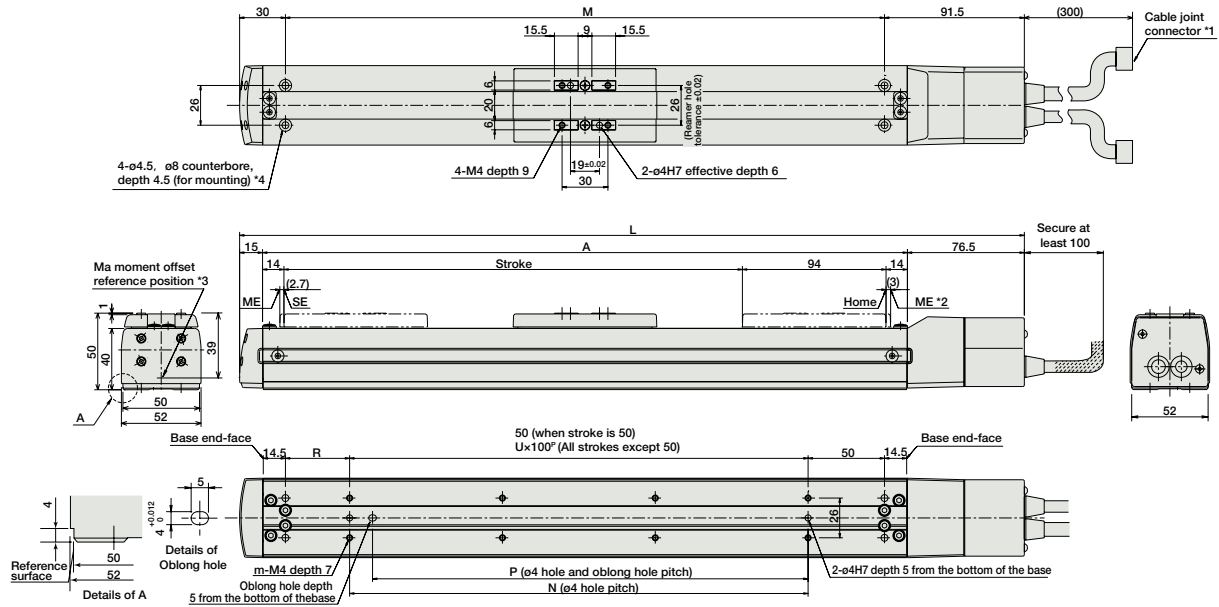
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders

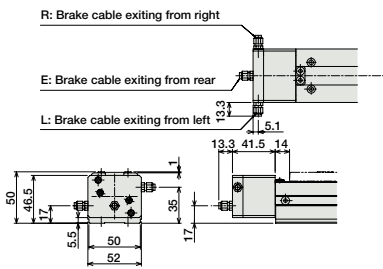
Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects. ME : Mechanical end SE : Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.



Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out its end), and its weight by 0.3kg.

Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	263.5	313.5	363.5	413.5	463.5	513.5	563.5	613.5	663.5	713.5
A	172	222	272	322	372	422	472	522	572	622
M	142	192	242	292	342	392	442	492	542	592
N	50	100	150	200	250	300	350	400	450	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
Weight (kg)	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-20①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points				
Field network type			Movement by numerical specification is supported.	768 points				
Pulse-train input control type			Dedicated pulse-train input type	(—)				
Positioner multi-axis, network type		MSCON-C-1-20①-④-0-②	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	—	—	→ P655	
Program control type, 1 to 2 axes		SSEL-CS-1-20①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points				→ P685
Program control type, 1 to 8 axes		XSEL-③-1-20①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected				

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ③ indicates the encoder type (I: Incremental / A: Absolute).  
 \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates field network specification symbol.

Slider Type

Mini

Standard

Controller Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/ Arm/ Flat Type

Mini

Standard

Gripper/ Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor

# RCS2-SA6D

ROBO Cylinder, Slider Type, Actuator Width 58mm, 200-V Servo Motor, Motor Built-In (Direct Coupled)

Model Specification Items	<b>RCS2</b>	<b>SA6D</b>	<input type="checkbox"/>	<b>30</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	30: Servo motor, 30W	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 600: 600mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Technical References Appendix P.5

- POINT**  
Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model). These values are the upper limits for the acceleration.
  - (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA6D-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50 to 600 (every 50mm)
RCS2-SA6D-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCS2-SA6D-①-30-3-②-③-④-⑤		3	18	6	96.8	

#### Stroke and Maximum Speed

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

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price ① Encoder type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—

#### ⑤ Options

Name	Option code	Page	Standard Price
Brake (Cable exiting end)	BE	→ A-42	—
Brake (Cable exiting left)	BL	→ A-42	—
Brake (Cable exiting right)	BR	→ A-42	—
CE compliance	CE	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### ④ Cable Length

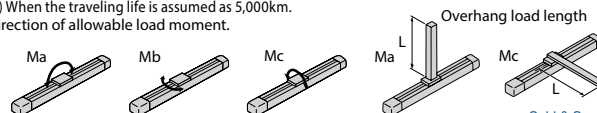
Type	Cable symbol	Standard price
Standard type	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
Robot cable	R01 (1m) ~ R03 (3m)	—
	R04 (4m) ~ R05 (5m)	—
	R06 (6m) ~ R10 (10m)	—
	R11 (11m) ~ R15 (15m)	—
	R16 (16m) ~ R20 (20m)	—

\* See page A-59 for cables for maintenance.

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Overhang load length	Ma direction: 220mm or less Mb/Mc directions: 220mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(\*) When the traveling life is assumed as 5,000km. Direction of allowable load moment.



133 RCS2-SA6D

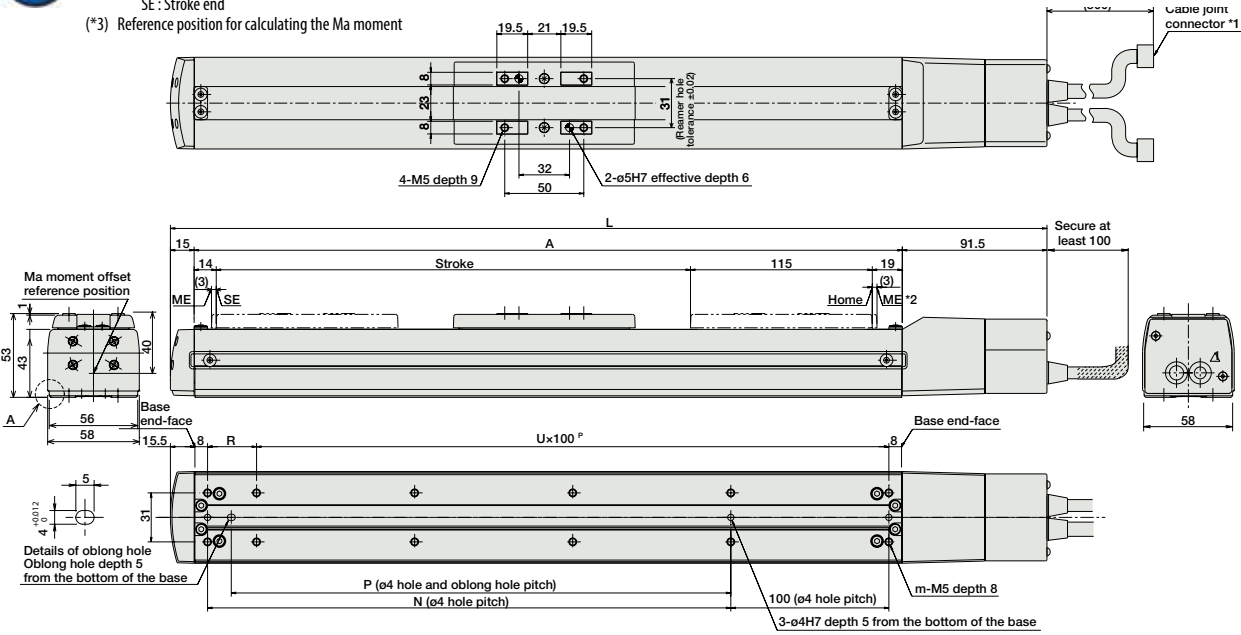
Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

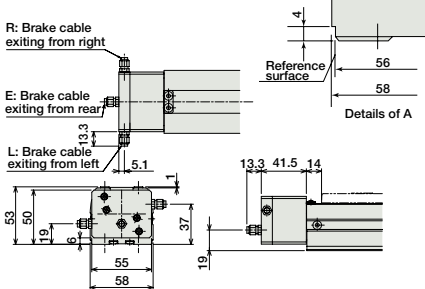
For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment



Dimensions of the Brake Section



\* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out its end), and its weight by 0.3kg.

■ Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	304.5	354.5	404.5	454.5	504.5	554.5	604.5	654.5	704.5	754.5	804.5	854.5
A	198	248	298	348	398	448	498	548	598	648	698	748
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
Weight (kg)	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5

③ Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-30D①-NP-2-①①	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	126 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-30D①-V-0-①①	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	126 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P655		
Program control type, 1 to 2 axes		SSEL-CS-1-30D①-NP-2-①①	Program operation is supported. Up to 2 axes can be operated.	20,000 points					—	→ P685
Program control type, 1 to 8 axes		XSEL-①①-1-30D①-N1-EEE-2-①①	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected						

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ①① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ① indicates the encoder type (I: Incremental / A: Absolute).  
 \* ①① indicates the XSEL type (J / K / P / Q / R / S).  
 \* ①① indicates field network specification symbol.



# RCS2-SA4R

ROBO Cylinder, Slider Type, Actuator Width 40mm, 200-V Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCS2</b>	<b>SA4R</b>	<input type="checkbox"/>	<b>20</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	20: 20W Servo motor	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm ? 400: 400mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.  * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Picture: Left-mounted motor model (ML).

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

Technical References Appendix P.5

**POINT**  
Notes on selection

- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2.5mm-lead model). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA4R-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50 to 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	

#### Stroke and Maximum Speed

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

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	<b>I</b>	<b>A</b>
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

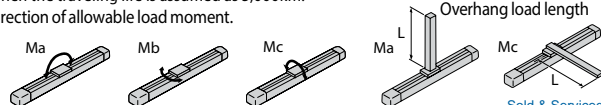
Name	Option code	Page	Standard Price
Brake	<b>B</b>	→ A-42	—
CE compliance	<b>CE</b>	→ A-42	—
Home sensor	<b>HS</b>	→ A-50	—
Non-motor end specification	<b>NM</b>	→ A-52	—
Left-mounted Motor (standard)	<b>ML</b>	→ A-52	—
Right-mounted Motor	<b>MR</b>	→ A-52	—
Slider roller specification	<b>SR</b>	→ A-55	—
Slider spacer	<b>SS</b>	→ A-55	—

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Overhang load length	Ma direction: 120mm or less, Mb/Mc directions: 120mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (No condensation)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.



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# RCS2-SA5R

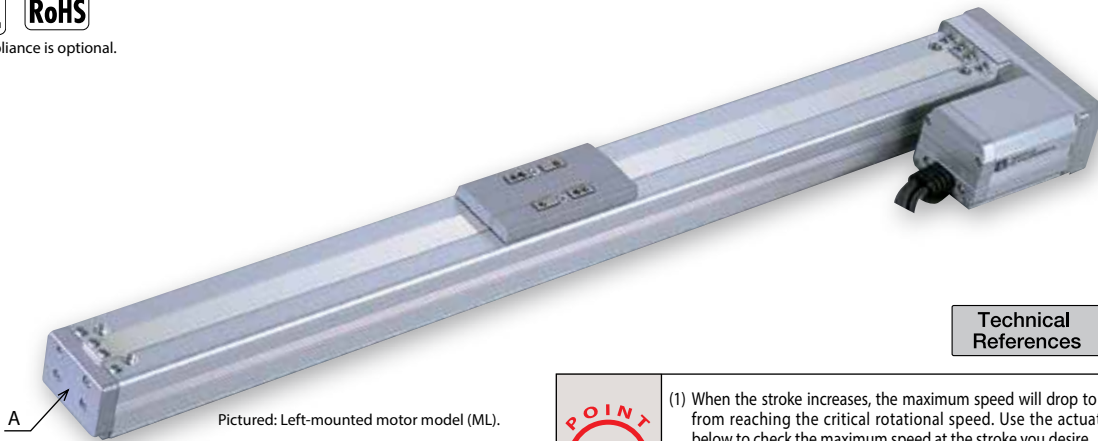
ROBO Cylinder, Slider Type, Actuator Width 52mm, 200-V Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCS2</b>	<b>SA5R</b>	<input type="checkbox"/>	<b>20</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	20: 20W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 500: 500mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.  * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Pictured: Left-mounted motor model (ML).

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

**POINT**  
Notes on selection

- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

Technical References Appendix P.5

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA5R-①-20-12-②-③-④-⑤	20	12	4	1	16.7	50 to 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	

#### Stroke and Maximum Speed

Stroke Lead	Maximum Speed	
	50~450 (every 50mm)	500 (50mm)
12	800	760
6	400	380
3	200	190

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

#### ⑤ Options

Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Home sensor	HS	→ A-50	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### ④ Cable Length

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

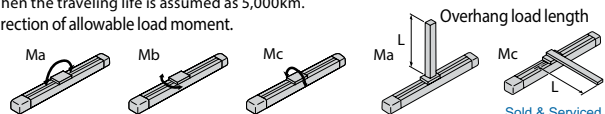
\* See page A-59 for cables for maintenance.

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 18.6 N·m, Mb: 26.6 N·m, Mc: 47.5 N·m
Allowable dynamic moment (*)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (No condensation)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.



Sold & Serviced By:

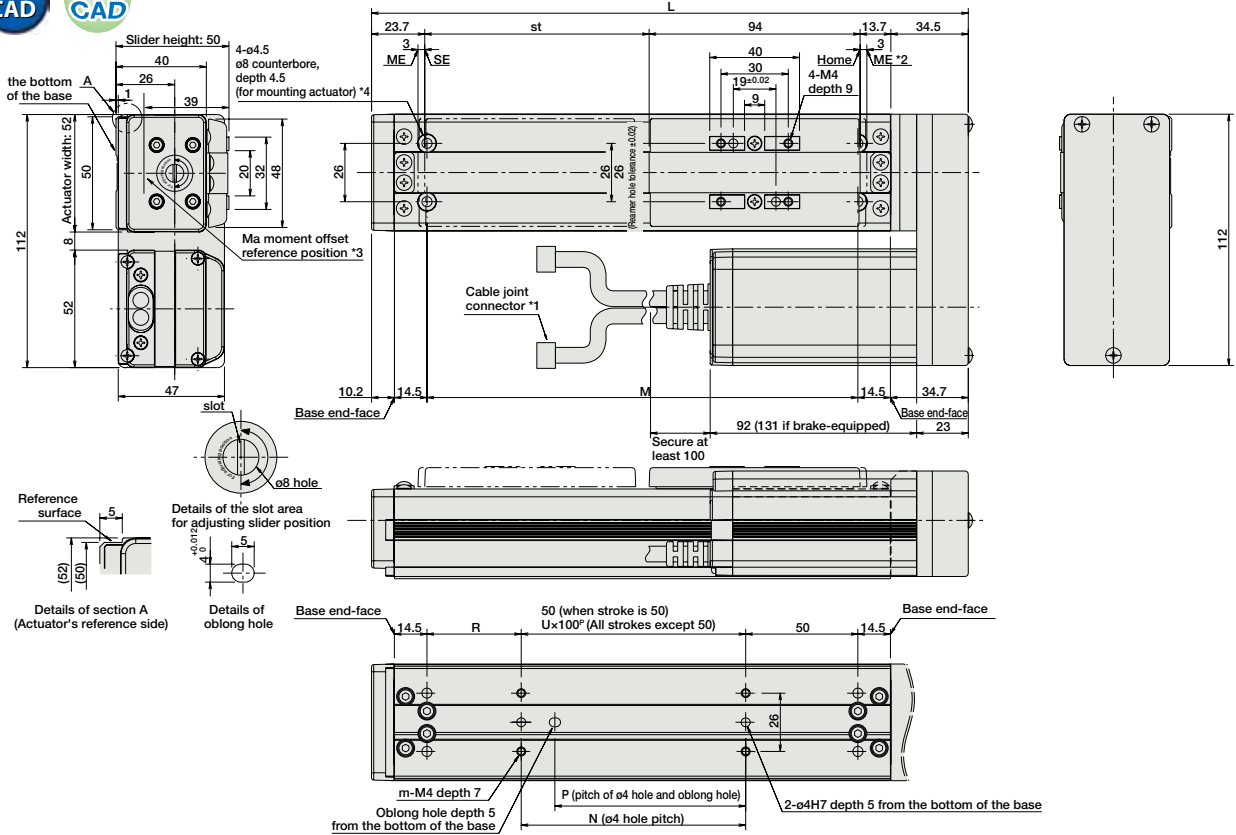


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Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment
- (\*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 300mm or less.

Dimensions and Weights by Stroke

\* Brake-equipped models are heavier by 0.3kg.

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
Weight (kg)	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-20①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC	106 VA max.	—	→ P643
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points				
Field network type			Movement by numerical specification is supported.	768 points				
Pulse-train input control type			Dedicated pulse-train input type	(—)				
Positioner multi-axis, network type		MSCON-C-1-20①-V-0-③	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	*Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P655
Program control type, 1 to 2 axes		SSEL-CS-1-20①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points	—		—	→ P685
Program control type, 1 to 8 axes		XSEL-④-1-20①-N1-EEE-2-⑤	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected	—		—	→ P695

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ③ indicates the encoder type (I: Incremental / A: Absolute).  
 \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

# RCS2-SA6R

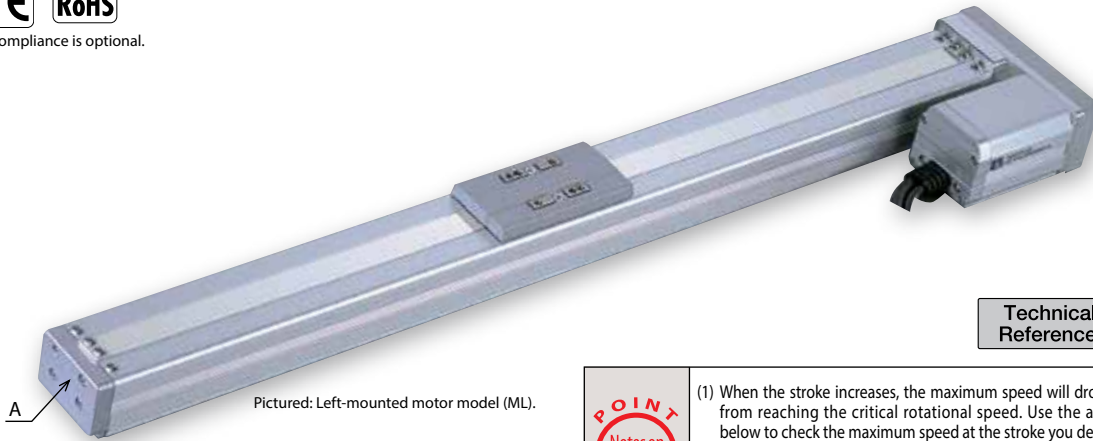
ROBO Cylinder, Slider Type, Actuator Width 58mm, 200-V Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCS2</b>	<b>SA6R</b>	<input type="checkbox"/>	<b>30</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm ? 600: 600mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.  * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Pictured: Left-mounted motor model (ML).

\*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

Technical References Appendix P.5

**POINT**  
Notes on selection

- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 3mm-lead model). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA6R-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50 to 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	

#### Stroke and Maximum Speed

Stroke / Lead	50-450 (every 50mm)	500 (50mm)	550 (50mm)	600 (50mm)
	12	800	760	640
6	400	380	320	270
3	200	190	160	135

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
	<b>I</b>	<b>A</b>
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—

#### ⑤ Options

Name	Option code	Page	Standard Price
Brake	<b>B</b>	→ A-42	—
CE compliance	<b>CE</b>	→ A-42	—
Home sensor	<b>HS</b>	→ A-50	—
Non-motor end specification	<b>NM</b>	→ A-52	—
Left-mounted motor (standard)	<b>ML</b>	→ A-52	—
Right-mounted motor	<b>MR</b>	→ A-52	—
Slider roller specification	<b>SR</b>	→ A-55	—

#### ④ Cable Length

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

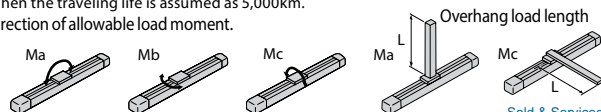
\* See page A-59 for cables for maintenance.

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Overhang load length	Ma direction: 220mm or less Mb/Mc directions: 220mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (No condensation)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.



**139** RCS2-SA6R

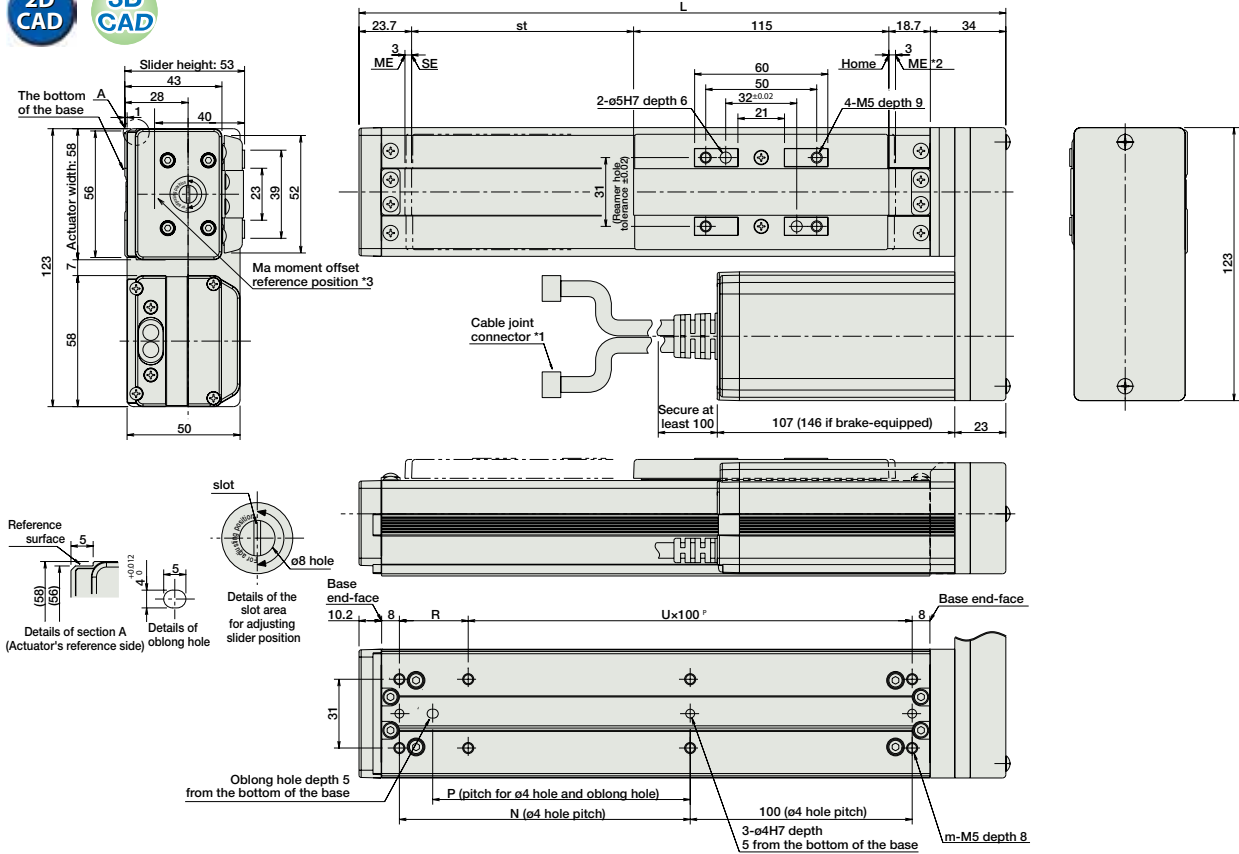
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Dimensional Drawings

CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15



- (\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
ME : Mechanical end  
SE : Stroke end
- (\*3) Reference position for calculating the Ma moment

Dimensions and Weights by Stroke

\* Brake-equipped models are heavier by 0.3kg.

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
Weight (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

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-30D①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC	126 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points				
Field network type			Movement by numerical specification is supported.	768 points				
Pulse-train input control type			Dedicated pulse-train input type	(—)				
Positioner multi-axis, network type		MSCON-C-1-30D①-V-0-②	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	—	→ P655	
Program control type, 1 to 2 axes		SSEL-CS-1-30D①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points	—	—	→ P685	
Program control type, 1 to 8 axes		XSEL-③-1-30D①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected	—	—	→ P695	

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ③ indicates the encoder type (I: Incremental / A: Absolute).  
 \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates field network specification symbol.



- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor



# RCS2-SA7R

ROBO Cylinder, Slider Type, Actuator Width 73 mm, 200-V Servo Motor, Side-mounted Motor

Model Specification Items	<b>RCS2</b>	<b>SA7R</b>	<input type="checkbox"/>	<b>60</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	60: 60W Servo motor	16: 16mm 8: 8mm 4: 4mm	50: 50mm ? 800: 800mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.  * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Pictured: Left-mounted motor model (ML).

Technical References Appendix P.5



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 4mm-lead model). These values are the upper limits for the acceleration.
- (3) See page A-71 for details on push motion.

### Actuator Specifications

#### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SA7R-①-60-16-②-③-④-⑤	60	16	12	3	63.8	50 to 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	

#### Stroke and Maximum Speed

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

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

#### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental	Absolute
50/100	I	A
150/200	—	—
250/300	—	—
350/400	—	—
450/500	—	—
550/600	—	—
650/700	—	—
750/800	—	—

#### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

#### ⑤ Options

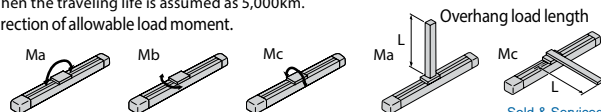
Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
CE compliance	CE	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Left-mounted motor (standard)	ML	→ A-52	—
Right-mounted motor	MR	→ A-52	—
Slider roller specification	SR	→ A-55	—

#### Actuator Specifications

Item	Description
Drive method	Ball screw, ø12mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Dedicated alloy steel
Allowable static moment	Ma: 50.4 N·m Mb: 71.9 N·m Mc: 138.0 N·m
Allowable dynamic moment (*)	Ma: 13.9 N·m Mb: 19.9 N·m Mc: 38.3 N·m
Overhang load length	Ma direction: 230mm or less Mb/Mc directions: 230mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (No condensation)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.





# RCS2-SS7R

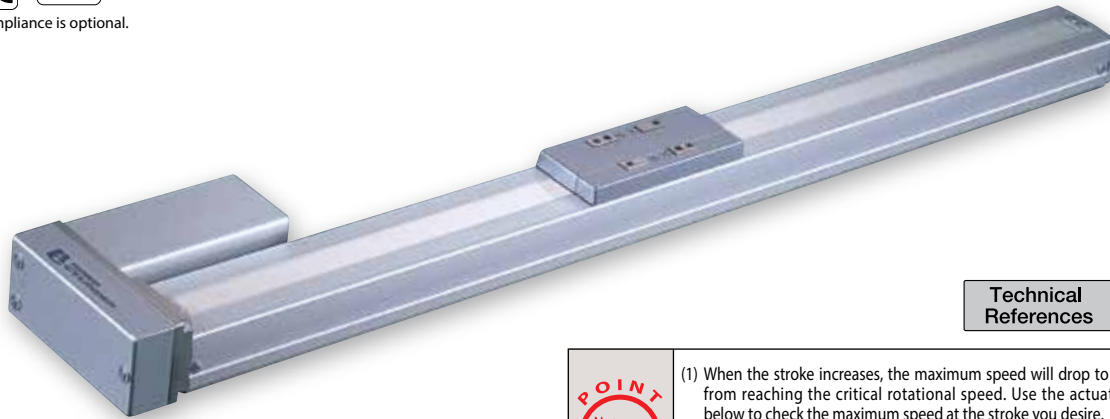
ROBO Cylinder, Slider Type, Actuator Width 60mm, 200-V Servo Motor, Side-mounted Motor, Steel Base

Model Specification Items	<b>RCS2</b>	<b>SS7R</b>	<input type="checkbox"/>	<b>60</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental A: Absolute	60: 60W Servo motor	12: 12mm 6: 6mm	50: 50mm 600: 600mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable	See Options below.  * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

\* See page Pre-47 for details on the model descriptions.



\*CE compliance is optional.



Pictured: Left-mounted motor model (ML).

Technical References Appendix P.5

- POINT**  
Notes on selection
- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - (2) The load capacity is based on operation at an acceleration of 0.3G. This value is the upper limit for the acceleration.
  - (3) See page A-71 for details on push motion.

## Actuator Specifications

### Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2-SS7R-①-60-12-②-③-④-⑤	60	12	15	4	85	50 to 600
RCS2-SS7R-①-60-6-②-③-④-⑤		6	30	8	170	(every 50mm)

### Stroke and Maximum Speed

Stroke Lead	50~500 (every 50mm)	~600 (50mm)
	12	600
6	300	230

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options \*See page A-71 for details on push motion. (Unit: mm/s)

### ① Encoder Type / ② Stroke

② Stroke (mm)	Standard price	
	① Encoder type	
	Incremental <b>I</b>	Absolute <b>A</b>
50/100	—	—
150/200	—	—
250/300	—	—
350/400	—	—
450/500	—	—
550/600	—	—

### ④ Cable Length

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

\* See page A-59 for cables for maintenance.

### ⑤ Options

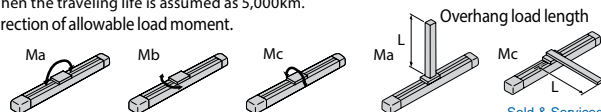
Name	Option code	Page	Standard Price
Brake	<b>B</b>	→ A-42	—
CE compliance	<b>CE</b>	→ A-42	—
Non-motor end specification	<b>NM</b>	→ A-52	—
Left-mounted motor (standard)	<b>ML</b>	→ A-52	—
Right-mounted motor	<b>MR</b>	→ A-52	—
Slider roller specification	<b>SR</b>	→ A-55	—

### Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 79.4 N·m, Mb: 79.4 N·m, Mc: 172.9 N·m
Allowable dynamic moment (*)	Ma: 14.7 N·m, Mb: 14.7 N·m, Mc: 33.3 N·m
Overhang load length	Ma direction: 300mm or less, Mb/Mc directions: 300mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (No condensation)

(\*) When the traveling life is assumed as 5,000km.

Direction of allowable load moment.



Dimensional Drawings

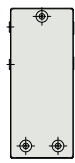
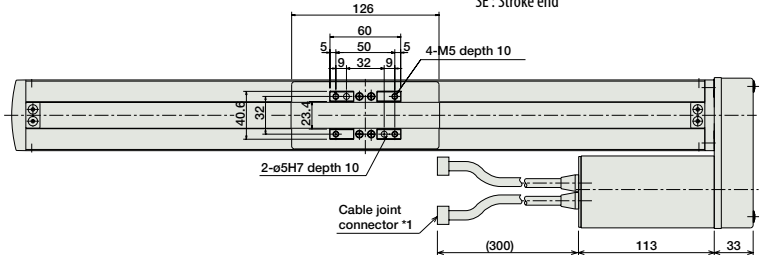
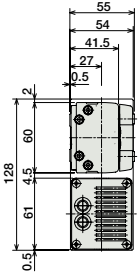
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders Appendix P.15

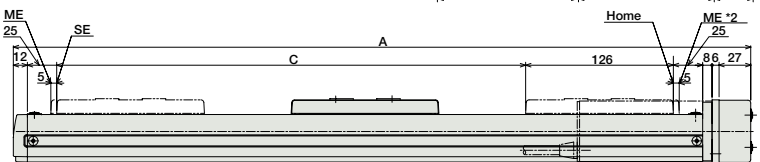


\*The reference surface is the same as the SS7C type. (See page 128)  
 \*The offset reference position for the Ma moment is the same as the SS7C type. (See page 128)

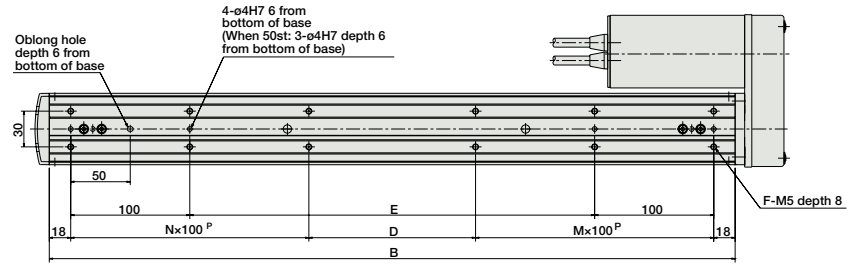
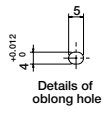
(\*1) Connect the motor and encoder cables here. See page A-59 for details on cables.  
 \* The bend radius R of the cable is the same as other models.  
 (\*2) When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
 ME : Mechanical end  
 SE : Stroke end



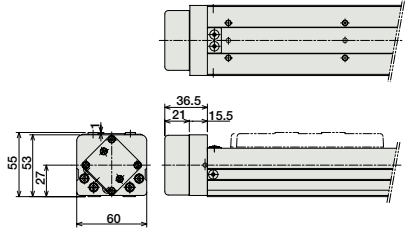
\* Note that in order to change the home orientation, arrangements must be made to send in the product to IAI.  
 \* For the Non-motor end model, the dimensions (distance from the ME to home) on the motor-side and that on the opposite side are flipped.



\* Adding a brake increases the actuator's overall length by 24.5mm and its weight by 0.3kg.



Dimensions of the Brake Section



■ Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
A	279	329	379	429	479	529	579	629	679	729	779	829
B	226	276	326	376	426	476	526	576	626	676	726	776
C	50	100	150	200	250	300	350	400	450	500	550	600
D	90	40	90	140	190	40	90	140	190	40	90	140
E	0	40	90	140	190	240	290	340	390	440	490	540
F	6	8	8	8	8	12	12	12	12	16	16	16
M	1	1	1	1	1	2	2	2	2	3	3	3
N	0	1	8	1	1	2	2	2	2	3	3	3
Weight (kg)	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.4	6.7	7.0

③ Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page		
Positioner mode		SCON-CA-60 ①-NP-2-②	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643		
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points						
Field network type			Movement by numerical specification is supported.	768 points						
Pulse-train input control type			Dedicated pulse-train input type	(—)						
Positioner multi-axis, network type		MSCON-C-1-60 ①-④-0-②	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	—	—	→ P655			
Program control type, 1 to 2 axes		SSEL-CS-1-60 ①-NP-2-②	Program operation is supported. Up to 2 axes can be operated.	20,000 points				—	—	→ P685
Program control type, 1 to 8 axes		XSEL-③-1-60 ①-N1-EEE-2-④	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected						

\* This is for the single-axis MSCON, SSEL, and XSEL.  
 \* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).  
 \* ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).  
 \* ③ indicates the encoder type (I: Incremental / A: Absolute).  
 \* ④ indicates the XSEL type (J / K / P / Q / R / S).  
 \* ⑤ indicates field network specification symbol.



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- Slider Type
- Mini
- Standard
- Controller Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor