

# RCA2-TA5R

Robo Cylinder, Table Type, Actuator Width 55mm, Servo Motor, Side-mounted Motor

|                           |   |  |
|---------------------------|---|--|
| Model Specification Items | <b>RCA2</b> — <b>TA5R</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<br>* The Simple absolute encoder is also considered type "I".  | 20: 20W Servo motor  |
|                           | 10: 10mm<br>5: 5mm<br>2.5: 2.5mm  | 25: 25mm<br>100: 100mm (25mm pitch increments)   |
|                           | A1: ACON<br>ASEL<br>A3: AMEC<br>ASEP<br>MSEP  | N: None<br>P: 1m<br>S: 3m<br>M: 5m<br>X <input type="checkbox"/> : Custom Length                           |
|                           | * See page Pre-47 for details on the model descriptions.  |  |



Power-saving



Technical References Appendix P.5

- POINT** Notes on selection
- Please note that the maximum speed is different when used horizontally versus vertically.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model, or when used vertically.) This is the upper limit of 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-TA5R-I-20-10- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>  | 20               | 10        | 2                  | 1             | 34               | 25~100 (every 25mm) |
| RCA2-TA5R-I-20-5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/>   |                  | 5         | 3.5                | 2             | 68               |                     |
| RCA2-TA5R-I-20-2.5- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> |                  | 2.5       | 5                  | 3             | 137              |                     |

#### Stroke and Maximum Speed

| Stroke / Lead | 25~100 (every 25mm) |
|---------------|---------------------|
|               | 10                  |
| 5             | 250                 |
| 2.5           | 125                 |

Code explanation  Stroke  Applicable Controller  Cable length  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 |
|---------------|----------------|
| 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 cables 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>B</b>    | → A-42   | —              |
| Cable exit direction (top)     | <b>CJT</b>  | → A-42   | —              |
| Cable exit direction (outside) | <b>CJO</b>  | → A-42   | —              |
| Cable exit direction (bottom)  | <b>CJB</b>  | → A-42   | —              |
| Power-saving specification     | <b>LA</b>   | → A-52   | —              |
| Left-mounted motor (standard)  | <b>ML</b>   | → A-52   | —              |
| Right-mounted motor            | <b>MR</b>   | → A-52   | —              |
| Non-motor end specification    | <b>NM</b>   | → 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: 25.5 N-m, Mb: 36.5 N-m, Mc: 56.1 N-m    |
| Allowable dynamic moment                | Ma: 6.57 N-m, Mb: 9.32 N-m, Mc: 14.32 N-m   |
| Overhang load length                    | Within the load moment range                |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing)  |

Directions of allowable load moments

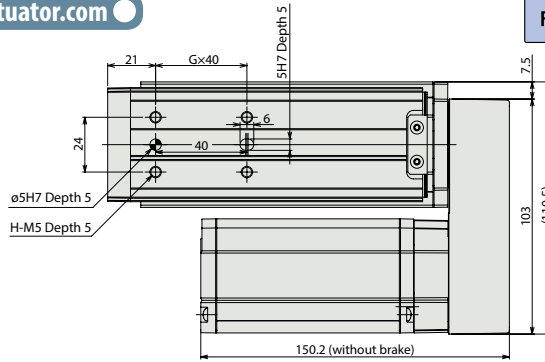
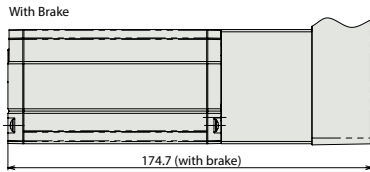


Dimensional Drawings

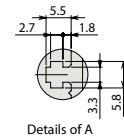
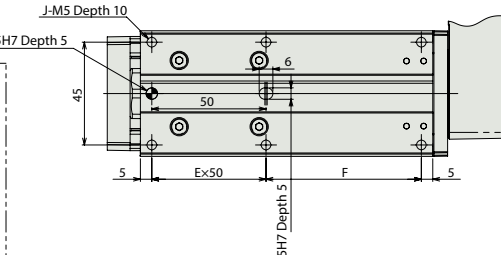
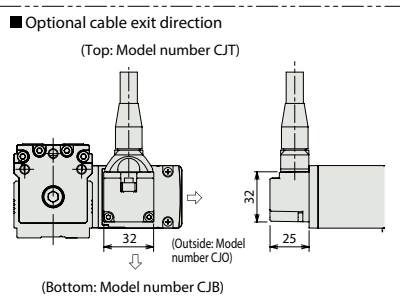
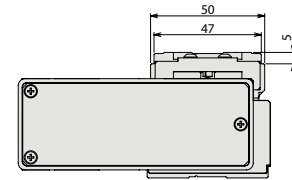
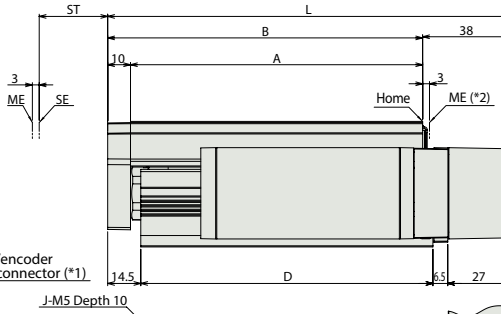
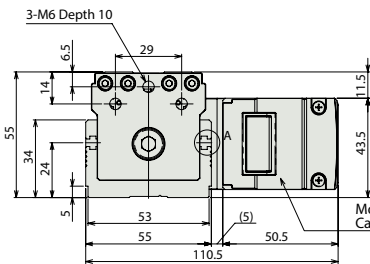
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



\*Please note that, for 25mm-stroke model with brake, the motor unit protrudes from the end of the table.



The offset reference position of the moment is the same as TASC (P338).



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

**Dimensions and Weight by Stroke**

| Stroke      | 25  | 50  | 75  | 100 |
|-------------|-----|-----|-----|-----|
| L           | 151 | 176 | 201 | 226 |
| A           | 103 | 128 | 153 | 178 |
| B           | 113 | 138 | 163 | 188 |
| D           | 103 | 128 | 153 | 178 |
| E           | 1   | 1   | 2   | 2   |
| F           | 43  | 68  | 43  | 68  |
| G           | 1   | 1   | 2   | 2   |
| H           | 4   | 4   | 6   | 6   |
| J           | 6   | 6   | 8   | 8   |
| Weight (kg) | 1.4 | 1.6 | 1.7 | 1.9 |

- (\*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

Applicable Controllers

RCA2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application. \* ACON-CY also can be used.

| 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-20SI①-②-2-1           | Easy-to-use controller, even for beginners                                  | 3 points                             | AC100V      | 2.4A rated                          | —              | → P537         |
|  |               | ASEP-C-20SI①-②-2-0           | Simple controller operable with the same signal as a solenoid valve         |                                      |             |                                     |                | → P547         |
| Solenoid valve multi-axis type PIO specification     |               | MSEP-C-③-④-⑤-⑥-⑦-⑧-⑨-⑩-0-2-0 | 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-③-④-⑤-⑥-⑦-⑧-⑨-⑩-0-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected  |                                      |             |                                     |                | → P631         |
| Positioner type                                      |               | ACON-C-20SI①-②-2-0           | Positioning is possible for up to 512 points                                | 512 points                           | DC24V       | (Power-saving) 1.7A rated 3.4A max. | —              | → P631         |
| Safety-Compliant Positioner Type                     |               | ACON-CG-20SI①-②-2-0          |   |                                      |             |                                     |                |                |
| Pulse Train Input Type (Differential Line Driver)    |               | ACON-PL-20SI①-②-2-0          | 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-20SI①-②-2-0          | 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. | —              | → P675         |
| Program Control Type                                 |               | ASEL-CS-1-20SI①-②-2-0        | 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. \* 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