

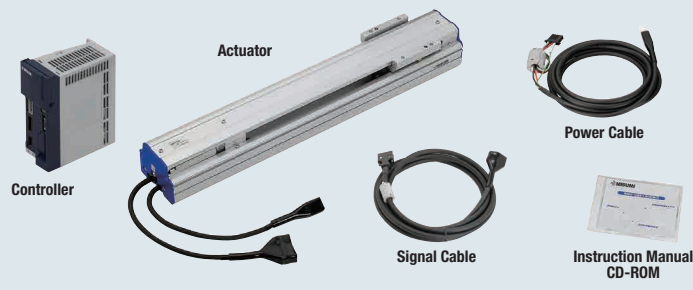
# RSH2

## Slider Type Actuator (7–50 kg Max.)



CE Compliant

See notes on CE Marking P513



Components: Actuator, Controller, Cable, Battery, Noise Filter

| Accessories | Controller I/O Specifications   |                   |                     |
|-------------|---|-------------------|---------------------|
|             | NPN / PNP   | CC-Link           | DeviceNet           |
|             | Instruction Manual on CD-ROM, Power Connector, EXT Connector, Dummy Connector |                   |                     |
|             | —   | CC-Link Connector | DeviceNet Connector |

| Robot Material / Surface Treatment |            |            |          |            |
|------------------------------------|------------|------------|----------|------------|
| Components                         | Base Frame | Guide Rail | Slider   | Side Cover |
| Material                           | Aluminum   | Steel      | Aluminum | Aluminum   |
| Surface Treatment                  | Anodize    | —          | Anodize  | Anodize    |

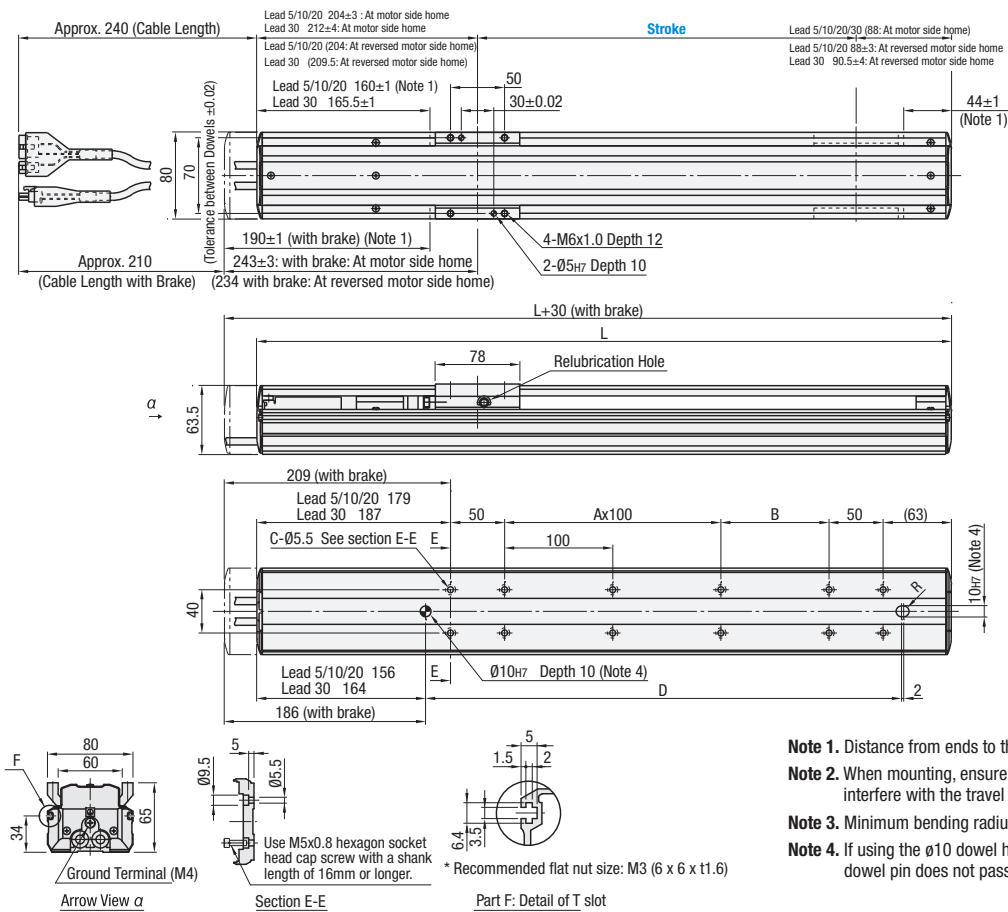
| General Specifications |                      |                   |  |
|------------------------|----------------------|-------------------|--|
| Ball Screw             | Motor                | Position Detector | Operating Ambient Temperature / Humidity |
| Ø15 (C7 Rolled)        | AC Servo Motors 100W | Resolver          | 0–40°C, 35–85% RH (No Condensation)      |

Controller Specification P.510 Cycle Time Graph P.516 Clean Spec. P.506

### Standard Specifications Terminology P.513

| Type | Lead (mm) | Positioning Repeatability (mm) | Maximum Load Capacity (kg) |          | Rated Force (N) | Maximum Velocity (Note) (mm/sec) | Stroke (mm)         | Rated Running Life | Input Power Supply                     | Maximum Positioning Points |
|------|-----------|--------------------------------|----------------------------|----------|-----------------|----------------------------------|---------------------|--------------------|--|----------------------------|
|      |           |                                | Horizontal                 | Vertical |                 |                                  |                     |                    |  |                            |
| RSH2 | 05        | ±0.01                          | 50                         | 16       | 339             | 300–120                          | 150–1050 (50 Pitch) | 10,000 km or More  | Single-Phase AC 100–115V 200–230V ±10% | 255 Points                 |
|      | 10        |                                | 40                         | 8        | 169             | 600–240                          |                     |                    |  |                            |
|      | 20        |                                | 20                         | 4        | 84              | 1200–480                         |                     |                    |  |                            |
|      | 30        |                                | 7                          | —        | 56              | 1800–720                         |                     |                    |  |                            |

Note: Maximum velocity varies depending on the strokes. Please see Maximum Velocity Table on the next page.



- Note 1. Distance from ends to the mechanical stoppers
- Note 2. When mounting, ensure mounting bolts do not interfere with the travel of the carriage.
- Note 3. Minimum bending radius of the cable is R50.
- Note 4. If using the Ø10 dowel holes, please ensure the dowel pin does not pass the 10 mm depth.

### Dimensions / Mass

| Type | Dimensions / Mass    | Stroke (mm) |     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |
|------|----------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
|      |                      | 150         | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700  | 750  | 800  | 850  | 900  | 950  | 1000 | 1050 |
| RSH2 | L (Lead 5 / 10 / 20) | 442         | 492 | 542 | 592 | 642 | 692 | 742 | 792 | 842 | 892 | 942 | 992  | 1042 | 1092 | 1142 | 1192 | 1242 | 1292 | 1342 |
|      | L (Lead30)           | 450         | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 |
|      | A (mm)               | 0           | 0   | 1   | 1   | 2   | 2   | 3   | 3   | 4   | 4   | 5   | 5    | 6    | 6    | 7    | 7    | 8    | 8    | 9    |
|      | B (mm)               | 100         | 150 | 100 | 150 | 100 | 150 | 100 | 150 | 100 | 150 | 100 | 150  | 100  | 150  | 100  | 150  | 100  | 150  | 100  |
|      | C (mm)               | 8           | 8   | 10  | 10  | 12  | 12  | 14  | 14  | 16  | 16  | 18  | 18   | 20   | 20   | 22   | 22   | 24   | 24   | 26   |
|      | D (mm)               | 240         | 290 | 340 | 390 | 440 | 490 | 540 | 590 | 640 | 690 | 740 | 790  | 840  | 890  | 940  | 990  | 1040 | 1090 | 1140 |
|      | Mass (kg)            | 3.9         | 4.2 | 4.5 | 4.8 | 5.1 | 5.4 | 5.7 | 6.1 | 6.4 | 6.7 | 7.0 | 7.3  | 7.6  | 7.9  | 8.2  | 8.5  | 8.8  | 9.2  | 9.5  |

The mass of with brake type becomes 0.3 kg heavier.

# RSH2

## Slider Type Actuator (7–50 kg Max.), continued

| Type | Part Number |                           | Selection   |  |                                  |  |  |  |   |                             |
|------|-------------|---------------------------|---|--|----------------------------------|--|--|--|---|-----------------------------|
|      | Lead (mm)   | Brake (1)                 | Controllers (2)                                   |  |                                  | I/O Module                                     | Noise Filter (3)                               | Cable Length                               |   | Stroke (mm)                 |
| RSH2 | 05          | Without: Blank<br>With: B | Power Supply<br>Spec.<br>AC100–115V<br>AC200–230V | Absolute Type<br>(with Data Storage Battery)<br>C21A<br>C22A | Incremental Type<br>C21B<br>C22B | NPN: N<br>PNP: P<br>CC-Link: C<br>DeviceNet: D | Without: F0<br>With: F1<br>Specifications P513 | Standard<br>3.5 m: 3<br>5 m: 5<br>10 m: 10 | Flexible<br>3.5 m: R3<br>5 m: R5<br>10 m: R10 | 150–1050<br>50 mm Increment |
|      | 10          |                           |   |  |                                  |  |  |  |   |                             |
|      | 20          |                           |   |  |                                  |  |  |  |   |                             |
|      | 30          |                           |   |  |                                  |  |  |  |   |                             |

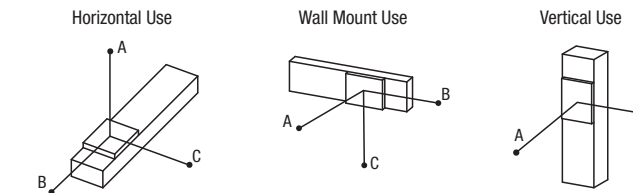
- (1) Choose "with brake" type for use in vertical applications. (With brake type is not available for Lead 30)
  - (2) Controllers are shipped with preset parameters for each type. Data storage batteries are outside the scope of RoHS Directive.
  - (3) This product needs a noise filter. When purchasing separately, please select "none."
- Be sure to install a surge absorber on the primary side of a noise filter. For details, please see the Instruction Manual.

Part Number Example: RSH205B - C22A - N - F1 - 3 - 400

### Note

Power interruption circuit is not installed in this controller. Please be sure to provide an external power interruption circuit and form an emergency stop circuit. Circuit Examples P.511.

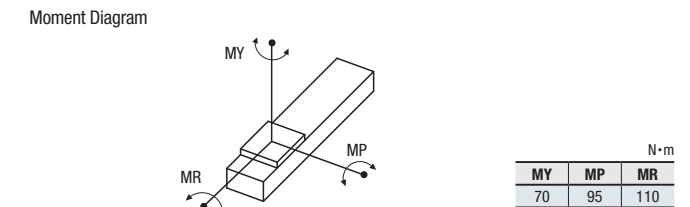
### Allowable Overhang Load



| Lead | Mass  | mm  |     |     | Lead | Mass  | mm  |    |     | Lead | Mass  | mm  |     |     |
|------|-------|-----|-----|-----|------|-------|-----|----|-----|------|-------|-----|-----|-----|
|      |       | A   | B   | C   |      |       | A   | B  | C   |      |       | A   | B   | C   |
| 05   | 50 kg | 51  | 0   | 0   | 05   | 50 kg | 0   | 0  | 0   | 05   | 16 kg | 19  | 19  |     |
|      | 40 kg | 138 | 4   | 12  |      | 40 kg | 0   | 0  | 0   |      | 10 kg | 22  | 22  |     |
|      | 30 kg | 170 | 10  | 29  |      | 30 kg | 0   | 0  | 0   |      | 10 kg | 47  | 48  |     |
| 10   | 20 kg | 249 | 23  | 62  | 10   | 20 kg | 19  | 7  | 140 | 10   | 5 kg  | 123 | 124 |     |
|      | 40 kg | 35  | 0   | 6   |      | 40 kg | 0   | 0  | 0   |      | 8 kg  | 57  | 58  |     |
|      | 30 kg | 74  | 8   | 20  |      | 30 kg | 0   | 0  | 0   |      | 6 kg  | 85  | 86  |     |
| 20   | 20 kg | 121 | 20  | 46  | 20   | 20 kg | 7   | 0  | 30  | 20   | 4 kg  | 141 | 143 |     |
|      | 10 kg | 251 | 56  | 122 |      | 10 kg | 85  | 39 | 202 |      | 2 kg  | 310 | 311 |     |
|      | 20 kg | 58  | 14  | 26  |      | 20 kg | 0   | 0  | 0   |      | 4 kg  | 106 | 110 |     |
| 30   | 15 kg | 76  | 24  | 39  | 30   | 15 kg | 7   | 0  | 16  | 30   | 5 kg  | 211 | 108 | 147 |
|      | 10 kg | 116 | 45  | 69  |      | 10 kg | 38  | 26 | 69  |      | 7 kg  | 78  | 43  | 49  |
|      | 5 kg  | 211 | 108 | 147 |      | 5 kg  | 119 | 89 | 176 |      | 5 kg  | 112 | 80  | 80  |

When overhang equals 0, use linear guides with selected unit to support load mass.

### Allowable Static Moment



### Max. Velocity (mm/s)

| Type | Lead (mm) | Stroke (mm) |      |      |      |      |     |     |      |      |
|------|-----------|-------------|------|------|------|------|-----|-----|------|------|
|      |           | 150–650     | 700  | 750  | 800  | 850  | 900 | 950 | 1000 | 1050 |
| RSH2 | 05        | 300         | 255  | 225  | 195  | 180  | 165 | 150 | 135  | 120  |
|      | 10        | 600         | 510  | 450  | 390  | 360  | 330 | 300 | 270  | 240  |
|      | 20        | 1200        | 1020 | 900  | 780  | 720  | 660 | 600 | 540  | 480  |
|      | 30        | 1800        | 1530 | 1350 | 1170 | 1080 | 990 | 900 | 810  | 720  |

When the stroke is 700 mm or more, the resonance of ball screws may occur according to the operating area (critical speed). In that case, reduce the operation speed by referring to the maximum velocity shown in the table above.

Part Number Alterations: RSH205B - C22A - N - F1 - 3 - 400 - G-E

| Alterations | Grease Type Alteration   | Change of Home Position   | Handy Terminal Standard Specification            | Handy Terminal with Deadman's Switch                                   | Support Software with USB Communication Cable                                   | Support Software with D-Sub Communication Cable                                   | I/O Cable  | Robot Instruction Manual   | Controller Instruction Manual  |
|-------------|--|---|--|--|---|---|--|--|--|
| Code        | G  | E   | H  | D  | S   | R   | T  | MJ / ME  | KJ / KE  |
| Spec.       | Grease is changed to low particle generation grease. (NSK LG2) | The home position is relocated to the opposite side of the motor. | Handy Terminal is included. Specifications P.512 | Handy Terminal with Deadman's Switch is included. Specifications P.512 | Support Software with USB Communication Cable is included. Specifications P.512 | Support Software with D-Sub communication cable is included. Specifications P.512 | I/O cable is included. Required for NPN / PNP configurations. Specifications P.512 | Instruction Manual for robot main structures is included. MJ: Japanese Language ME: English Language | Instruction Manual for controllers is included. KJ: Japanese Language KE: English Language |

- For optional items, see P.512. Optional items can be purchased more economically as Alterations than as single items.
- Point data requires Handy Terminal or Support Software.
- Parallel Communication I/O Control requires I/O Cable.