

# C4L

Origin on the non-motor side is selectable



## Ordering method

|              |                              |                                           |                                              |                                     |                           |                                                                              |                   |                                                                                        |
|--------------|------------------------------|-------------------------------------------|----------------------------------------------|-------------------------------------|---------------------------|------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------|
| <b>C4L</b>   |                              |                                           |                                              |                                     |                           |                                                                              | <b>ERCD</b>       |                                                                                        |
| <b>Model</b> | <b>Lead designation</b>      | <b>Brake</b>                              | <b>Direction of air coupler installation</b> | <b>Origin position change</b>       | <b>Stroke</b>             | <b>Cable length</b> <small>Note 1</small>                                    | <b>Controller</b> | <b>I/O connector specification</b>                                                     |
|              | 12: 12mm<br>6: 6mm<br>2: 2mm | No entry: With no brake<br>BK: With brake | L: Left (Standard)<br>R: Right               | None: Standard<br>Z: Non-motor side | 50 to 400<br>(50mm pitch) | 1L: 1m<br>3L: 3.5m<br>5L: 5m<br>10L: 10m<br>1K/3K/5K/10K<br>(Flexible cable) |                   | CN1: I/O flat cable 1m (Standard)<br>CN2: Twisted-pair cable 2m (pulse train function) |

Note 1. The robot cable is standard cable (1L/3L/5L/10L), but can be changed to flexible cable. See P.594 for details on robot cable.

## Basic specifications

|                                                      |                                                |            |
|------------------------------------------------------|------------------------------------------------|------------|
| AC servo motor output (W)                            | 30                                             |            |
| Repeatability <small>Note 1</small> (mm)             | ±0.02                                          |            |
| Deceleration mechanism                               | Ball screw $\phi 8$ (Class C10)                |            |
| Ball screw lead (mm)                                 | 12                                             | 6          |
| Maximum speed (mm/sec)                               | 720                                            | 360        |
| Maximum payload (kg)                                 | Horizontal                                     | 4.5        |
|                                                      | Vertical                                       | 1.2        |
| Rated thrust (N)                                     | 32                                             | 64         |
|                                                      | 153                                            |            |
| Stroke (mm)                                          | 50 to 400 (50mm pitch)                         |            |
| Overall length (mm)                                  | Horizontal                                     | Stroke+205 |
|                                                      | Vertical                                       | Stroke+240 |
| Maximum outside dimension of body cross-section (mm) | W45×H55                                        |            |
| Cable length (m)                                     | Standard: 3.5 / Option: 1.5, 10                |            |
| Degree of cleanliness                                | ISO CLASS 3 (ISO14644-1) <small>Note 2</small> |            |
| Intake air (Nl/min) <small>Note 3</small>            | 50                                             | 30         |

Note 1. Positioning repeatability in one direction.  
 Note 2. CLASS 10 (0.1 $\mu$ m) FED-STD-209D or equivalent when a suction blower is used.  
 Note 3. The necessary intake amount varies depending on the use conditions and environment.

## Allowable overhang Note

|                                           |     |      |                                     |       |     |                                         |     |      |
|-------------------------------------------|-----|------|-------------------------------------|-------|-----|-----------------------------------------|-----|------|
| <b>Horizontal installation</b> (Unit: mm) |     |      | <b>Wall installation</b> (Unit: mm) |       |     | <b>Vertical installation</b> (Unit: mm) |     |      |
|                                           | A   | B    |                                     | A     | B   |                                         | A   | C    |
| Lead 12                                   | 2kg | 429  | 87                                  | 179   | 2kg | 145                                     | 52  | 368  |
| 4.5kg                                     | 219 | 32   | 74                                  | 4.5kg | 46  | 0                                       | 139 |      |
| Lead 6                                    | 3kg | 511  | 58                                  | 135   | 3kg | 103                                     | 22  | 370  |
| 6kg                                       | 336 | 26   | 62                                  | 6kg   | 27  | 0                                       | 185 |      |
| Lead 2                                    | 3kg | 1571 | 58                                  | 142   | 3kg | 109                                     | 23  | 1150 |
| 6kg                                       | 751 | 27   | 66                                  | 6kg   | 27  | 0                                       | 420 |      |

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.  
 Note. Service life is calculated for 300mm stroke models.

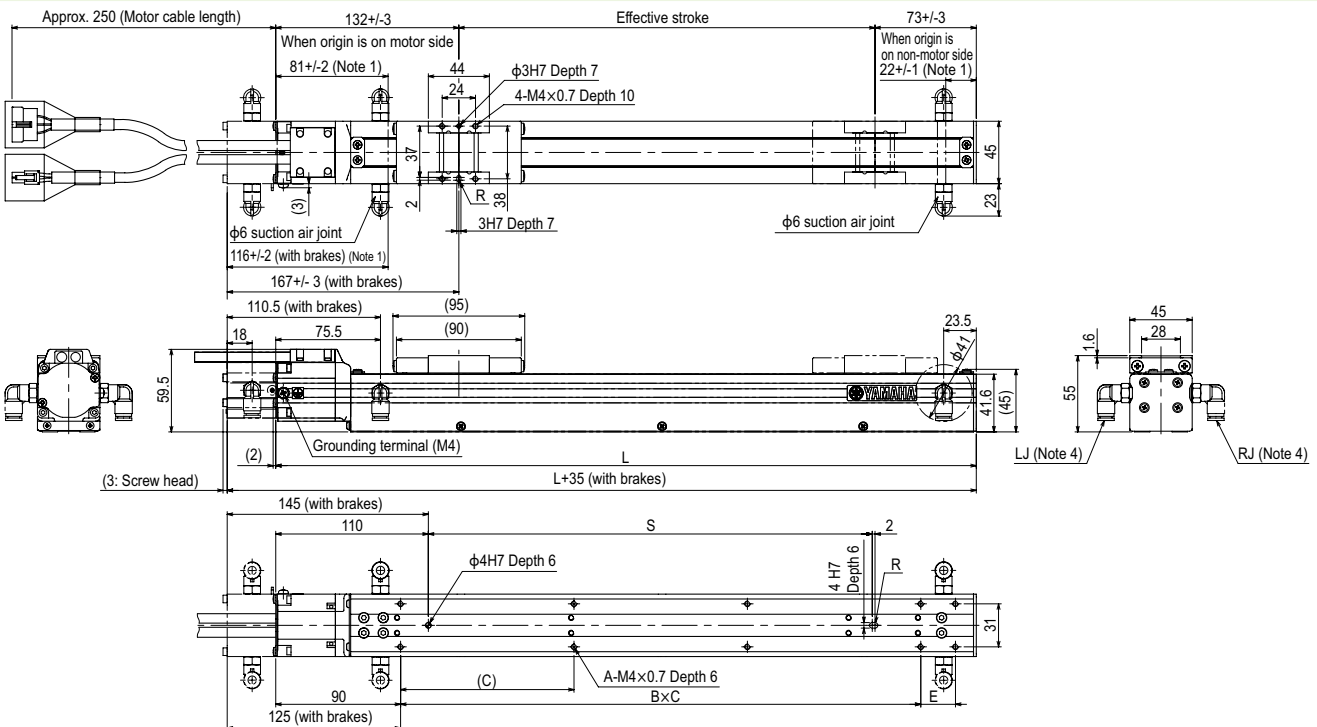
## Static loading moment

|                              |    |    |
|------------------------------|----|----|
| <b>Static loading moment</b> |    |    |
| (Unit: N·m)                  |    |    |
| MY                           | MP | MR |
| 15                           | 19 | 18 |

## Controller

|                   |                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Controller</b> | <b>Operation method</b>                                                                                      |
| ERCD              | Pulse train control / Programming / I/O point trace / Remote command / Operation using RS-232C communication |

## C4L



|                                               |         |     |     |     |     |     |     |     |
|-----------------------------------------------|---------|-----|-----|-----|-----|-----|-----|-----|
| <b>Effective stroke</b>                       | 50      | 100 | 150 | 200 | 250 | 300 | 350 | 400 |
| L                                             | 255     | 305 | 355 | 405 | 455 | 505 | 555 | 605 |
| A                                             | 4       | 6   | 6   | 8   | 8   | 10  | 10  | 10  |
| B                                             | 1       | 2   | 2   | 2   | 2   | 3   | 3   | 4   |
| C                                             | 150     | 100 | 125 | 125 | 125 | 125 | 125 | 125 |
| E                                             | 0       | 0   | 0   | 50  | 100 | 25  | 75  | 0   |
| S                                             | 70      | 120 | 170 | 220 | 270 | 320 | 370 | 420 |
| <b>Weight (kg) <small>Note 3</small></b>      | 1.4     | 1.5 | 1.7 | 1.8 | 2   | 2.1 | 2.3 | 2.4 |
| <b>Maximum speed for each stroke (mm/sec)</b> | Lead 12 | 720 |     |     |     |     |     |     |
|                                               | Lead 6  | 360 |     |     |     |     |     |     |
|                                               | Lead 2  | 120 |     |     |     |     |     |     |

Note 1. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 2. Minimum bend radius of motor cable is R30.  
 Note 3. Weight of models with no brake. The weight of brake-attached models is 0.2 kg heavier than the models with no brake shown in the table.  
 Note 4. Either right or left can be selected for the installation direction for the  $\phi 6$  intake air joint. (The left side is the standard.)  
 Note 5. External view of C4LH is identical to C4L.