

# AGFS14/AGFS14H

Advanced model

Single-axis robots

Long-stroke type

## Ordering method

| Model  | Lead                                       | Shape                                                    | Motor specification                                                                                                                      | OP.1                                            | Stroke                   | Note 1<br>Cable length       | Cable entry location                            | Robot positioner | Driver: Power capacity              | Regenerative unit               | Note 2<br>I/O                                                              | Battery                    |
|--------|--------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|------------------------------|-------------------------------------------------|------------------|-------------------------------------|---------------------------------|----------------------------------------------------------------------------|----------------------------|
| AGFS14 | 30: 30mm<br>20: 20mm<br>10: 10mm<br>5: 5mm | S: Straight<br>R: Right attachment<br>L: Left attachment | S: Standard/With no brake<br>BK: Standard/With brake<br>BL: Battery-less absolute/With no brake<br>BKL: Battery-less absolute/With brake | No entry: Standard<br>M: Centerized lubrication | 100 to 1050 (50mm pitch) | R3: 3m<br>R5: 5m<br>R10: 10m | R: From rear of motor<br>F: From front of motor | EP-01            | A10: 200W or less<br>A30: 400W/750W | No entry: None<br>R: With EP-RU | EP: EtherNet/IP™<br>PT: PROFINET<br>ES: EtherCAT<br>NS: NPN<br>CC: CC-Link | B: With battery<br>N: None |

Note 1. The robot cable is flexible and resists bending.

Note 2. [For AGFS14]

When the actuator is used vertically, ①lead 30 is selected, and the stroke is 250 mm or more ②lead 20 is selected, and the stroke is 250mm or more, the regenerative unit is needed.

When the actuator is used horizontally, ①lead 30 is selected, and the stroke is 200 to 1000 mm, ②lead 20 is selected, and the stroke is 250 to 750 mm the regenerative unit is needed.

[For AGFS14H]

When the actuator is used vertically, ①lead 30 is selected, and the stroke is 250 mm or more ②lead 20 is selected, and the stroke is 200mm or more ③lead 10 is selected, and the stroke is 550mm or more, the regenerative unit is needed.

When the actuator is used horizontally, ①lead 30 is selected, and the stroke is 450 to 850 mm, ②lead 20 is selected, and the stroke is 350 to 700 mm, the regenerative unit is needed.

Note 3. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

## AGFS14(200W)

### Specifications

|                                                          |            |                                                  |             |            |            |
|----------------------------------------------------------|------------|--------------------------------------------------|-------------|------------|------------|
| AC servo motor output                                    |            | 200 W                                            |             |            |            |
| Repeatability <sup>Note 1</sup>                          |            | ±0.01 mm                                         |             |            |            |
| Deceleration mechanism                                   |            | Rolled ball screw φ 15 (C7 class)                |             |            |            |
| Stroke                                                   |            | 100 to 1050 (50 mm pitch)                        |             |            |            |
| Maximum speed <sup>Note 2</sup>                          |            | 1800 mm/sec                                      | 1200 mm/sec | 600 mm/sec | 300 mm/sec |
| Ball screw lead                                          |            | 30 mm                                            | 20 mm       | 10 mm      | 5 mm       |
| Maximum payload                                          | Horizontal | 30 kg                                            | 45 kg       | 90 kg      | 120 kg     |
|                                                          | Vertical   | 3 kg                                             | 6 kg        | 16 kg      | 30 kg      |
| Rated Thrust                                             |            | 113 N                                            | 170 N       | 341 N      | 683 N      |
| Maximum dimensions of cross section of main unit         |            | W 140 mm × H 83 mm                               |             |            |            |
| Overall length                                           | Straight   | ST + 469.5 mm                                    |             |            |            |
|                                                          | Bending    | ST + 439.5 mm                                    |             |            |            |
| Degree of cleanliness <sup>Note 3</sup>                  |            | Equivalent to ISO Class 3 (ISO 14644-1)          |             |            |            |
| Intake air <sup>Note 4</sup>                             |            | 90 Nℓ/min to 100 Nℓ/min                          |             |            |            |
| Position detector                                        |            | Absolute Encoder<br>Batteryless Absolute Encoder |             |            |            |
| Resolution                                               |            | 23 bits                                          |             |            |            |
| Using ambient temperature and humidity <sup>Note 5</sup> |            | 0 to 40 °C, 35 to 80 %RH (no condensation)       |             |            |            |

Note 1. Positioning repeatability in one direction.

Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 600 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 1000 mm/sec or less.

Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

### Allowable overhang

AGFS14-30

Horizontal installation (Unit: mm)

|      | A    | B    | C    |
|------|------|------|------|
| 5kg  | 4905 | 3005 | 2651 |
| 15kg | 2257 | 988  | 954  |
| 30kg | 2045 | 558  | 627  |

Wall installation (Unit: mm)

|      | A    | B    | C    |
|------|------|------|------|
| 5kg  | 2683 | 2966 | 4862 |
| 15kg | 971  | 949  | 2185 |
| 30kg | 632  | 519  | 1930 |

Vertical installation (Unit: mm)

|     | A     | C     |
|-----|-------|-------|
| 1kg | 11158 | 11158 |
| 3kg | 3983  | 3983  |

### Static loading moment

(Unit: N·m)

| MY  | MP  | MR  |
|-----|-----|-----|
| 441 | 543 | 478 |

### Controller

| Controller | Operation method                   |
|------------|------------------------------------|
| EP-01      | I/O point trace/<br>Remote command |

## AGFS14H (400W)

### Specifications

|                                                          |            |                                                  |             |            |            |
|----------------------------------------------------------|------------|--------------------------------------------------|-------------|------------|------------|
| AC servo motor output                                    |            | 400 W                                            |             |            |            |
| Repeatability <sup>Note 1</sup>                          |            | ±0.01 mm                                         |             |            |            |
| Deceleration mechanism                                   |            | Rolled ball screw φ 15 (C7 class)                |             |            |            |
| Stroke                                                   |            | 100 to 1050 (50 mm pitch)                        |             |            |            |
| Maximum speed <sup>Note 2</sup>                          |            | 1800 mm/sec                                      | 1200 mm/sec | 600 mm/sec | 300 mm/sec |
| Ball screw lead                                          |            | 30 mm                                            | 20 mm       | 10 mm      | 5 mm       |
| Maximum payload                                          | Horizontal | 50 kg                                            | 70 kg       | 110 kg     | 140 kg     |
|                                                          | Vertical   | 10 kg                                            | 15 kg       | 30 kg      | 45 kg      |
| Rated Thrust                                             |            | 225 N                                            | 339 N       | 678 N      | 1360 N     |
| Maximum dimensions of cross section of main unit         |            | W 140 mm × H 83 mm                               |             |            |            |
| Overall length                                           | Straight   | ST + 485.5 mm                                    |             |            |            |
|                                                          | Bending    | ST + 439.5 mm                                    |             |            |            |
| Degree of cleanliness <sup>Note 3</sup>                  |            | Equivalent to ISO Class 3 (ISO 14644-1)          |             |            |            |
| Intake air <sup>Note 4</sup>                             |            | 90 Nℓ/min to 100 Nℓmin                           |             |            |            |
| Position detector                                        |            | Absolute Encoder<br>Batteryless Absolute Encoder |             |            |            |
| Resolution                                               |            | 23 bits                                          |             |            |            |
| Using ambient temperature and humidity <sup>Note 5</sup> |            | 0 to 40 °C, 35 to 80 %RH (no condensation)       |             |            |            |

Note 1. Positioning repeatability in one direction.

Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 600 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 1000 mm/sec or less.

Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

### Allowable overhang

AGFS14H-30

Horizontal installation (Unit: mm)

|      | A    | B   | C   |
|------|------|-----|-----|
| 15kg | 1923 | 982 | 912 |
| 30kg | 1614 | 527 | 562 |
| 50kg | 1658 | 349 | 416 |

Wall installation (Unit: mm)

|      | A   | B   | C    |
|------|-----|-----|------|
| 15kg | 913 | 943 | 1866 |
| 30kg | 562 | 488 | 1518 |
| 50kg | 403 | 310 | 1509 |

Vertical installation (Unit: mm)

|      | A    | C    |
|------|------|------|
| 3kg  | 3663 | 3663 |
| 5kg  | 2243 | 2243 |
| 10kg | 1160 | 1160 |

AGFS14H-20

Horizontal installation (Unit: mm)

|      | A    | B    | C    |
|------|------|------|------|
| 15kg | 2756 | 1258 | 1347 |
| 30kg | 1780 | 614  | 696  |
| 70kg | 1100 | 247  | 294  |

Wall installation (Unit: mm)

|      | A    | B    | C    |
|------|------|------|------|
| 15kg | 1336 | 1219 | 2711 |
| 30kg | 680  | 575  | 1712 |
| 70kg | 268  | 208  | 969  |

Vertical installation (Unit: mm)

|      | A    | C    |
|------|------|------|
| 5kg  | 3206 | 3206 |
| 10kg | 1627 | 1627 |
| 15kg | 1093 | 1093 |

AGFS14H-10

Horizontal installation (Unit: mm)

|       | A    | B   | C    |
|-------|------|-----|------|
| 30kg  | 3732 | 855 | 1148 |
| 50kg  | 2742 | 502 | 683  |
| 110kg | 1781 | 212 | 293  |

Wall installation (Unit: mm)

|       | A    | B   | C    |
|-------|------|-----|------|
| 30kg  | 1112 | 816 | 3670 |
| 50kg  | 642  | 462 | 2655 |
| 110kg | 247  | 173 | 1615 |

Vertical installation (Unit: mm)

|      | A    | C    |
|------|------|------|
| 10kg | 2499 | 2499 |
| 15kg | 1664 | 1664 |
| 30kg | 823  | 823  |

AGFS14H-5

Horizontal installation (Unit: mm)

|       | A    | B   | C   |
|-------|------|-----|-----|
| 50kg  | 5089 | 539 | 775 |
| 100kg | 3425 | 255 | 368 |
| 140kg | 2863 | 174 | 252 |

Wall installation (Unit: mm)

|       | A   | B   | C    |
|-------|-----|-----|------|
| 50kg  | 724 | 500 | 4991 |
| 100kg | 314 | 216 | 3257 |
| 140kg | 197 | 135 | 2630 |

Vertical installation (Unit: mm)

|      | A    | C    |
|------|------|------|
| 15kg | 1833 | 1833 |
| 30kg | 900  | 900  |
| 45kg | 589  | 589  |

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

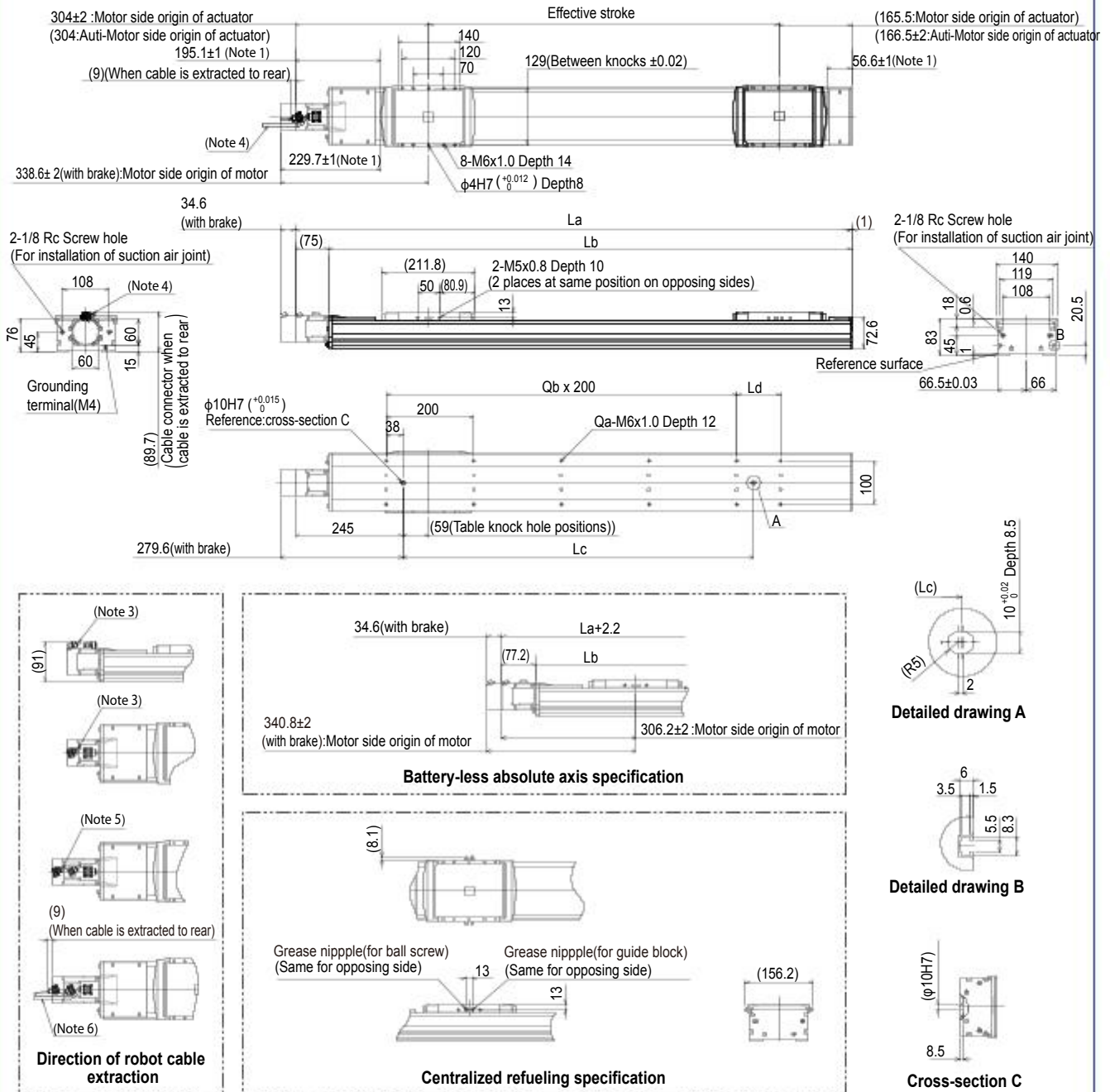
Note. Service life is calculated for 600 mm stroke models.

Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.



► The cycle time simulation and service life calculation can be performed easily from our member site.

## AGFS14 Straight type (S)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

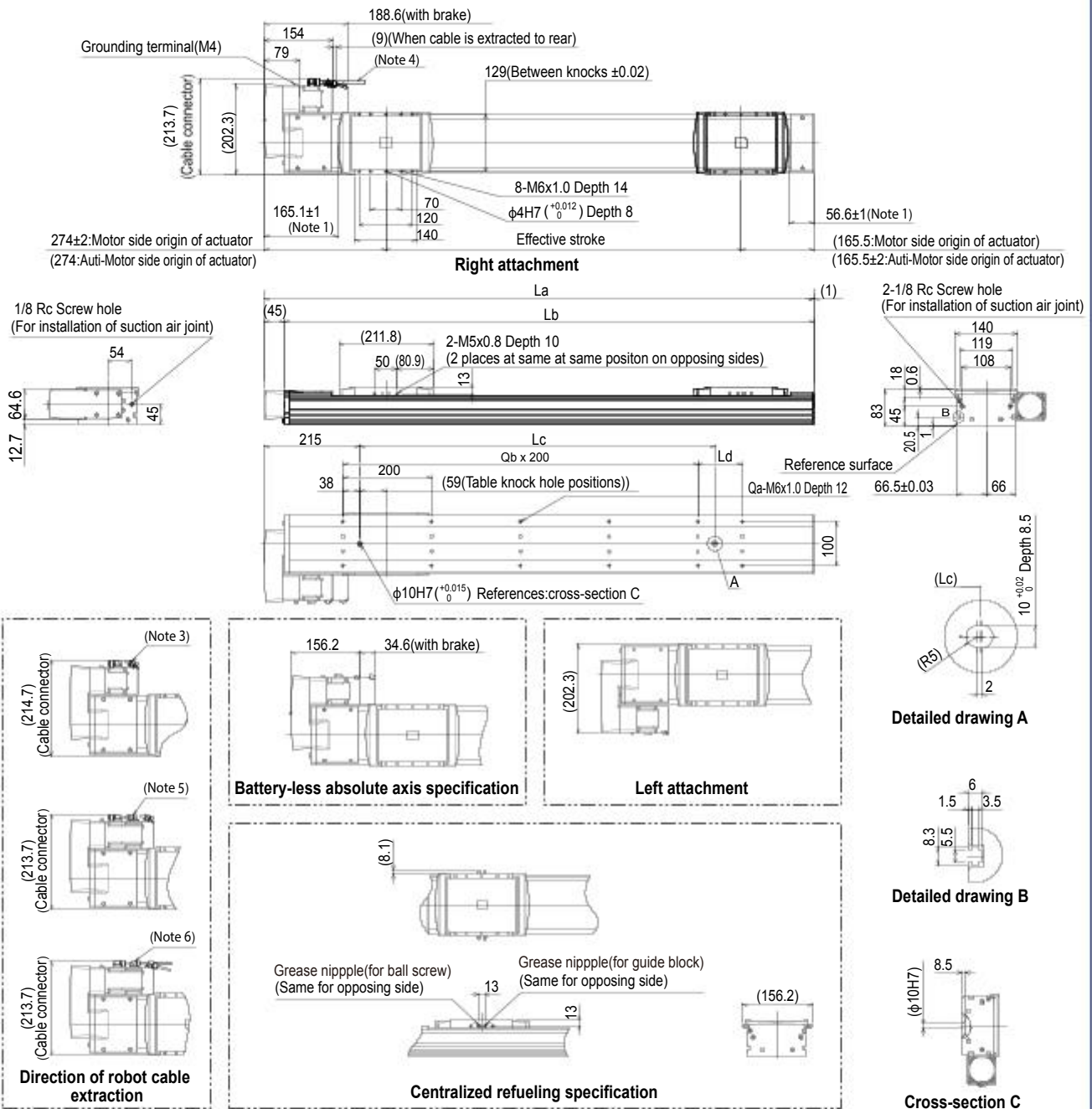
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M6x1.0> used to install the main unit.

Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke       | 100                   | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550    | 600    | 650    | 700    | 750    | 800                    | 850    | 900    | 950    | 1000   | 1050   |
|------------------------|-----------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|------------------------|--------|--------|--------|--------|--------|
| La                     | 569.5                 | 619.5                  | 669.5 | 719.5 | 769.5 | 819.5 | 869.5 | 919.5 | 969.5 | 1019.5 | 1069.5 | 1119.5 | 1169.5 | 1219.5 | 1269.5                 | 1319.5 | 1369.5 | 1419.5 | 1469.5 | 1519.5 |
| Lb                     | 494.5                 | 544.5                  | 594.5 | 644.5 | 694.5 | 744.5 | 794.5 | 844.5 | 894.5 | 944.5  | 994.5  | 1044.5 | 1094.5 | 1144.5 | 1194.5                 | 1244.5 | 1294.5 | 1344.5 | 1394.5 | 1444.5 |
| Lc                     | 100                   | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550    | 600    | 650    | 700    | 750    | 800                    | 850    | 900    | 950    | 1000   | 1050   |
| Ld                     | 200                   | 50                     | 100   | 150   | 200   | 50    | 100   | 150   | 200   | 50     | 100    | 150    | 200    | 50     | 100                    | 150    | 200    | 50     | 100    | 150    |
| Qa                     | 4                     | 6                      | 6     | 6     | 6     | 8     | 8     | 8     | 8     | 10     | 10     | 10     | 10     | 12     | 12                     | 12     | 12     | 14     | 14     | 14     |
| Qb                     | 0                     | 1                      | 1     | 1     | 1     | 2     | 2     | 2     | 2     | 3      | 3      | 3      | 3      | 4      | 4                      | 4      | 4      | 5      | 5      | 5      |
| Weight (kg) Note 2     | 8.7                   | 9.3                    | 9.8   | 10.3  | 10.9  | 11.4  | 11.9  | 12.4  | 13.0  | 13.5   | 14.0   | 14.6   | 15.1   | 15.6   | 16.2                   | 16.7   | 17.2   | 17.7   | 18.3   | 18.8   |
| Maximum speed (mm/sec) | Lead 30               | 1800                   |       |       |       |       |       |       |       |        |        |        |        |        | 1710                   | 1530   | 1170   | 990    | 810    | 720    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 95%                    | 85%    | 65%    | 55%    | 50%    | 40%    |
|                        | Lead 20               | 1200                   |       |       |       |       |       |       |       |        |        |        |        |        | 1140                   | 1020   | 900    | 780    | 660    | 420    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 95%                    | 85%    | 75%    | 65%    | 55%    | 40%    |
|                        | Lead 10               | 600                    |       |       |       |       |       |       |       |        |        |        |        |        | 570                    | 480    | 420    | 360    | 300    | 210    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 95%                    | 80%    | 70%    | 60%    | 55%    | 35%    |
| Stroke restriction     | Lead 5                | 300                    |       |       |       |       |       |       |       |        |        |        |        |        | 270                    | 240    | 210    | 180    | 165    | 105    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 90%                    | 80%    | 70%    | 60%    | 55%    | 35%    |
|                        | Horizontal - Vertical | No stroke restrictions |       |       |       |       |       |       |       |        |        |        |        |        | No stroke restrictions |        |        |        |        |        |
| Wall hanging           | Wall hanging          | No stroke restrictions |       |       |       |       |       |       |       |        |        |        |        |        | No stroke restrictions |        |        |        |        |        |
|                        | Ceiling-mounted       | No stroke restrictions |       |       |       |       |       |       |       |        |        |        |        |        | No stroke restrictions |        |        |        |        |        |

## AGFS14 Bending type (R/L)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

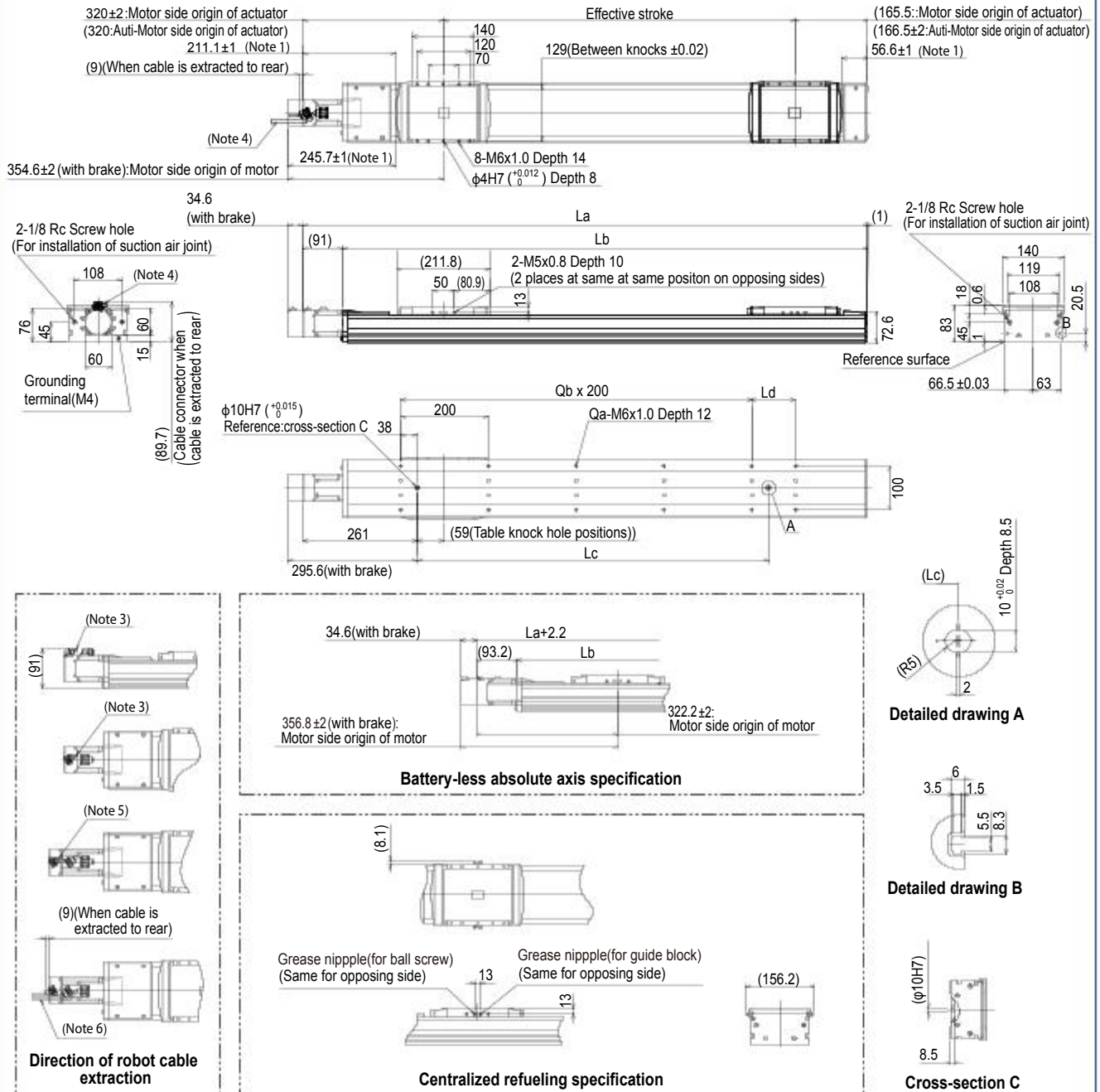
Note 7. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note 8. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M6x1.0> used to install the main unit.

Note 9. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke       | 100                   | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550   | 600    | 650    | 700    | 750    | 800    | 850    | 900    | 950    | 1000   | 1050   |
|------------------------|-----------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| La                     | 539.5                 | 589.5                  | 639.5 | 689.5 | 739.5 | 789.5 | 839.5 | 889.5 | 939.5 | 989.5 | 1039.5 | 1089.5 | 1139.5 | 1189.5 | 1239.5 | 1289.5 | 1339.5 | 1389.5 | 1439.5 | 1489.5 |
| Lb                     | 494.5                 | 544.5                  | 594.5 | 644.5 | 694.5 | 744.5 | 794.5 | 844.5 | 894.5 | 944.5 | 994.5  | 1044.5 | 1094.5 | 1144.5 | 1194.5 | 1244.5 | 1294.5 | 1344.5 | 1394.5 | 1444.5 |
| Lc                     | 100                   | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550   | 600    | 650    | 700    | 750    | 800    | 850    | 900    | 950    | 1000   | 1050   |
| Ld                     | 200                   | 50                     | 100   | 150   | 200   | 50    | 100   | 150   | 200   | 50    | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    |
| Qa                     | 4                     | 6                      | 6     | 6     | 6     | 8     | 8     | 8     | 8     | 10    | 10     | 10     | 10     | 12     | 12     | 12     | 12     | 14     | 14     | 14     |
| Qb                     | 0                     | 1                      | 1     | 1     | 1     | 2     | 2     | 2     | 2     | 3     | 3      | 3      | 3      | 4      | 4      | 4      | 4      | 5      | 5      | 5      |
| Weight (kg) Note 2     | 9.9                   | 10.5                   | 11.0  | 11.5  | 12.1  | 12.6  | 13.1  | 13.6  | 14.2  | 14.7  | 15.2   | 15.8   | 16.3   | 16.8   | 17.4   | 17.9   | 18.4   | 18.9   | 19.5   | 20.0   |
| Maximum speed (mm/sec) | Lead 30               | 1800                   |       |       |       |       |       |       |       |       |        |        |        |        | 1710   | 1530   | 1170   | 990    | 810    | 720    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 95%    | 85%    | 65%    | 55%    | 50%    | 40%    |
|                        | Lead 20               | 1200                   |       |       |       |       |       |       |       |       |        |        |        |        | 1140   | 1020   | 900    | 780    | 660    | 420    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 95%    | 85%    | 75%    | 65%    | 55%    | 35%    |
|                        | Lead 10               | 600                    |       |       |       |       |       |       |       |       |        |        |        |        | 570    | 480    | 420    | 360    | 300    | 210    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 95%    | 80%    | 70%    | 60%    | 55%    | 35%    |
| Stroke restriction     | Lead 5                | 300                    |       |       |       |       |       |       |       |       |        |        |        |        | 270    | 240    | 210    | 180    | 165    | 105    |
|                        | Speed setting         | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 90%    | 80%    | 70%    | 60%    | 55%    | 35%    |
| Stroke restriction     | Horizontal - Vertical | No stroke restrictions |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |
|                        | Wall hanging          | No stroke restrictions |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |
|                        | Ceiling-mounted       | No stroke restrictions |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |

## AGFS14H Straight type (S)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

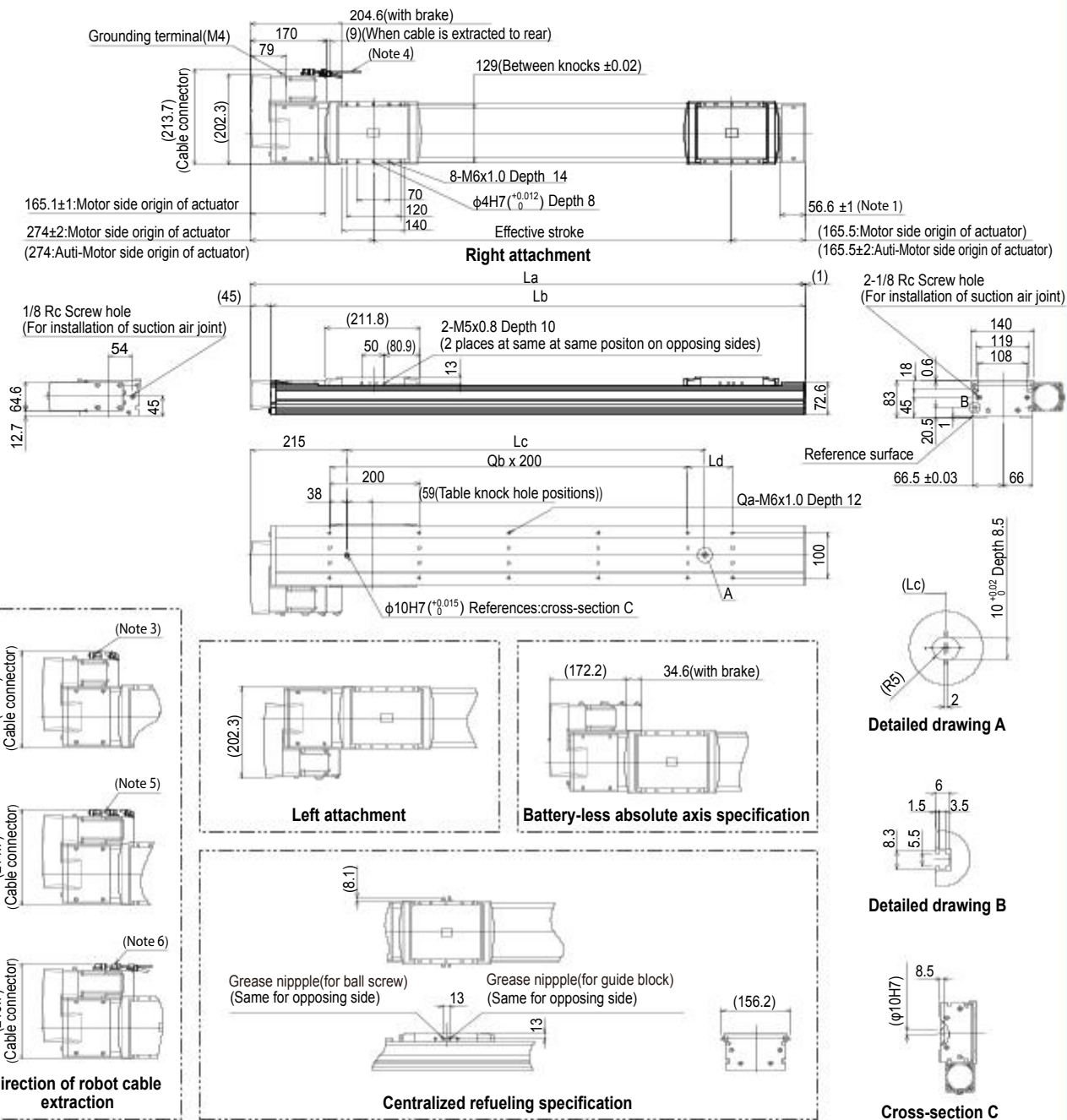
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note. In the installation tap hole, the length under head <thickness of stand +10mm or less> is recommended for the hex socket head bolts <M6x1.0> used to install the main unit.

Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke                  | 100                   | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550    | 600    | 650    | 700    | 750    | 800    | 850    | 900    | 950    | 1000   | 1050   |     |     |     |     |
|-----------------------------------|-----------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|-----|
| La                                | 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 | 1435.5 | 1485.5 | 1535.5 |     |     |     |     |
| Lb                                | 494.5                 | 544.5                  | 594.5 | 644.5 | 694.5 | 744.5 | 794.5 | 844.5 | 894.5 | 944.5  | 994.5  | 1044.5 | 1094.5 | 1144.5 | 1194.5 | 1244.5 | 1294.5 | 1344.5 | 1394.5 | 1444.5 |     |     |     |     |
| Lc                                | 100                   | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550    | 600    | 650    | 700    | 750    | 800    | 850    | 900    | 950    | 1000   | 1050   |     |     |     |     |
| Ld                                | 200                   | 50                     | 100   | 150   | 200   | 50    | 100   | 150   | 200   | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    |     |     |     |     |
| Qa                                | 4                     | 6                      | 6     | 6     | 6     | 8     | 8     | 8     | 8     | 10     | 10     | 10     | 10     | 12     | 12     | 12     | 12     | 14     | 14     | 14     |     |     |     |     |
| Qb                                | 0                     | 1                      | 1     | 1     | 1     | 2     | 2     | 2     | 2     | 3      | 3      | 3      | 3      | 4      | 4      | 4      | 4      | 5      | 5      | 5      |     |     |     |     |
| Weight (kg) <small>Note 2</small> | 9.0                   | 9.6                    | 10.1  | 10.6  | 11.2  | 11.7  | 12.2  | 12.7  | 13.3  | 13.8   | 14.3   | 14.9   | 15.4   | 15.9   | 16.5   | 17.0   | 17.5   | 18.0   | 18.6   | 19.1   |     |     |     |     |
| Maximum speed (mm/sec)            | Lead 30               | 1800                   |       |       |       |       |       |       |       |        |        |        |        |        | 1710   |        | 1530   | 1170   | 990    | 900    | 810 | 720 |     |     |
|                                   | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 95%    |        | 85%    | 65%    | 55%    | 50%    | 45% | 40% |     |     |
|                                   | Lead 20               | 1200                   |       |       |       |       |       |       |       |        |        |        |        |        | 1140   |        | 1020   | 900    | 780    | 660    | 540 | 480 | 420 |     |
|                                   | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 95%    |        | 85%    | 75%    | 65%    | 55%    | 50% | 45% | 40% | 35% |
|                                   | Lead 10               | 600                    |       |       |       |       |       |       |       |        |        |        |        |        | 570    |        | 480    | 420    | 360    | 330    | 300 | 270 | 240 | 210 |
|                                   | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 95%    |        | 80%    | 70%    | 60%    | 55%    | 50% | 45% | 40% | 35% |
|                                   | Lead 5                | 300                    |       |       |       |       |       |       |       |        |        |        |        |        | 270    |        | 240    | 210    | 180    | 165    | 150 | 135 | 120 | 105 |
|                                   | Speed setting         | -                      |       |       |       |       |       |       |       |        |        |        |        |        | 90%    |        | 80%    | 70%    | 60%    | 55%    | 50% | 45% | 40% | 35% |
| Stroke restriction                | Horizontal • Vertical | No stroke restrictions |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |     |     |     |     |
|                                   | Wall hanging          | No stroke restrictions |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |     |     |     |     |
|                                   | Ceiling-mounted       | No stroke restrictions |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |     |     |     |     |

## AGFS14H Bending type (R/L)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note. In the installation tap hole, the length under head <thickness of stand +10mm or less> is recommended for the hex socket head bolts <M6×1.0> used to install the main unit.

Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke       | 100             | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550   | 600    | 650    | 700    | 750    | 800    | 850    | 900    | 950    | 1000   | 1050   |
|------------------------|-----------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| La                     | 539.5           | 589.5                  | 639.5 | 689.5 | 739.5 | 789.5 | 839.5 | 889.5 | 939.5 | 989.5 | 1039.5 | 1089.5 | 1139.5 | 1189.5 | 1239.5 | 1289.5 | 1339.5 | 1389.5 | 1439.5 | 1489.5 |
| Lb                     | 494.5           | 544.5                  | 594.5 | 644.5 | 694.5 | 744.5 | 794.5 | 844.5 | 894.5 | 944.5 | 994.5  | 1044.5 | 1094.5 | 1144.5 | 1194.5 | 1244.5 | 1294.5 | 1344.5 | 1394.5 | 1444.5 |
| Lc                     | 100             | 150                    | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550   | 600    | 650    | 700    | 750    | 800    | 850    | 900    | 950    | 1000   | 1050   |
| Ld                     | 200             | 50                     | 100   | 150   | 200   | 50    | 100   | 150   | 200   | 50    | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    |
| Qa                     | 4               | 6                      | 6     | 6     | 6     | 8     | 8     | 8     | 8     | 10    | 10     | 10     | 10     | 12     | 12     | 12     | 12     | 14     | 14     | 14     |
| Qb                     | 0               | 1                      | 1     | 1     | 1     | 2     | 2     | 2     | 2     | 3     | 3      | 3      | 3      | 4      | 4      | 4      | 4      | 5      | 5      | 5      |
| Weight (kg) Note 2     | 10.1            | 10.7                   | 11.2  | 11.7  | 12.3  | 12.8  | 13.3  | 13.8  | 14.4  | 14.9  | 15.4   | 16.0   | 16.5   | 17.0   | 17.6   | 18.1   | 18.6   | 19.1   | 19.7   | 20.2   |
| Maximum speed (mm/sec) | Lead 30         | 1800                   |       |       |       |       |       |       |       |       |        |        |        |        | 1710   | 1530   | 1170   | 990    | 810    | 720    |
|                        | Speed setting   | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 95%    | 85%    | 65%    | 55%    | 50%    | 40%    |
|                        | Lead 20         | 1200                   |       |       |       |       |       |       |       |       |        |        |        |        | 1140   | 1020   | 900    | 780    | 660    | 420    |
|                        | Speed setting   | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 95%    | 85%    | 75%    | 65%    | 55%    | 35%    |
|                        | Lead 10         | 600                    |       |       |       |       |       |       |       |       |        |        |        |        | 570    | 480    | 420    | 360    | 300    | 210    |
|                        | Speed setting   | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 95%    | 80%    | 70%    | 60%    | 55%    | 35%    |
| Stroke restriction     | Lead 5          | 300                    |       |       |       |       |       |       |       |       |        |        |        |        | 270    | 240    | 210    | 180    | 165    | 105    |
|                        | Speed setting   | -                      |       |       |       |       |       |       |       |       |        |        |        |        | 90%    | 80%    | 70%    | 60%    | 55%    | 35%    |
| Horizontal · Vertical  | Horizontal      | No stroke restrictions |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |
|                        | Vertical        | No stroke restrictions |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |
|                        | Wall hanging    | No stroke restrictions |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |
| Ceiling-mounted        | Ceiling-mounted | No stroke restrictions |       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |

# AGFS14L/AGFS14LH

Advanced model

Single-axis robots

Long-stroke type

## Ordering method

| Model    | Lead     | Shape               | Motor specification                     | OP1                       | Stroke       | Cable length | Cable entry location   | Robot positioner | Driver: Power capacity | Regenerative unit | I/O              | Battery         |
|----------|----------|---------------------|-----------------------------------------|---------------------------|--------------|--------------|------------------------|------------------|------------------------|-------------------|------------------|-----------------|
| AGFS14L  | 30: 30mm | S: Straight         | S: Standard/With no brake               | No entry:                 | 750 to 2000  | R3: 3m       | R: From rear of motor  | EP-01            | A10: 200W or less      | No entry: None    | EP: EtherNet/IP™ | B: With battery |
| AGFS14LH | 20: 20mm | R: Right attachment | BK Standard/With brake                  | Standard                  | (50mm pitch) | R5: 5m       | F: From front of motor |                  | A30: 400W/750W         | R: With EP-RU     | PT: PROFINET     | N: None         |
|          | 10: 10mm | L: Left attachment  | BL: Battery-less absolute/With no brake | M: Centerized lubrication |              | R10: 10m     |                        |                  |                        |                   | ES: EtherCAT     |                 |
|          | 5: 5mm   |                     | BKL: Battery-less absolute/With brake   |                           |              |              |                        |                  |                        |                   | NS: NPN          |                 |
|          |          |                     |                                         |                           |              |              |                        |                  |                        |                   | CC: CC-Link      |                 |

Note 1. The robot cable is flexible and resists bending.

Note 2. [For AGFS14L]

When the actuator is used vertically, lead 10 is selected, the regenerative unit is needed.

When the actuator is used horizontally, lead 20 is selected, and the stroke is 950mm or more, the regenerative unit is needed.

[For AGFS14LH]

When the actuator is used vertically, all lead and stroke, the regenerative unit is needed.

Note 3. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

## AGFS14L(200W)

### Specifications

|                                                          |                                                                       |
|----------------------------------------------------------|-----------------------------------------------------------------------|
| AC servo motor output                                    | 200 W                                                                 |
| Repeatability <sup>Note 1</sup>                          | ±0.01 mm                                                              |
| Deceleration mechanism                                   | Rolled ball screw $\phi$ 15 (C7 class)                                |
| Stroke                                                   | 750 to 2000 (50 mm pitch)                                             |
| Maximum speed <sup>Note 2</sup>                          | 1800 mm/sec 1200 mm/sec 600 mm/sec 300 mm/sec                         |
| Ball screw lead                                          | 30 mm 20 mm 10 mm 5 mm                                                |
| Maximum payload                                          | Horizontal 30 kg 45 kg 90 kg 120 kg<br>Vertical 3 kg 6 kg 16 kg 30 kg |
| Rated Thrust                                             | 113 N 170 N 341 N 683 N                                               |
| Maximum dimensions of cross section of main unit         | W 140 mm × H 91.5 mm                                                  |
| Overall length                                           | Straight ST + 537.5 mm<br>Bending ST + 507.5 mm                       |
| Degree of cleanliness <sup>Note 3</sup>                  | Equivalent to ISO Class 3 (ISO 14644-1)                               |
| Intake air <sup>Note 4</sup>                             | 90 Nℓ/min to 100 Nℓ/min                                               |
| Position detector                                        | Absolute Encoder<br>Batteryless Absolute Encoder                      |
| Resolution                                               | 23 bits                                                               |
| Using ambient <sup>Note 5</sup> temperature and humidity | 0 to 40 °C, 35 to 80 %RH (no condensation)                            |

Note 1. Positioning repeatability in one direction.

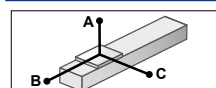
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 1000 mm/sec or less.

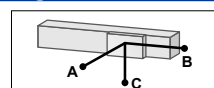
Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

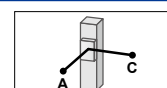
### Allowable overhang <sup>Note</sup>



| AGFS14L-30                         | A    | B    | C    |
|------------------------------------|------|------|------|
| Horizontal installation (Unit: mm) |      |      |      |
| 5kg                                | 5829 | 3006 | 3007 |
| 15kg                               | 2669 | 983  | 1061 |
| 30kg                               | 1764 | 477  | 538  |



| AGFS14L-30                   | A    | B    | C    |
|------------------------------|------|------|------|
| Wall installation (Unit: mm) |      |      |      |
| 5kg                          | 3034 | 2966 | 5786 |
| 15kg                         | 1069 | 943  | 2597 |
| 30kg                         | 536  | 438  | 1649 |



| AGFS14L-30                       | A     | C     |
|----------------------------------|-------|-------|
| Vertical installation (Unit: mm) |       |       |
| 1kg                              | 12226 | 12226 |
| 3kg                              | 4291  | 4291  |

### Static loading moment

|             | MY  | MP  | MR |
|-------------|-----|-----|----|
| (Unit: N·m) |     |     |    |
| 441         | 543 | 478 |    |

### Controller

| Controller | Operation method                   |
|------------|------------------------------------|
| EP-01      | I/O point trace/<br>Remote command |

## AGFS14LH (400W)

### Specifications

|                                                          |                                                                          |
|----------------------------------------------------------|--------------------------------------------------------------------------|
| AC servo motor output                                    | 400 W                                                                    |
| Repeatability <sup>Note 1</sup>                          | ±0.01 mm                                                                 |
| Deceleration mechanism                                   | Rolled ball screw $\phi$ 15 (C7 class)                                   |
| Stroke                                                   | 750 to 2000 (50 mm pitch)                                                |
| Maximum speed <sup>Note 2</sup>                          | 1800 mm/sec 1200 mm/sec 600 mm/sec 300 mm/sec                            |
| Ball screw lead                                          | 30 mm 20 mm 10 mm 5 mm                                                   |
| Maximum payload                                          | Horizontal 50 kg 70 kg 110 kg 140 kg<br>Vertical 10 kg 15 kg 30 kg 45 kg |
| Rated Thrust                                             | 225 N 339 N 678 N 1360 N                                                 |
| Maximum dimensions of cross section of main unit         | W 140 mm × H 91.5 mm                                                     |
| Overall length                                           | Straight ST + 553.5 mm<br>Bending ST + 507.5 mm                          |
| Degree of cleanliness <sup>Note 3</sup>                  | Equivalent to ISO Class 3 (ISO 14644-1)                                  |
| Intake air <sup>Note 4</sup>                             | 90 Nℓ/min to 100 Nℓ/min                                                  |
| Position detector                                        | Absolute Encoder<br>Batteryless Absolute Encoder                         |
| Resolution                                               | 23 bits                                                                  |
| Using ambient <sup>Note 5</sup> temperature and humidity | 0 to 40 °C, 35 to 80 %RH (no condensation)                               |

Note 1. Positioning repeatability in one direction.

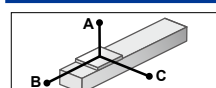
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 1000 mm/sec or less.

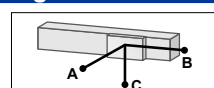
Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

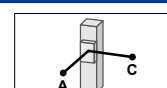
### Allowable overhang <sup>Note</sup>



| AGFS14LH-30                        | A    | B   | C    |
|------------------------------------|------|-----|------|
| Horizontal installation (Unit: mm) |      |     |      |
| 15kg                               | 2295 | 982 | 1028 |
| 30kg                               | 1570 | 477 | 529  |
| 50kg                               | 1409 | 297 | 353  |



| AGFS14LH-30                  | A    | B   | C    |
|------------------------------|------|-----|------|
| Wall installation (Unit: mm) |      |     |      |
| 15kg                         | 1024 | 943 | 2238 |
| 30kg                         | 522  | 438 | 1473 |
| 50kg                         | 335  | 258 | 1260 |



| AGFS14LH-30                      | A    | C    |
|----------------------------------|------|------|
| Vertical installation (Unit: mm) |      |      |
| 3kg                              | 4023 | 4023 |
| 5kg                              | 2450 | 2450 |
| 10kg                             | 1255 | 1255 |

| AGFS14LH-20                        | A    | B    | C    |
|------------------------------------|------|------|------|
| Horizontal installation (Unit: mm) |      |      |      |
| 15kg                               | 3281 | 1258 | 1481 |
| 30kg                               | 2126 | 615  | 756  |
| 70kg                               | 1328 | 247  | 316  |

| AGFS14LH-20                  | A    | B    | C    |
|------------------------------|------|------|------|
| Wall installation (Unit: mm) |      |      |      |
| 15kg                         | 1461 | 1219 | 3236 |
| 30kg                         | 731  | 575  | 2058 |
| 70kg                         | 281  | 208  | 1195 |

| AGFS14LH-20                      | A    | C    |
|----------------------------------|------|------|
| Vertical installation (Unit: mm) |      |      |
| 5kg                              | 3404 | 3404 |
| 10kg                             | 1715 | 1715 |
| 15kg                             | 1146 | 1146 |

| AGFS14LH-10                        | A    | B   | C    |
|------------------------------------|------|-----|------|
| Horizontal installation (Unit: mm) |      |     |      |
| 30kg                               | 4441 | 855 | 1186 |
| 50kg                               | 3270 | 502 | 702  |
| 110kg                              | 2140 | 212 | 300  |

| AGFS14LH-10                  | A    | B   | C    |
|------------------------------|------|-----|------|
| Wall installation (Unit: mm) |      |     |      |
| 30kg                         | 1143 | 816 | 4379 |
| 50kg                         | 656  | 462 | 3182 |
| 110kg                        | 250  | 173 | 1971 |

| AGFS14LH-10                      | A    | C    |
|----------------------------------|------|------|
| Vertical installation (Unit: mm) |      |      |
| 10kg                             | 2542 | 2542 |
| 15kg                             | 1689 | 1689 |
| 30kg                             | 832  | 832  |

| AGFS14LH-5                         | A    | B   | C   |
|------------------------------------|------|-----|-----|
| Horizontal installation (Unit: mm) |      |     |     |
| 50kg                               | 6053 | 539 | 781 |
| 100kg                              | 4089 | 255 | 371 |
| 140kg                              | 3429 | 174 | 253 |

| AGFS14LH-5                   | A   | B   | C    |
|------------------------------|-----|-----|------|
| Wall installation (Unit: mm) |     |     |      |
| 50kg                         | 727 | 500 | 5955 |
| 100kg                        | 315 | 216 | 3918 |
| 140kg                        | 197 | 135 | 3188 |

| AGFS14LH-5                       | A    | C    |
|----------------------------------|------|------|
| Vertical installation (Unit: mm) |      |      |
| 15kg                             | 1841 | 1841 |
| 30kg                             | 903  | 903  |
| 45kg                             | 590  | 590  |

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 1,000 mm stroke models.

Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.



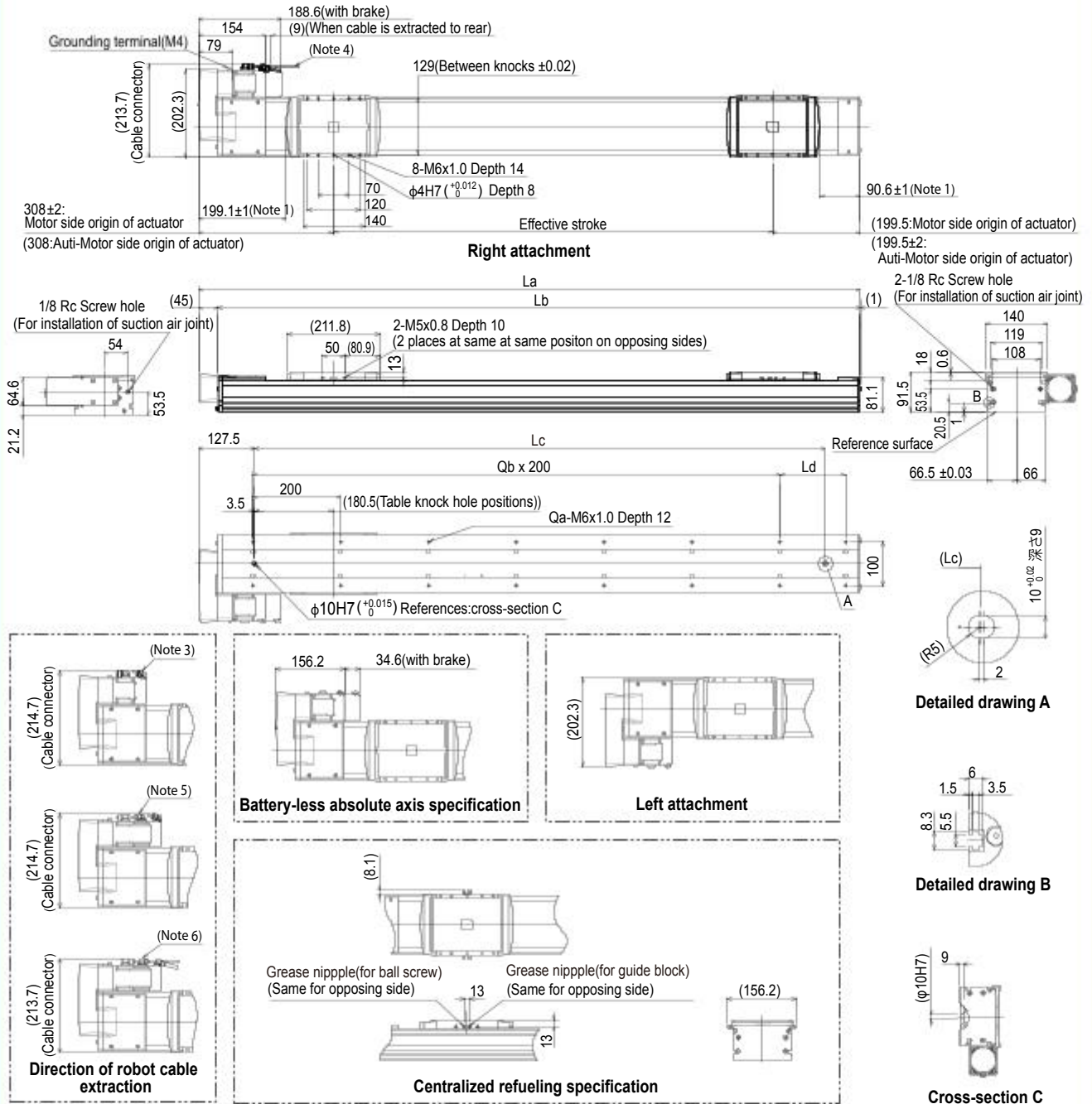
► The cycle time simulation and service life calculation can be performed easily from our member site.

Controller

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## AGFS14L Bending type (R/L)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M6×1.0> used to install the main unit.

Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke       | 750                                                                                                 | 800    | 850    | 900    | 950    | 1000   | 1050   | 1100   | 1150   | 1200   | 1250   | 1300   | 1350   | 1400   | 1450   | 1500   | 1550   | 1600   | 1650   | 1700   | 1750   | 1800   | 1850   | 1900   | 1950   | 2000   |
|------------------------|-----------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| La                     | 1257.5                                                                                              | 1307.5 | 1357.5 | 1407.5 | 1457.5 | 1507.5 | 1557.5 | 1607.5 | 1657.5 | 1707.5 | 1757.5 | 1807.5 | 1857.5 | 1907.5 | 1957.5 | 2007.5 | 2057.5 | 2107.5 | 2157.5 | 2207.5 | 2257.5 | 2307.5 | 2357.5 | 2407.5 | 2457.5 | 2507.5 |
| Lb                     | 1212.5                                                                                              | 1262.5 | 1312.5 | 1362.5 | 1412.5 | 1462.5 | 1512.5 | 1562.5 | 1612.5 | 1662.5 | 1712.5 | 1762.5 | 1812.5 | 1862.5 | 1912.5 | 1962.5 | 2012.5 | 2062.5 | 2112.5 | 2162.5 | 2212.5 | 2262.5 | 2312.5 | 2362.5 | 2412.5 | 2462.5 |
| Lc                     | 1050                                                                                                | 1100   | 1150   | 1200   | 1250   | 1300   | 1350   | 1400   | 1450   | 1500   | 1550   | 1600   | 1650   | 1700   | 1750   | 1800   | 1850   | 1900   | 1950   | 2000   | 2050   | 2100   | 2150   | 2200   | 2250   | 2300   |
| Ld                     | 100                                                                                                 | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    |
| Qa                     | 14                                                                                                  | 14     | 14     | 16     | 16     | 16     | 16     | 18     | 18     | 18     | 18     | 20     | 20     | 20     | 20     | 22     | 22     | 22     | 22     | 24     | 24     | 24     | 24     | 26     | 26     | 26     |
| Qb                     | 5                                                                                                   | 5      | 5      | 6      | 6      | 6      | 6      | 7      | 7      | 7      | 7      | 8      | 8      | 8      | 8      | 9      | 9      | 9      | 9      | 10     | 10     | 10     | 10     | 11     | 11     | 11     |
| Weight (kg) Note 2     | 20.6                                                                                                | 21.2   | 21.8   | 22.3   | 22.9   | 23.5   | 24.1   | 24.6   | 25.2   | 25.8   | 26.3   | 26.9   | 27.5   | 28.1   | 28.6   | 29.2   | 29.8   | 30.4   | 30.9   | 31.5   | 32.1   | 32.6   | 33.2   | 33.8   | 34.4   | 34.9   |
| Maximum speed (mm/sec) | Lead 30 1800<br>Lead 20 1200<br>Lead 10 600<br>Lead 5 300<br>Speed setting -                        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Stroke restriction     | Horizontal · Vertical No stroke restrictions<br>Wall hanging To 1800st<br>Ceiling-mounted To 1200st |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |

### Cross-section C

Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

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# AGFS17/AGFS17H

Advanced model

Single-axis robots

Long-stroke type

## Ordering method

| Model   | Lead                                              | Shape                                                             | Motor specification                                                                                                         | OP.1                      | Stroke                   | Cable length       | Cable entry location   | Robot positioner | Driver Power capacity | Regenerative unit | I/O                                              | Battery         |
|---------|---------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|--------------------|------------------------|------------------|-----------------------|-------------------|--------------------------------------------------|-----------------|
| AGFS17  | 40: 40mm                                          | S: Straight                                                       | S: Standard/With no brake                                                                                                   | No entry: Standard        | 100 to 1250 (50mm pitch) | R3: 3m             | R: From rear of motor  | EP-01            | A30: 400W/750W        | No entry: None    | EP: EtherNet/IP™<br>PT: PROFINET<br>ES: EtherCAT | B: With battery |
| AGFS17H | 20: 20mm<br>10: 10mm<br>5: 5mm (Only with brakes) | R: Right attachment (Only 750W)<br>L: Left attachment (Only 750W) | BK: Battery-less absolute/With no brake<br>BL: Battery-less absolute/With no brake<br>BKL: Battery-less absolute/With brake | M: Centerized lubrication |                          | R5: 5m<br>R10: 10m | F: From front of motor |                  |                       | C: With RU-1      | NS: NPN<br>CC: CC-Link                           | N: None         |

Note 1. The robot cable is flexible and resists bending.

Note 2. (For AGFS17)

When the actuator is used horizontally, lead 40 is selected, and the stroke is 750mm to 1000mm, the regenerative unit is needed.

(For AGFS17H)

When the actuator is used vertically, ①lead 40 is selected, and the stroke is 200mm or more ②lead 20 is selected, and the stroke is 200mm or more ③lead 10 is selected, all stroke, the regenerative unit is needed. (In this case, please choose the regenerative device 'RU1'. ④lead 40 is selected, and the stroke is 400 to 1000mm ⑤lead 10 is selected, and the stroke is 100 to 900mm)

When the actuator is used horizontally, ①lead 40 is selected, and the stroke is 550mm to 1100mm ②lead 20 is selected, and the stroke is 250mm to 900mm ③lead 10 is selected, and the stroke is 250mm to 750mm, the regenerative unit is needed.

Note 3. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

## AGFS17(400W)

### Specifications

|                                                          |                                                                    |
|----------------------------------------------------------|--------------------------------------------------------------------|
| AC servo motor output                                    | 400 W                                                              |
| Repeatability <sup>Note 1</sup>                          | ±0.01 mm                                                           |
| Deceleration mechanism                                   | Rolled ball screw $\phi$ 20 (C7 class)                             |
| Stroke                                                   | 100 to 1250 (50 mm pitch)                                          |
| Maximum speed <sup>Note 2</sup>                          | 2400 mm/sec<br>1200 mm/sec<br>600 mm/sec<br>300 mm/sec             |
| Ball screw lead                                          | 40 mm 20 mm 10 mm 5 mm                                             |
| Maximum payload                                          | Horizontal 40 kg 90 kg 140 kg -<br>Vertical 6 kg 12 kg 35 kg 50 kg |
| Rated Thrust                                             | 169 N 339 N 678 N 1356 N                                           |
| Maximum dimensions of cross section of main unit         | W 168 mm × H 100 mm                                                |
| Overall length                                           | Straight ST + 547 mm<br>Bending -                                  |
| Degree of cleanliness <sup>Note 3</sup>                  | Equivalent to ISO Class 3 (ISO 14644-1)                            |
| Intake air <sup>Note 4</sup>                             | 115 Nℓ/min                                                         |
| Position detector                                        | Absolute Encoder<br>Batteryless Absolute Encoder                   |
| Resolution                                               | 23 bits                                                            |
| Using ambient <sup>Note 5</sup> temperature and humidity | 0 to 40 °C, 35 to 80 %RH (no condensation)                         |

Note 1. Positioning repeatability in one direction.

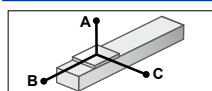
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 700 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 800 mm/sec or less.

Note 4. The required suction amount will vary according to the operating conditions and operating environment

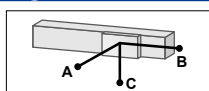
Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

### Allowable overhang <sup>Note</sup>



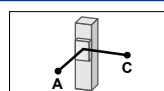
#### AGFS17-40

| Horizontal installation (Unit: mm) | A    | B    | C    |
|------------------------------------|------|------|------|
| 10kg                               | 4066 | 2660 | 2134 |
| 20kg                               | 2619 | 1335 | 1199 |
| 40kg                               | 2079 | 732  | 752  |



#### Wall installation (Unit: mm)

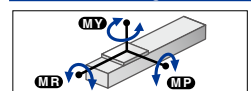
| A    | B    | C    |
|------|------|------|
| 10kg | 2165 | 2610 |
| 20kg | 1214 | 1284 |
| 40kg | 756  | 682  |



#### Vertical installation (Unit: mm)

| A   | C    |
|-----|------|
| 2kg | 9892 |
| 4kg | 5527 |
| 6kg | 4137 |

### Static loading moment



| MY   | MP   | MR  |
|------|------|-----|
| 1062 | 1063 | 934 |

### Controller

| Controller | Operation method                   |
|------------|------------------------------------|
| EP-01      | I/O point trace/<br>Remote command |

## AGFS17H (750W)

### Specifications

|                                                          |                                                                       |
|----------------------------------------------------------|-----------------------------------------------------------------------|
| AC servo motor output                                    | 750 W                                                                 |
| Repeatability <sup>Note 1</sup>                          | ±0.01 mm                                                              |
| Deceleration mechanism                                   | Rolled ball screw $\phi$ 20 (C7 class)                                |
| Stroke                                                   | 100 to 1250 (50 mm pitch)                                             |
| Maximum speed <sup>Note 2</sup>                          | 2400 mm/sec<br>1200 mm/sec<br>600 mm/sec<br>300 mm/sec                |
| Ball screw lead                                          | 40 mm 20 mm 10 mm 5 mm                                                |
| Maximum payload                                          | Horizontal 80 kg 150 kg 200 kg -<br>Vertical 12 kg 35 kg 70 kg 100 kg |
| Rated Thrust                                             | 320 N 640 N 1280 N 2560 N                                             |
| Maximum dimensions of cross section of main unit         | W 168 mm × H 100 mm                                                   |
| Overall length                                           | Straight ST + 561.8 mm<br>Bending ST + 511.5 mm                       |
| Degree of cleanliness <sup>Note 3</sup>                  | Equivalent to ISO Class 3 (ISO 14644-1)                               |
| Intake air <sup>Note 4</sup>                             | 115 Nℓ/min                                                            |
| Position detector                                        | Absolute Encoder<br>Batteryless Absolute Encoder                      |
| Resolution                                               | 24 bits                                                               |
| Using ambient <sup>Note 5</sup> temperature and humidity | 0 to 40 °C, 35 to 80 %RH (no condensation)                            |

Note 1. Positioning repeatability in one direction.

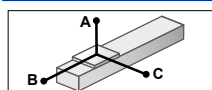
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 700 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 800 mm/sec or less.

Note 4. The required suction amount will vary according to the operating conditions and operating environment

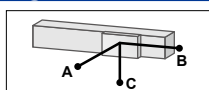
Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

### Allowable overhang <sup>Note</sup>



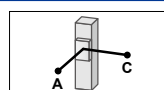
#### AGFS17H-40

| Horizontal installation (Unit: mm) | A    | B    | C    |
|------------------------------------|------|------|------|
| 20kg                               | 1851 | 1307 | 1006 |
| 50kg                               | 1404 | 555  | 548  |
| 80kg                               | 1371 | 375  | 413  |



#### Wall installation (Unit: mm)

| A    | B    | C    |
|------|------|------|
| 20kg | 1000 | 1256 |
| 50kg | 537  | 505  |
| 80kg | 392  | 324  |



#### Vertical installation (Unit: mm)

| A    | C    |
|------|------|
| 4kg  | 4200 |
| 8kg  | 2186 |
| 12kg | 1523 |

#### AGFS17H-20

| Horizontal installation (Unit: mm) | A    | B   | C   |
|------------------------------------|------|-----|-----|
| 50kg                               | 2449 | 691 | 796 |
| 100kg                              | 1708 | 325 | 388 |
| 150kg                              | 1733 | 226 | 286 |

#### Wall installation (Unit: mm)

| A     | B   | C   |
|-------|-----|-----|
| 50kg  | 782 | 640 |
| 100kg | 359 | 275 |
| 150kg | 241 | 176 |

#### Vertical installation (Unit: mm)

| A    | C    |
|------|------|
| 15kg | 2256 |
| 25kg | 1470 |
| 35kg | 1131 |

#### AGFS17H-10

| Horizontal installation (Unit: mm) | A    | B   | C    |
|------------------------------------|------|-----|------|
| 100kg                              | 3786 | 966 | 1263 |
| 150kg                              | 2054 | 461 | 607  |
| 200kg                              | 1548 | 316 | 419  |

#### Wall installation (Unit: mm)

| A     | B    | C   |
|-------|------|-----|
| 100kg | 1213 | 916 |
| 150kg | 551  | 410 |
| 200kg | 360  | 266 |

#### Vertical installation (Unit: mm)

| A    | C    |
|------|------|
| 30kg | 1579 |
| 50kg | 937  |
| 70kg | 661  |

#### AGFS17H-5

| Horizontal installation (Unit: mm) | A | B | C |
|------------------------------------|---|---|---|
| No settings                        |   |   |   |

#### Wall installation (Unit: mm)

| A           | B | C |
|-------------|---|---|
| No settings |   |   |

#### Vertical installation (Unit: mm)

| A     | C    |
|-------|------|
| 40kg  | 1750 |
| 70kg  | 1033 |
| 100kg | 726  |

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

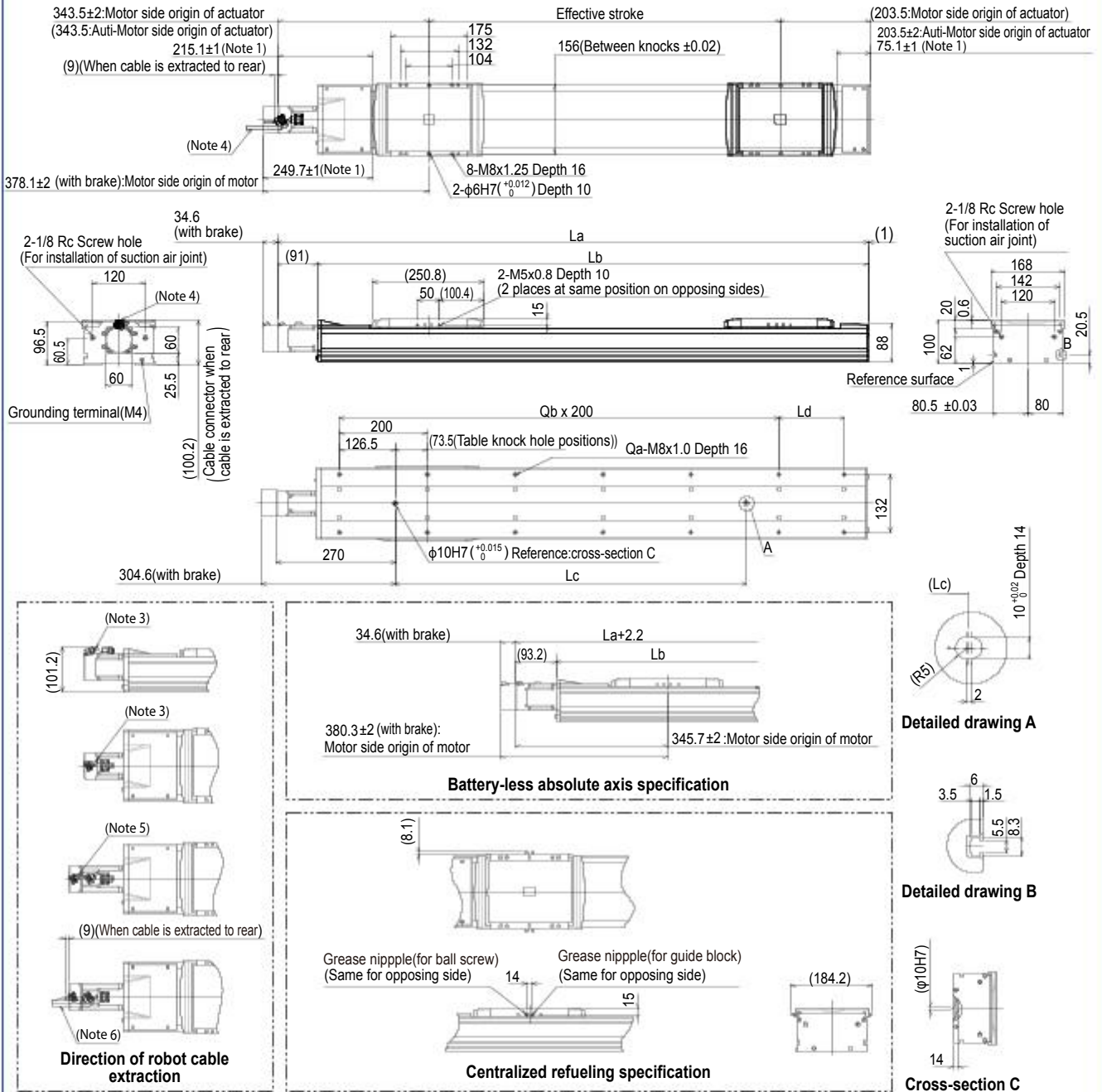
Note. Service life is calculated for 600 mm stroke models.

Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.



► The cycle time simulation and service life calculation can be performed easily from our member site.

## AGFS17 Straight type (S)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

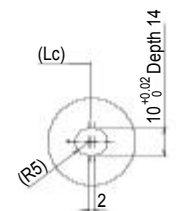
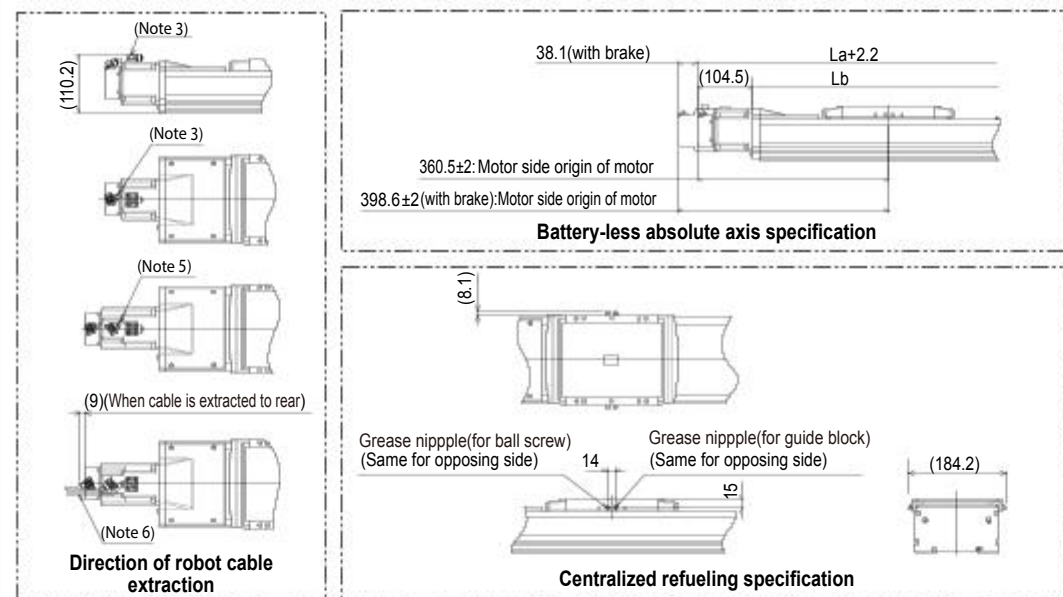
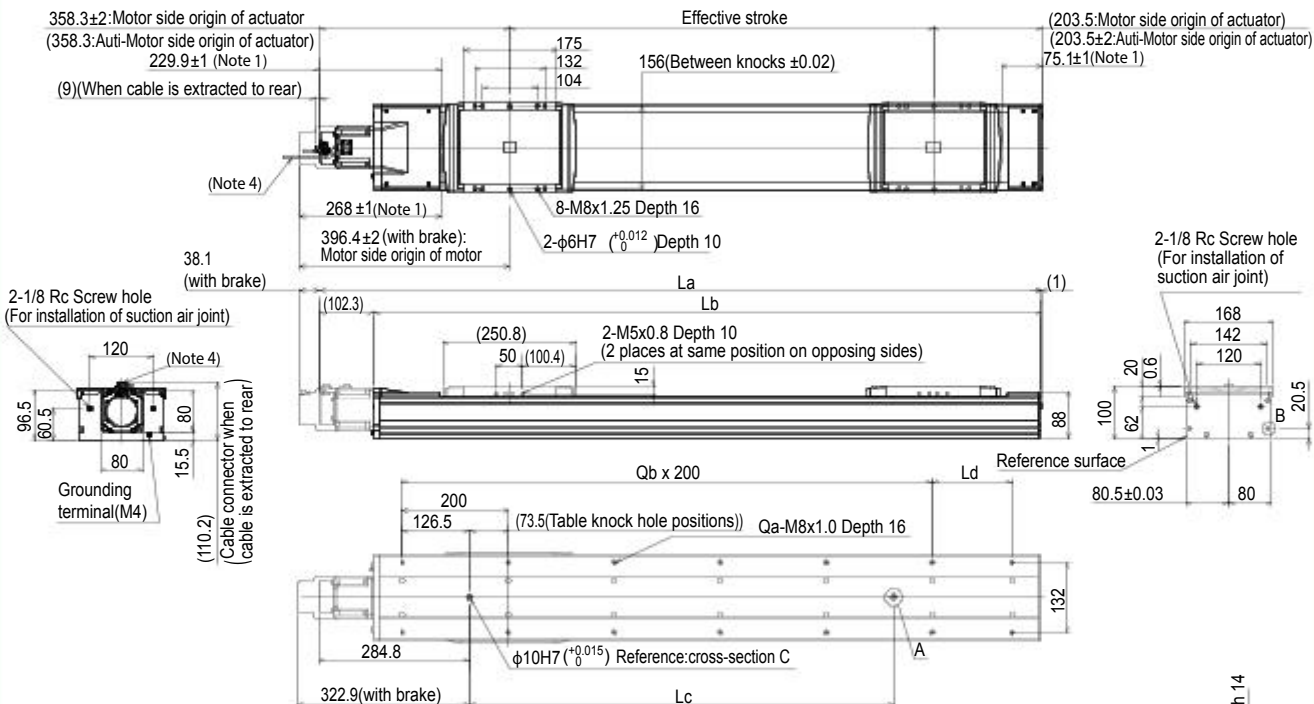
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M8x1.25> used to install the main unit.

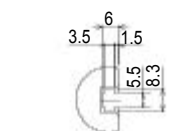
Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke              | 100                   | 150  | 200  | 250  | 300  | 350  | 400  | 450  | 500  | 550  | 600  | 650  | 700  | 750  | 800  | 850                    | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 |  |      |      |      |      |      |      |      |      |     |     |     |
|-------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------------------------|------|------|------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|-----|-----|-----|
| La                            | 647                   | 697  | 747  | 797  | 847  | 897  | 947  | 997  | 1047 | 1097 | 1147 | 1197 | 1247 | 1297 | 1347 | 1397                   | 1447 | 1497 | 1547 | 1597 | 1647 | 1697 | 1747 | 1797 |  |      |      |      |      |      |      |      |      |     |     |     |
| Lb                            | 556                   | 606  | 656  | 706  | 756  | 806  | 856  | 906  | 956  | 1006 | 1056 | 1106 | 1156 | 1206 | 1256 | 1306                   | 1356 | 1406 | 1456 | 1506 | 1556 | 1606 | 1656 | 1706 |  |      |      |      |      |      |      |      |      |     |     |     |
| Lc                            | 100                   | 150  | 200  | 250  | 300  | 350  | 400  | 450  | 500  | 550  | 600  | 650  | 700  | 750  | 800  | 850                    | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 |  |      |      |      |      |      |      |      |      |     |     |     |
| Ld                            | 50                    | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200                    | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  |  |      |      |      |      |      |      |      |      |     |     |     |
| Qa                            | 8                     | 8    | 8    | 8    | 10   | 10   | 10   | 10   | 12   | 12   | 12   | 12   | 14   | 14   | 14   | 14                     | 16   | 16   | 16   | 16   | 18   | 18   | 18   | 18   |  |      |      |      |      |      |      |      |      |     |     |     |
| Qb                            | 2                     | 2    | 2    | 2    | 3    | 3    | 3    | 3    | 4    | 4    | 4    | 4    | 5    | 5    | 5    | 5                      | 6    | 6    | 6    | 6    | 7    | 7    | 7    | 7    |  |      |      |      |      |      |      |      |      |     |     |     |
| Weight (kg) <sup>Note 2</sup> | 15.9                  | 16.7 | 17.5 | 18.3 | 19.0 | 19.8 | 20.6 | 21.4 | 22.2 | 22.9 | 23.7 | 24.5 | 25.3 | 26.0 | 26.8 | 27.6                   | 28.4 | 29.2 | 29.9 | 30.7 | 31.5 | 32.3 | 33.1 | 33.8 |  |      |      |      |      |      |      |      |      |     |     |     |
| Maximum speed (mm/sec)        | Lead 40               | 2400 |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 2280 | 2160 | 2040 | 1800 | 1560 | 1320 | 1200 | 1080 | 960 |     |     |
|                               | Speed setting         | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 95%  | 90%  | 85%  | 75%  | 65%  | 55%  | 50%  | 45%  | 40% |     |     |
|                               | Lead 20               | 1200 |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 1140 | 1020 | 900  | 780  | 660  | 600  | 540  | 480  | 420 |     |     |
|                               | Speed setting         | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 95%  | 85%  | 75%  | 65%  | 60%  | 55%  | 50%  | 45%  | 40% | 35% |     |
|                               | Lead 10               | 600  |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 570  | 510  | 450  | 390  | 360  | 330  | 300  | 270  | 240 | 210 |     |
|                               | Speed setting         | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 95%  | 85%  | 75%  | 65%  | 60%  | 55%  | 50%  | 45%  | 40% | 35% |     |
|                               | Lead 5                | 300  |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 270  | 240  | 225  | 195  | 180  | 165  | 150  | 135  | 135 | 120 | 105 |
|                               | Speed setting         | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |                        |      |      |      |      |      |      |      |      |  | 90%  | 80%  | 75%  | 65%  | 60%  | 55%  | 50%  | 45%  | 45% | 40% | 35% |
| Stroke restriction            | Horizontal · Vertical |      |      |      |      |      |      |      |      |      |      |      |      |      |      | No stroke restrictions |      |      |      |      |      |      |      |      |  |      |      |      |      |      |      |      |      |     |     |     |
|                               | Wall hanging          |      |      |      |      |      |      |      |      |      |      |      |      |      |      | No stroke restrictions |      |      |      |      |      |      |      |      |  |      |      |      |      |      |      |      |      |     |     |     |
|                               | Ceiling-mounted       |      |      |      |      |      |      |      |      |      |      |      |      |      |      | No stroke restrictions |      |      |      |      |      |      |      |      |  |      |      |      |      |      |      |      |      |     |     |     |

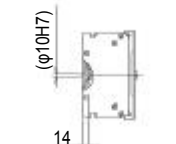
## AGFS17H Straight type (S)



Detailed drawing A



Detailed drawing B

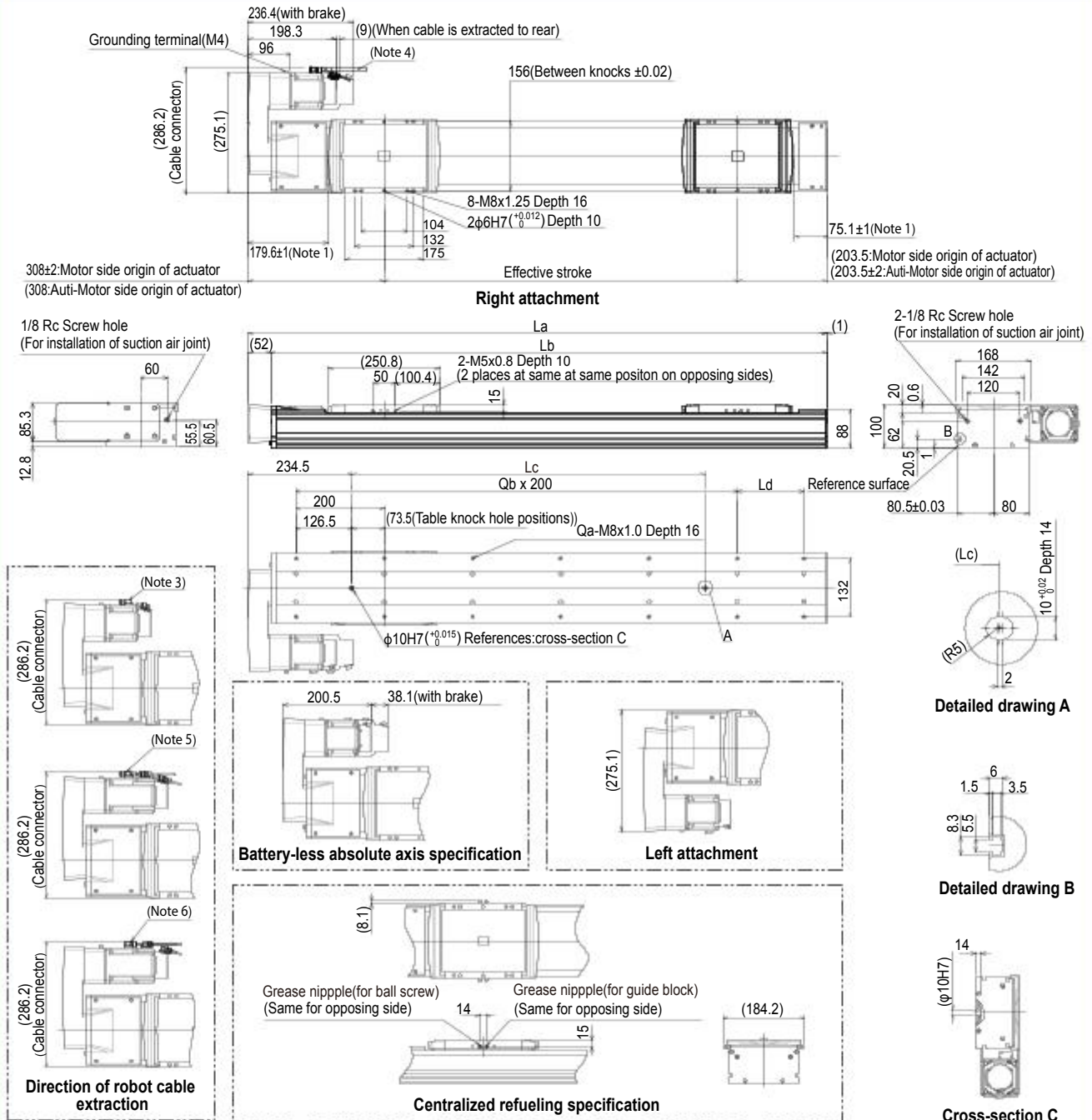


Cross-section C

Note 1. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 2. Weight without brake. The weight with the brake is 0.9 kg heavier than the value in the weight column.  
 Note 3. The robot cable is extracted from the front.  
 Note 4. The robot cable is extracted from the rear.  
 Note 5. The robot cable (with brake) is extracted from the front.  
 Note 6. The robot cable (with brake) is extracted from the rear.  
 Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)  
 Note. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M8x1.25> used to install the main unit.  
 Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke              | 100                   | 150   | 200   | 250   | 300   | 350   | 400   | 450    | 500    | 550    | 600    | 650    | 700    | 750    | 800    | 850                                         | 900    | 950    | 1000   | 1050   | 1100   | 1150   | 1200   | 1250   |  |
|-------------------------------|-----------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| La                            | 661.8                 | 711.8 | 761.8 | 811.8 | 861.8 | 911.8 | 961.8 | 1011.8 | 1061.8 | 1111.8 | 1161.8 | 1211.8 | 1261.8 | 1311.8 | 1361.8 | 1411.8                                      | 1461.8 | 1511.8 | 1561.8 | 1611.8 | 1661.8 | 1711.8 | 1761.8 | 1811.8 |  |
| Lb                            | 559.5                 | 609.5 | 659.5 | 709.5 | 759.5 | 809.5 | 859.5 | 909.5  | 959.5  | 1009.5 | 1059.5 | 1109.5 | 1159.5 | 1209.5 | 1259.5 | 1309.5                                      | 1359.5 | 1409.5 | 1459.5 | 1509.5 | 1559.5 | 1609.5 | 1659.5 | 1709.5 |  |
| Lc                            | 100                   | 150   | 200   | 250   | 300   | 350   | 400   | 450    | 500    | 550    | 600    | 650    | 700    | 750    | 800    | 850                                         | 900    | 950    | 1000   | 1050   | 1100   | 1150   | 1200   | 1250   |  |
| Ld                            | 50                    | 100   | 150   | 200   | 50    | 100   | 150   | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200                                         | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    |  |
| Qa                            | 8                     | 8     | 8     | 8     | 10    | 10    | 10    | 10     | 12     | 12     | 12     | 12     | 14     | 14     | 14     | 14                                          | 16     | 16     | 16     | 18     | 18     | 18     | 18     | 18     |  |
| Qb                            | 2                     | 2     | 2     | 2     | 3     | 3     | 3     | 3      | 4      | 4      | 4      | 4      | 5      | 5      | 5      | 5                                           | 6      | 6      | 6      | 6      | 7      | 7      | 7      | 7      |  |
| Weight (kg) <sup>Note 2</sup> | 16.7                  | 17.5  | 18.3  | 19.1  | 19.8  | 20.6  | 21.4  | 22.2   | 23.0   | 23.7   | 24.5   | 25.3   | 26.1   | 26.8   | 27.6   | 28.4                                        | 29.2   | 30.0   | 30.7   | 31.5   | 32.3   | 33.1   | 33.9   | 34.6   |  |
| Maximum speed (mm/sec)        | Lead 40               | 2400  |       |       |       |       |       |        |        |        |        |        |        |        |        |                                             |        |        |        |        |        |        |        |        |  |
|                               | Speed setting         | -     |       |       |       |       |       |        |        |        |        |        |        |        |        | 95% 90% 85% 75% 65% 55% 50% 45% 40%         |        |        |        |        |        |        |        |        |  |
|                               | Lead 20               | 1200  |       |       |       |       |       |        |        |        |        |        |        |        |        | 1140 1020 900 780 720 660 600 540 480 420   |        |        |        |        |        |        |        |        |  |
|                               | Speed setting         | -     |       |       |       |       |       |        |        |        |        |        |        |        |        | 95% 85% 75% 65% 60% 55% 50% 45% 40% 35%     |        |        |        |        |        |        |        |        |  |
|                               | Lead 10               | 600   |       |       |       |       |       |        |        |        |        |        |        |        |        | 570 510 450 390 360 330 300 270 240 210     |        |        |        |        |        |        |        |        |  |
|                               | Speed setting         | -     |       |       |       |       |       |        |        |        |        |        |        |        |        | 95% 85% 75% 65% 60% 55% 50% 45% 40% 35%     |        |        |        |        |        |        |        |        |  |
|                               | Lead 5                | 300   |       |       |       |       |       |        |        |        |        |        |        |        |        | 270 240 225 195 180 165 150 135 135 120 105 |        |        |        |        |        |        |        |        |  |
|                               | Speed setting         | -     |       |       |       |       |       |        |        |        |        |        |        |        |        | 90% 80% 75% 65% 60% 55% 50% 45% 45% 40% 35% |        |        |        |        |        |        |        |        |  |
| Stroke restriction            | Horizontal · Vertical |       |       |       |       |       |       |        |        |        |        |        |        |        |        | No stroke restrictions                      |        |        |        |        |        |        |        |        |  |
|                               | Wall hanging          |       |       |       |       |       |       |        |        |        |        |        |        |        |        | No stroke restrictions                      |        |        |        |        |        |        |        |        |  |
|                               | Ceiling-mounted       |       |       |       |       |       |       |        |        |        |        |        |        |        |        | No stroke restrictions                      |        |        |        |        |        |        |        |        |  |

## AGFS17H Bending type (R/L)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.9 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M8x1.25> used to install the main unit.

Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke                  | 100                   | 150   | 200   | 250   | 300   | 350   | 400   | 450   | 500    | 550    | 600    | 650    | 700    | 750    | 800    | 850    | 900                    | 950    | 1000   | 1050   | 1100   | 1150   | 1200   | 1250   |     |     |     |
|-----------------------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|------------------------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|
| La                                | 611.5                 | 661.5 | 711.5 | 761.5 | 811.5 | 861.5 | 911.5 | 961.5 | 1011.5 | 1061.5 | 1111.5 | 1161.5 | 1211.5 | 1261.5 | 1311.5 | 1361.5 | 1411.5                 | 1461.5 | 1511.5 | 1561.5 | 1611.5 | 1661.5 | 1711.5 | 1761.5 |     |     |     |
| Lb                                | 559.5                 | 609.5 | 659.5 | 709.5 | 759.5 | 809.5 | 859.5 | 909.5 | 959.5  | 1009.5 | 1059.5 | 1109.5 | 1159.5 | 1209.5 | 1259.5 | 1309.5 | 1359.5                 | 1409.5 | 1459.5 | 1509.5 | 1559.5 | 1609.5 | 1659.5 | 1709.5 |     |     |     |
| Lc                                | 100                   | 150   | 200   | 250   | 300   | 350   | 400   | 450   | 500    | 550    | 600    | 650    | 700    | 750    | 800    | 850    | 900                    | 950    | 1000   | 1050   | 1100   | 1150   | 1200   | 1250   |     |     |     |
| Ld                                | 50                    | 100   | 150   | 200   | 50    | 100   | 150   | 200   | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50                     | 100    | 150    | 200    | 50     | 100    | 150    | 200    |     |     |     |
| Qa                                | 8                     | 8     | 8     | 8     | 10    | 10    | 10    | 10    | 12     | 12     | 12     | 12     | 14     | 14     | 14     | 14     | 16                     | 16     | 16     | 16     | 18     | 18     | 18     | 18     |     |     |     |
| Qb                                | 2                     | 2     | 2     | 2     | 3     | 3     | 3     | 3     | 4      | 4      | 4      | 4      | 5      | 5      | 5      | 5      | 6                      | 6      | 6      | 6      | 7      | 7      | 7      | 7      |     |     |     |
| Weight (kg) <small>Note 2</small> | 19.4                  | 20.2  | 21.0  | 21.8  | 22.5  | 23.3  | 24.1  | 24.9  | 25.7   | 26.4   | 27.2   | 28.0   | 28.8   | 29.5   | 30.3   | 31.1   | 31.9                   | 32.7   | 33.4   | 34.2   | 35.0   | 35.8   | 36.6   | 37.3   |     |     |     |
| Maximum speed (mm/sec)            | Lead 40               | 2400  |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 2280                   | 2160   | 2040   | 1800   | 1560   | 1320   | 1200   | 1080   | 960 |     |     |
|                                   | Speed setting         | -     |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 95%                    | 90%    | 85%    | 75%    | 65%    | 55%    | 50%    | 45%    | 40% |     |     |
|                                   | Lead 20               | 1200  |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 1140                   | 1020   | 900    | 780    | 720    | 660    | 600    | 540    | 480 | 420 |     |
|                                   | Speed setting         | -     |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 95%                    | 85%    | 75%    | 65%    | 60%    | 55%    | 50%    | 45%    | 40% | 35% |     |
|                                   | Lead 10               | 600   |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 570                    | 510    | 450    | 390    | 360    | 330    | 300    | 270    | 240 | 210 |     |
|                                   | Speed setting         | -     |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 95%                    | 85%    | 75%    | 65%    | 60%    | 55%    | 50%    | 45%    | 40% | 35% | 35% |
|                                   | Lead 5                | 300   |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 270                    | 240    | 225    | 195    | 180    | 165    | 150    | 135    | 135 | 120 | 105 |
|                                   | Speed setting         | -     |       |       |       |       |       |       |        |        |        |        |        |        |        |        | 90%                    | 80%    | 75%    | 65%    | 60%    | 55%    | 50%    | 45%    | 45% | 40% | 35% |
| Stroke restriction                | Horizontal - Vertical |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        | No stroke restrictions |        |        |        |        |        |        |        |     |     |     |
|                                   | Wall hanging          |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        | No stroke restrictions |        |        |        |        |        |        |        |     |     |     |
|                                   | Ceiling-mounted       |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        | No stroke restrictions |        |        |        |        |        |        |        |     |     |     |

# AGFS17L/AGFS17LH

Advanced model

Single-axis robots

Long-stroke type

## Ordering method

| Model    | Lead                                              | Shape                                                             | Motor specification                                                                                         | OP.1                      | Stroke                   | Cable length       | Cable entry location   | Robot positioner | Driver Power capacity | Regenerative unit                               | I/O                                                                        | Battery                    |
|----------|---------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|--------------------|------------------------|------------------|-----------------------|-------------------------------------------------|----------------------------------------------------------------------------|----------------------------|
| AGFS17L  | 40: 40mm                                          | S: Straight                                                       | S: Standard/With no brake                                                                                   | No entry: Standard        | 850 to 3000 (50mm pitch) | R3: 3m             | R: From rear of motor  | EP-01            | A30: 400W/750W        | No entry: None<br>R: With EP-RU<br>C: With RU-1 | EP: EtherNet/IP™<br>PT: PROFINET<br>ES: EtherCAT<br>NS: NPN<br>CC: CC-Link | B: With battery<br>N: None |
| AGFS17LH | 20: 20mm<br>10: 10mm<br>5: 5mm (Only with brakes) | R: Right attachment (Only 750W)<br>L: Left attachment (Only 750W) | BK: Standard/With brake<br>BL: Battery-less absolute/With no brake<br>BKL: Battery-less absolute/With brake | M: Centerized lubrication |                          | R5: 5m<br>R10: 10m | F: From front of motor |                  |                       |                                                 |                                                                            |                            |

Note 1. The robot cable is flexible and resists bending.

Note 2. [For AGFS17L]

When the actuator is used vertically, lead 40 or 10 is selected, all strokes need the regenerative unit.

When the actuator is used horizontally, lead 40 or 20 is selected, all strokes need the regenerative unit. (In this case, please choose the regenerative device 'RU1'. ①lead 40 is selected, and the stroke is 1400mm or more ②lead 20 is selected, and the stroke is 2300 to 2600mm)

[For AGFS17LH]

When the actuator is used vertically, all lead and all strokes need the regenerative unit. (In this case, please choose the regenerative device 'RU1'. ①lead 20 is selected, all stroke ②lead 10 is selected, all stroke)

When the actuator is used horizontally, lead 40 or 20 is selected, all strokes need the regenerative unit. (In this case, please choose the regenerative device 'RU1'. ①lead 40 is selected, and the stroke is 1050mm or more ②lead 20 is selected, all stroke)

Note 3. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

## AGFS17L(400W)

### Specifications

|                                                  |                                                                    |
|--------------------------------------------------|--------------------------------------------------------------------|
| AC servo motor output                            | 400 W                                                              |
| Repeatability Note 1                             | ±0.01 mm                                                           |
| Deceleration mechanism                           | Rolled ball screw $\phi$ 20 (C7 class)                             |
| Stroke                                           | 850 to 3000 (50 mm pitch)                                          |
| Maximum speed Note 2                             | 2400 mm/sec<br>1200 mm/sec<br>600 mm/sec<br>300 mm/sec             |
| Ball screw lead                                  | 40 mm 20 mm 10 mm 5 mm                                             |
| Maximum payload                                  | Horizontal 40 kg 90 kg 140 kg -<br>Vertical 6 kg 12 kg 35 kg 50 kg |
| Rated Thrust                                     | 169 N 339 N 678 N 1356 N                                           |
| Maximum dimensions of cross section of main unit | W 168 mm × H 105.5 mm                                              |
| Overall length                                   | Straight ST + 661 mm<br>Bending -                                  |
| Degree of cleanliness Note 3                     | Equivalent to ISO Class 3 (ISO 14644-1)                            |
| Intake air Note 4                                | 115 Nℓ/min                                                         |
| Position detector                                | Absolute Encoder<br>Batteryless Absolute Encoder                   |
| Resolution                                       | 23 bits                                                            |
| Using ambient temperature and humidity Note 5    | 0 to 40 °C, 35 to 80 %RH (no condensation)                         |

Note 1. Positioning repeatability in one direction.

Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 2000 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 800 mm/sec or less.

Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

## AGFS17LH (750W)

### Specifications

|                                                  |                                                                       |
|--------------------------------------------------|-----------------------------------------------------------------------|
| AC servo motor output                            | 750 W                                                                 |
| Repeatability Note 1                             | ±0.01 mm                                                              |
| Deceleration mechanism                           | Rolled ball screw $\phi$ 20 (C7 class)                                |
| Stroke                                           | 850 to 3000 (50 mm pitch)                                             |
| Maximum speed Note 2                             | 2400 mm/sec<br>1200 mm/sec<br>600 mm/sec<br>300 mm/sec                |
| Ball screw lead                                  | 40 mm 20 mm 10 mm 5 mm                                                |
| Maximum payload                                  | Horizontal 80 kg 150 kg 200 kg -<br>Vertical 12 kg 35 kg 70 kg 100 kg |
| Rated Thrust                                     | 320 N 640 N 1280 N 2560 N                                             |
| Maximum dimensions of cross section of main unit | W 168 mm × H 105.5 mm                                                 |
| Overall length                                   | Straight ST + 675.8 mm<br>Bending ST + 625.5 mm                       |
| Degree of cleanliness Note 3                     | Equivalent to ISO Class 3 (ISO 14644-1)                               |
| Intake air Note 4                                | 115 Nℓ/min                                                            |
| Position detector                                | Absolute Encoder<br>Batteryless Absolute Encoder                      |
| Resolution                                       | 24 bits                                                               |
| Using ambient temperature and humidity Note 5    | 0 to 40 °C, 35 to 80 %RH (no condensation)                            |

Note 1. Positioning repeatability in one direction.

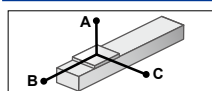
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 2000 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed.

Note 3. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 800 mm/sec or less.

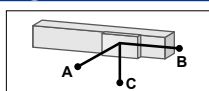
Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

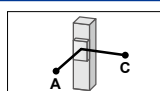
### Allowable overhang Note



| AGFS17L-40 | Horizontal installation (Unit: mm) |
|------------|------------------------------------|
|            | A B C                              |
| 10kg       | 4552 2660 2334                     |
| 20kg       | 2637 1307 1198                     |
| 40kg       | 1790 631 648                       |



| AGFS17L-40 | Wall installation (Unit: mm) |
|------------|------------------------------|
|            | A B C                        |
| 10kg       | 2364 2610 4491               |
| 20kg       | 1211 1257 2557               |
| 40kg       | 644 580 1676                 |



| AGFS17L-40 | Vertical installation (Unit: mm) |
|------------|----------------------------------|
|            | A C                              |
| 2kg        | 10270 10270                      |
| 4kg        | 5285 5285                        |
| 6kg        | 3719 3719                        |

| AGFS17L-20 | Horizontal installation (Unit: mm) |
|------------|------------------------------------|
|            | A B C                              |
| 30kg       | 4027 1182 1432                     |
| 50kg       | 2687 691 849                       |
| 90kg       | 1743 364 454                       |

| AGFS17L-20 | Wall installation (Unit: mm) |
|------------|------------------------------|
|            | A B C                        |
| 30kg       | 1412 1131 3942               |
| 50kg       | 817 641 2583                 |
| 90kg       | 412 313 1600                 |

| AGFS17L-20 | Vertical installation (Unit: mm) |
|------------|----------------------------------|
|            | A C                              |
| 4kg        | 8417 8417                        |
| 8kg        | 4231 4231                        |
| 12kg       | 2834 2834                        |

| AGFS17L-10 | Horizontal installation (Unit: mm) |
|------------|------------------------------------|
|            | A B C                              |
| 50kg       | 6851 966 1332                      |
| 100kg      | 3730 461 637                       |
| 140kg      | 2817 316 438                       |

| AGFS17L-10 | Wall installation (Unit: mm) |
|------------|------------------------------|
|            | A B C                        |
| 50kg       | 1280 916 6725                |
| 100kg      | 576 410 3577                 |
| 140kg      | 374 266 2638                 |

| AGFS17L-10 | Vertical installation (Unit: mm) |
|------------|----------------------------------|
|            | A C                              |
| 15kg       | 3284 3284                        |
| 25kg       | 1957 1957                        |
| 35kg       | 1388 1388                        |

| AGFS17L-5   | Horizontal installation (Unit: mm) |
|-------------|------------------------------------|
|             | A B C                              |
| No settings |                                    |

| AGFS17L-5   | Wall installation (Unit: mm) |
|-------------|------------------------------|
|             | A B C                        |
| No settings |                              |

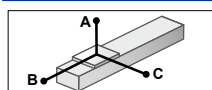
| AGFS17L-5 | Vertical installation (Unit: mm) |
|-----------|----------------------------------|
|           | A C                              |
| 10kg      | 5357 5357                        |
| 30kg      | 1758 1758                        |
| 50kg      | 1038 1038                        |

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

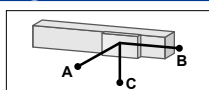
Note. Service life is calculated for 1,000 mm stroke models.

Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.

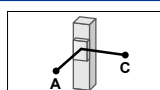
### Allowable overhang Note



| AGFS17LH-40 | Horizontal installation (Unit: mm) |
|-------------|------------------------------------|
|             | A B C                              |
| 20kg        | 2128 1307 1125                     |
| 50kg        | 1250 495 488                       |
| 80kg        | 1142 312 344                       |



| AGFS17LH-40 | Wall installation (Unit: mm) |
|-------------|------------------------------|
|             | A B C                        |
| 20kg        | 1117 1257 2070               |
| 50kg        | 473 445 1148                 |
| 80kg        | 317 262 995                  |



| AGFS17LH-40 | Vertical installation (Unit: mm) |
|-------------|----------------------------------|
|             | A C                              |
| 4kg         | 4739 4739                        |
| 8kg         | 2414 2414                        |
| 12kg        | 1633 1633                        |

| AGFS17LH-20 | Horizontal installation (Unit: mm) |
|-------------|------------------------------------|
|             | A B C                              |
| 50kg        | 2930 691 856                       |
| 100kg       | 2040 323 410                       |
| 150kg       | 1619 200 257                       |

| AGFS17LH-20 | Wall installation (Unit: mm) |
|-------------|------------------------------|
|             | A B C                        |
| 50kg        | 828 641 2812                 |
| 100kg       | 369 272 1826                 |
| 150kg       | 207 150 1311                 |

| AGFS17LH-20 | Vertical installation (Unit: mm) |
|-------------|----------------------------------|
|             | A C                              |
| 15kg        | 2314 2314                        |
| 25kg        | 1390 1390                        |
| 35kg        | 987 987                          |

| AGFS17LH-10 | Horizontal installation (Unit: mm) |
|-------------|------------------------------------|
|             | A B C                              |
| 100kg       | 2456 461 627                       |
| 150kg       | 1756 292 399                       |
| 200kg       | 1395 208 285                       |

| AGFS17LH-10 | Wall installation (Unit: mm) |
|-------------|------------------------------|
|             | A B C                        |
| 100kg       | 565 410 2373                 |
| 150kg       | 335 242 1654                 |
| 200kg       | 219 157 1270                 |

| AGFS17LH-10 | Vertical installation (Unit: mm) |
|-------------|----------------------------------|
|             | A C                              |
| 30kg        | 1604 1604                        |
| 50kg        | 949 949                          |
| 70kg        | 668 668                          |

| AGFS17LH-5  | Horizontal installation (Unit: mm) |
|-------------|------------------------------------|
|             | A B C                              |
| No settings |                                    |

| AGFS17LH-5  | Wall installation (Unit: mm) |
|-------------|------------------------------|
|             | A B C                        |
| No settings |                              |

| AGFS17LH-5 | Vertical installation (Unit: mm) |
|------------|----------------------------------|
|            | A C                              |
| 40kg       | 1305 1305                        |
| 70kg       | 728 728                          |
| 100kg      | 497 497                          |

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

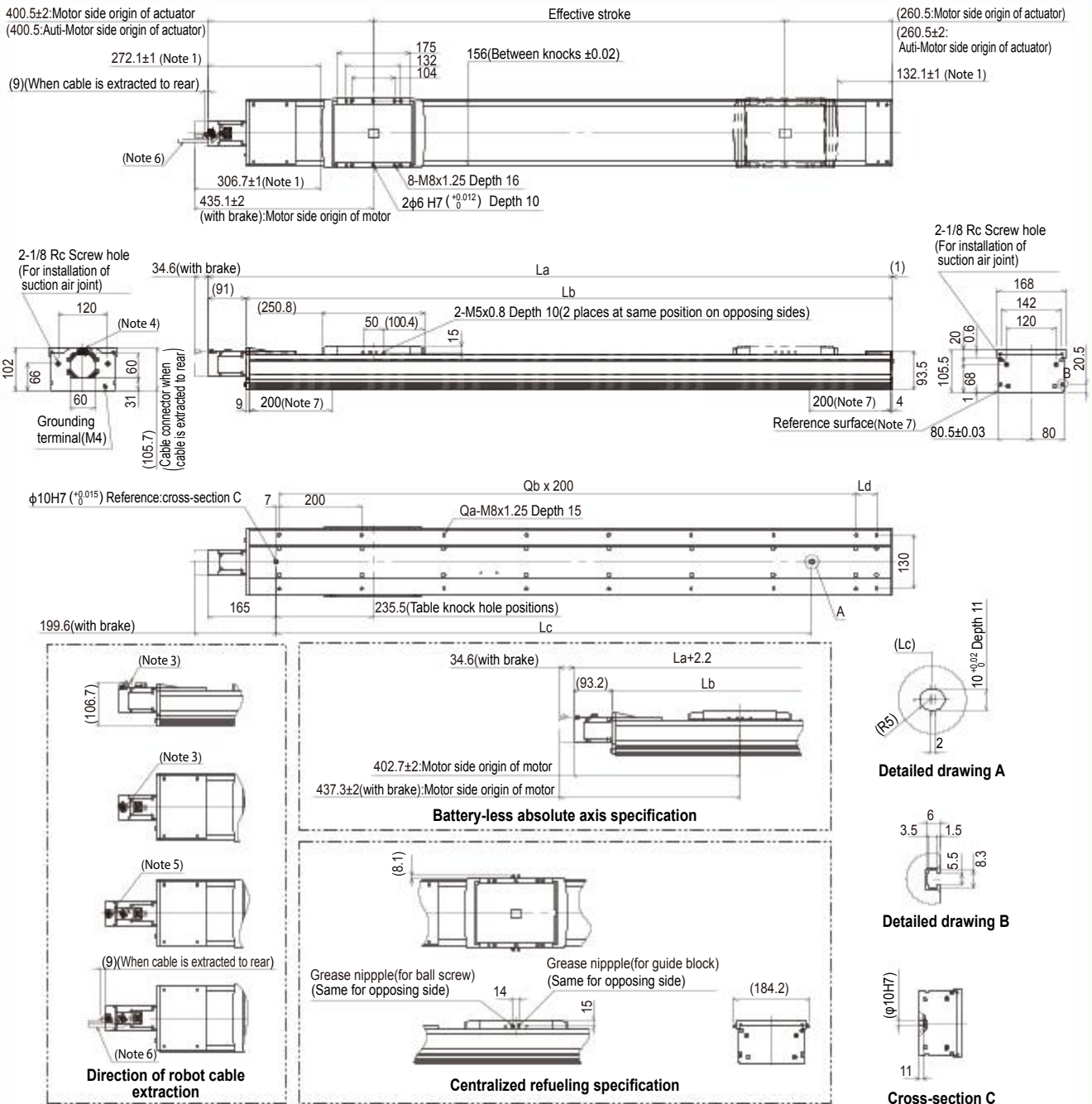
Note. Service life is calculated for 1,000 mm stroke models.

Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.



► The cycle time simulation and service life calculation can be performed easily from our member site.

## AGFS17L Straight type (S)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 3. The robot cable is extracted from the front.

Note 4. The robot cable is extracted from the rear.

Note 5. The robot cable (with brake) is extracted from the front.

Note 6. The robot cable (with brake) is extracted from the rear.

Note 7. If the effective stroke is 2050mm or more, the reference surface will be within 200mm from both ends of the frame.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

Note. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M8x1.25> used to install the main unit. Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke              | 850                   | 900  | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 | 1550 | 1600 | 1650 | 1700 | 1750 | 1800 | 1850 | 1900 | 1950 | 2000 | 2050 | 2100      | 2150                   | 2200 | 2250 | 2300 | 2350 | 2400 | 2450 | 2500 | 2550 | 2600 | 2650 | 2700 | 2750 | 2800 | 2850 | 2900 | 2950 | 3000 |  |  |
|-------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
| La                            | 1511                  | 1561 | 1611 | 1661 | 1711 | 1761 | 1811 | 1861 | 1911 | 1961 | 2011 | 2061 | 2111 | 2161 | 2211 | 2261 | 2311 | 2361 | 2411 | 2461 | 2511 | 2561 | 2611 | 2661 | 2711 | 2761      | 2811                   | 2861 | 2911 | 2961 | 3011 | 3061 | 3111 | 3161 | 3211 | 3261 | 3311 | 3361 | 3411 | 3461 | 3511 | 3561 | 3611 | 3661 |  |  |
| Lb                            | 1420                  | 1470 | 1520 | 1570 | 1620 | 1670 | 1720 | 1770 | 1820 | 1870 | 1920 | 1970 | 2020 | 2070 | 2120 | 2170 | 2220 | 2270 | 2320 | 2370 | 2420 | 2470 | 2520 | 2570 | 2620 | 2670      | 2720                   | 2770 | 2820 | 2870 | 2920 | 2970 | 3020 | 3070 | 3120 | 3170 | 3220 | 3270 | 3320 | 3370 | 3420 | 3470 | 3520 | 3570 |  |  |
| Lc                            | 1150                  | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 | 1550 | 1600 | 1650 | 1700 | 1750 | 1800 | 1850 | 1900 | 1950 | 2000 | 2050 | 2100 | 2150 | 2200 | 2250 | 2300 | 2350 | 2400      | 2450                   | 2500 | 2550 | 2600 | 2650 | 2700 | 2750 | 2800 | 2850 | 2900 | 2950 | 3000 | 3050 | 3100 | 3150 | 3200 | 3250 | 3300 |  |  |
| Ld                            | 100                   | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150       | 200                    | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   | 100  | 150  | 200  | 50   |  |  |
| Qa                            | 16                    | 16   | 16   | 18   | 18   | 18   | 18   | 20   | 20   | 20   | 20   | 22   | 22   | 22   | 22   | 24   | 24   | 24   | 24   | 26   | 26   | 26   | 26   | 28   | 28   | 28        | 28                     | 30   | 30   | 30   | 30   | 32   | 32   | 32   | 32   | 34   | 34   | 34   | 34   | 36   | 36   | 36   | 36   | 38   |  |  |
| Qb                            | 6                     | 6    | 6    | 7    | 7    | 7    | 7    | 8    | 8    | 8    | 8    | 9    | 9    | 9    | 9    | 10   | 10   | 10   | 10   | 11   | 11   | 11   | 11   | 12   | 12   | 12        | 12                     | 13   | 13   | 13   | 13   | 14   | 14   | 14   | 14   | 15   | 15   | 15   | 15   | 16   | 16   | 16   | 16   | 17   |  |  |
| Weight (kg) <sup>Note 2</sup> | 33.2                  | 34.1 | 34.9 | 35.8 | 36.6 | 37.5 | 38.3 | 39.2 | 40.0 | 40.9 | 41.7 | 42.6 | 43.4 | 44.3 | 45.1 | 46.0 | 46.8 | 47.7 | 48.5 | 49.4 | 50.2 | 51.1 | 51.9 | 52.7 | 53.6 | 54.4      | 55.3                   | 56.1 | 57.0 | 57.8 | 58.7 | 59.5 | 60.4 | 61.2 | 62.1 | 62.9 | 63.8 | 64.6 | 65.5 | 66.3 | 67.2 | 68.0 | 68.9 | 69.7 |  |  |
| Maximum speed (mm/sec)        | Lead 40               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | 2400                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Speed setting         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | -                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Lead 20               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | 1200                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Speed setting         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | -                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Lead 10               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | 600                    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Speed setting         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | -                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
| Stroke restriction            | Lead 5                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | 300                    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Speed setting         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | -                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Horizontal - Vertical |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | No stroke restrictions |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               | Wall hanging          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           | To 1500st              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | To 1200st |                        |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|                               |                       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                        |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |

415.3±2:Motor side origin of actuator  
(415.3:Auto-Motor side origin of actuator)

286.9±1(Note 1)

(9)(When cable is extracted to rear)

(Note 6)

325±1(Note 1)

453.4 ±2  
(with brake):Motor side origin of motor

175  
132  
104

156(Between knocks ±0.02)

Effective stroke

132.1±1(Note 1)

3.5 6 1.5 5.5 8.3

(R5)

(Lc)

2

10<sup>+0.02</sup> Depth 11

**Detailed drawing B**

**Detailed drawing A**

38.1(with brake)

2-1/8 Rc Screw hole  
(For installation of suction air joint)

120 (Note 4)

102 66 80 21

Grounding terminal(M4)

(115.7)  
(Cable connector when cable is extracted to rear)

12.5

200(Note 7)

102.3

250.8

50 100.4

2-M5x0.8 Depth 10(2 places at same position on opposing sides)

15

La

Lb

(1)

93.5

200(Note 7)

4

Reference surface(Note 7)

2-1/8 Rc Screw hole  
(For installation of suction air joint)

168 142 120

20.5

105.5 168 20 0.6

80.5±0.03

80

Qb x 200

Ld

Qa-M8x1.25 Depth 15

7 200

179.8

235.5(Table knock hole positions)

Lc

217.9(with brake)

φ10H7(+0.015)  
Reference:cross-section C

A

11

φ10H7

**Cross-section C**

(Note 3)

(Note 3)

(Note 5)

(9)(When cable is extracted to rear)

(Note 6)

**Direction of robot cable extraction**

38.1(with brake)

La+2.2

(104.5)

Lb

417.5±2:  
Motor side origin of motor

455.6±2(with brake):  
Motor side origin of motor

Grease nipple(for ball screw)  
(Same for opposing side)

14

Grease nipple(for guide block)  
(Same for opposing side)

15

(184.2)

**Battery-less absolute axis specification**

**Centralized refueling specification**

Note 1. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 2. Weight without brake. The weight with the brake is 0.9 kg heavier than the value in the weight column.  
 Note 3. The robot cable is extracted from the front.  
 Note 4. The robot cable is extracted from the rear.  
 Note 5. The robot cable (with brake) is extracted from the front.  
 Note 6. The robot cable (with brake) is extracted from the rear.  
 Note 7. If the effective stroke is 2050mm or more, the reference surface will be within 200mm from both ends of the frame.  
 Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)  
 Note. In the installation tap hole, the length under head <thickness of stand +15mm or less> is recommended for the hex socket head bolts <M8x1.25> used to install the main unit.  
 Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

| Effective stroke                | 850                 | 900                    | 950    | 1000   | 1050   | 1100   | 1150   | 1200   | 1250   | 1300   | 1350   | 1400   | 1450   | 1500   | 1550   | 1600   | 1650   | 1700   | 1750   | 1800   | 1850   | 1900   | 1950   | 2000   | 2050   | 2100   | 2150   | 2200   | 2250   | 2300   | 2350   | 2400   | 2450   | 2500   | 2550   | 2600   | 2650   | 2700   | 2750   | 2800   | 2850   | 2900   | 2950   | 3000   |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------------------------------|---------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| La                              | 1525.8              | 1575.8                 | 1625.8 | 1675.8 | 1725.8 | 1775.8 | 1825.8 | 1875.8 | 1925.8 | 1975.8 | 2025.8 | 2075.8 | 2125.8 | 2175.8 | 2225.8 | 2275.8 | 2325.8 | 2375.8 | 2425.8 | 2475.8 | 2525.8 | 2575.8 | 2625.8 | 2675.8 | 2725.8 | 2775.8 | 2825.8 | 2875.8 | 2925.8 | 2975.8 | 3025.8 | 3075.8 | 3125.8 | 3175.8 | 3225.8 | 3275.8 | 3325.8 | 3375.8 | 3425.8 | 3475.8 | 3525.8 | 3575.8 | 3625.8 | 3675.8 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Lb                              | 1423.5              | 1473.5                 | 1523.5 | 1573.5 | 1623.5 | 1673.5 | 1723.5 | 1773.5 | 1823.5 | 1873.5 | 1923.5 | 1973.5 | 2023.5 | 2173.5 | 2223.5 | 2273.5 | 2323.5 | 2373.5 | 2423.5 | 2473.5 | 2523.5 | 2573.5 | 2623.5 | 2673.5 | 2723.5 | 2773.5 | 2823.5 | 2873.5 | 2923.5 | 2973.5 | 3023.5 | 3073.5 | 3123.5 | 3173.5 | 3223.5 | 3273.5 | 3323.5 | 3373.5 | 3423.5 | 3473.5 | 3523.5 | 3573.5 | 3623.5 | 3673.5 |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Lc                              | 1150                | 1200                   | 1250   | 1300   | 1350   | 1400   | 1450   | 1500   | 1550   | 1600   | 1650   | 1700   | 1750   | 1800   | 1850   | 1900   | 1950   | 2000   | 2050   | 2100   | 2150   | 2200   | 2250   | 2300   | 2350   | 2400   | 2450   | 2500   | 2550   | 2600   | 2650   | 2700   | 2750   | 2800   | 2850   | 2900   | 2950   | 3000   | 3050   | 3100   | 3150   | 3200   | 3250   | 3300   |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ld                              | 100                 | 1200                   | 1500   | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50     | 100    | 150    | 200    | 50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Qa                              | 16                  | 16                     | 16     | 18     | 18     | 18     | 18     | 20     | 20     | 20     | 20     | 22     | 22     | 22     | 22     | 24     | 24     | 24     | 24     | 26     | 26     | 26     | 28     | 28     | 28     | 28     | 30     | 30     | 30     | 32     | 32     | 32     | 34     | 34     | 34     | 34     | 36     | 36     | 36     | 36     | 36     | 36     | 36     | 38     |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Qb                              | 6                   | 6                      | 6      | 7      | 7      | 7      | 7      | 8      | 8      | 8      | 8      | 9      | 9      | 9      | 9      | 10     | 10     | 10     | 10     | 11     | 11     | 11     | 11     | 11     | 12     | 12     | 12     | 12     | 13     | 13     | 13     | 13     | 14     | 14     | 14     | 14     | 15     | 15     | 15     | 15     | 16     | 16     | 16     | 17     |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Weight (kg) <sup>(Note 2)</sup> | 34.0                | 34.9                   | 35.7   | 36.6   | 37.4   | 38.3   | 39.1   | 40.0   | 40.8   | 41.7   | 42.5   | 43.4   | 44.2   | 45.1   | 45.9   | 46.8   | 47.6   | 48.5   | 49.3   | 50.2   | 51.0   | 51.9   | 52.7   | 53.5   | 54.4   | 55.2   | 56.1   | 56.9   | 57.8   | 58.6   | 59.5   | 60.3   | 61.2   | 62.0   | 62.9   | 63.7   | 64.6   | 65.5   | 66.3   | 67.1   | 68.0   | 68.8   | 69.7   | 70.6   |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Maximum speed (mm/sec)          | Lead 40             | 2400                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 2280   |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | 2280 | 2160 | 2160 | 2040 | 2040 | 1920 | 1920 | 1800 | 1800 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                                 | Speed setting       | -                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 95%    |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | 95%  | 90%  | 90%  | 85%  | 85%  | 80%  | 80%  | 75%  | 75%  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                                 | Lead 20             | 1200                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 1140   |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | 1140 | 1080 | 1080 | 1020 | 1020 | 960  | 960  | 900  | 900  | 840 | 840 | 780 | 780 | 780 |     |     |     |     |     |     |     |     |
|                                 | Speed setting       | -                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 95%    |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | 95%  | 90%  | 90%  | 85%  | 85%  | 80%  | 80%  | 75%  | 75%  | 70% | 70% | 65% | 65% | 65% | 65% |     |     |     |     |     |     |     |
|                                 | Lead 10             | 600                    |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 540    |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | 510  | 510  | 480  | 480  | 480  | 480  | 450  | 450  | 450  | 420 | 420 | 390 | 390 | 360 | 360 | 360 | 360 |     |     |     |     |     |
|                                 | Speed setting       | -                      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 90%    |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | 85%  | 85%  | 80%  | 80%  | 80%  | 75%  | 75%  | 75%  | 70%  | 70% | 70% | 65% | 65% | 65% | 60% | 60% | 60% | 60% |     |     |     |     |
|                                 | Lead 5              | 300                    |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 255    |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | 255  | 240  | 240  | 225  | 225  | 210  | 210  | 180  | 180  | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 |     |     |     |     |     |
| Speed setting                   | -                   |                        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | 85%    |        |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 85% | 80%  | 80%  | 75%  | 75%  | 70%  | 70%  | 60%  | 60%  | 55%  | 55% | 55% | 55% | 55% | 55% | 55% | 55% | 55% | 55% | 55% | 55% | 55% | 55% |
| Stroke restriction              | Horizontal/Vertical | No stroke restrictions |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                                 | Wall hanging        | To 1500st              |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                                 | Ceiling-mounted     | To 1200st              |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |

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