# AGFS17L/AGFS17LH

Advanced model | Single-axis robots | Long-stroke type

## Ordering method

| Model | Lead | Shape | Motor specification | OP.1 | Stroke | Note 1 Cable length | Cable entry location | Robot positioner | Driver: Power capacity | Note 2 Regenerative unit | I/O | Battery Note 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGFS17L<br>AGFS17LH | 40: 40mm<br>20: 20mm<br>10: 10mm<br>5: 5mm (Only with brakes) | S: Straight<br>R: Right attachment (Only 750W)<br>L: Left attachment (Only 750W) | 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: Centeraized lubrication | 850 to 3000 (50mm pitch) | R: 3m<br>R5: 5m<br>R10: 10m | R: From rear of motor<br>F: From front 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 |

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, alnd the stroke is 1050mm or more②lead 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.
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.)

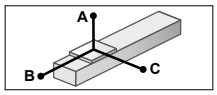
## AGFS17L(400W)

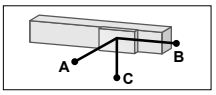
### Specifications

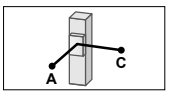
| | | | | | |
|---|---|---|---|---|---|
| AC servo motor output | | 400 W | | | |
| Repeatability Note 1 | | ±0.01 mm | | | |
| Deceleration mechanism | | Rolled ball screw ϕ 20 (C7 class) | | | |
| Stroke | | 850 to 3000 (50 mm pitch) | | | |
| Maximum speed Note 2 | | 2400 mm/sec | 1200 mm/sec | 600 mm/sec | 300 mm/sec |
| Ball screw lead | | 40 mm | 20 mm | 10 mm | 5 mm |
| Maximum payload | Horizontal | 40 kg | 90 kg | 140 kg | - |
| | 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 | | | |
| | 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 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 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 |

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

| 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 |

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

| 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 |

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

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

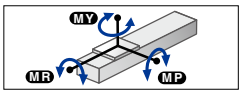
**AGFS17L-5**

| Horizontal installation (Unit: mm) | Wall installation (Unit: mm) |
|---|---|
| No settings | No settings |

| 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.

### Static loading moment




(Unit: N·m)

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

### Controller

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

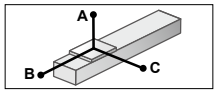
## AGFS17LH (750W)

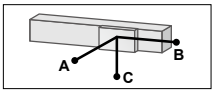
### Specifications

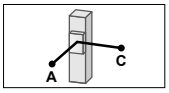
| | | | | | |
|---|---|---|---|---|---|
| AC servo motor output | | 750 W | | | |
| Repeatability Note 1 | | ±0.01 mm | | | |
| Deceleration mechanism | | Rolled ball screw ϕ 20 (C7 class) | | | |
| Stroke | | 850 to 3000 (50 mm pitch) | | | |
| Maximum speed Note 2 | | 2400 mm/sec | 1200 mm/sec | 600 mm/sec | 300 mm/sec |
| Ball screw lead | | 40 mm | 20 mm | 10 mm | 5 mm |
| Maximum payload | Horizontal | 80 kg | 150 kg | 200 kg | - |
| | 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 | | | |
| | 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 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 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








**AGFS17LH-40**

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

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

| 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 |

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

| 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 |

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

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

**AGFS17LH-5**

| Horizontal installation (Unit: mm) | Wall installation (Unit: mm) |
|---|---|
| No settings | No settings |

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

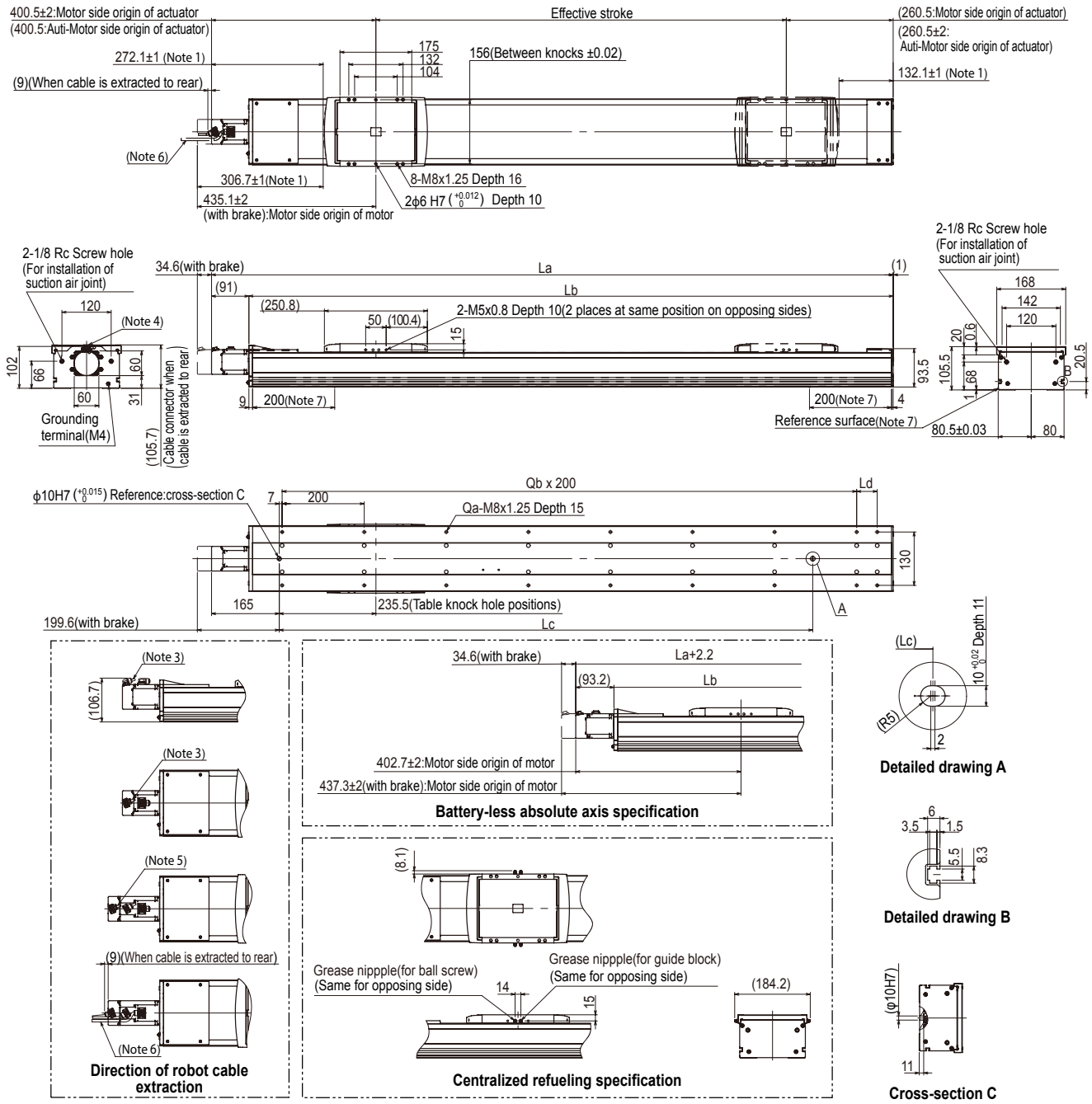
Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.
Note. Service life is calculated for 1,000 mm stroke models.
Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.


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



Controller EP-01 ▶ 582

## 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 <M8×1.25> 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) Note 2 | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 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 | 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 | 420 | 390 | 390 | 390 | 360 | 360 | 360 | 360 |
| | Speed setting | - | | | | | | | | | | | | | | | | | | | | | | | 90% | 85% | 85% | 80% | 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 | 165 | 165 |
| | Speed setting | - | | | | | | | | | | | | | | | | | | | | | | | 85% | 85% | 80% | 80% | 75% | 75% | 70% | 70% | 60% | 60% | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Controller EP-01 ▶ 582