

SG07

Slider type

- High lead: Lead 20
- CE compliance
- Origin on the non-motor side is selectable.



Ordering method

| | | | | | | | | | | | | |
|--------------|---------------------------------|-------------------|-----------------------------------|--|--|---------------------------|--|-------------------------|---|---|--|--|
| SG07 | | | | | | | | | | SH | | |
| Model | Lead | Model | Brake | Origin position | Grease option | Stroke | Cable length ^{Note 2} | Robot positioner | I/O | Battery | | |
| | 20: 20mm 12: 12mm 06: 6mm | S: Straight model | N: With no brake B: With brake | N: Standard ^{Note 1} Z: Non-motor side | N: Standard grease C: Clean room grease | 50 to 800 (60mm pitch) | 1K: 1m 3K: 3m 5K: 5m 10K: 10m | SH: TS-SH | NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board ^{Note 3} | B: With battery (Absolute) N: None (Incremental) | | |

Note 1. If changing from the origin position at the time of purchase, the machine reference amount must be reset. For details, refer to the manual.
 Note 2. The robot cable is flexible and resists bending.
 Note 3. Select this selection when using the gateway function. For details, see P.60.

Basic specifications

| | |
|---|--|
| Motor | 56 □ Step motor |
| Resolution (Pulse/rotation) | 20480 |
| Repeatability ^{Note 1} (mm) | +/-0.02 |
| Deceleration mechanism | Ball screw φ12 (Class C10) |
| Ball screw lead (mm) | 12 6 |
| Maximum speed ^{Note 2, Note 3} (mm/sec) | 1200 800 350 |
| Maximum payload (kg) | Horizontal 36 43 46 Vertical 4 12 20 |
| Max. pressing force (N) | 60 100 225 |
| Stroke (mm) | 50 to 800 (50pitch) |
| Overall length (mm) | Horizontal Stroke+288 Vertical Stroke+328 |
| Maximum outside dimension of body cross-section (mm) | W65×H64 |
| Cable length (m) | Standard: 1 / Option: 3, 5, 10 |

Note 1. Positioning repeatability in one direction.
 Note 2. When the stroke is longer than 600mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below. It is necessary to change the maximum speed according to the payload. For details, see the "Speed vs. payload" graph shown below.
 Note 3. Position detectors (resolvers) are common to incremental and absolute specifications.
 If the controller has a backup function then it will be absolute specifications.

Allowable overhang ^{Note}

| | | | |
|----------------|---|---|---|
| | | | |
| | Horizontal installation (Unit: mm) | Wall installation (Unit: mm) | Vertical installation (Unit: mm) |
| Lead 20 | 10kg 3572 458 486 25kg 2971 220 245 36kg 3150 140 160 15kg 3703 363 406 | 10kg 450 402 3261 25kg 117 155 2943 36kg 98 85 2520 15kg 351 307 3403 | 2kg 2303 2303 4kg 1147 1147 4kg 1386 1386 12kg 442 442 |
| Lead 12 | 30kg 1962 172 196 43kg 1430 114 131 15kg 3853 363 414 30kg 2105 172 197 46kg 1500 106 122 | 30kg 134 117 1663 43kg 68 59 1070 15kg 353 307 3541 30kg 134 117 1752 46kg 58 50 1100 | Lead 12 (kg) 20 200 31 Lead 12 (mm/sec) 20 100 46 |
| Lead 6 | 10kg 3572 458 486 25kg 2971 220 245 36kg 3150 140 160 15kg 3703 363 406 | 10kg 450 402 3261 25kg 117 155 2943 36kg 98 85 2520 15kg 351 307 3403 | Lead 6 (kg) 7 781 781 Lead 6 (mm/sec) 252 252 |

Note. Distance from center of slider upper surface to carrier center-of-gravity at a guide service life of 10,000 km (Service life is calculated for 600mm stroke models).
 Note. Calculated by the speed corresponding to the payload.

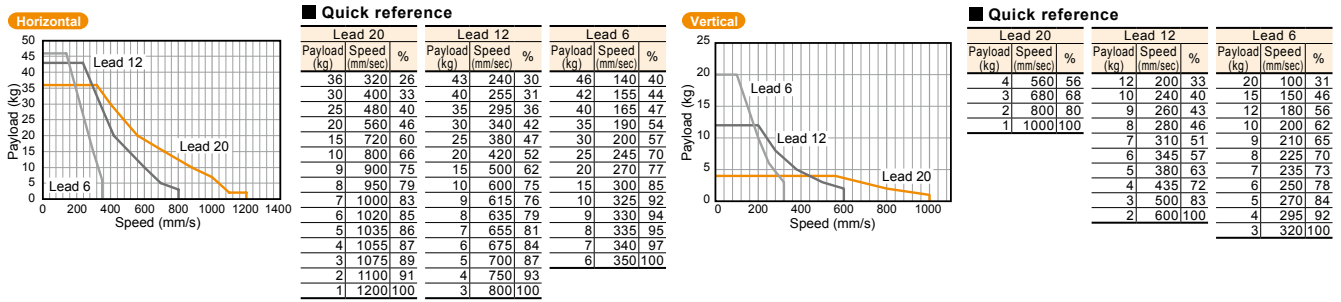
Static loading moment

| | | | |
|--|-----------|-----------|-----------|
| | | | |
| | MY | MP | MR |
| | 101 | 114 | 101 |

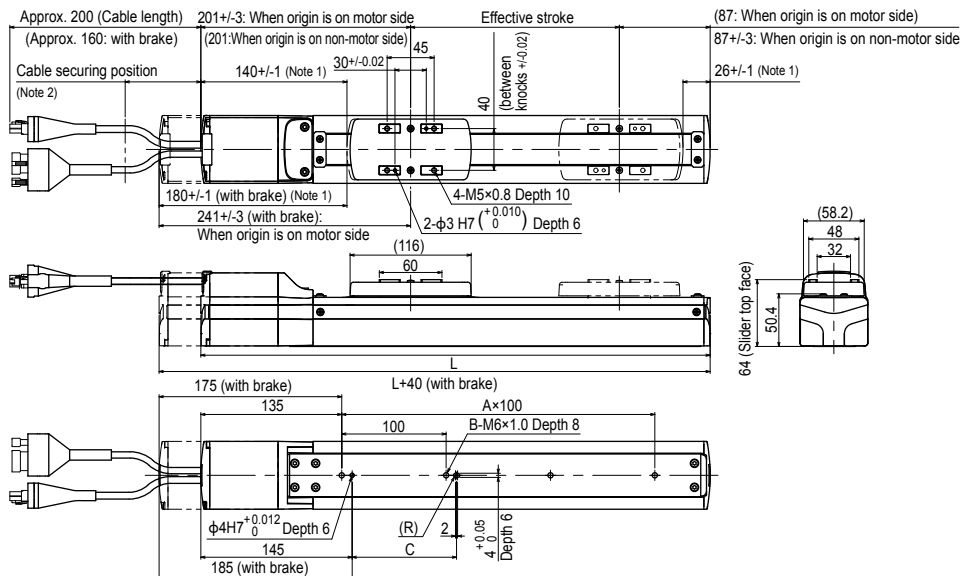
Controller

| | |
|-------------------|----------------------------------|
| Controller | Operation method |
| TS-SH | I/O point trace / Remote command |

Speed vs. payload



SG07 Straight model S



| | | | | | | | | | | | | | | | | |
|---|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Effective stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 |
| L | 338 | 388 | 438 | 488 | 538 | 588 | 638 | 688 | 738 | 788 | 838 | 888 | 938 | 988 | 1038 | 1088 |
| A | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 |
| B | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 |
| C | 100 | 100 | 100 | 100 | 100 | 100 | 400 | 400 | 400 | 400 | 400 | 400 | 700 | 700 | 700 | 700 |
| Weight (kg) ^{Note 4} | 2.9 | 3.2 | 3.4 | 3.6 | 3.9 | 4.1 | 4.3 | 4.6 | 4.8 | 5.0 | 5.3 | 5.5 | 5.7 | 5.9 | 6.1 | 6.3 |
| Maximum speed for each stroke ^{Note 5} (mm/sec) | | | | | | | | | | | | | | | | |
| Lead20 (Horizontal) | 1200 | | | | | | | | | | | | | | | |
| Lead20 (Vertical) | 1000 | | | | | | | | | | | | | | | |
| Lead12 (Horizontal) | 800 | | | | | | | | | | | | | | | |
| Lead12 (Vertical) | 600 | | | | | | | | | | | | | | | |
| Lead6 (Horizontal) | 350 | | | | | | | | | | | | | | | |
| Lead6 (Vertical) | 320 | | | | | | | | | | | | | | | |
| Speed setting | 85% 75% 65% 60% | | | | | | | | | | | | | | | |

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. Secure the cable with a tie-band 100mm or less from unit's end face to prevent the cable from being subjected to excessive loads.
 Note 3. The cable's minimum bend radius is R30.
 Note 4. These are the weights without a brake. The weights are 0.7kg heavier when equipped with a brake.
 Note 5. When the stroke is longer than 600mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table at the below.