# LGXS16

**Advanced model** **Motor-less Single Axis Actuator**

**Slider type**

## Ordering method

**LGXS16** – [ ] [ ] – [ ]

| Model | Lead | Motor specification | Stroke |
|---|---|---|---|
| | 40: 40 mm<br>20: 20 mm<br>10: 10 mm | No entry: Standard<br>P: P specification (see below) | 100 to 1450<br>(50 mm pitch) |

**[Caution]**

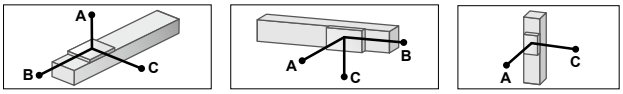
This system is provided as mechanical actuator unit and not including any adopters or electric components. Motor, driver and other components required for installation are the user's responsibility. Refer to user's manual for installation details. Refer to your motor manual for tuning or adjustment. Vibration or resonance from actuator will affect service life of actuator.
The product performance may not be satisfied depending on the compatible motor.
The bending unit cannot be used for the high agility mode.

## Specifications

| | | | | |
|---|---|---|---|---|
| **Applicable motor** | | 750 W | | |
| **Repeatability** Note 1 | | +/-0.005 mm | | |
| **Deceleration mechanism** | | Ground ball screw ϕ 20 (C5 class) | | |
| **Stroke** | | 100 mm to 1450 mm (50 mm pitch) | | |
| **Maximum speed (or equivalent)** Note 2 | | 2400 mm/sec | 1200 mm/sec | 600 mm/sec |
| **Ball screw lead** | | 40 mm | 20 mm | 10 mm |
| **Maximum payload (or equivalent)** Note 3 | Horizontal | 45 kg | 95 kg | 130 kg |
| | Vertical | 12 kg | 28 kg | 55 kg |
| **Rated thrust (or equivalent)** Note 3 | | 320 N | 640 N | 1280 N |
| **Maximum dimensions of cross section of main unit** | | W 160 mm × H 130 mm | | |
| **Overall length** | | ST + 242.5 mm | | |
| **Degree of cleanliness** Note 4 | | ISO CLASS 3 (ISO14644-1) or equivalent | | |
| **Intake air** Note 5 | | 30 Nℓ/min to 90 Nℓ/min | | |
| **Using ambient temperature and humidity** | | 0 to 40 °C, 35 to 80 %RH (non-condensing) | | |

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 800 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. The rated thrust and maximum transferable weight are values assuming the attached motor outputs the rated torque.
Note 4. 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 5. The required suction amount will vary according to the operating conditions and operating environment.
Note. See P.130 for acceleration/deceleration and inertia moment.

## Allowable overhang Note




**LGXS16-40**

Horizontal installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 15kg | 2876 | 1866 | 1253 |
| 30kg | 2385 | 997 | 776 |
| 45kg | 2339 | 720 | 604 |

Wall installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 15kg | 1273 | 1802 | 2797 |
| 30kg | 782 | 935 | 2263 |
| 45kg | 598 | 658 | 2174 |

Vertical installation (Unit: mm)

| | A | C |
|---|---|---|
| 3kg | 6605 | 6605 |
| 6kg | 3699 | 3699 |
| 12kg | 2827 | 2827 |

**LGXS16-20**

Horizontal installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 30kg | 3862 | 1255 | 1106 |
| 50kg | 2568 | 733 | 652 |
| 80kg | 1798 | 440 | 394 |
| 95kg | 1579 | 362 | 325 |

Wall installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 30kg | 1102 | 1192 | 3742 |
| 50kg | 630 | 671 | 2422 |
| 80kg | 360 | 377 | 1612 |
| 95kg | 288 | 300 | 1373 |

Vertical installation (Unit: mm)

| | A | C |
|---|---|---|
| 10kg | 3404 | 3404 |
| 20kg | 1740 | 1740 |
| 28kg | 1504 | 1504 |

**LGXS16-10**

Horizontal installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 50kg | 6253 | 1026 | 1024 |
| 80kg | 4447 | 623 | 624 |
| 100kg | 3957 | 489 | 490 |
| 130kg | 3786 | 365 | 367 |

Wall installation (Unit: mm)

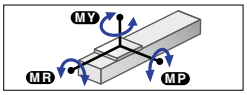
| | A | B | C |
|---|---|---|---|
| 50kg | 980 | 964 | 6089 |
| 80kg | 573 | 561 | 4240 |
| 100kg | 437 | 426 | 3706 |
| 130kg | 312 | 302 | 3422 |

Vertical installation (Unit: mm)

| | A | C |
|---|---|---|
| 15kg | 3434 | 3434 |
| 30kg | 1684 | 1684 |
| 55kg | 889 | 889 |

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.

## Static loading moment




(Unit: N·m)

| MY | MP | MR |
|---|---|---|
| 706 | 706 | 620 |

## Adaptable Servo Motor

| Specification | | |
|---|---|---|
| Flange size | | □80 |
| Wattage | | 750 W |

| Motor specification | Manufacturer | Model |
|---|---|---|
| No entry | Yaskawa Electric Corp. | SGMJV-08 |
| | | SGM7J-08 |
| | Keyence Corp. | SV-□075 |
| | | SV2-□075 |
| | Mitsubishi Electric Corp. | HF-KP73 |
| | | HG-KR73 Note 1 |
| | | HK-KT7M3 Note 1 |
| P | Omron Electronics | R88M-K75030 |
| | | R88M-1M75030 |
| | Panasonic Corp. | MSMD08 |
| | | MSMF08 |
| | | MHMF08 |

| Conversion adapter product model | Shim plate part number |
|---|---|
| GX-BEND-80 Note 2 | KEX-M2295-00 |

Note 1.To combine with the conversion adapter <GX-BEND-80>, the shim plate (t1) is necessary.
Note 2.For the specifications P, the bending unit cannot be used.

## When used with high acceleration or deceleration (High agility mode)

## Specifications

| | | | | |
|---|---|---|---|---|
| **Stroke** | | 100 mm to 800 mm (50 mm pitch) | | |
| **Ball screw lead** | | 40 mm | 20 mm | 10 mm |
| **Maximum payload** | Horizontal | 30 kg | 60 kg | - |
| **Maximum acceleration** | Horizontal | 19.62 m/s² (2 G) | 19.84 m/s² (2 G) | - |
| **Maximum payload** | Vertical | 8 kg | 16 kg | 32 kg |
| **Maximum acceleration** | Vertical | 19.62 m/s² (2 G) | 18.43 m/s² (1.9 G) | 11.17 m/s² (1.1 G) |

## Allowable overhang Note

**LGXS16-40**

Horizontal installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 10kg | 1271 | 1669 | 836 |
| 20kg | 725 | 803 | 429 |
| 30kg | 534 | 514 | 287 |

Wall installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 10kg | 816 | 1585 | 1240 |
| 20kg | 404 | 725 | 683 |
| 30kg | 259 | 441 | 480 |

Vertical installation (Unit: mm)

| | A | C |
|---|---|---|
| 3kg | 2904 | 2904 |
| 5kg | 1710 | 1710 |
| 8kg | 1038 | 1038 |

**LGXS16-20**

Horizontal installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 20kg | 1722 | 1123 | 875 |
| 40kg | 952 | 535 | 428 |
| 60kg | 682 | 339 | 276 |

Wall installation (Unit: mm)

| | A | B | C |
|---|---|---|---|
| 20kg | 842 | 1056 | 1679 |
| 40kg | 388 | 470 | 895 |
| 60kg | 232 | 275 | 611 |

Vertical installation (Unit: mm)

| | A | C |
|---|---|---|
| 5kg | 3473 | 3473 |
| 10kg | 1723 | 1723 |
| 16kg | 1064 | 1064 |

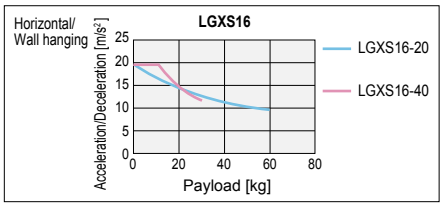
**LGXS16-10**

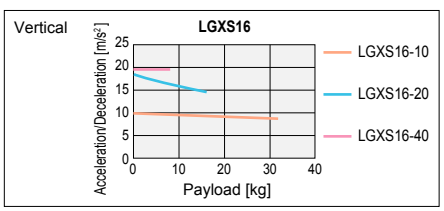
Vertical installation (Unit: mm)

| | A | C |
|---|---|---|
| 10kg | 2951 | 2951 |
| 20kg | 1438 | 1438 |
| 32kg | 870 | 870 |

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.

## Payload – Acceleration / Deceleration Graph (Estimate)




## Effective stroke and maximum speed during high acceleration or deceleration

| Effective stroke | | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum speed (mm/sec) | Lead 40 | 2400 | | | | | | | | | | | | | | |
| | Lead 20 | 1200 | | | | | | | | | | | | | | |
| | Lead 10 | 600 | | | | | | | | | | | | | | |

Note. The bending unit cannot be used for the high agility mode.
Note. The high agility mode is used in an effective stroke range of 100 to 800 (50 mm pitch).
Note. There is no critical speed setting. The maximum speed can be set for a selectable stroke.
The speed may not reach the maximum speed if the movement distance is short or depending on the operating conditions.
Note. See P.132 for acceleration/deceleration and inertia moment.

Access the website below.

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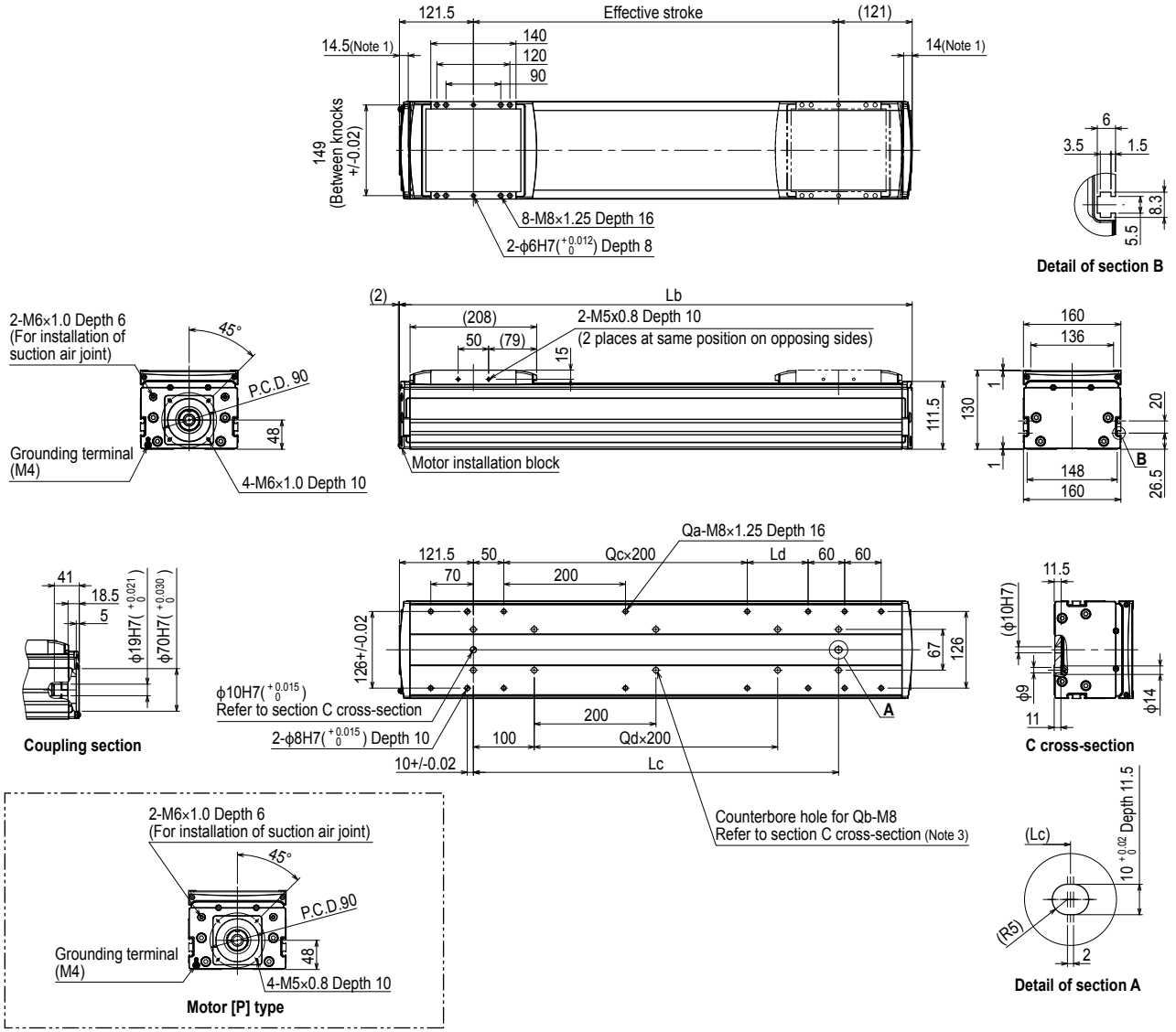
**▶ The cycle time simulation and service life calculation can be performed easily from our member site. For details, see P.16.**

## LGXS16




Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. The length under head of the hex socket head bolts <M8 × 1.25> used to mount the body with the mounting counterbore holes (section C cross-section) must be <<25 mm or more>>.
The recommended length under head of the hex socket head bolts <M8 × 1.25> used to mount the body with the mounting tap hole specifications is <<frame thickness + 15 mm or less>>.
Note 3. When using the mounting counterbore holes (section C cross-section) to mount the body, remove the seal, and then fix.
Note 4. Grease gun nozzle (recommended) (see P.143 for detail)

| 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 | 1300 | 1350 | 1400 | 1450 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lb | | 342.5 | 392.5 | 442.5 | 492.5 | 542.5 | 592.5 | 642.5 | 692.5 | 742.5 | 792.5 | 842.5 | 892.5 | 942.5 | 992.5 | 1042.5 | 1092.5 | 1142.5 | 1192.5 | 1242.5 | 1292.5 | 1342.5 | 1392.5 | 1442.5 | 1492.5 | 1542.5 | 1592.5 | 1642.5 | 1692.5 |
| 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 | 1300 | 1350 | 1400 | 1450 |
| Ld | | 0 | 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 |
| Qa | | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 | 18 | 18 | 18 | 20 | 20 | 20 | 20 | 22 | 22 | 22 |
| Qb | | 4 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 18 | 18 | 18 |
| Qc | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 |
| Qd | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 |
| Weight (kg) | | 11.7 | 12.7 | 13.7 | 14.7 | 15.7 | 16.6 | 17.6 | 18.6 | 19.6 | 20.6 | 21.5 | 22.5 | 23.5 | 24.5 | 25.5 | 26.5 | 27.4 | 28.4 | 29.4 | 30.4 | 31.4 | 32.4 | 33.3 | 34.3 | 35.3 | 36.3 | 37.3 | 38.2 |
| Maximum speed (mm/sec) | Lead 40 | 2400 | | | | | | | | | | | | | | | 2160 | 1920 | 1680 | 1440 | 1320 | 1200 | 1080 | 960 | | 840 | 720 | | 600 |
| | Lead 20 | 1200 | | | | | | | | | | | | | | | 1080 | 960 | 840 | 720 | 660 | 600 | 540 | 480 | | 420 | 360 | | 300 |
| | Lead 10 | 600 | | | | | | | | | | | | | | | 540 | 480 | 420 | 360 | 330 | 300 | 270 | 240 | | 210 | 180 | | 150 |
| | Speed setting | – | | | | | | | | | | | | | | | 90% | 80% | 70% | 60% | 55% | 50% | 45% | 40% | | 35% | 30% | | 25% |