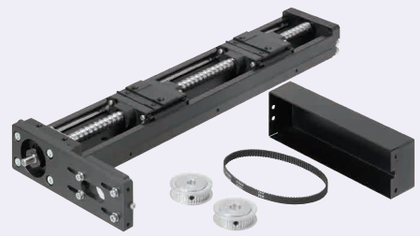
# Single Axis Actuators LX30 Motor Folded Type

■For Single Axis Actuator LX Series selections, please use our 2D and 3D CAD data and Technical Calculation Software (free of charge).
http://download.misumi.jp/mol/fa_soft.html

■LX Related Information
Specifications P411 ~ P414
Selection / Life Calculation Example P.2235~P.2238

Convenient Sensor Sets are also available. P.428



RoHS10

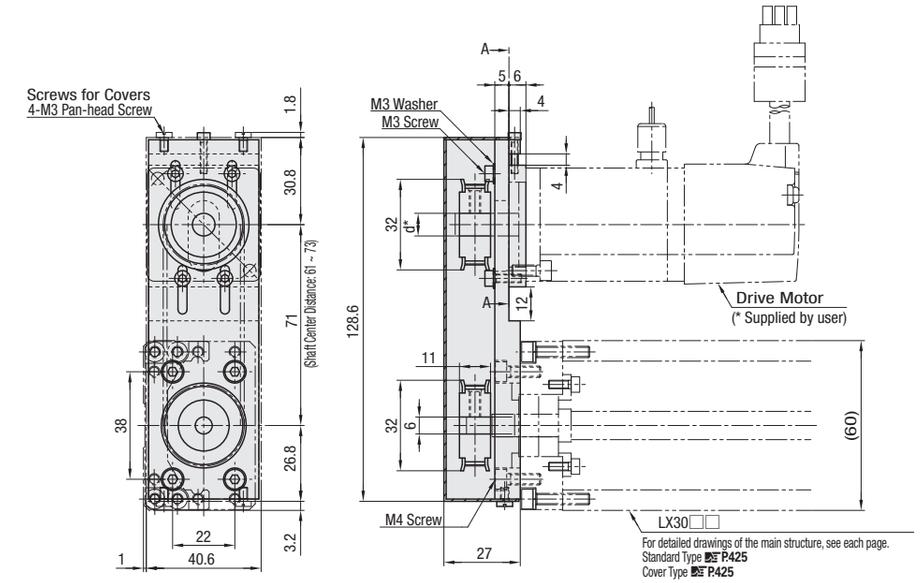
| Specifications | |
|---|---|
| LX30 | |
| Standard / Cover | |
| Screw Shaft Dia. (mm) | 10 |
| Lead (mm) | 5, 10 |
| Accuracy | High Grade |

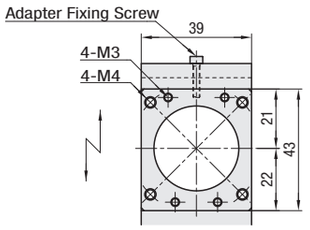
**A Accessory**

①Motor Adapter Plates
M Steel S Low Temperature Black Chrome Plating
②Adapter Plate Screw 4 pcs. M SUSXM7
③High Torque Timing Pulley Part Number: HTPA44S2M060
④High Torque Timing Belt Part Number: HTBN230S2M-60

| Part Number | Standard Grease | | Lubrication Unit MX-equipped (Standard Grease) | |
|---|---|---|---|---|
| | High Grade Standard | High Grade with Cover | High Grade Standard | High Grade with Cover |
| Lead 5 | LXR3005 | LXR3005C | LXR3005-MX | LXR3005C-MX |
| Lead 10 | LXR3010 | LXR3010C | LXR3010-MX | LXR3010C-MX |

| Components | Base (Rail) | Block | Motor Bracket | Support Side Bearing with Housing | Cover | Stopper | Precision Ball Screw (Ground) |
|---|---|---|---|---|---|---|---|
| M Material | Carbon Steel | SCM Material | A5052 | A5052 | A6063 | NBR | SCM415 |
| S Surface Treatment | Low Temperature Black Chrome Plating | Low Temperature Black Chrome Plating | Black Baked Paint | Black Anodize | Black Anodize | - | - |
| H Hardness | Induction Hardened HRC58 ~ 64 | HRC58~62 | - | - | - | - | HRC58~62 |




Arrow View A-A
<Motor Adapter Plates>
* For details of motor adapter plate dimensions, see the right-hand page.

For recommended shaft center distance for belt tension 71mm, deflection when the center of belt is pressed with less than 1N is 1.1mm.
Precision specification value is the value achieved after fixing rails. (It is not a value before tightening the rail screws.) For values, see P.413.
The actuator shaft end is of D cut specification.

## ■Included High Torque Timing Pulley Part Number

| Pulley mounting side | | Part Number |
|---|---|---|
| Actuator mounting side | | HTPA44S2M060-A-P6 |
| Motor Side | For Adapter Plate RA3038 | HTPA44S2M060-A-N8 |
| | For Adapter Plate RA3040 | |
| | For Adapter Plate RT3042 | HTPA44S2M060-A-P6 |
| | No Adapter Plate N5 | HTPA44S2M060-A-P5 |
| | No Adapter Plate N6 | HTPA44S2M060-A-P6 |
| | No Adapter Plate N8 | HTPA44S2M060-A-N8 |

Part numbers with P at the end are of round hole+tap type.
Part numbers with N at the end are of Key-slot hole+tap type.

| Part Number | | Block Qty. | Motor Adapter Plate | Base Overall Length (L) | Details of Mounting Hole Dimensions P.425, 426 A | P1 | P2 | B | Number of Pitches | Number of Holes (N) |
|---|---|---|---|---|---|---|---|---|---|---|
| (High Grade Standard) LXR3005 LXR3010 | (High Grade with Cover) LXR3005C LXR3010C | Long Blocks (1 pc.)B1 (2 pcs.)B2 For B2, L≥300 | (Servo) RA3038 RA3040 | 125 | 12.5 | - | 100 | 12.5 | 1 | 4 |
| (Lubrication Unit MX Standard) LXR3005-MX LXR3010-MX | (Lubrication Unit MX with Cover) LXR3005C-MX LXR3010C-MX | Short Blocks (1 pc.)S1 (2 pcs.)S2 *Lubrication Units MX-equipped types are available in B1/S1 only. | (Stepping) RT3042 *(No Adapter Plate) N5 (Pulley Inner Dia. Ø5) N6 (Pulley Inner Dia. Ø6) N8 (Pulley Inner Dia. Ø8) | 150 | 25 | | | 25 | | |
| | | | | 200 | 50 | 100 | | 50 | 2 | 6 |
| | | | | 250 | | | 50 | | | |
| | | | | 300 | | | 100 | | | |
| | | | | 350 | | | 50 | | 3 | 8 |
| | | | | 400 | | | 100 | | | |
| | | | | 450 | | | 50 | | 4 | 10 |
| | | | | 500 | | | 100 | | | |
| | | | | 550 | | | 50 | | 5 | 12 |
| | | | | 600 | | | 100 | | | |

* Motor adapter plate and mounting screws are not included with No Adapter Plate Type.

## ■Effective Stroke / Mass

| Base Length (L) | * Effective Stroke MX-unequipped B1 | B2 | S1 | S2 | MX-equipped B1 | S1 | Total Mass (kg) LXR30□□ B1 | B2 | S1 | S2 | LXR30□□C B1 | B2 | S1 | S2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125 | 29 | - | 54.5 | - | - | - | 1.55 | - | 1.43 | - | 2.01 | - | 1.75 | - |
| 150 | 54 | - | 79.5 | 17 | - | 65.5 | 1.72 | - | 1.60 | 1.78 | 2.17 | - | 1.92 | 2.23 |
| 200 | 104 | - | 129.5 | 67 | 90 | 115.5 | 2.06 | - | 1.93 | 2.11 | 2.50 | - | 2.25 | 2.57 |
| 250 | 154 | - | 179.5 | 117 | 140 | 165.5 | 2.39 | - | 2.27 | 2.45 | 2.84 | - | 2.59 | 2.91 |
| 300 | 204 | 116 | 229.5 | 167 | 190 | 215.5 | 2.73 | 3.04 | 2.60 | 2.78 | 3.17 | 3.74 | 2.92 | 3.24 |
| 350 | 254 | 166 | 279.5 | 217 | 240 | 265.5 | 3.06 | 3.37 | 2.94 | 3.12 | 3.51 | 4.08 | 3.26 | 3.58 |
| 400 | 304 | 216 | 329.5 | 267 | 290 | 315.5 | 3.40 | 3.71 | 3.27 | 3.46 | 3.85 | 4.41 | 3.60 | 3.91 |
| 450 | 354 | 266 | 379.5 | 317 | 340 | 365.5 | 3.74 | 4.04 | 3.61 | 3.79 | 4.18 | 4.75 | 3.93 | 4.25 |
| 500 | 404 | 316 | 429.5 | 367 | 390 | 415.5 | 4.07 | 4.38 | 3.95 | 4.13 | 4.52 | 5.08 | 4.27 | 4.58 |
| 550 | 454 | 366 | 479.5 | 417 | 440 | 465.5 | 4.41 | 4.72 | 4.28 | 4.46 | 4.85 | 5.42 | 4.60 | 4.92 |
| 600 | 504 | 416 | 529.5 | 467 | 490 | 515.5 | 4.74 | 5.05 | 4.62 | 4.80 | 5.19 | 5.76 | 4.94 | 5.26 |

* Effective stroke is indicated in dimensions with a margin of 2.5mm each from the ends.
0.011kg will be added to MX-equipped types.

## ■Accuracy Standards

| Accuracy Standards | L≤400 | L≥450 |
|---|---|---|
| | High Grade | |
| Positioning (mm) | 0.06 | 0.1 |
| Backlash (mm) | 0.02 | 0.02 |
| Positioning Repeatability (mm) | ±0.005 | ±0.005 |
| Running Parallelism (mm) | 0.025 | 0.035 |
| Starting Torque (N · cm) | 4 | |

## ■Static Load Capacity / Allowable Moment

| Block Qty. | Block Qty. | Static Load Capacity (N) | Allowable Static Moment (N • m) Ma | Mb | Mc |
|---|---|---|---|---|---|
| Long Block | B1 | 17218 | 126 | 126 | 387 |
| | B2 | 34436 | 1515 | 1515 | 774 |
| Short Block | S1 | 9271 | 63 | 63 | 208 |
| | S2 | 18542 | 579 | 579 | 417 |

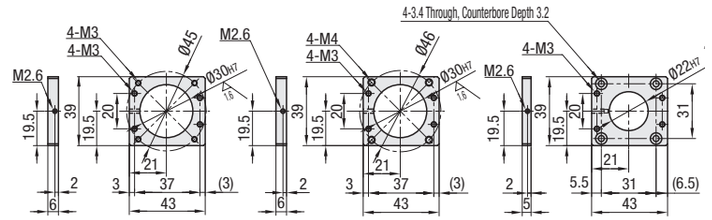
Reference values are for a static state. For life calculation, use our technical calculation software.
For Allowable Static Moment, see P.411.

## ■Max. Velocity

| Max. Velocity (mm/sec) | L125~L450 | L500 | L550 | L600 |
|---|---|---|---|---|
| LXR3005□□ | 410 | 370 | 300 | 250 |
| LXR3010□□ | 830 | 740 | 600 | 500 |

The Max. Velocity is reference values derived from ball screw critical speeds and DN values but not guarantee data considering the motor's conditions.

Motor Adapter Plate Dimensional Drawing




## ■Servo Motor Application Table

| Part Number | Flange Size | Manufacturer | Product Number | Wattage | Applicable Motor Shaft Dia. |
|---|---|---|---|---|---|
| RA3038 | □38 | Panasonic | MSMD5A | 50W | Ø8 |
| | | | MSME5A | | |
| | | | MSMD01* | 100W | |
| | | | MSME01* | | |
| RA3040 | □40 | Yasukawa Electric Corporation | SGMJV-A5 | 50W | |
| | | | SGMAH-01 | 100W | |
| | | Mitsubishi Electric Corporation | HG-MR053 | 50W | |
| | | | HG-MR13 | 100W | |
| | | Sanyo Denki Co., Ltd. | Q1AA04005D | 50W | |
| | | | Q1AA04010D | 100W | |
| | | Omron Corporation | R88M-K10030 | | |
| | | Keyence Corporation | MV-M05 | 50W | |
| | | | SV-M005 | | |
| | | | MV-M10 | 100W | |
| | | | SV-M010 | | |

## ■Stepping Motor Application Table

| Part Number | Flange Size | Manufacturer | Product Number | Type | Applicable Motor Shaft Dia. |
|---|---|---|---|---|---|
| RT3042 | □42 | Oriental Motor Motor | PK24* | 2-phase | Ø6 |
| | | | RKS54* | 5-phase | |
| | | | AR46 | αStep | |

* When selecting the motor shaft diameter Ø5, please select the alteration NBP (No Belt / No Pulley) and purchase the pulley and belt separately.
LXR30□□-□□-RT3040-□□□-NBP
High Torque Timing Pulley: HTPA44S2M060-A-P5
High Torque Timing Belt: HTBN230S2M-60
Not compatible with geared motors made by Oriental Motor.

Ordering Example

| Part Number | - | Block Qty. | - | Motor Adapter Plates | - | Base Length (L) | - | (NBP) |
|---|---|---|---|---|---|---|---|---|
| LXR3010C | - | B1 | - | RA3040 | - | 600 | | |
| LXR3005-MX | - | B1 | - | RA3040 | - | 600 | | |
| LXR3010C | - | B1 | - | RA3040 | - | 600 | - | NBP |

Alterations

| Alteration | Code | Spec. |
|---|---|---|
| No Belt / No Pulley | NBP | Excluded from the set. |

Sensor Set P.428

## High Grade Unit Price

| Part Number | L=125 (Lead 5 only) | L=150 | L=200 | L=250 | L=300 | L=350 | L=400 | L=450 | L=500 | L=550 | L=600 | Motor Adapter Plates | Block Qty. | Screw Shaft Dia. | Lead |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LXR30□□-B1/S1-□ | | | | | | | | | | | | Servo Stepping No Adapter Stepping No Adapter Plate | 1 | 10 | 5 |
| LXR30□□-B2/S2-□ | - | | | | | | | | | | | | 2 | | |
| LXR30□□C-B1/S1-□ | | | | | | | | | | | | | 1 | | 10 |
| LXR30□□C-B2/S2-□ | - | | | | | | | | | | | | 2 | | |