

MICOS

MOTION CONTROL & OPTICS **USA**

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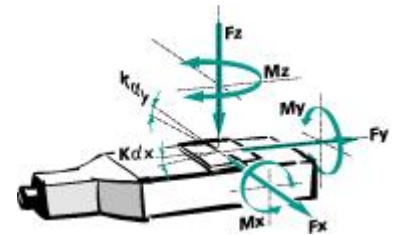
◀ 4.010 ▶ **Linear Motor Stage LMS-180**

Direct Drives



Key features

- Linear motor
- Travel range up to 305 mm
- Maximum speed 400 mm/sec
- Load capacity up to 100 kg
- Bi-directional repeatability +/- 0.08 μm
- Linear recirculating ball system
- Special, tempered Aluminium
- Limit switches integrated
- Module combination



FACTS

| Load Characteristics | Fx (N) | Fy (N) (Peak) | Fy (N) (Con.) | Fz (N) | Mx (N) | My (Nm) | Mz (Nm) | kax ($\mu\text{rad/Nm}$) | kay ($\mu\text{rad/Nm}$) |
|----------------------|--------|---------------|---------------|--------|--------|---------|---------|----------------------------|----------------------------|
| <u>LM-010</u> | 450 | 176 | 50 | 450 | 65 | 120 | 65 | 80 | 60 |

LMS-180 [detail]

DESCRIPTION

Linear Stages of the structural series **LMS-180** and **LMS-300** are mainly employed for modern electronic production and laser application. Combined with direct-driven Rotation Stages UPR of MICOS, high-dynamic, precise positioning systems can be configured resulting in an efficient production. Linear Stages LMS-180 and LMS-300

are driven by linear motors without iron. The linear measuring system with very high accuracy is installed between the guides. With this, a higher system accuracy can be achieved. Especially significant is a very quiet and dynamic smooth move. All Linear Stages of the structural series LMS-180 are equipped with inductive travel-limit switch and protection against damage.



Technical data

| Travel Range (mm) | 155 | 205 | 305 | 408 |
|--|----------------|---------|---------|---------|
| Bi-directional Repeatability (μm) | +/- 0.02 ... 2 | | | |
| Accuracy per 100 mm (μm) | +/- 1 ... 10 | | | |
| Velocity Range (mm/sec) | 0.001 ... 400 | | | |
| Straightness / Flatness (μm) | +/- 3 | +/- 6 | +/- 8 | +/- 10 |
| Pitch (μrad) | +/- 80 | +/- 100 | +/- 120 | +/- 140 |
| Yaw (μrad) | +/- 100 | | | |

Speed max. (mm/ sec)

| | | | | |
|---------------|-----|--|--|--|
| <u>LM-010</u> | 400 | | | |
|---------------|-----|--|--|--|

Resolution Closed-Loop (μm)

| | | | | |
|---|--------|--|--|--|
| <u>LS-030</u> , Linear glass scale (25-times interpolation) | 0.08 | | | |
| Reference mark | center | | | |

Winding Constant

| | | | | |
|--|------|--|--|--|
| Force constant (Nm/Ams) | 17 | | | |
| Back EMF constant, peak value V/(m/s)* | 13.9 | | | |
| Electrical resistance at 80° (Ohm)* | 7.39 | | | |
| Electrical inductance (mH)* | 1.81 | | | |
| Continuous current at 80° (Ams) | 1.5 | | | |

Material

Special Aluminium, black anodized

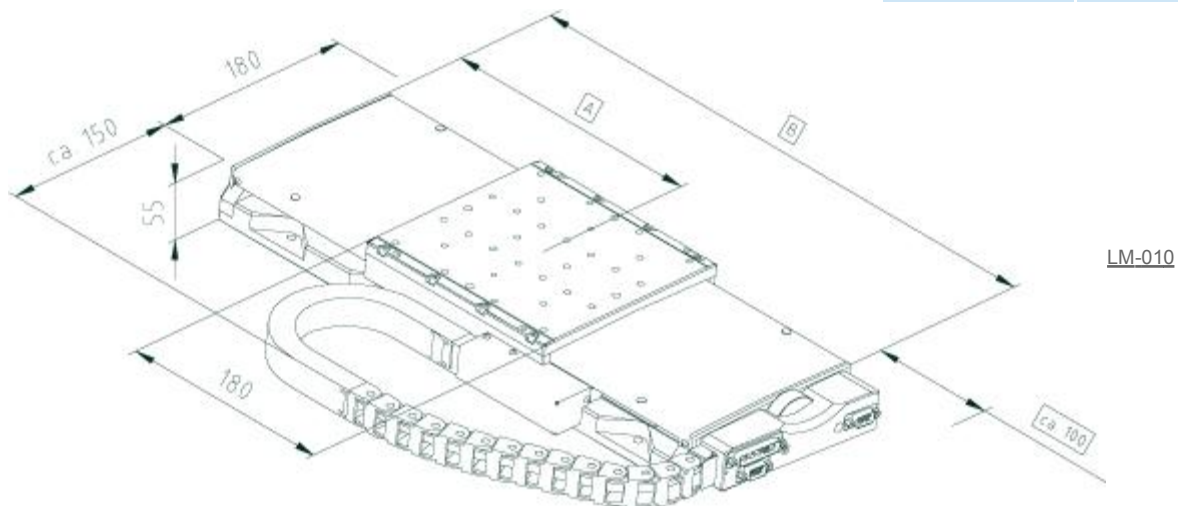
Weight (kg)

- - - -

Note: * Terminal to terminal

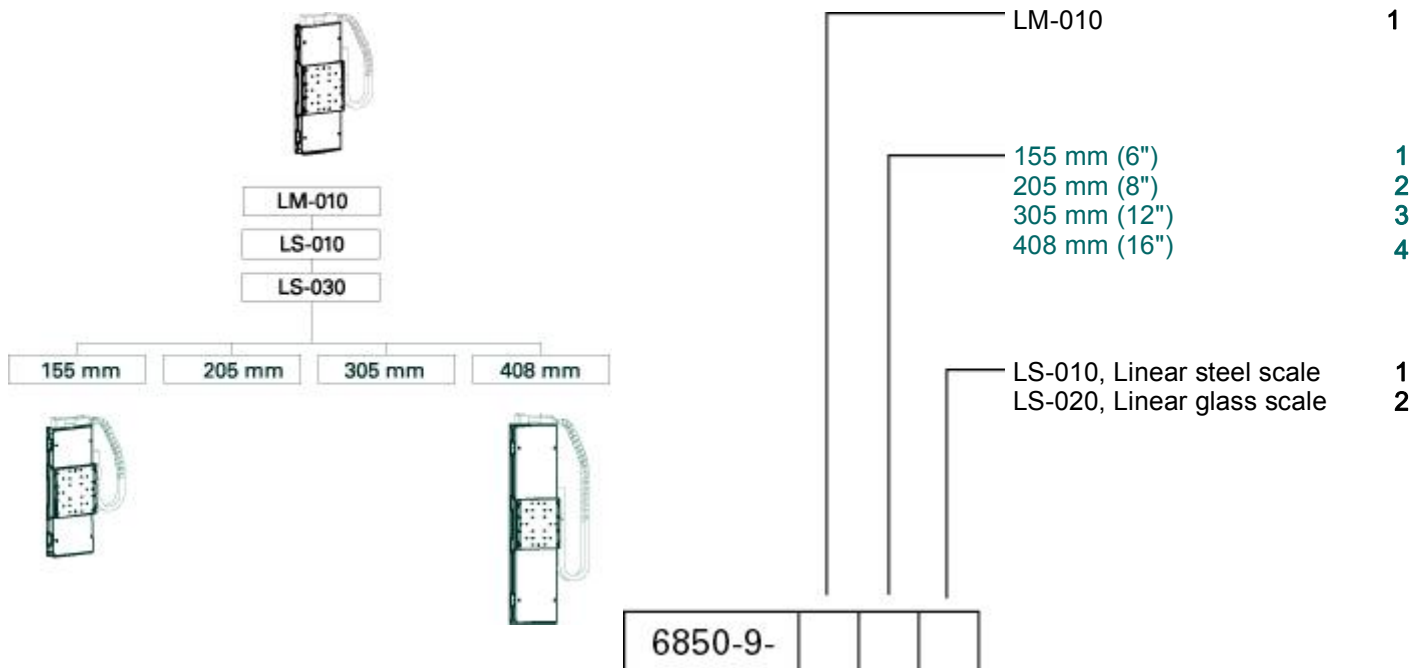
| Travel ranges | A (mm) | B (mm) |
|---------------|--------|--------|
| 155 mm | 235 | 470 |
| 205 mm | 260 | 520 |
| 305 mm | 310 | 620 |
| 408 mm | 360 | 720 |

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MOTION CONTROL Systems Positioners MiniPos DirectDrives Controllers ManPos Accessories Vacuum MAC PhotonX M A C

LMS-180 Ordering information



Founded in 1990, MICOS specializes in the development, manufacturing and marketing of ultra-high precision positioning components and systems for research and industry. We are experts in vacuum, ultra-high vacuum, clean room, and extreme climate environments down to 77 Kelvin. ▶▶

