

# MICOS

MOTION CONTROL & OPTICS **USA**

[Terms](#) | [Sitemap](#) | [About us](#) | [Contact](#) | [Catalog](#) | [Shows](#) | [News](#) | [Offices](#) | [Partners](#) | [Press Center](#) | [Support](#) | [Team](#) | [Home](#)

MICOS USA • 15375 BARRANCA PARKWAY • STE G101 • IRVINE • CA 92618 • PHONE 949 480 0538 • FAX 949 480 0538

Page

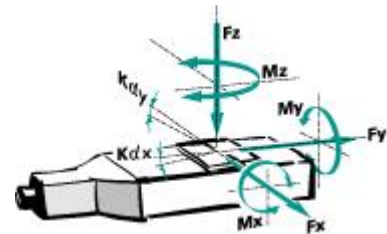
◀ 4.004 ▶ **Ultra Precision Stage UPS-150**

Direct Drives



### Key features

- Linear motor
- Travel range up to 305 mm (12")
- Long-time stability
- Smooth running
- Repeatability +/- 0.1 µm
- Linear scale centrally mounted
- Load capacity in lifetime
- Maximum speed 600 mm/sec
- Crossed-roller bearings
- Strength stress-relieved aluminium
- Load capacity up to 50 kg
- 20.000 hour MTBF
- Module combination
- [Download PDF data sheet ...](#)



### FACTS

Load Characteristics	Fx (N)	Fy (N) (Peak)	Fy (N) (Con.)	Fz (N)	Mx (N)	My (Nm)	Mz (Nm)	kax (µrad/Nm)	kay (µrad/Nm)
<a href="#">LM-010</a>	400	88	22	500	100	200	100	5	3

### DESCRIPTION

The **Ultra Precision Stage UPS-150** of the structural series 150, the follow-up

Additionally contactless limit switches can be mounted. The positioning accuracy of the

model to UPM-160, is especially employed for the Wafer Sub Surface Inspection, Fiber Alignments, High Precision Robotic and for all tasks where a maximum of positioning accuracy and reliability is absolutely necessary. All Ultra Precision Stages UPS-150 are equipped with a linear measuring system that is centrally installed between the guide. Due to high-quality crossed-roller bearings a maximum of load capacity and smooth move is guaranteed. A special, stressfree, tempered Al-alloy guarantees a homogeneous non-warping structure. The structural series 150 are driven by linear motors without iron and provide high acceleration and high travel speed. System accuracy of less than  $1\mu\text{m}/100\text{mm}$  respectively a bi-directional repeatability of  $0.1\mu\text{m}$  is guaranteed. All UPS-150 components are standard fitted out with two mechanical limit switches.

structural series 150 is only guaranteed with MICOS control systems. The Ultra Precision Stages are supplied calibrated with standard certificate (flatness, straightness, pitch, yaw & position). The measurement is made mounted and unloaded on granite with a flatness  $< 1\mu\text{m}$ .



#### Technical data

Travel Range (mm)	55	105	155	205	305
Bi-directional Repeatability ( $\mu\text{m}$ )	+/- 0.1				
Accuracy per 50 mm ( $\mu\text{m}$ )	+/- *0.25 ... 0.5				
Velocity Range (mm/sec)	0.001 ... 600				
Straightness / Flatness ( $\mu\text{m}$ )	< +/- 0.5	< +/- 0.75	< +/- 1	< +/- 1.25	< +/- 1.75
Pitch ( $\mu\text{rad}$ )	< +/- 15	< +/- 20	< +/- 25	< +/- 30	< +/- 40
Yaw ( $\mu\text{rad}$ )	< +/- 20				

#### Speed max. (mm/ sec)

LM-015	600				
--------	-----	--	--	--	--

#### Resolution Closed-Loop ( $\mu\text{m}$ )

LM-010, Linear steel scale	0.1				
LM-020, Linear glass scale	0.005 ... 0.1				

Reference mark	center				
----------------	--------	--	--	--	--

#### Winding Constant

Force constant (Nm/Ams)	22				
Back EMF constant,( peak value) V/ (m/s)**	-				

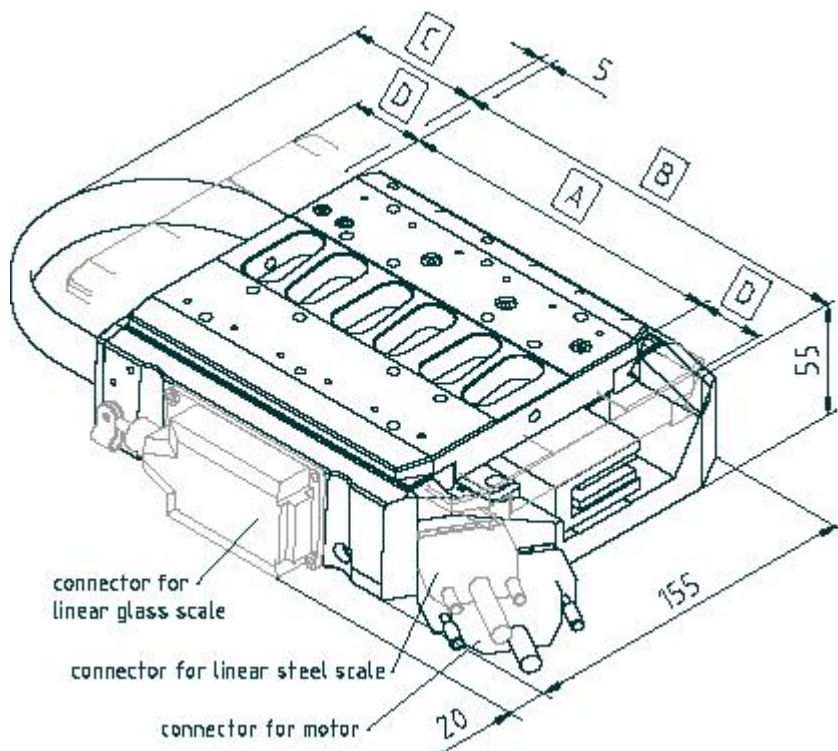
Electrical resistance at 80° (Ohm) **	-				
Electrical inductance (mH)*	-				
Continuous current at 80° (Ams)	-				

<b>Material</b>	Special Aluminium, anodized				
<b>Weight (kg)</b>	-	-	-	-	-

**Note:** \*=Two point slope correction \*\*=Terminal to terminal

UPS-150 Base + Motors

Travel ranges	A (mm)	B (mm)	C (mm)	D (mm)
55 mm	151	188	83	27.5
105 mm	201	238	108	52.5
155 mm	251	288	133	77.5
205 mm	301	338	158	102.5
305 mm	401	438	208	152.5



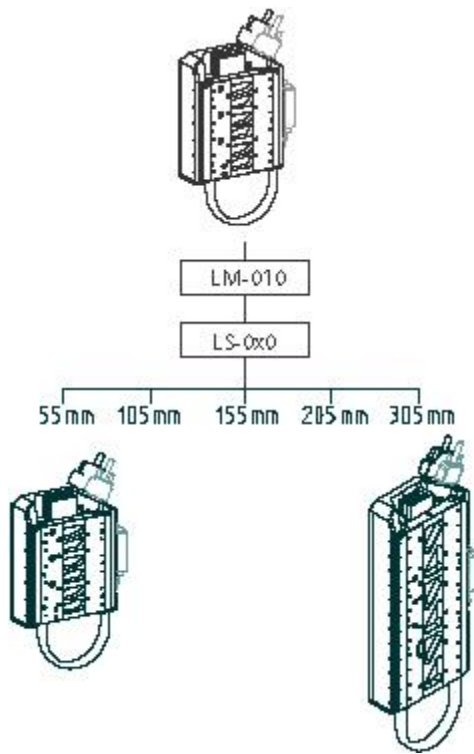
[Download PDF](#)

LM-015

UPS-150 Ordering information

LM-015 1

52 mm (2") 1



- 102 mm (4") **2**
- 155 mm (6") **3**
- 205 mm (8") **4**
- 305 mm (12") **5**
- LS-010, Linear steel scale **1**
- LS-020, Linear glass scale **2**

6840-9-

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. ▶▶

[Terms](#) | [Sitemap](#) | [About us](#) | [Contact](#) | [Catalog](#) | [Shows](#) | [News](#) | [Offices](#) | [Partners](#) | [Press Center](#) | [Support](#) | [Team](#) | [Home](#)  
**MOTION CONTROL** = [Systems](#) | [Positioners](#) | [MiniPositioners](#) | [DirectDrives](#) | [Controllers](#) | [ManPositioners](#) | [Accessories](#) | [Vacuum](#)  
**MAC PhotonX** = [Moskito](#) | [Albatros](#) | [Campus](#)

Copyright 2006 © MICOS GmbH