

MICOS

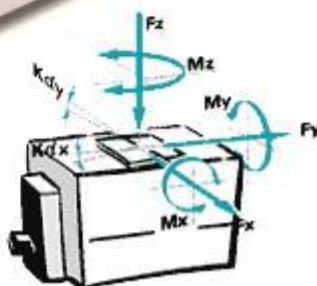
MOTION CONTROL & OPTICS **USA**
[Terms](#) | [Sitemap](#) | [About us](#) | [Contact](#) | [Catalog](#) | [Shows](#) | [News](#) | [Offices](#) | [Partners](#) | [Press Center](#) | [Support](#) | [Team](#) | [Home](#)

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

Page

◀ 2.020 ▶ **Ultra Precision Elevation Stage UPL-160**


Positioners



Key features

- Travel range 26 mm (1")
- Bi-directional repeatability +/- 0.1 μm
- Linear scale central mounted
- Load capacity lifetime
- Maximum speed 30 mm/sec
- Crossed-roller bearings
- Strength stress-relieved aluminium
- Load capacity up to 30 kg
- Limit switches integrated
- 20.000 hour MTBF
- Module combination

FACTS

Load Characteristics	Fx (N)	Fy (N)	Fz (N)	Mx (N)	My (Nm)	Mz (Nm)	kax ($\mu\text{rad/Nm}$)	kay ($\mu\text{rad/Nm}$)
DC-B-041	200	100	300	175	49	175	3	1
2Phase-070 	200	100	300	175	49	175	3	1

DESCRIPTION

The **Ultra Precision Elevation Stage UPL-160** is the logical supplement to the Ultra-Precision-Linear Stages UPM-160. Ultra-Precision-Elevation Stages of the

structural series 160 are specially employed for the Wafer Sub Surfaces Inspection, Fiber Alignments, High Precision Robotic and for all tasks where maximum positioning accuracy and reliability are absolutely necessary. Due to high-quality double crossed roller bearings a high stiffness and smooth move are achieved. A special, stressfree tempered Al-alloy guarantees a homogeneous non-warping structure. The Ultra-Precision-Elevation Stage UPL-160 is offered with 2-phase-micro-step motor or with DC-motor-micro-step motor. UPL-160 is equipped with a



linear encoder installed between the guide resulting in an accuracy of $\pm 0.1 \mu\text{m}/30 \text{ mm}$. The Ultra-Precision-Elevation Stage UPL-160 is standard equipped with two mechanical limit switches. Optional contactless (magnetic/optical) limit switches can be mounted. The Ultra-Precision-Elevation Stage is calibrated supplied with a test certificate (flatness, straightness & position). The measurement is made mounted and unloaded on granite with a flatness $< 1 \mu\text{m}$.

Technical data

Travel Range (mm)	26
Bi-directional Repeatability (μm)	± 0.1
Accuracy (μm)	$\pm 0.1 \dots 0.4$
Velocity Range (mm/sec)	0.001 ... 30
Straightness / Flatness (μm)	± 1.5
Pitch (μrad)	± 40
Yaw (μrad)	± 25
Ballscrew Pitch (mm)	2

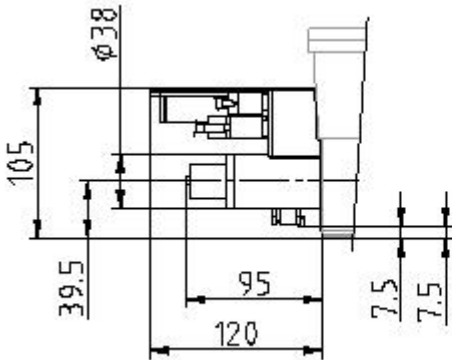
Speed max. (mm/ sec)	
<u>DC-B-041</u>	60
<u>2Phase-070</u>	40

Resolution Closed-Loop (μm)	
<u>LS-010</u> , Linear steel scale	0.1
<u>LS-020</u> , Linear glass scale	0.005 ... 0.1

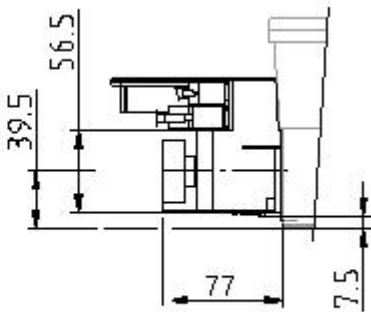
Current (Amps) / Voltage (Volts)	
DC-B-041	3.8 24
2Phase-070	2.8 -

Material	Special Alu, black anodized
Weight (kg)	8.7

UPL-160 Motors



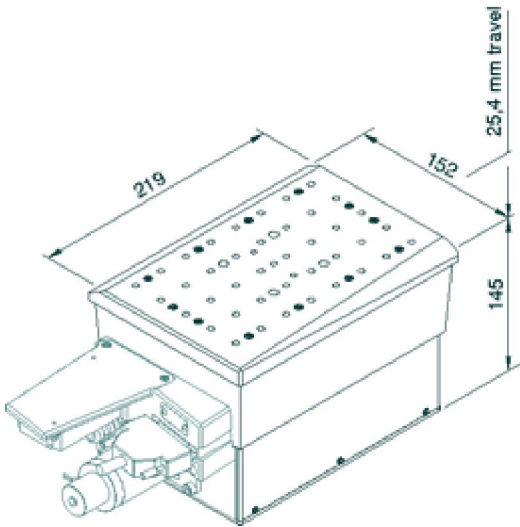
DC-B-041

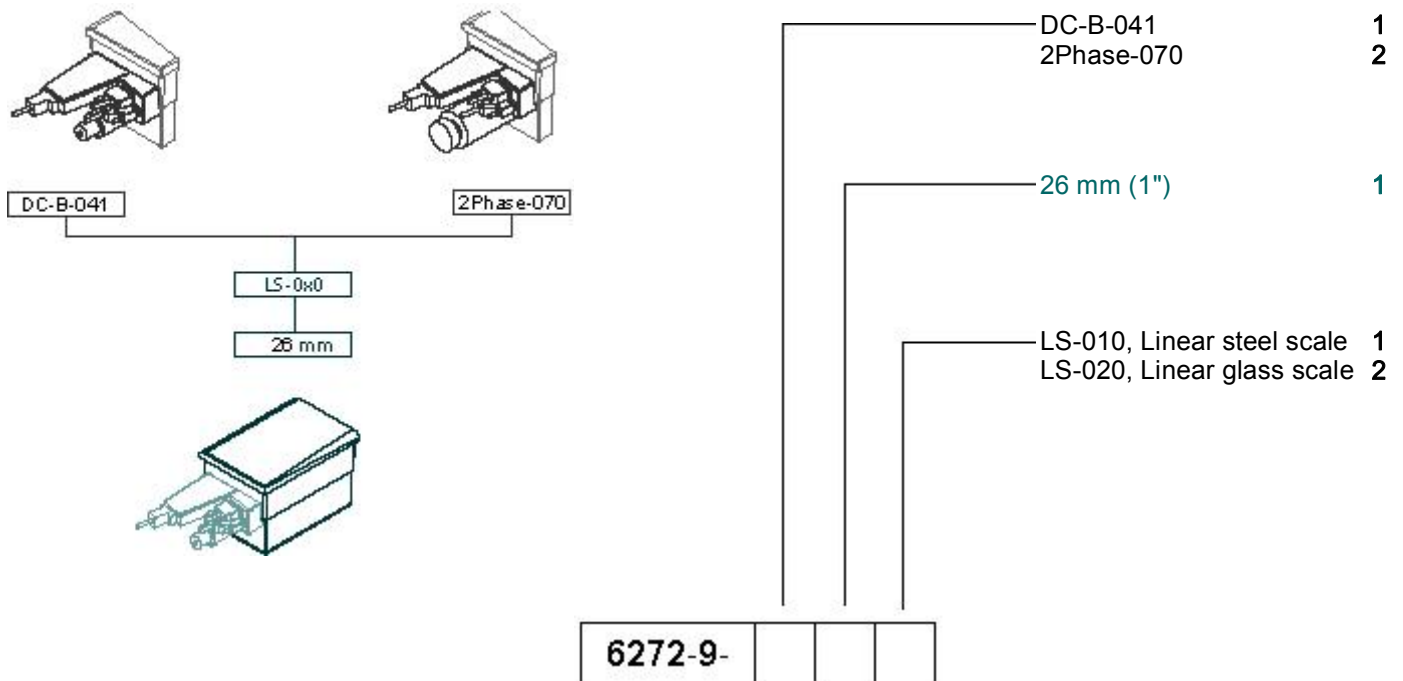


2Phase-070

UPL-160 Base

[!\[\]\(5361750c22c4e047a52f4eac1ec2d4cc_img.jpg\)
Download PDF](#)





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