

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

◀◀ 4.040 ▶▶

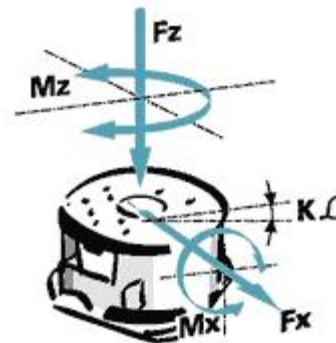
Ultra Precision Rotation Stage UPR-160 F AIR

Direct Drives



Key features

- High precision Toroid air bearings (patented 44.01262.4-09)
- Free center hole 28 mm diameter
- High stiffness
- Torque motor
- Flatness < 0.1 μm
- Eccentricity < 0.1 μm
- Wobble < 2.5 μrad
- Repeatability 0.0002°
- Angular scale
- Speed up to 360°/sec
- Load up to 5 kg
- Clean room compatibility
- [Download PDF data sheet ...](#)



FACTS

Load Characteristics	F _x (N)	F _z (N)	M _x (N)	M _z (Nm) (Peak)	M _z (Nm) (Con.)	ka ($\mu\text{rad}/\text{Nm}$)
TM-010	20	50	25	5.89	0.97	-

DESCRIPTION

Air-bearing Ultra-Precision-Rotation Stages of the structural series **UPR-160 F AIR** and UPR-300 AIR are utilized wherever a maximum of quality concerning running and positioning

A special, new developed Toroid-air bearing (patent applied) guarantees more stiffness. Standard Rotation Stages UPR-160 F AIR are standard equipped with optional angular

accuracy is requested. UPR-160 F AIR Rotation Stages are mainly employed for measuring-, calibrate-, inspection systems and they are perfectly suited for mask exposition in semiconductor technologies. All Rotation Stages UPR-160 F AIR are directly driven by a torque motor.

systems. Standard resolutions up to 0.0002 can be achieved. All Ultra-Precision-Rotation Stages UPR-160 F AIR are equipped with a contactless reference- and limit switch.

Technical data

Rotation Range (°)	360, endless
Worm Gear reduction	-
Accuracy (°)	+/- 0.002776
Repeatability (°)	+/- 0.0002
Reversal Error (°)	-
Velocity Range (°/sec)	0.02 ... 360
Flatness (µm)	+/- 0.05
Eccentricity (µm)	+/- 0.05
Wobble (µrad)	+/- 1.25

Speed max. (°/sec)

TM-010	360
--------	-----

Resolution Closed-Loop (°)

AE-050, Angular scale (50-times interpolation)	0.0002
--	--------

Winding Constant

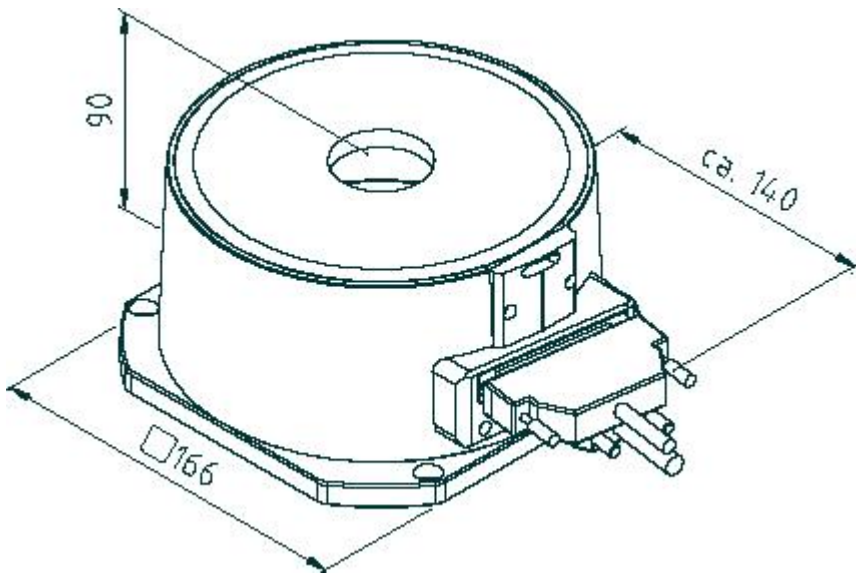
Torque constant (Nm/Ams)	-
Back EMF constant, peak value V/(rads/sec)	-
Electrical resistance at 80° (Ohm)	-
Electrical inductance (mH)	-
Continuous current at 80° (Ams)	-

Compressed Air compare DIN ISO 8573-1

Leakage rate (L/min)	19 ... 22
Compressed Air range (bar)	4.5 ... 5.5

Material	Special Aluminium, black anodized
Weight (kg)	6

Note: Flatness < 0.1 µm, Eccentricity < 0.1 µm and Wobble < 2.5 µrad based on bearings (not rotation platform)



[Download PDF](#)

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

UPR-160 F AIR Ordering information

Ultra Precision Rotation Stage	Order-No.
UPR-160 AIR	6825-9-100

Ultra Precision Rotation Stage AIR options		Order-No.
Air Supply compare DIN ISO 8573-1 Compressed Air	Technical data: Particular size Class 1 Contained Oil Class 1 Condensing point Class 2-3	 K700-4-001
Air Checker	Pressure Sensor with motor disable	7160-9-123

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. ▶▶