

# ADRH 100

## Brushless, Slotless, Direct-Drive, High-Speed Rotary Stage

Low profile for space-conscious applications

Direct-drive, brushless, slotless servomotor

Direct-coupled, high-accuracy rotary encoder



Aerotech's ADRH 100, with its compact profile and high speed, direct-drive rotary motor, provides a compact alternative to traditional high-speed rotary spindles.

### Compact Package

The ADRH 100 rotary stage's low-profile design was made possible by Aerotech's strong engineering capabilities and extensive experience in manufacturing high-speed rotary stages. From a proprietary motor design that is based on Aerotech's standard S-130 series motors, to a structural design based on the latest rotary stage technologies available, the ADRH includes best-in-class design components.

### Brushless Direct-Drive

The ADRH 100 uses direct-drive brushless motor technology to maximize positioning performance. Direct-drive technology is optimized for 24/7 production environments as there are no brushes to replace and no gear trains or belts to maintain. Direct drive also provides quicker acceleration and higher top speeds than gear- or belt-driven mechanisms, yielding higher overall throughput. The low maintenance and high-speed characteristics of the ADRH 100 provide a stage that yields the lowest total cost of ownership.

### Accurate Positioning

The ADRH 100 offers superior performance for high-accuracy applications with synchronous error motions  $\leq 2 \mu\text{m}$ , and asynchronous error motions  $\leq 4 \mu\text{m}$ . The high-performance motor and rotary encoder are directly coupled to a common shaft. The absence of gear trains and mechanical couplings mean no position errors caused by hysteresis, windup, or backlash.

### OEM Version for Application Flexibility

An OEM version is available for applications requiring integration into a custom machine. The OEM version offers the same performance characteristics as the standard stage, but allows the user to eliminate or modify different characteristics of the stage. For example, the user can provide their own cable management system or customize the mounting holes.

### Flexible Configurations

Aerotech manufactures a wide range of servo amplifiers and advanced controllers to provide a complete, integrated package.

## ADRH 100 SPECIFICATIONS

ADRH 100		
Tabletop Diameter		104.8 mm
Motor Type		S-130-39-B
Continuous Current, Stall	A <sub>pk</sub>	7.6
	A <sub>rms</sub>	5.4
Bus Voltage		320
Feedback		Directly-Coupled Rotary Encoder
Resolution		3.6 arc sec
Max Rotary Speed		2500 rpm (unloaded)
Maximum Load	Axial	400 N
	Radial	200 N
Inertia	Unloaded	0.002828 kg-m <sup>2</sup>
Synchronous Error Motion	Radial	2 μm
	Axial	2 μm
Asynchronous Error Motion	Radial	4 μm
	Axial	2 μm
Tilt Error		73 μrad (15 arc sec)
Total Mass		7.0 kg
Finish	Tabletop	Clear Anodize
	Stage	Black Anodize

## ADRH 100 ORDERING INFORMATION

### Ordering Example

<b>ADRH 100</b>	<b>-RE3600AS</b>
	<b>Encoder</b>
	-RE3600AS

### ADRH 100 Direct-Drive Rotary Stage

ADRH 100 High speed, direct-drive rotary stage

### Encoder

-RE3600AS Rotary encoder with 3600 lines/rev; fundamental AS output