



Hexapod Photonics Alignment Solution **HEX150-140HL**



Precise 6-DOF Motion in a Compact Platform

Our HEX150-140HL provides six degree-of-freedom (DOF) precision nanometer alignment for photonics applications. Test and assembly applications can easily be accomplished with our advanced Automation1 control platform.

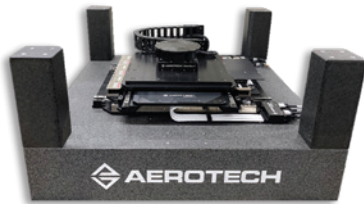
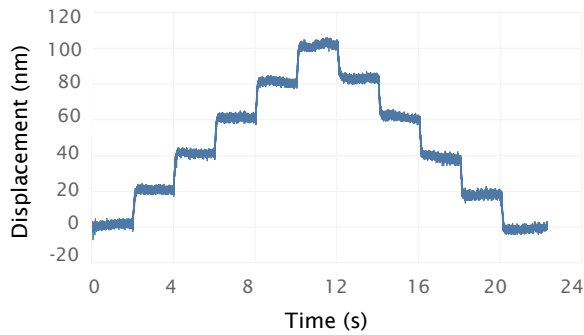
With the HEX150-140HL, you'll see significantly better minimal incremental motion and linear travel range than you'll find elsewhere—all in a compact yet stiff platform. The combination of small size and high payload capacity gives you design flexibility, while our performance means you know you're getting consistent, reliable six-DOF alignment every time.

Accelerating Your Lab to Fab Journey

We're a full automation partner, offering products, subsystems, full systems and engineering services to meet your needs. Our advantage is providing ultra-high precision lab systems with production-level speed, ready for your photonics process development.

Key Features:

- ◆ Delivers **INDUSTRY-LEADING MINIMUM INCREMENTAL MOTION** of 20 nm in XYZ & 0.04 arc sec in $\theta_x\theta_y\theta_z$
- ◆ Available with **FULLY AUTOMATED ROUTINES** able to handle complex single, dual & array fiber alignments
- ◆ Integrates **HIGH RESOLUTION ANALOG INPUT** for optical power meter directly into alignment process
- ◆ Makes motion at the probe tip **EASY TO CONTROL & PROGRAM** with virtual pivot point
- ◆ **COORDINATES MOTION EASILY ACROSS YOUR COMPLETE SYSTEM** of wafer, electrical probe, microscope & assembly tooling positioners



Industry-leading performance

The HEX150-140HL hexapod system expands our high-performance leadership in the photonics industry, joining our photonics alignment and FiberMaxHP systems. With 20 nm minimum step, 5 nm in-position stability and closed loop 20 kHz servo control, the HEX150-140HL is unmatched in terms of performance and reliability.

User-friendly precision motion control

Our Automation1 platform is the most user-friendly interface available for precision motion control. Tools like our Machine Setup wizard take the complexity out of the precision servo tuning required in photonics for high precision and stability in alignment processes.

Accelerate your lab to fab journey

Complete your photonics automation system with additional motion solutions for wafer and die positioning as well as microscope and process tooling automation. Aerotech solutions have the flexibility and performance of lab-based systems with 24/7 production reliability.

Complete your system with Aerotech partners

Process development and system integration are complex. We've partnered with EXFO and EHVA Photonics to offer a variety of complete testing and assembly solutions for your photonics process.

HEX150-140HL SERIES SPECIFICATIONS

Mechanical Specifications		HEX150-140HL					
Axis		X	Y	Z	A (θx)	B (θy)	C (θz)
Travel ⁽¹⁾		40 mm	40 mm	16 mm	16 deg	16 deg	40 deg
Resolution (Minimum Incremental Motion)		20 nm	20 nm	20 nm	0.04 arc sec	0.04 arc sec	0.04 arc sec
Bidirectional Repeatability, pk-pk ^(2,3)		±1.5 μm	±1.5 μm	±0.4 μm	±3 arc sec	±3 arc sec	±3 arc sec
Unidirectional Repeatability, pk-pk		±0.75 μm	±0.75 μm	±0.15 μm	±1.5 arc sec	±1.5 arc sec	±1.5 arc sec
Maximum Speed ⁽⁴⁾		20 mm/s	20 mm/s	8 mm/s	10 deg/s	10 deg/s	30 deg/s
Load Capacity, All Positions ⁽⁵⁾	Vertical	7.5 kg					
	Horizontal	2 kg					



Reference our HEX150-140HL data sheet for full specifications and note details by using the QR code or visiting us at:

AEROTECH.COM