

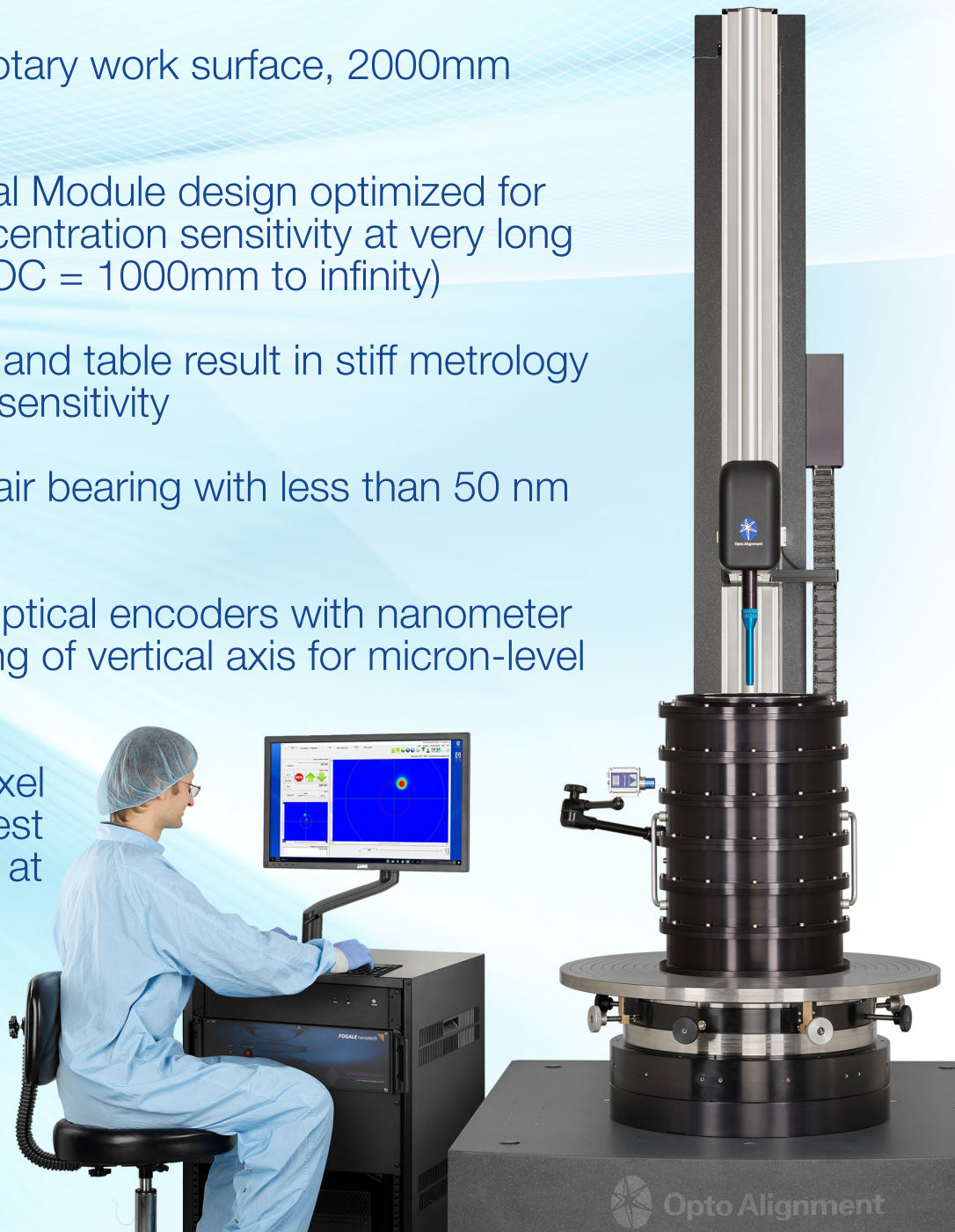


Opto Alignment

LAS-XUP™

Meter-Class LAS for Precision Assembly and Inspection of Large Diameter, Long Radius Optics

- 600mm to 1000mm rotary work surface, 2000mm vertical stage
- State-of-the-art Optical Module design optimized for exceptionally high tilt/centration sensitivity at very long radius of curvature (ROC = 1000mm to infinity)
- Cored granite column and table result in stiff metrology loop with low thermal sensitivity
- Highest quality rotary air bearing with less than 50 nm run-out / wobble
- Ultra-high-resolution optical encoders with nanometer interferometric mapping of vertical axis for micron-level position accuracy
- Large-format, small pixel camera provides highest sensitivity to small TIR at large ROC
- Custom objective for measuring alignment of mirrors with holes



Designed and Built in the USA



SPECIFICATIONS:

- Red (660nm) and Green (520nm) pigtailed diode lasers with single mode optical fiber transport from external Light Generation Module (LGM) to Optical Module (OM) on vertical stage
- Latest-generation aspheric focusing and re-imaging optics
- State-of-the-art 12 megapixel ultra-small-pixel CMOS camera for best sampling of image
- 2000mm vertical linear focusing movement with multi-speed stepper motor and micron accuracy encoders (error mapped)
- Ø600mm rotary air-bearing with integrated Ø600mm x/y/tip/tilt table
- Ø800mm to Ø1000mm top plate for extra-large optics/housings
- CalcuLens™ Assembly software for measuring alignment errors of single lens, cemented doublets & triplets
- Centration accuracy: $0.2\mu\text{m}$ @ $\text{ROC} \leq 10\text{m}$
- Tilt accuracy: 0.5 arcsec @ $\text{ROC} \geq 10\text{m}$
- Maximum axial load capacity ~ 2000lb (907Kg)
- System Weight ~ 6200lb (2812Kg)
- System dimensions 79"x59"x130" (2000x1500x3300mm)

OPTIONS:

- SWIR (1550nm), MWIR (4.05 μm), LWIR (9.15 μm)
- CalcuLens™ Inspection software for measuring in-stack (embedded) lens alignment values
- CalcuSurf2D™ real-time TIR dial and profiling software. Can be interfaced with $0.1\mu\text{m}$ resolution contact lever probe or new non-contact chromatic confocal distance measurement sensor.
- LAS-Vertex/ROC™ add-on software & hardware for the measurement of lens center thickness and air gaps at $\pm 2.5\mu\text{m}$ accuracy (20mm to 50mm measurement range)
- LAS-DMI™ low-coherence SWIR interferometer for the measurement of lens center thickness and air gaps at $\pm 1\mu\text{m}$ accuracy (200mm to 600mm measurement range)

