

LAS-XUP™ Meter Class, Ultra Precision

INCLUDES:

- Green (520nm) and Red (660nm) 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/tilt table
- Ø800mm top plate for extra-large optics/housings
- CalcuLens™ Assembly software for measuring alignment errors of single lens, cemented doublets & triplets
- Centration accuracy: 0.2µm
- Tilt accuracy: 0.5 arcsec
- Maximum axial load capacity ~ 2000lb (907Kg)
- System Weight ~ 6200lb (2812Kg)
- System dimensions 79"x59"x130" (2000x1500x3300mm)
- System Requirements:
 - Compressed air, pressure: 60PSI (0.004bars)
 - Dry air: 40 Dew point
 - Filter: ±0.005mm
 - Air flow: 4 ft³/min (0.113 m³/min)
 - Electrical rating: 120/240V 50/60Hz @ 1Amp

OPTIONS:

- Additional wavelengths: Blue (450nm), NIR (850nm/940nm), SWIR (1550nm), MWIR (4.05 µm), LWIR (9.50 µm)
- Larger rotary air bearing: Ø800 mm
- Extended rotary worktable for larger optics/housings: up to Ø1000 mm
- Extended vertical travel: 3000 mm
- Motorized rotary air bearing
- Custom lens and housing holding fixtures
- CalcuLens™ Inspection software for measuring in-stack (embedded) lens alignment values
- CalcuSurf2D™ real-time profiling/gauging software with 0.1 µm precision USB lever probe for aligning housings and lenses with rotary axis. Non-contact probes also available.
- LAS-DMI™ low-coherence SWIR Distance Measurement Interferometer for the measurement of lens center thickness and air gaps over a 200mm range at ±1 µm accuracy (±0.1 µm accuracy and 600mm measurement range options also available)
- LAS-Vertex/ROC™ autofocus-based vertex height measurement at ±2.5 µm accuracy for the measurement of air gaps during assembly, lens center thickness and air gaps of cemented or air spaced doublets/triplets (< 50mm stack height), and single lens ROC (0.05% accuracy)
- LAS-ATM™ Aspheric Tilt Measurement of aspheric surfaces
- LAS-IAM™ Image Analysis Measurement (on-axis MTF, EFL & beam deviation) in transmission
- LAS-SPM™ Surface Profiling of single lens/mirror surfaces at 20nm resolution and 200 nm accuracy

Largest Lens
Alignment System
Available



CalcuSurf 2D™ v2.0
Profiling software for
LAS™ stations with USB
integrated electronic
contact probes



CalcuLens™ v2.8
Alignment Software
for LAS™ Stations

Laser Alignment and Assembly Station™ (LAS™)

Options Matrix

	● Standard ○ Option	LAS-BT	LAS-P	LAS-UP	LAS-XUP	
Light Source						
Blue Laser @ 450nm	○	○	○	○	○	
Green Laser @ 520nm	●	●	●	●	●	
Red Laser @ 660nm	○	●	●	●	●	
NIR Laser @ 850nm/940nm	○	○	○	○	○	
SWIR Laser @ 1.55µm	○	○	○	○	○	
MWIR Laser @ 4.05µm	○	○	○	○	○	
LWIR Laser @ 9.50µm	○	○	○	○	○	
Detector						
Visible camera (1600 x 1200)	●	●	●	●	●	
Large-Format Visible Camera (2500 x 2000)	○	○	○	○	●	
Infrared camera (640 x 480)	○	○	○	○	○	
Air-bearing, (vacuum through)						
Air-bearing Ø100mm (optional Ø150mm work table)	●					
Air-bearing Ø150mm (optional Ø200mm work table)			●			
Air-bearing Ø200mm (optional Ø300mm work table)			○			
Air-bearing Ø300mm (optional Ø400mm work table)				●		
Air-bearing Ø400mm (optional Ø600mm work table)				○		
Air-bearing Ø600mm (optional Ø800mm work table)					●	
Air-bearing Ø800mm (optional Ø1000mm work table)					○	
Tip/tilt/x/y stage	●	●	●	●	●	
Rotary Encoder	●	●	●	●	●	
Motorized Air-bearing	●	○	○	○	○	
Maximum Axial Load Capacity		57Kg	226Kg	454Kg	907Kg	
Measuring Head						
Single Objective for Spheric, Aspheric, Cylindric Surfaces	●	●	●	●	●	
Range of Lens Radii						
± 0.5mm to Plano	●	●	●	●	●	
Measurement Assessment						
Live Orbit Image on Monitor	●	●	●	●	●	
Software Numerical Data Display	●	●	●	●	●	
Angle Measurement (accuracy in arc seconds)	0.5	0.5	0.5	0.5	0.5	
Centration Measurement (accuracy in microns)	0.2	0.2	0.2	0.2	0.2	
Measurement Head Linear Processing						
Automatic PC Controlled (variable speed)	●	●	●	●	●	
Linear Travel	● (533mm) ○ (633mm)	● (1000mm) ○ (1250mm) ○ (1500mm)	● (1250mm) ○ (1500mm) ○ (2000mm)	● (2000mm) ○ (3000mm)		
Measurement Modules						
CalcuLens™ Assembly (measure single lens)	●	●	●	●	●	
CalcuLens™ Inspection (measure alignment in stack)	○	○	○	○	○	
Low-Coherence Center Thickness & Air-Gap (±1µm accuracy)	○	○	○	○	○	
Vertex Height Measurement (± 2.5µm accuracy)	○	○	○	○	○	
Aspheric Tilt Measurement (± 2 arcsec accuracy)	○	○	○	○	○	
Image Analysis Measurement (MTF, EFL, etc)	○	○	○	○	○	
Structural Material						
Granite Base; Granite Column	●	●	●	●	●	



LAS-BT



LAS-P



LAS-UP



LAS-XUP

Opto Alignment-USA

1034-A Van Buren Avenue
Indian Trail, NC 28079-5541

T: 704-893-0399

F: 704-893-0403

sales@optoalignment.com

www.optoalignment.com

SPIE Corporate Member

