High Precision Optical Assembly Starts Here

Laser Alignment and Assembly Station

OPTO-ALIGNMENT TECHNOLOGY, INC.
Increase the precision and productivity of your optical assembly and inspection

- Non-contact measurement and alignment with instant results
- Dozens of applications including optical assembly, inspection of optical and mechanical runout, radius of curvature and more
- Little space required for compact table-top design
- 250 pound granite base with isolation feet for stable, repeatable measurements
- Rigid vertical column with precise stepper motor-controlled focusing
- Clean room compatible
- Modular optical sensing head, air bearing and vertical linear stage available for easy integration into existing equipment

The Model LAS-001 Laser Alignment and Assembly Station from Opto-Alignment Technology is a compact, non-contact bench-top instrument that will improve the quality of assembly and inspection of your precision and ultra-precision multi-element lens assemblies.

Packed with high performance features

The Laser Alignment Station is designed for fast set-up and ease of use. The visible diode laser beam measures tilts as small as 2 arc seconds by reflection from radii of curvature of ±5 mm to infinity, and provides centration accuracy (linear) of less than 0.5 microns. The compact optical sensing head moves easily on a rigid vertical column with optical joy stick-controlled stepper motor, and handles virtually any size lens assembly up to 300 mm vertex-vertex...ideal for cementing spherical and cylindrical achromats(doublets) and triplets with precision mounting of glass and crystal optical components, or for potting subassemblies and assembling entire lenses. Brass mounting chucks are available to accommodate lenses from 2 mm to 160 mm, and the system handles coated and uncoated lenses with equal ease.

Designed for a production environment

The Laser Alignment Station is built to live in your production facility or clean room and deliver increased productivity every day, all day. Features a rock-solid granite base, precise stepper motor optical head drive, high precision air bearing with integral tip-tilt and X-Y adjustment and vacuum or mechanical lens locking. Controls are easy to locate, simple to learn and use, with results instantly visible on the 9 inch video monitor. Clean room compatible with enclosed vertical linear positioning rail, standard oil-less venturi vacuum pump, and a complete absence of oil mist or heat.

The Laser Alignment Station is easy to

Stepper motor control for accurate focusing. An optional linear encoder is also available for even more precise control.

The three-speed joy stick makes positioning the optical sensing head a snap.

The air bearing features integral tip-tilt and X-Y controls plus vacuum lens hold-down.
The Laser Alignment Station is available in two versions. The LAS-001 features a motorized air bearing and joy stick control for the optical sensing head, while these convenience features are optional on the LAS-101. And all major components - optical sensing head, vertical linear stage and air bearing - are available separately for easy integration into your existing optical assembly and inspection equipment.

### Options add even more versatility to your alignment station

A variety of options and accessories are available for both models of Laser Alignment Station, allowing you to customize your instrument for your specific tasks and manufacturing environment. Brass chucks and motorized air bearings are available in a selection of diameters to match a variety of lens sizes. Several different light sources are also available. A linear encoder can be added to the stepper motor to provide even more precise positional control, if required.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration Isolation Bench</td>
<td>020267</td>
<td>29&quot;x24&quot;x24&quot; HWD</td>
</tr>
<tr>
<td>Brass Chucks</td>
<td>01085B-001-005</td>
<td>1.00&quot;–6.00&quot;</td>
</tr>
<tr>
<td>Motorized Air Bearing</td>
<td>020266</td>
<td>4&quot; &amp; 6&quot; dia.</td>
</tr>
<tr>
<td>Electronic Indicator w/+0.1μ res.</td>
<td>020268</td>
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<tr>
<td>Auto Fluid Dispenser</td>
<td>020269</td>
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<tr>
<td>Halogen Illuminating Light</td>
<td>020270</td>
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<tr>
<td>Portable UV Light</td>
<td>020271</td>
<td>---</td>
</tr>
<tr>
<td>Green Monochromatic Light</td>
<td>020272</td>
<td>---</td>
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<tr>
<td>Linear Encoder</td>
<td>020263</td>
<td>---</td>
</tr>
<tr>
<td>Oil-less Venturi Vacuum Pump</td>
<td>021028</td>
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</tbody>
</table>

### Two models meet a variety of needs

- **LAS-001**
  - Air Bearing: Standard
  - Motorized Air Bearing: Standard
  - Stepper Motor Positioning w/Joy Stick: Standard
  - Manual Positioning: Standard
  - Vacuum Hold-down: Standard
  - Granite Base: Standard
  - 9" Black and White Video Monitor: Standard
  - Compressed Air Regulator and Filter: Standard
  - Linear Encoder and Display: Optional
  - Oil-less Venturi Vacuum Pump: Standard
  - Air Dryer/Filter/Regulator: Standard

- **LAS-101**
  - Air Bearing: Standard
  - Motorized Air Bearing: Optional
  - Stepper Motor Positioning w/Joy Stick: Optional
  - Manual Positioning: Optional
  - Vacuum Hold-down: Standard
  - Granite Base: Standard
  - 9" Black and White Video Monitor: Standard
  - Compressed Air Regulator and Filter: Standard
  - Linear Encoder and Display: Optional
  - Oil-less Venturi Vacuum Pump: Standard
  - Air Dryer/Filter/Regulator: Standard

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*Compact optical sensing head includes visible diode laser and CCD camera. Adjustable limit switches allow quick set-up and positioning.*

*Motorized air bearing allows adjustable 1 to 20 rpm rotation.*

*A 9" Black and White monitor provides visible status of the centering process.*
Other Opto-Alignment Technology products and services to help increase your productivity and quality

Lens Handler™ integrates your cleaning, handling and assembly needs

Our Lens Handler Optics Preparation and Assembly Center integrates the cleaning, painting and installation of optical elements into a smooth, continuous cycle. A rotating Delrin™ vacuum spindle secures the optical element, freeing the operator’s hands for other work, and speeds are adjustable from 40 to 200 rpm. The vacuum pincette allows transfer and precise placement of optical elements without exposing delicate surfaces to scratching, nicks, fingerprints or other damage. A wide range of tooling is available to accept diameters from 1 to 300 mm. Features include convenient control panel, foot switch on-off, and built-in vacuum pump. Easy to use and clean room compatible.

Roto-Wand™ increases productivity, decreases cosmetic rejects

The Roto-Wand is a compact, bench-top instrument designed to handle small, delicate optics in assembly, coating and QA environments. The manually rotated wand eliminates hand soreness caused by tweezers or other tools, and allows cleaning, painting and accurate placement of components without danger of chips, scratches, fingerprints or other damage to fragile optical elements. The unit includes a powerful, adjustable internal vacuum pump and uses factory air or nitrogen. Comes with a selection of cup sizes to 10 mm and both straight and right angle wands. Clean room compatible and easy to use.

Precision optical assembly and inspection capability

We have in-house capability to assemble, test and inspect your optical sub-assemblies, from simple one or two-lens assemblies in a tube to much more complex mechanisms involving multiple lenses and other optical elements including mirrors, beam splitters, light sources, etc. When you need a little help putting your optical product together, please give us a call.

<table>
<thead>
<tr>
<th>Laser Alignment and Assembly Station Specifications</th>
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<tr>
<td>Height</td>
</tr>
<tr>
<td>Width</td>
</tr>
<tr>
<td>Depth</td>
</tr>
<tr>
<td>Weight</td>
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<tr>
<td>Power Required</td>
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<tr>
<td>Rotary Table Diameter</td>
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<tr>
<td>Axial Load on Rotary Table</td>
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<tr>
<td>Working Air Pressure for Air Bearing</td>
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<tr>
<td>Vertical Travel</td>
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<tr>
<td>Joy Stick Speed Ranges (Model LAS-001)</td>
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</tbody>
</table>

WARRANTY

The Models LAS-001 and LAS-101 are guaranteed for one year, limited to parts and labor only.

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