

Slide Handler

High Precision, High Throughput

The LEP Slide Handler system is designed to be simple, flexible, affordable and reliable. The complete system is tightly integrated achieving a complete slide handling solution with full features without complexity.

The simplicity of the slide transfer mechanism provides efficient, reliable slide loading. A single arm functions to pull the slide from the cassette to the stage and then return it with an opposite pushing motion. Once the slide is transferred to the stage it is located with a unique fixturing device for repeatable positioning and slide reloading in all axes. As the precision XY stage scans the slide, the transfer mechanism is completely clear of any interference with normal microscope function.

The Slide Handler system is built upon LEP MAC 6000 and BioPrecision2 technology. The MAC 6000 automation controller system supplies reliable performance that is expandable and configurable. The XY stage used in the Slide Handler system is based on BioPrecision2 technology to provide the highest performance. Together this flexible system architecture adapts to a wide range of microscopes with a primary focus on operator usability.

For applications where high precision is required all encoder options are available. Linear encoders provide the most accuracy and resolution with precision performance. Standard rotary encoders ensure reliability for unattended operation.

Powerful software commands ensure flexibility. Cassettes are configurable as input only, output only or input/output depending upon your specific requirements. Slides have random access selection. Peripherals such as barcode scanners and other sensors are easily interfaced with the MAC 6000 controller. With this flexibility the system is ideally suited for high volume screening, analysis, classification and review applications.

Of course, simply loading a slide to the microscope stage solves only part of the automation equation. Depending upon the specific application, other aspects of microscope control may need to be automated as well. The Slide Handler system can accommodate many microscope automation requirements for almost any microscope including programmable focus drives, filter changers and objective turret changers.



- *Universal compatibility*
- *Compact footprint*
- *50 slide capacity*
- *Patented* design*
- *High reliability*
- *Table-top design*
- *Expandable*
- *CE/UL Compliant*

**US Patent 6,847,481*

Slide Handler

System

- 470x360mm footprint
- 50 slide capacity
- 25 slides/cassette
- 1"x3" standard slides

MAC 6000 Controller

- Expandable
- Dedicated command set
- RS-232 / USB / Ethernet
- CE/UL compliant

Handler

- 210mm indexer range
- submicron indexer resolution
- submicron arm resolution
- 15sec. load/unload speed

Stage

- 100nm resolution
- 30mm/sec speed
- 100x75mm travel
- 0.25µm repeatability

System Configuration

Microscope Compatibility

Aspects of the Slide Handler are unique to specific microscopes. To ensure microscope compatibility, the LEP Slide Handler is adaptable to most upright microscopes. Consult an LEP representative of contact LEP directly for specific microscope information.

Standard Configuration

The standard configuration of the Slide Loader system is optimized with the MAC 6000 controller. This system takes advantage of the high performance of MAC 6000 microstepping motor drives and powerful programming features. A system can be expanded beyond XY positioning and slide loading to include focus control, filter changers, piezo focus, bar code readers and other accessories.

Optional Configurations

While the standard configuration addresses most requirements, there may be situations where something different is required. To address these applications LEP offers the Slide Handler system in configurations with different motor and controller options to meet almost any integration requirement. The slide loader can be supplied with either stepper or DC servo motors on any axis. Additional sensors can be included as well.

Performance Characteristics

STAGE	Rotary Encoder	Linear Encoder
Resolution	100nm	100nm
Leadscrew Pitch	1mm	
Max. Speed	30mm/sec.	
Repeatability	0.60µm	0.25µm
Accuracy	6µm	2µm

SYSTEM

Transfer time	15 seconds, slide to slide
Reliability	300000 slides MTBA
Placement Repeatability	<5µm
Footprint	Less than 50cm of bench space

MAC 6000 CONTROLLER

Power	90-250VAC 50/60Hz 150w
Base Dimension	150mm x 203mm x 62mm
Compliance	UL 61010A-1, CE, CSA, RoHS
Interface	RS-232 / USB / Ethernet



The MAC 6000 system is compliant with EU Directive 2002/95/EC for removal of hazardous substances (Pb, Hg, Cd, Cr(VI), PBB and PBDE). Ludl Electronic Products is committed to producing products that are environmentally friendly. We will continue to make it our responsibility to take an active role in conservation and protection of resources.

Ludl Electronic Products Ltd. • 171 Brady Avenue, Hawthorne NY 10532 • 888-769-6111 • sales@ludl.com