SmartFinish for Digital Laser Finishing

Engineered by LasX

SmartFinish STS

Sheet-to-sheet digital laser finishing

LasX's SmartFinish Sheet-to-Sheet (STS) is ideal for precision through-cutting, kiss-cutting, and perforating full-sheet materials. Expandable features optimize your initial equipment investment.

SmartFinish

SmartFinish STP

Sheet-to-part digital laser finishing with automated robotic part handling

LasX's SmartFinish Sheet-to-Part (STP) system combines the versatility and precision of laser finishing with time-saving automated robotic part handling. The laser is tightly integrated with the robot, using a single job file to drive both systems.

SmartFinish

Sheet-Fed Digital Laser Converting with SmartFinish

STS. Re-envision your manufacturing.

Change “business as usual” print finishing with the SmartFinish STS sheet-to-sheet laser processing system. This comprehensive system combines custom laser cutting, scoring, and perforating with instant job changeover technology that eliminates the need for costly mechanical dies and expensive set-up times. Create affordable “run of one” samples or prototypes, or perform profitable short runs of ultra-complex processing of full-sheet papers, paperboard, plastics, and acrylics at remarkable production speeds.

The SmartFinish STS features single- or dual-camera systems and patented material handling technology for precision cut-to-part registration and transfer of complete piece parts. The system can be integrated with commercial and packaging printers to create a complete, in-line digital workflow from start to finish. A variety of options are available to enhance functionality and optimize your initial equipment investment.

STP. Transform your secondary processing.

The SmartFinish STP combines the versatility and precision of STS laser processing with the convenience and time savings of automated robotic part handling. The tightly integrated high-speed robot performs dynamic part handling based on saved job parameters and is controlled by LasX's patented LightGuide software to remove processed parts from the scrap, then stack, sort, rotate, and/or shingle them as instructed. The SmartFinish STP features a vacuum conveyor capable of processing sheets up to 610mm (24”) wide and unlimited length at speeds up to 60m/min (200ft/min). The SmartFinish STP can be easily added to new or existing digital printing systems to optimize your printing investment with a completely digital workflow.

SmartFinish Features & Options

Key features

- Integrated material handling robot separates scrap and processes finished parts (STP only)
- Continuous “on-the-fly” laser processing
- Cut, score, perforate, and etch materials in a single system
- Precise cut-to-print registration with single and dual- camera vision systems
- Patented stainless steel vacuum conveyor precisely and automatically secures sheets through processing area
- Patented, 4th-generation laser controller optimizes performance
- Instant order change via job queuing or vision systems
- Intuitive LightGuide software interface streamlines job prep
- Process sheets up to 508mm (20") wide and infinite length or Process sheets up to 610mm (24”) wide
- Expandable to second laser immediately or in the future
- Laser power ranges from 250W to 1000W
- Expected 20,000 operating hours before refurbishing
- Integrates into new or existing sheet production systems

Options

- Roll-fed integration
- Additional laser for multiple processing and/or faster throughput
- Robotic integration for automated material handling (STP only)
- Additional camera for automated SKU correction
- Automatic camera for easy change of print registration positions
- Custom conveyor output configurations per customer request
- Sheet chute or conveyor to remove material
- Reverse-side registration for processing opposite side of sheet
- Ripping engine prepares artwork for automated workflow

Vision system *(above)* triggers job change and maintains registration. Roll feed *(right)* helps optimize digital converting investment.

SmartFinish Product Information

Laser technology

Laser Module Type: Sealed CO2

Output Power: 250W/400W/1000W

Power Range: 10% of max – 250W/400W/1000W (up to 2000W with 2 laser modules)

Laser Life: Expected 20,000 operating hours before refurbishing

Number of Modules: 1-2 (option to add 2nd module now or in the future)

Material

Material Handling: Patented stainless steel vacuum conveyor; automated; high-speed robot (STP)

Material Type: Paper, paperboard, PET, acrylics

Width/Length: up to 610mm (24”) wide /any length

Physical specifications

Size (L × W × H): 2600mm × 2070mm × 2037mm (101" × 82" × 80")

Weight: 1220kg (2700lbs)

Typical system requirements

250W, 400W: 208 to 240VAC, 3-phase, 50/60Hz, 55 FLA

1000W: 480VAC, 3-phase, 50/60Hz, 90 FLA

Chiller: 460VAC, 3-phase, 60Hz, 15 FLA

Compressed Air Flow: 85L/min @ 550kPa (3.0ft3/min @ 80psi)

Exhaust Airflow: H20: 127mm (5"): 40m3/min @ 12 millibars (1400ft3/min @ 0.17psi)

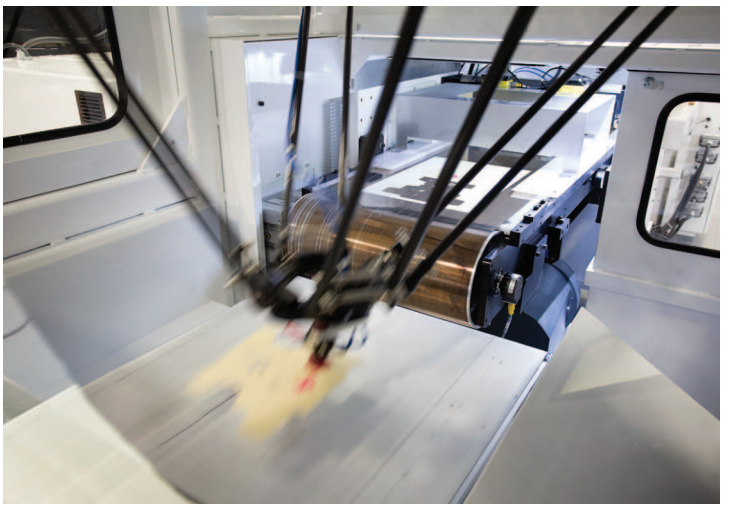
Exhaust Connection: 200mm (8") diameter

Safety

Class I Safety Enclosure: Per 21 CFR 1040.10; meets federal safety requirements

SmartFinish

Automated Material Handling with SmartFinish



Integrated robot executes variable part handling based on job parameters. Finished parts can be sorted, stacked, or shingled. Custom conveyor output configurations are available per customer request.

QR code-driven workflow

The automated part handling system for SmartFinish saves a significant amount of time by using a high-speed robot to remove processed parts from scrap, then efficiently stack, sort, rotate, and/or shingle each finished part as defined in the job parameters. Multiple conveyor belts can be configured to send different parts to different stations depending on production needs. Operation of the laser, processing belt, and robot are coordinated through LasX's LightGuide software interface to synchronize the workflow.
Two robot models are available:

- LR - Linear pick-and-place
- HR - High-speed pick-and-place

Robot end effectors

Single, multiple, and programmed custom effectors are available to meet specific application requirements.

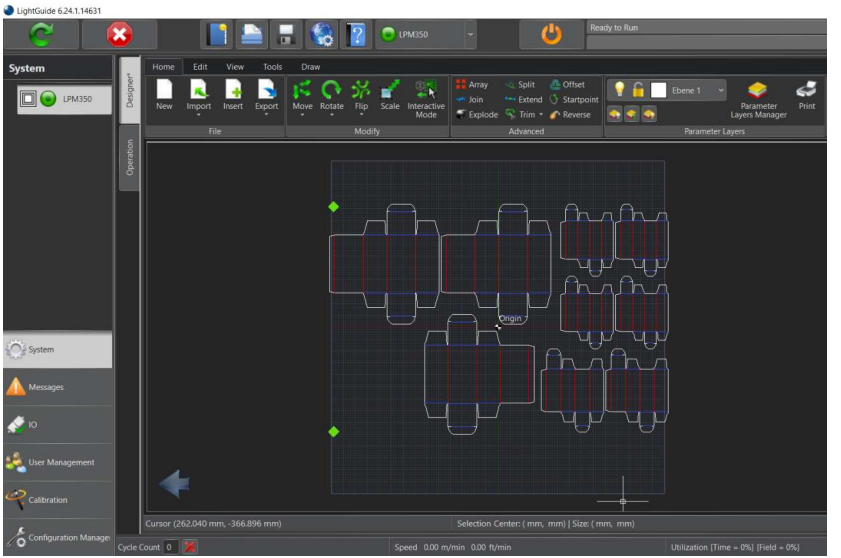
LightGuide® Laser Control Software

Simplify processing. Maximize productivity.

From simple “Load-and-Go” jobs to complex, multi-process workflows, LightGuide is LasX's intuitive software interface that uses customer-defined pattern files to guide laser processing. This powerful, yet easy-to-use software saves time and money at every stage of the production process, from file preparation to automated material handling of finished parts.

LightGuide directly imports common software formats -- .dxf, .pdf, .dwg, .jpg, and .tif – and provides editing tools without the need for source files. Independent control of multiple laser modules allows you to run different patterns on each laser module or combine crossweb and straight line downweb processing modes to leverage scalability while increasing productivity and throughput.

LightGuide’s flexible modular design lets you customize the software as needed for your specific application requirements. Modules are available for design manipulation, material handling, vision system controls, process parameter adjustments, monitoring system, and equipment health and status.



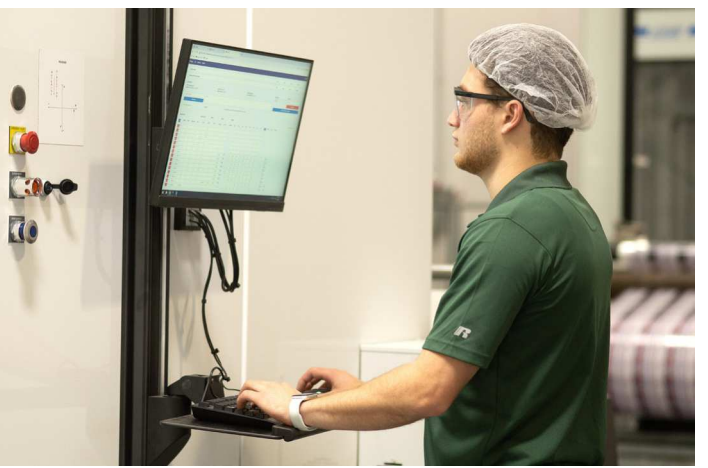
Comprehensive process control

- Directly imports and edits user-defined pattern files
- Independently controls multiple laser modules
- Directly communicates job parameters to laser controller
- Instantly loads saved job recipes via printed QR codes
- Modify pattern files without source files
- Real-time vision system registration
- Customizable process flow for enhanced productivity
- Controls robot functions (pick point, finished part sorting, stacking, or shingling)

Additional features

- Intuitive, extremely easy-to-use operator interface
- Modular platform – add functionality as your needs change
- System management tools:
  - o Stores job “recipe” files
  - o Manages operator permissions
  - o Displays active messages
  - o Maintains messages history / log
  - o Performs system diagnostics
  - o Monitors laser productivity

With LightGuide, all automation activities are on one screen!

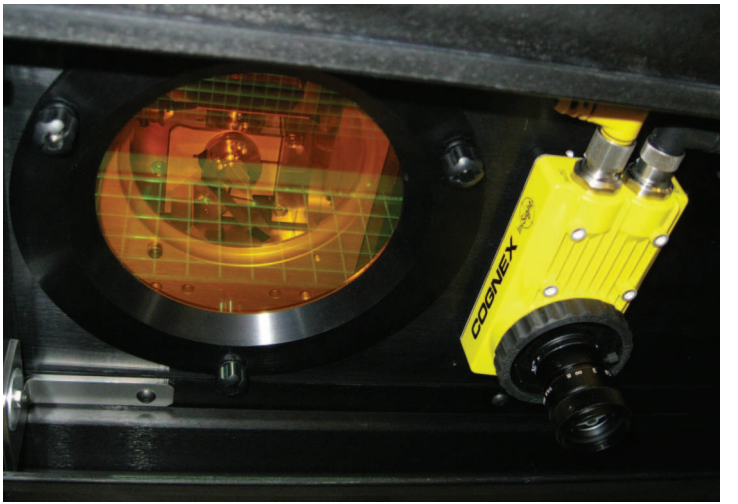


Advanced Vision Systems

Perfect registration. Every time.

LasX utilizes single- or dual-camera vision systems to scan preprinted QR codes and relay registration information and job identification to LightGuide for processing. When material alignment discrepancies are detected, LightGuide instantly and precisely adjusts the laser beam path to compensate for them.

When the cameras detect a new QR code, LightGuide instantly communicates the stored job parameters for that job to the laser controller for processing. “On-the-fly” instant job changeover is achieved at production speed with full confidence that the first item off the line is as perfectly registered as the last piece from a previous production run.



Our automated vision system enables the easy change of print registration positions.

Exceptional Service Solutions with ClearCut

We've got your back.

At LasX, we're committed to helping you protect your equipment investment with our ClearCut planned service contracts and prompt, professional response should the need arise. Our standard service number is available to all customers during regular business hours and a 24-hour service hot line is available with service contracts. Both are in place to put you in contact with a highly trained LasX service technician in a timely manner.

While basic troubleshooting can solve some problems by phone or remote session, more complex solutions may require an on-site service call. Rest assured our technicians do everything necessary to minimize system downtime and keep expenses in check.

ClearCut®
Service and Process Experts

In emergency line-down cases, our central locations in USA and Germany enable technicians to reach any destination within a few hours.

Achieve outstanding results with an industry-leading partner

Founded in 1998 in St. Paul, Minnesota, USA, LasX Industries delivers intelligent laser processing solutions for the changing and growing needs of the manufacturing industry. Our dedicated team has developed the world's fastest, most accurate laser solutions to solve unique manufacturing challenges.

A recognized expert in laser digital converting solutions, LasX serves global customers from our locations in USA and Germany. Our commitment to you extends beyond the laser system. We build responsive relationships from the early process development, through the delivery of high-performance solutions that integrate with your workflows. Simply put, our laser experts are part of your team.

Today, LasX continues to push digital manufacturing technology to the next level. We continually explore new opportunities and products that support you on your journey of growth and respond to your evolving strategic objectives.

Ready to get in touch?

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