

FlexLaser II



FlexLaser III Features and Specifications

FlexLaser III system is the fastest through-beam laser cutting system in its class in industry with micron precision capability. It is benefiting from a unique high-resolution linear motor technology unparalleled to any other flatbed laser cutting system.

By running at incredibly high speeds over a large working area, **FlexLaser III** addresses the market need for a large-format, fast and extremely accurate laser cutting system where neither the conventional flatbed nor galvo-based systems could offer a solution.

FlexLaser III uses high quality laser drives and has advanced beam delivery and conditioning systems that guarantee very fine edge quality for a wide variety of materials processed by the system.

FlexLaser III features fully enclosed (Class 1) industrial laser cutting system designed with ultimate safety, accuracy, ease of operation, low maintenance and durability in mind. In its standard format, it is offered in 24" x 36" and 36" x 48" working area with a wide range of laser powers to economically fit any application. Customized formats and powers are also available.

FlexLaser III can be fitted with different wavelengths of lasers to best suit your applications. It is a perfect tool that can cut a wide variety of materials:

- Any polymer - acrylic, polycarbonate, polyester, polyimide, Kapton, styrene, polyethylene etc.
- Fiber Products - fiberglass, carbon fiber, Kevlar, paper, different fabrics, wood and wood composites
- Thin metals and metal alloys.

Versatile Table

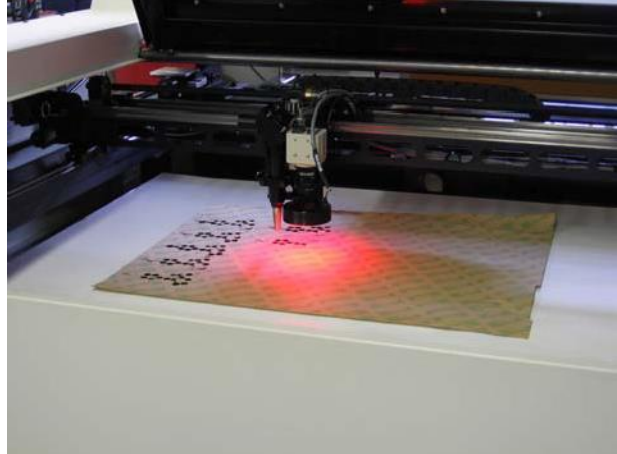
FlexLaser III is equipped with a versatile easy-to-clean vacuum table that eliminates time-consuming slag clean up after each cut on conventional flatbed systems.

Software

Most of laser-cutting systems on the market are based on standard plotter / printer drivers. Their software modules have serious limitations in their capabilities and functionalities. In contrast, FlexLaser family of machines run on user-friendly **FlexLaser** software platform that has been specifically developed for laser cutting applications, with simple to very challenging requirements. The software has many unique features including:

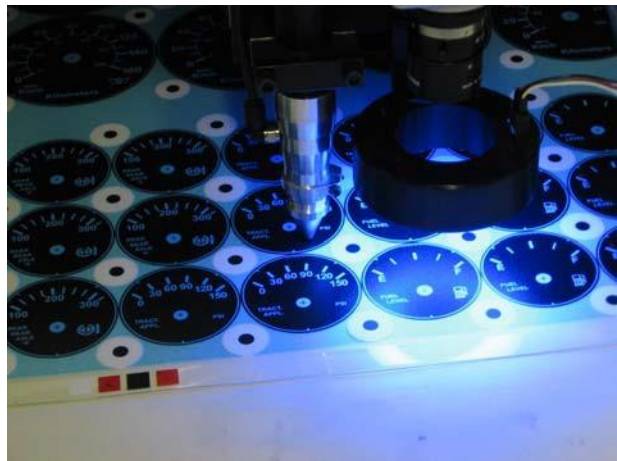


- Fine cut quality due to advanced motion control and laser power modulation;
- Different motion and laser power attributes for each group of objects;
- Ability to change power and motion parameters on the fly without wasting the current part being cut;
- Direct importation of files generated by standard CAD and many graphic environments;
- Material library for commonly cut materials for ease of set up;
- Matrix capability;
- Standard integrated vision for registration, cutting path verification and accurate coordinate measurement;
- Automatic fiducial alignment with multiple fiducial capability for automatic registration with displacement and rotational error compensation;
- Interaction ability with upstream and downstream systems in fully automated production lines; and
- Many diagnostic features.



Standard Vision Alignment

All **FlexLaser III** machines come equipped with vision alignment as a standard feature. Using this feature, the operator does not need to use tooling holes or guide edges to align the product prior to cutting. **FlexLaser III** vision automatically finds the programmed fiducials (targets) on the work piece and automatically calculates X-Y and rotational offsets and cuts the part with unparalleled precision. Most competitors offer vision as an expensive option.



Z-axis-moving lens

This standard feature provides automatic, fast and accurate adaptation of the optics to guaranty sharp and clean cuts for parts having different build ups (thickness) or to avoid obstacles on the substrate being cut.

Options

FlexLaser III can be equipped with the following options:

1) **Roll to Roll Option**

This unique option provides a very efficient way for processing of different jobs that allow the use of the feedstock in roll form. The machine automatically feeds the material into the working area, cuts the job and rewinds the processed parts on to the taken up roller on the other side of the machine.



2) **Top and Bottom Laminator Option**

The Roll to Roll option can be equipped with a Top and Bottom laminator feature that allows in-line lamination of adhesive and finishing film to overlays, prints, spacers, etc. as part of the in-line laser cutting process. This will eliminate off-line lamination process. The system features accurate automatic electronic tension control mechanism that consistently produces high quality laminates.

3) **Sheet-Feeder Option**

The Top and Bottom laminator option can also be equipped with an automatic Sheet-Feeder. The feeder can feed sheets of different materials into the laminator for further processing by machine in a roll-to-roll fashion.

4) **Parts Extraction Option**

This option can be installed on the Roll-to-Roll version of the machine, with or without Top and Bottom laminator. It will automatically transfer the cut parts into a collection bin, freeing up operator time to do other tasks.



Price Competitiveness

With sharing most of the framing and enclosure parts between FlexLaser II and FlexLaser III family of machines, Automation Alternatives have been able to reduce the cost of the FlexLaser III and offer it at a very competitive price range. With the two popular platform sizes and many power levels, an economical solution is available for almost any application.

Warranty and Support

FlexLaser III, like all Automation Alternatives' equipment, carry a one-year limited warranty for parts and 90 days for labor. Extended warranty is also available. Technical support is available on-site, via telephone or email.

Automation Alternatives' technical support team can be resourced at a time that best fits the customers' schedules. North and South American customers can be serviced in both Eastern and the Pacific Time zones. Automation Alternatives carry a complete inventory of all parts for its equipment which could be shipped next day.

Specifications

General		
Cutting Area	24" x 36" (600 mm x 900 mm) 36" x 48" (900 mm x 1,200 mm)	FL3-3624 Family FL3-4836 Family
Table type	Easy-to-clean with automatic slug removal	Also equipped with honeycomb for more elaborate cuts
Power and Cooling	10 W, 20 W, 40 W, 60 W; Air-cooled 120 W, 200 W, 300 W, 400W; Water cooled	Other power levels are also available.
Laser Type	No-maintenance sealed CO2	Other wavelengths as required
Power Control	Modulated in proportion to speed	No burning on corners
Focusing lens	Standard 2.5 inch (63.5 mm) - other options available	Equipped with assist gas jet nozzle
Enclosure	Fully enclosed Class 1	
Safety	Dual redundancy	
Control and Positioning		
Axis Type	Linear Motor	Long life with minimal moving parts
Maximum speed	250 ft / minute (80 m /minute)	
Repeatability	Better than 0.001" (0.025 mm)	
Accuracy	+/- 0.005 %	
Measuring units	Standard / Metric	
Hardware and Software Systems		
PC	Industrial rack-mount	Complete with 17" LCD monitor
Operating System	Windows 7	
Hand-held	User friendly with full motion and laser control capabilities	
Specialty Software	FlexLaser C/W integrated vision	
Vision	Integral vision with programmable tri-color illuminator for automatic fiducial alignment	

Specifications (continued)

Options		
Roll to Roll Cutting	Allows automatic feeding and cutting of material in a roll to toll fashion	
Top and Bottom Laminator	Allows in-line lamination of adhesive and finishing film to overlays, prints, spacers, etc.	
Automatic moving lens	For automatic focusing to the cutting surface to allow for precise cutting of parts with different build ups (thickness)	
Sheet Feeder	An add-on to the Roll-to-Roll option to feed sheets onto a web of adhesive for further processing by machine in a roll-to-roll fashion	
Part Extractor	Another add-on for the Roll-to-Roll option. It will automatically transfer the cut parts into a collection bin.	
Optional Optics	Focusing Lenses with different focal length to address different applications	
Dimensions		
Length	59" (1,500 mm) 70" (1,780 mm)	FL3-3624 Family FL3-4836 Family
Depth	57" (1,450 mm) 70" (1,750 mm)	FL3-3624 Family FL3-4836 Family
Height	50" (1,270 mm)	All models
Approximate Net Weight	750 lbs (320 kg) 850 lbs (385 kg)	FL3-3624 Family FL3-4824 Family