LASERLOGY

LS-3DF

3-Axis Laser Marker

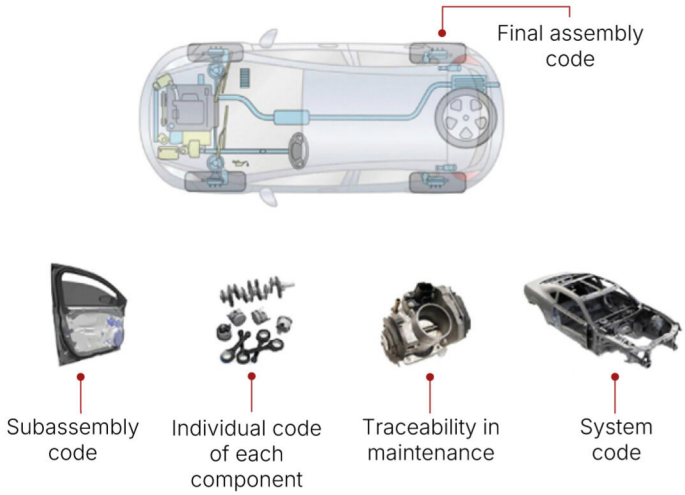


FIBER LASER

www.laserlogy.com

Tecnology, quality & service

LASER MARKING



Laser marking allows you to create precise and permanent markings, even in hard-to-reach areas, through a fast and flexible process.

LASERLOGY's innovative solutions allow you to enter information about work pieces as part of your production configuration. The permanence of the laser marks guarantees optimum traceability. In addition, contact-less marking has several advantages, low material tension and low costs due to the absence of tool wear.

Our pillars

TECHNOLOGY

Everything we do is based on the deployment of the latest laser technologies applied to the industry.

Our company enhances the things that move people. We develop and design solutions with a high technological value, always keeping the client's needs as a global focus.

SERVICE

Our service begins long before a laser system is installed.

Customer advice, feasibility analysis and project management are the pillars on which our concept ofsuccess is based. A global network of experts at the service of our customers.

QUALITY

In our company, each employee is involved and sensitized, resulting in high quality products and high level service.

Technological know-how and a great sense of the important form the basis of our innovative and high quality products.

LS-3DF Laser Marker

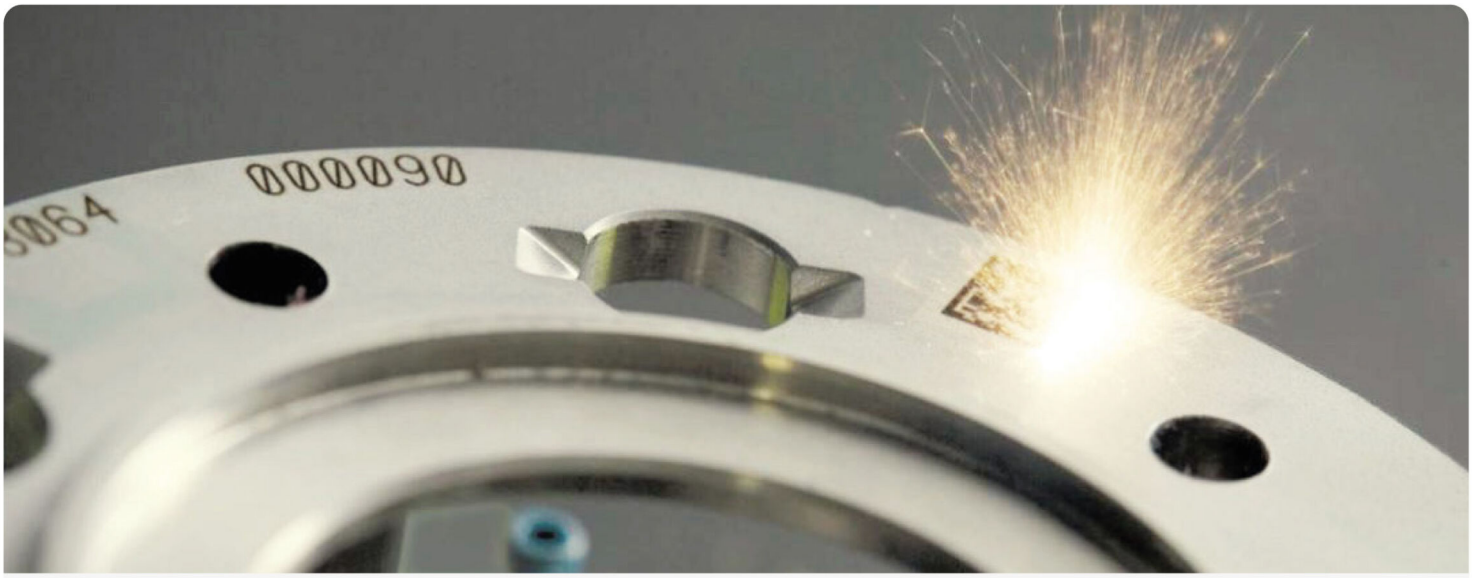
FIBER LASER TECHNOLOGY

LS-3DF laser markers utilize a fiber optic cable that has been doped with Yb (ytterbium) as a laser generating medium.

The fiber laser doesn't require an amplifier and offers higher performance compared to solid state lasers, making it possible to decrease the size of the marker. A high light conversion ratio also allows to reduce the power consumption compared to conventional DPSS laser markers.

LS-3DF is the 3-Axis version of the LASERLOGY fiber products and it is specially designed for marking metals and plastics in complex shapes and different heights.





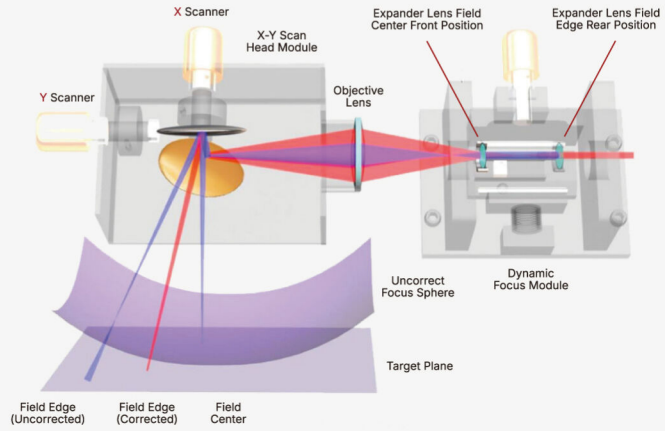
HIGH QUALITY MARKING

The LS-F Series takes advantage of various new technologies compared to conventional models in order to get high definition marking.

Material processing is controlled by adjusting the laser power, scanning speed and frequency for each object (line, text, logo, etc). The result is a beautiful and high-quality mark even at high speeds.

The combination of a high-speed galvo scanner and a output laser power up to 100W allows to perform a quick and accurate marking in all type of metals and a wide range of plastics.

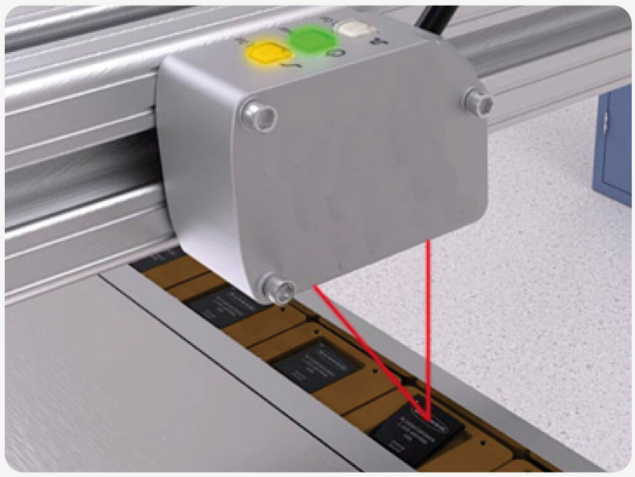
Features



3-AXIS SCAN SYSTEM

The LS-3DF Series is equipped with 3-axis scan control. The internal dynamic Z-axis mechanism controls the laser beam focal point in the Z-direction to enable marking on an item with height differences. LS-3DF systems allow to mark clearly with no distortion on several predefined shapes such as ramp, sphere, cone, tube, stepped surface, etc.

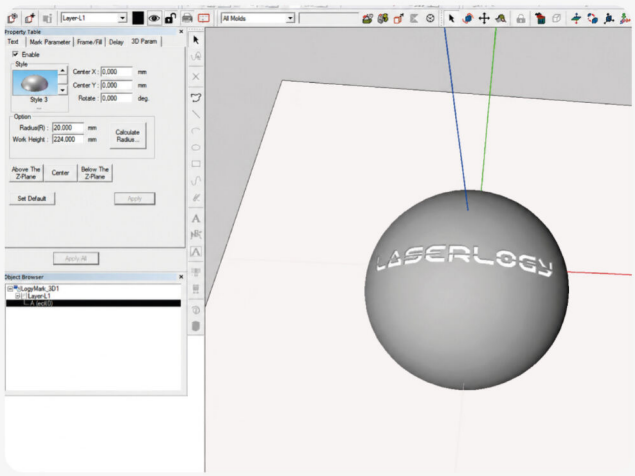
In addition, STL 3D models can be imported directly in the software when more complex shapes need to be processed.



AUTO-FOCUS FEATURE

LS-3DF models offer the possibility of auto-focus feature when the system is used in combination with a displacement sensor. This feature avoids the discrepancies in marking quality when the workpiece heights or material thickness are not stable during production.

LS-3DF series takes the height data directly from the displacement sensor and then, adapt dynamic focus system before marking in less than 100 ms.



LOGYMARK 3D

LS-3DF models are designed to be as easy to use as a conventional printer. Through its intuitive configuration software in Windows environment, you will be able to create your marking design very easy. You just have to enter the content to be marked (logo, text, code, date, etc), select the position, and finally, define the marking parameters.

In addition, the 3D module of Logymark software allows the user to easily define the Z-axis parameters thanks to the predefined shapes and the ability to import complex STL models.

Laser processes



ABLATION

Removes a coating, paint or other surface treatment of a base material to create contrast without damaging the surface of the underlying material. Typically made on anodized aluminum, backlit buttons (day/night), painted metals, and FR4 printed circuits.



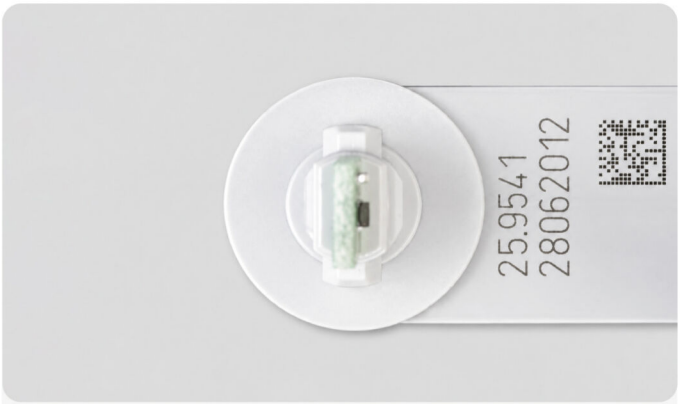
ETCHING

Ability to change the surface finish of a metal thus altering its reflectivity and enhancing contrast. Penetration depth is typically no more than 3 microns deep. One of the most common forms of laser marking.



ENGRAVING

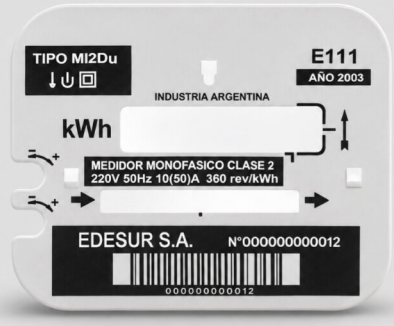
Vaporization of the base material sufficient to produce the required depth, typically from 3 microns to 150 microns. The vaporization process is identical to surface marking. Deep engraving requires multiple passes.



FOAMING

After a brief melting operation, small gas bubbles get trapped in the material as it cools. These bubbles diffuse and reflect any light that hits them, producing a high contrast mark.

Laser processes



COLORING

Commonly used with plastic materials. The contrast can be obtained in some plastics by contact with heat or by coupling a wavelength that causes a chemical change. It is possible to use chemical additives with most plastics to achieve different colors.

ANNEALING

Laser annealing produces permanent heatinduced marking, without the removal or alteration of the material. This process applies to all metals that contain carbon and that alter its color under thermal action. Excellent for applications that require smooth and undamaged surfaces.





SURFACE TREATMENT

Surfaces are structured or cleaned for a specific purpose using lasers. For example, laser processing can be used to remove layers of oxide, oil or phosphate in preparation for subsequent processes.

OTHER PROCESSES

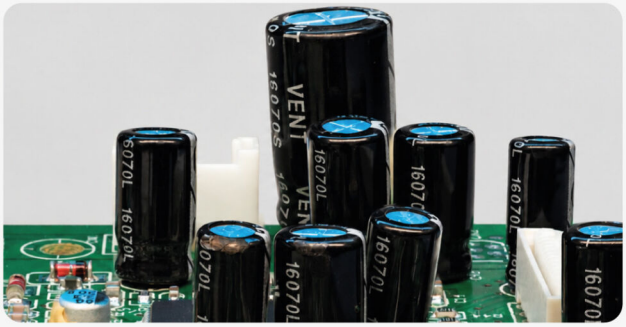
The processing of organic materials (leather, wood, cardboard, etc.) is possible thanks to the range of CO2 laser markers. Other processes such as cutting, welding, or micro-perforating can also be performed using laser technology.



Application examples

ELECTRICAL AND ELECTRONICS INDUSTRY







AUTOMOTIVE INDUSTRY







Application examples

MEDICAL AND PHARMACEUTICAL INDUSTRY



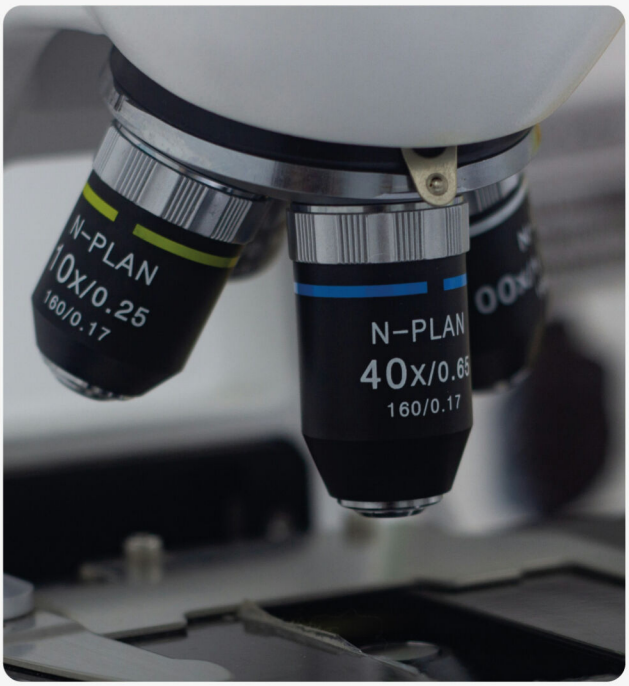




MANUFACTURING INDUSTRY







Models and features

LS-3DF 3-Axis Laser Marker

FEATURES

Discover all the details and features of our equipment. If you need further information or would like to learn more about our equipment, please contact our support team.

MODEL	LS-3DF20	LS-3DF30	LS-3DF50	LS-3DF70	LS-3DF100
LASER POWER	20 W	30 W	50 W	70 W	100 W
PULSE DURATION	2-500 ns				
FREQUENCY	1-4000 KHz			1-8000 KHz	
LASER TYPE	Ytterbium-doped fiber				
MARKING AREA	150 x 150 mm (*WD: 255 mm) / 200 x 200 mm (*WD: 305 mm) / 300 x 300 mm (*WD: 355 mm)				
Z-AXIS RANGE	±30 mm (*MA: 150 x 150) / ±40 mm (*MA: 200 x 200) / ±50 mm (*MA: 300 x 300)				
WAVELENGTH	λ = 1064 nm, class 4 laser				
GUIDE POINTER	Semiconductor λ = 655 nm, class 2 laser; 1 mW				
MARKING METHOD	Galvanometric scanner				
MAX. SCANNING SPEED	12000 mm/sec				
SOFTWARE	LogyMark 3D				
CHARACTER TYPE	Characters, numbers, symbols and other special characters				
2D CODES / BARCODE	CODE39, CODE128, ITF2/5, NW-7, JAN/UPC/EAN, RSS 14, RSS limited, RSS expanded (GS1 Databar), GS1 Data Matrix, QR, Micro QR, Data Matrix (ECC200), etc.				
LOGOS / GRAPHICS	VEC, DXF, BMP, HPGL, SVG, JPEG, AI, EPS, etc.				
AMBIENT TEMPERATURE	0 to +40°C (non-condensing, no frost), storage: -10 to 60°C				
AMBIENT HUMIDITY	35 to 75% RH (non-condensing, no frost)				
COOLING	Forced-air cooling				
POWER SUPPLY VOLTAGE	90 to 132 VAC or 180 to 264 VAC, 50/60 Hz				
POWER CONSUMPTION	< 500 W				
COMMUNICATION INTERFACES	Digital I/O, Ethernet (TCP/IP)				
FIBER CABLE LENGTH	3 m (Other lengths available on request)			5 m (Other lengths available on request)	
MARKING HEAD WEIGHT	7 Kg				
CONTROL UNIT WEIGHT	24 Kg			27 Kg	

**WD: working distance. | *MA: marking area.*

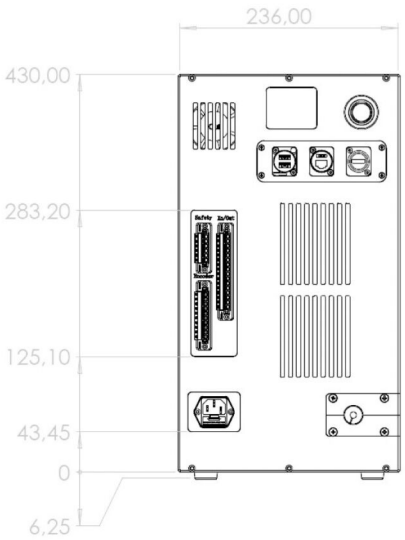
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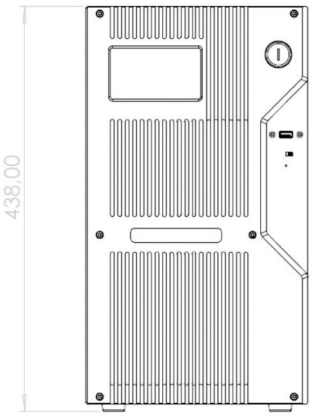


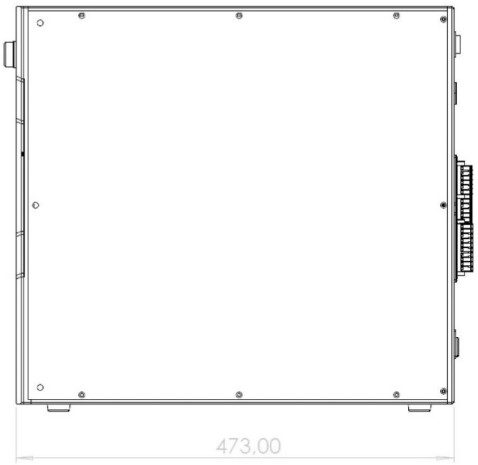


CONTROL UNIT

Compact and equipped with various interfaces for easy integration into machines or production lines. Check the dimensions or request the 3D files to verify your project.







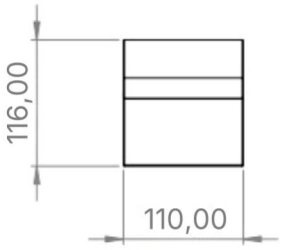
All dimensions are expressed in mm.

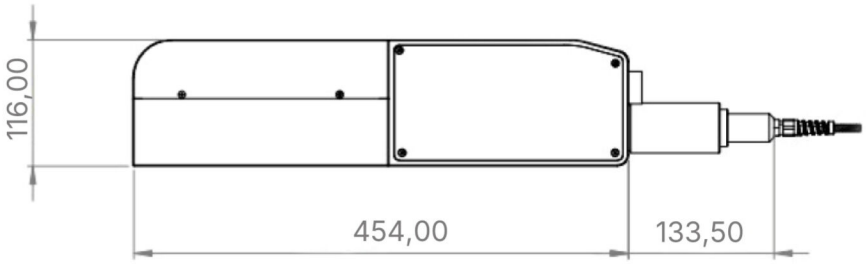
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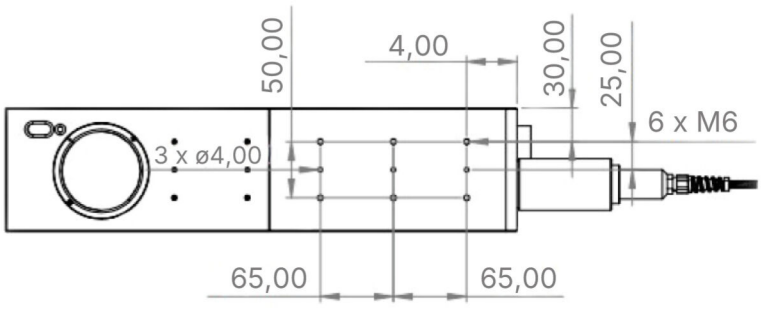




LASER HEAD







All dimensions are expressed in mm.



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