

MQLF series

MOPA Pulse fiber laser marking machine

PRODUCT SERIES

MQLF-CM、MQLF-JM Sub-series



Alumina to black



stainless steel to color



PRODUCT DESCRIPTION

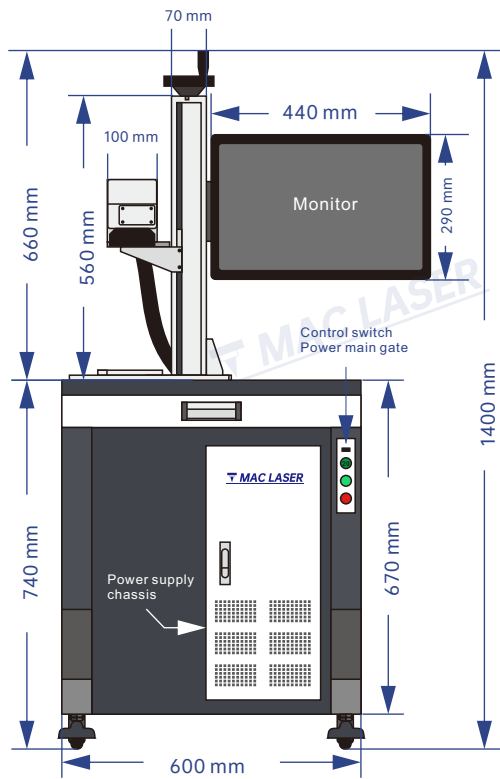
The MQLF series fiber laser marking machine of Mac Laser is a high-configuration model that adopts advanced MOPA fiber laser technology. It has the characteristics of independent adjustable pulse width and frequency, wide pulse frequency range, good beam quality, and high peak power. **It is widely used in alumina blackening, stainless steel stable coloring, plastic marking, chip marking, fine etching and other fields.**

MOPA optical fiber series products are suitable for various metal materials such as iron, copper, aluminum, gold, silver, and some non-metal materials such as PC, ABS, PVC, PC+ABS. It is widely used in 3C, auto parts, electronic components, integrated circuits (PC), electrical appliances, precision equipment, hardware products, building materials, clocks and watches, jewelry, craft gifts and other industries.

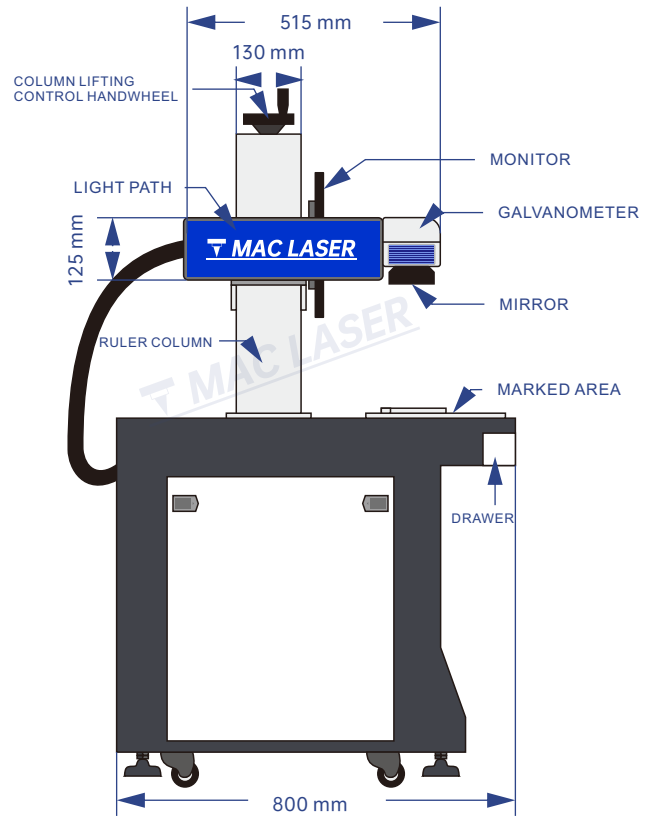


INTEGRATED, FLEXIBLE AND LIGHT-WEIGHT

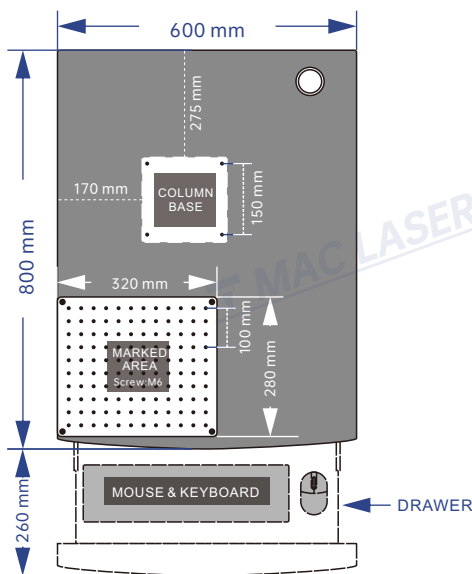
Overall-integrated cabinet design, small footprint and easy to use.



FRONT VIEW



END VIEW



VERTICAL VIEW



INTEGRATED



EXCELLENT HARDWARE CONFIGURATION

Main equipment configuration: MOPA fiber laser source + dual red light metal galvanometer + industrial computer host + Industrial display



MOPA fiber laser

It adopts advanced MOPA fiber laser with adjustable pulse width, it can be used for blackening anodized aluminum and processing more non-metallic materials.

Double red light metal galvanometer

Metal body structure, built-in double red light marking instructions, with the advantages of adjustment-free, maintenance-free and high stability.



Industrial computer host

Built-in Windows system, it supports a variety of software and can be connected to different extended peripherals.

Industrial display

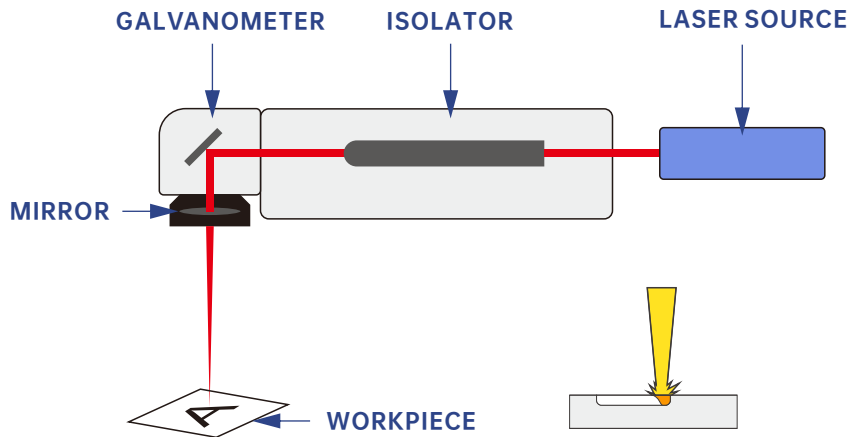
1440*900 full high new resolution, low energy consumption design industrial display





LONG-LASTING MARKINGS AND CORROSION RESISTANCE

The marking is directly hit on the surface with the help of a strong pulsed laser beam to produce extremely deep, high-contrast markings on the surface, achieving permanent markings with uniform viewing angles, and corrosion resistance.

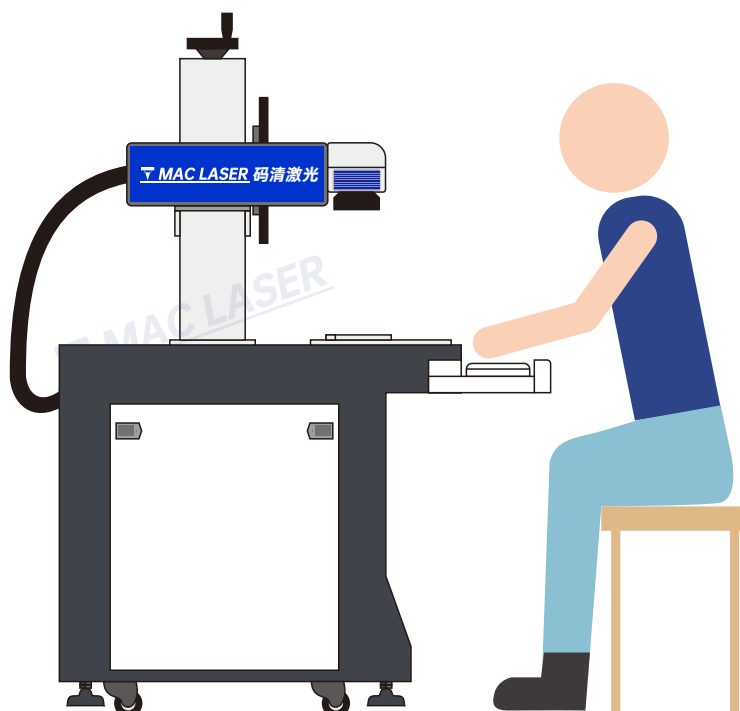


The laser generates a high-energy laser beam. After the scene is focused, the focused very small spot acts on the material to be processed to show that the material is oxidized, melted, or even vaporized, thereby producing changes in color or depth, and achieving the purpose of laser marking.



APPLICATION IS SIMPLE, SAFE, PRECISE AND EASY TO USE

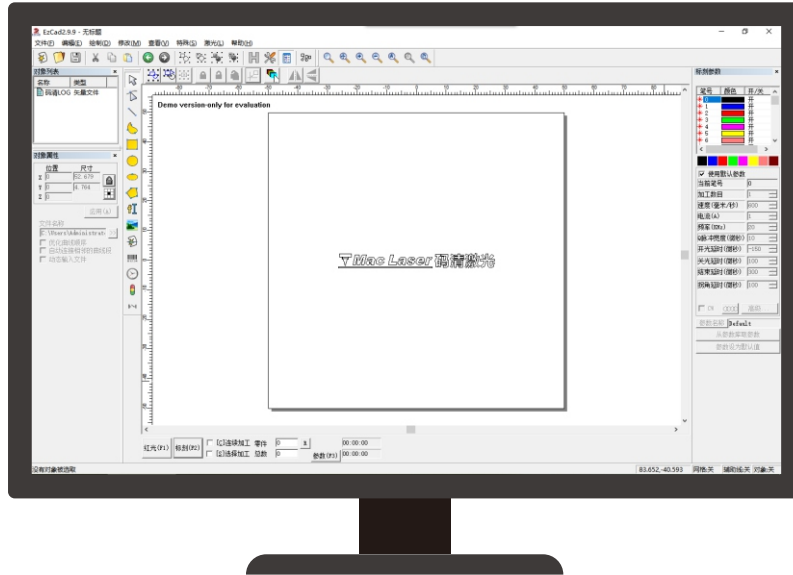
Desktop computer with keyboard, mouse and LCD monitor with Windows system.





GENUINE MARKING SOFTWARE

Full English interface based on Windows system, convenient for daily application in intuitive content.



FLEXIBLE USE AND WIDE APPLICATION

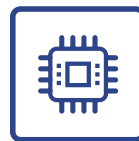
This series of marking machines are flexible and widely used to meet your requirements.



3C DIGITAL



AUTO PARTS



ELECTRONIC COMPONENTS



ELECTRICAL APPLIANCES



PRECISION EQUIPMENT



HARDWARE PRODUCTS

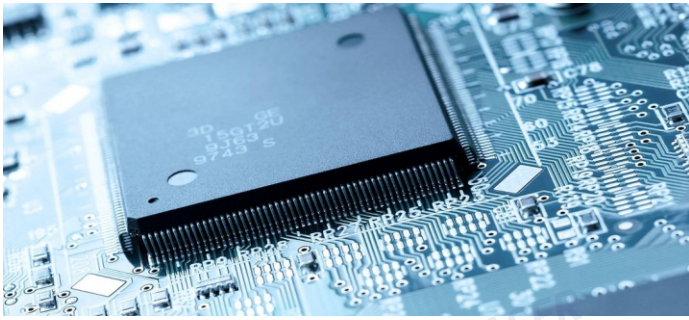


CLOCK AND WATCH ACCESSORIES

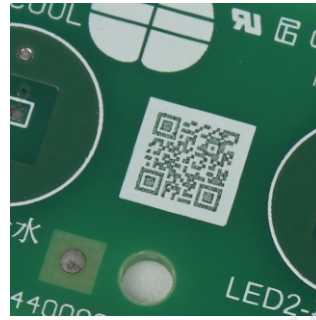


MEDICAL EQUIPMENT

3C DIGITAL



● Computer CPU mark



● Circuit board QR code mark



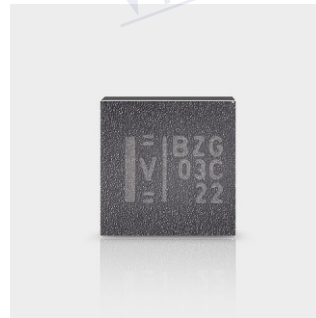
● Notebook keyboard mark



● Photography light LOGO mark



● Mobile power LOGO mark



● Mobile phone component mark



● Memory card cover mark

AUTO PARTS / HARDWARE



● Automobile parts casting mark



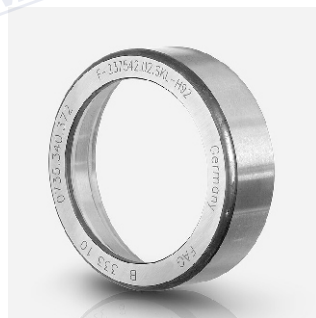
● Hardware tool mark



● Auto parts mark



● Equipment part mark



● Bearing ring mark



● Carved drill mark

MEDICAL EQUIPMENT / PRECISION EQUIPMENT



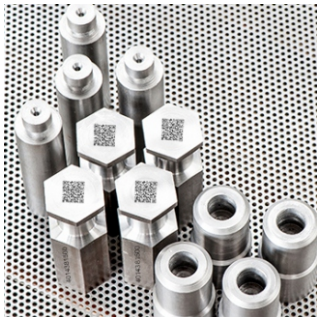
● Scalpel mark



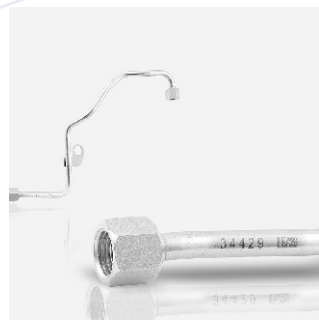
● Surgical tweezers mark



● Medical device valve mark



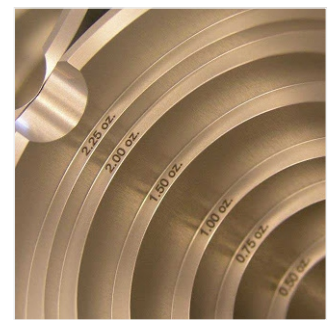
● Weight mark



● Equipment catheter mark



● Precision instrument mark



● Instrument workpiece mark

JEWELRY / CRAFT GIFTS



● Bracelet mark



● Ring mark



● Platinum ring mark



● Portable steel hip flask mark



● Watch mark



● High-end fountain pen mark



● Thermos cup mark

MQLF-CM sub-series

MOPA Pulse fiber laser marking machine

The MQLF-CM sub-series uses **MAX** MOPA pulsed fiber laser source. The pulse width and frequency are independently adjustable, making more laser applications possible. It is an ideal laser source for laser fine processing. It is widely used in alumina blackening, stainless steel stable color printing, and high-speed plastics. Marking, chip marking, perfect etching, laser deep engraving and other fields.

PRODUCT PARAMETER

Model		MQLF-20CM	MQLF-30CM	MQLF-50CM	MQLF-70CM	MQLF-100CM	MQLF-120CM	MQLF-150CM	MQLF-200CM
Laser parameters	Laser source model	MFPT-20S	MFPT-30S	MFPT-50S	MFPT-70M	MFPT-100M+	MFPT-120M+	MFPT-150M+	MFPT-200M+
	Output Power	20W	30W	50W	70W	100±5W	120±5W	150±5W	200±5W
	Beam quality M ²	≤1.3	≤1.3	≤1.4	≤1.5	≤1.6			
	Pulse repetition frequency	1-4000 kHz							
	Laser wavelength	1066±3 nm							
	Pulse width adjustable range	2-350 ns		2-500 ns		10-500 ns			
	Output power stability	< 5%							
	Working life	About 100,000 working hours (non-service life)							
Optical properties	Marking range	100 ~ 300mm (optional range)							
	Marking depth	≤ 1 mm (depending on power and time)							
	Marking speed	≤ 10000 mm/s							
	Repetition accuracy	±0.002							
	Minimum line width	0.1mm							
	Minimum character height	0.15mm							
Environment	Cooling mode	Built-in air cooling							
	System power supply	500W/220V/50Hz (110V can be connected)							
	Temperature, humidity	0 ~ 40 °, 30% RH 85%, air conditioner shall be installed when it is used beyond the range							
	Oil mist	Not Allowed							
Other parameters	Operating System	Windows Operating System							
	File Format	All fonts/fonts in the WINDOWS operating system font library (standard USB input)							
	Exterior dimension	800X600X1400 mm							
	Packing size	860X730X1050 mm							
	Weight of the whole machine	About 75kg							

Note: Laser marking machines of different power (W) have differences in marking accuracy, depth, speed, color depth, and service life. Please contact the sales staff of Mac Laser according to the marking products and requirements.

MQLF-JM sub-series

MOPA Pulse fiber laser marking machine

The MQLF-JM sub-series uses **JPT Laser's** MOPA high-power pulsed fiber laser source, which has excellent laser characteristics and good pulse shape control capabilities. Compared with the Q-switched fiber laser, the pulse frequency and pulse width of the MOPA fiber laser are independently controllable. By adjusting and matching two laser parameters, it can achieve a constant high peak power output and can be applied to a wider range of marking substrates.

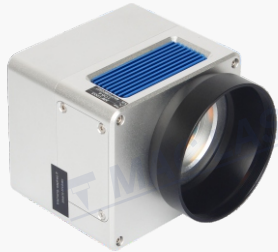
PRODUCT PARAMETER

Model		MQLF-27JM	MQLF-26JM	MQLF-37JM	MQLF-36JM	MQLF-67JM	MQLF-66JM	MQLF-80JM	MQLF-100JM	MQLF-120JM	
Laser parameters	Laser source model	LP-E-20-M7	LP-C-20-M7	LP-E-30-M7	LP-C-30-M7	LP-E-60-M7	LP-C-60-M7	LP-80-M7	LP-100-M7	LP-120-M7	
	Output Power	20W	20W	30W	30W	60W	60W	80W	100W	120W	
	Beam quality M ²	≤1.4	≤1.3	≤1.4	≤1.3	≤1.5	≤1.8				
	Pulse repetition frequency	1-4000 kHz									
	Laser wavelength	1064±5 nm									
	Pulse width adjustable range	2-350 ns				2-500 ns					
	Output power stability	< 5%									
	Working life	About 100,000 working hours (non-service life)									
Optical properties	Marking range	100 ~ 300mm (optional range)									
	Marking depth	1 mm (depending on power and time)									
	Marking speed	≤10000mm/s									
	Repetition accuracy	±0.002									
	Minimum line width	0.1mm									
	Minimum character height	0.15mm									
Environment	Cooling mode	Built-in air cooling									
	System power supply	500W/220V/50Hz (110V can be connected)									
	Temperature, humidity	0 ~ 40 °, 30% RH 85%, air conditioner shall be installed when it is used beyond the range									
	Oil mist	Not Allowed									
Other arameters	Operating System	Windows Operating System									
	File Format	All fonts/fonts in the WINDOWS operating system font library (standard USB input)									
	Exterior dimension	800X600X1400 mm									
	Packing size	860X730X1050 mm									
	Weight of the whole machine	About 75kg									

Note: Laser marking machines of different power (W) have differences in marking accuracy, depth, speed, color depth, and service life. Please contact the sales staff of Mac Laser according to the marking products and requirements.

OPTIONAL ACCESSORIES

METAL GALVO HEAD



● Without double red light galvo head MACF1003



● With double red light galvo head MACF1006

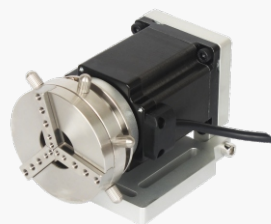


● High-speed digital scanning galvo head MACF1016

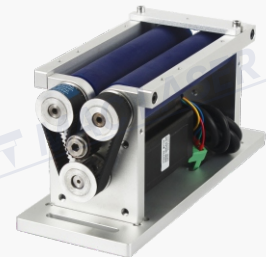
ROTARY DEVICE



● Standard rotary device S3



● Jewelry rotary device S4



● Roller rotating table S5

ELECTRIC LIFTING COLUMN



● Electric lifting column (bottom motor)



● Electric lifting column (Top motor)