

DO YOU NEED TO IDENTIFY YOUR PRODUCT?

LET'S SHED SOME LIGHT



GALVOTEST



LASER MARKERS



Certified Company  
ISO 9001:2008

**BERMA**  <sup>®</sup>  
MARKING SYSTEMS Since 1974

[www.berma.com](http://www.berma.com)

# Berma Machine

The "MADE IN ITALY" artisan tradition faces the challenges of the global market

BERMA MACCHINE and its ownership, Bergamini's family, have been working on the industrial marking market already for 40 years. Knowledge and passion for this profession have been transmitted during the years from the "old" to the "new" generation. Nowadays, the know-how assimilated during the years, it goes to hand together to a young and dynamic management and an high skilled team, that lead the company to be continuously in renewal, both for the quality management of the products made (BERMA achieved the ISO 9001:2008 certification) and for research and development, for which BERMA is constantly looking for efficient and up-to-date solutions for its customers.

From punch marking systems moving to dot peen machines up to the different laser marking solutions, BERMA MACCHINE remains and commits itself to become a benchmark for the industrial marking branded "MADE IN ITALY".

Today BERMA MACCHINE it is member of the consortium of Italian producers of specialized mechanics (CAMSER) in the Emilia Romagna district, that represents a world excellence for this industry. Through CAMSER, BERMA has activated extremely important distribution channels in developing markets as India and Brazil and it is continuing with success its process of internationalization.



# Laser Markers

The laser marking is an heating process, generated by a bright beam (Laser) amplified and localized. This beam impacting on a surface, modifies it permanently.

It is possible to make three different types of marking : the refreshment that creates an heating-generated permanent marking, without damaging the material; the engraving that creates a direct, resistant and long lasting marking; the ablation, that removes the painted layer or the superficial facing, to create a contrast without damaging the material.

GALVOTEK laser markers of BERMA MACCHINE is equipped with a galvanometer scan head, coupled with several types of lasers, depending on the specific marking requirements. They can mark alphanumeric texts, images and 1D & 2D codes like Data Matrix (ECC-200) on several materials with high accuracy and speed. For this reason they can be used in various sectors, also on pieces where mechanical engraving is not bore.

You will find each GALVOTEK laser marking system:

## Flexible and Silent:

- Marking on several type of materials;
- Zero noise pollution.

## Easy and Functioning :

- Stand-alone operation through Operator Panel;
- Marking of logos through importing BMP, DXF and PLT files, 1D Bar-code and 2D Data-Matrix codes.

## Endowed of Broad Connectivity:

- Auxiliary serial port RS-232 for connection of bar code readers, scales and other tools;
- Several integrated ASCII communication protocols for sending the variables to be marked;

GALVOTEK laser markers can be used in Stand-alone mode or through the software IDENTIFY. It can manage several programs through the operator panel of the machine. From this panel the user can select the program to run and can also make several edits and adjustments (content of alphanumeric texts, setting up of the progressive counters and of marking parameters).



# Integrable FIBER LASER MARKERS (CLASS 4)

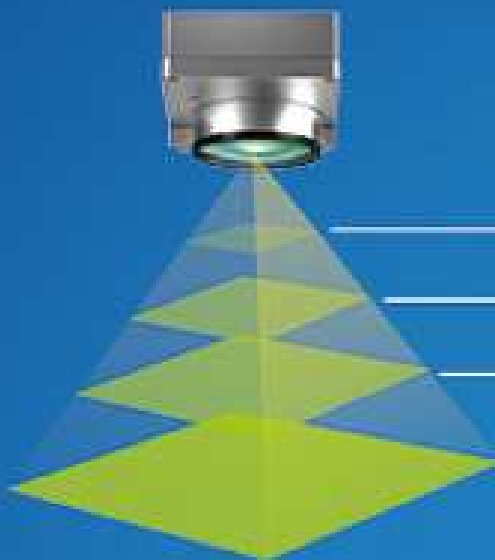
Fiber laser produces a beam with 1064 nm of wavelength (0,001064 mm). These systems are suitable to work on every kind of metals and some types of plastic. This is the most flexible type of direct laser marking. The adjustable drive frequency of the laser source, allows to have the highest levels of control, quality and marking speed.

## Fiber Laser Advantages :

- Reduced maintenance and long lifetime of the laser source ;
- High performance optics elements, low electrical consumption (<500 W);
- High energy density that allows to obtain an high quality marking in a short time;
- Integrated red-pointer diode that allows an easy positioning of the work-piece;
- Direct and durable marking, without using of solvents, paintings or labels.

## Easy to integrate:

GALVOTEK systems by BERMA MACCHINE are designed to be integrated in other machines or in production lines, arranged for direct connection of bar-code readers through serial port RS-232. They can be driven by PC Host through several serial communication protocols (ASCII).



Focal lenses with different length and working areas are available:

f-160 - Working area 100 x 100 mm - Working distance: 179,5 mm - Spot diameter: 26 µm

f-254 - Working area 175 x 175 mm - Working distance: 284,0 mm - Spot diameter: 31 µm

f-330 - Working area 220 x 220 mm - Working distance: 346,0 mm - Spot diameter: 40 µm

f-420 - Working area 300 x 300 mm - Working distance: 467,0 mm - Spot diameter: 50 µm

# FBL-i (Fiber)



## Technical Features :

- ✓ Wavelength : 1064 nm
- ✓ Laser drive frequency : 20-100 KHz
- ✓ Laser Power : 10W (FBL-i10F), 22W (FBL-i22F)
- ✓ Marking speed : up to 1680 mm/sec.

Head Dimensions :	Base	Height	Depth
	140 mm	185 mm	368 mm



# Integrable CO2 LASER MARKERS (CLASS 4)

CO2 laser produces a beam with 10600 nm of wavelength (0,0106 mm). These systems are suitable to work on organic materials like fruits, plastics, wood, leather, rubber and some kinds of glasses. They can work also on galvanized metals because, in this case, the laser beam works for "ablation" removing the surface treatment and reporting visible the underlying metal area.

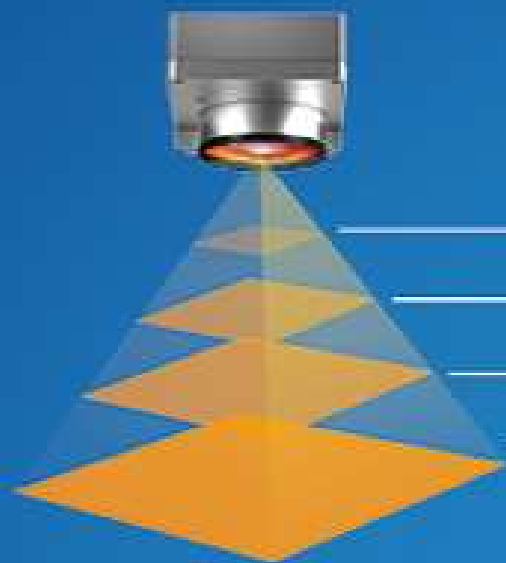
Using some specific sprays, the CO2 markers can be used also to mark metals. In this case the laser beam works fixing the material laid by the spray on the metal surface.

## CO2 Laser Advantages :

- Tested and reliable laser source;
- High performance optics elements, low electrical consumption (<500 W);
- Air cooling system;
- Optional red-pointer diode that allows an easy piece positioning;
- High production rate (automotive, electronics and food industry).

## Easy to integrate:

GALVOTEK systems by BERMA MACCHINE are designed to be integrated in other machines or in production lines, arranged for direct connection of bar-code readers through serial port RS-232. They can be driven by PC Host through several serial communication protocols (ASCII).



Focal lenses with different length and working areas are available:

f-75	- Working area	50 x 50 mm	- Working distance:	75,9 mm	- Spot diameter:	192 µm
f-100	- Working area	70 x 70 mm	- Working distance:	102,8 mm	- Spot diameter:	256 µm
f-150	- Working area	107 x 107 mm	- Working distance:	152,7 mm	- Spot diameter:	384 µm
f-200	- Working area	140 x 140 mm	- Working distance:	204,3 mm	- Spot diameter:	513 µm

# FBL-i (Dioxide)



## Technical Features

- ✓ Wavelength : 10600 nm
- ✓ Laser drive frequency : Fixed
- ✓ Laser Power : 14W (FBL-i14C)
- ✓ Marking speed : up to 1000 mm/sec.

Head Dimensions :	Base	Height	Depth
	146 mm	217 mm	752 mm



# BENCHTOP LASER MARKERS

Laser marking stations GALVOTEK produced by BERMA MACCHINE can be easily installed on a bench or table. These stations respect the working safety regulation (CLASS 1 protection cabin – ISO EN 60825-1). They are proposed in standard (bench/cabin) version or in customized solutions, depending on the shape and dimensions of the work-pieces.

Completely designed and developed by BERMA MACCHINE, they represent the best solution for those companies that are looking for high standard of quality and reliability in their working processes, in any sector.

These systems can be equipped with Fiber or CO2 integrable laser markers, allowing to obtain the most economical and suitable configuration according to the different requirements.

## Main Features :

- Laser safety CLASS 1 cabin with complete interlock;
- Balanced door for an easy access to the working area;
- Visualization window;
- Integrated led illumination;
- Working area with holes to fix equipment, with "T" cave aligned to the focusing lens.

All these models are arranged to use fume evacuation devices and also other optional devices as the rotary axis AR1 or the automatic plate feeder AF3 (each of them described in a specific page). All these options, transform the standard marker in a customized solution.

From 40 years BERMA MACCHINE takes care of its customer's needs, realizing also "high-customized solutions" in cooperation with specialized companies working in the field of automation. Those partners produce different loading systems, assuring the best integration for the production environments.



## DETAILS

- ✓ Fume evacuation set-up
- ✓ Optional motorized door
- ✓ USB and RS-232 connections
- ✓ Design of customized bench and cabins

### Standard Bench/Cabin Dimensions :

Base	Height	Depth
800 mm	905 mm	710 mm



# FBL

(CLASS 1)



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**CLASS 1  
LASER PRODUCT**

# OPTIONS

## AF3

### Automatic Feeder of Plates

One of the most popular needs within the marking and product identification industry is the production of identification metallic plates made of aluminium or steel. The production's needs can reach hundreds a day. In order to fulfil this need BERMA has engineered this electro-pneumatic optional device AF3 that allows to automatically load and unload more than 150 plates at ones (0,6 mm of thickness) from the working area.



#### Technical Features :

Plate dimensions from 25 x 25 to 120 x 120 mm;  
Management of the device integrated in the marking machine's software.

## AR1

### Rotary Axis Device

This optional device allows to carry out markings on cylindrical components that are placed on a dedicated rotary spindle.

The connection occurs through the "AXIS" port of the marker, that allows its control as an independent axis (W) interpolated.



#### Technical Features :

Spindle with diameter  $\varnothing$  from 6 to 100 mm;  
Max. dimensions of the work-piece  $\varnothing$  250 mm, max. weight 10 Kg.

## F200

### FILTERED FUME EXTRACTOR

The "F" series filters, for fume aspiration and deodorization, are designed and realized to be modular, and therefore to be flexible to different requirements. The filtration happens through three working steps with growing filtration, visualized through a differential pressure gage, or through a reusable filter cartridge.

In the active carbon version, the carbons are not renewable, therefore, must be regularly changed.



#### Technical Features :

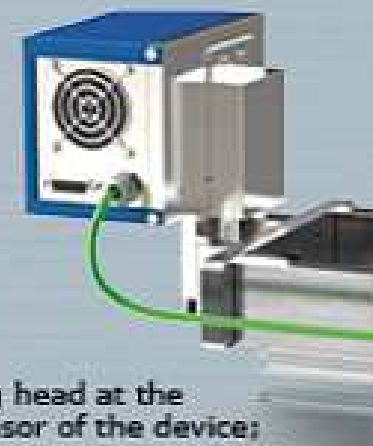
Dimensions 460 x 620 x 748 mm  
Pre-filter 87% EU3 - Absolute Filter 99,9% EU 13 D.O.P.  
Active Carbons 4 Kg - 1250 m2/g

## CM1

### Powered Axis Device

This optional device allows to carry out the automatic positioning of the right distance of the marking head from the work-piece.

The connection occurs through the "AXIS" port of the marker, that allows its control as an independent axis (Z) NOT interpolated.



#### Technical Features :

Automatic positioning of the marking head at the height set up or observed by the sensor of the device;  
Ability to manage and perform different heights of marking on the same work-piece.

## “BERMA’s staff helps you to find the best solution, standard or customized, for your needs of identification and marking”

One of BERMA MACCHINE’s main strength is its capacity to provide a quick and professional answer to any kind of needs raised by its customers. Being our customers means to be our most valuable good. Therefore, our aim becomes making available all our experience and knowledge to our customers also using the technical/commercial alliances developed during the years, in a way to provide the best answers to the several needs of our customers. Since we have been working in the marking industry for 40 years, we have become specialists in providing the most appropriated solutions for a complete integration of our marking systems into various production lines. The co-operation with other companies in the automation’s industry, COMAU (FIAT Group) above all, give us and will give us the opportunity to give answer, in a better way, to this kind of requests, that are growing both in the domestic and international markets.





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