



LASER MARKING

Versatile solutions for high quality performance



www.berma.com

LASER MARKING SOLUTIONS

The marking is one of the most versatile laser machining and includes several processes: engraving, annealing, ablation, in relief. The choice of the suitable method depends on the material to be marked and on the quality requirements.



Engraving

It creates a cavity due to the removal of the material, it is resistant, long lasting and fake proof



Thermal Marking (Annealing)

Creates a permanent marking induced by heat, without removing or compromising the material



Ablation

Removes paintings or surface coatings to create a contrast without damaging the base material



In relief

It blends a micro-layer of material, which when cooled creates the marking in relief

Characteristics of our marking systems

FACCIAMO LUCE™:

BERMA's laser marking systems use a scanning head with two galvanometers, associated with a fiber laser source with a wavelength of 1060 - 1085 nm. They can use fiber lasers with Q-switched or MOPA technology, making the system even more flexible and usable depending on the different applications. Fiber lasers are suitable for marking and engraving of metals and for markings on a particularly rich of contrast plastic materials.

The laser sources are characterized by reduced maintenance and are distinguished by their lifespan of at least 25,000 hours.

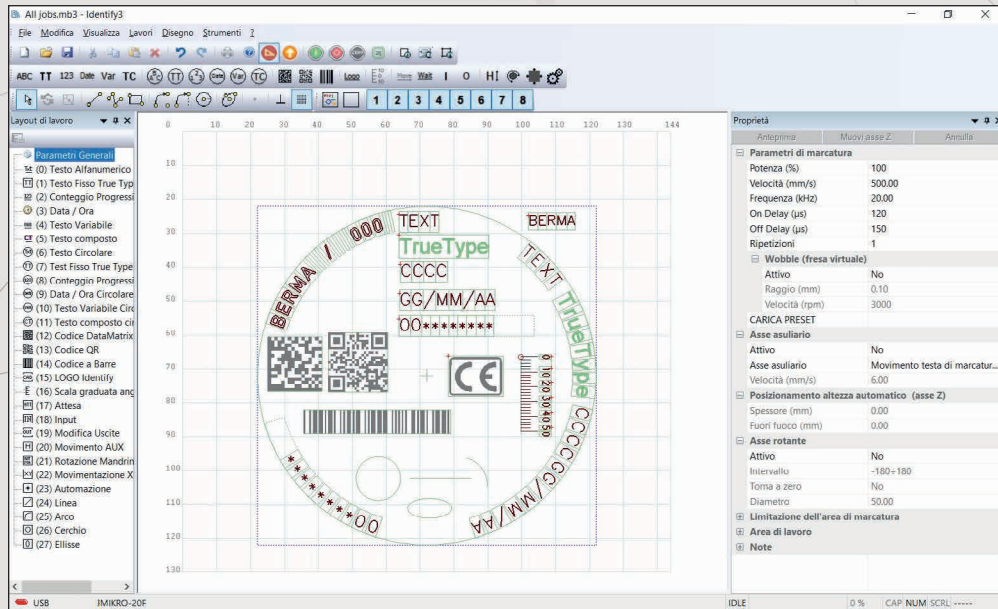
Among the peculiarities of our systems, in addition to the high speed of execution and to the proven robustness and reliability (over 45 years of experience), stands out the possibility of being able to operate totally independently from the PC (stand-alone), in addition to the different possibilities of connection to other devices through proprietary protocols (bermaCMD) and standard fieldbus (MODBUS / Profinet).

With our marking machines you can work in total safety. They are in fact entirely designed and assembled in Italy according to the provisions of the machinery directive and to the relevant safety regulations.



Please note: the images and technical data shown in this catalog are purely indicative and subject to continuous updating and improvement; the manufacturer reserves the right to modify them at any time and without prior notice.

OUR PHILOSOPHY



Management of 1000 layouts without PC

Import logos from BMP, SVG, DXF, DWG e PLT files

DMC and QR codes marking

Link to Excel sheets

Integrated remote assistance

Remote control of the user panel

Customization (Industry 4.0)

Firmware **GALVOTEK** - Software Identify3

Thanks to the experience gained in the field of numerical control marking, we have developed a simple and modern working environment with which to manage any BERMA marking system, both dot peen and laser.

The user panel and the Firmware allows BERMA systems to be completely independent from the PC and to be able to manage up to 1000 different marking layouts, each one containing up to 100 variable information.

The proprietary management of all the system elements (Hardware, Firmware and Software) allows to customize data acquisition from database (Excel, Access, MySQL, etc.) and also to create a bidirectional interconnection with any type of management software (SAP, AS400, etc..).

The new Identify3 marking software was designed to have a very simple and intuitive user interface that takes over in several points the structure of the most modern 2D Cad software. It can manage the programming of alphanumeric markings with various types of fonts, including Truetype set by the user's PC, barcodes, DMC and QR codes, importing of logos, graphical tools and much more.

The integrated remote-control functionality, both of the PC software and of the operator panel, allows our technicians to quickly access the device to carry out diagnostics, training and resolution of problems relating to the use of the marking system.



MIKRO

BENCHTOP FIBER LASER MARKING SYSTEM



MIKRO can be installed quickly and safely on a bench or table. The optimized arrangement of the laser head movement elements maximizes the capacity of the load compartment. The top is equipped with M8 holes for the quick positioning of the parts support equipment.

Particularly suitable for machining easy-to-handle components, single or in small productions, it also allows the use of optional devices like the rotary axis for marking cylindrical parts up to 200 mm in diameter or the automatic plates feeder. Z axis movement is motorized and controlled by the machine firmware in order to manage the focal distance as a parameter of the marking layout.

It is equipped with 20W or 30W fiber laser sources, in Q-switched or MOPA configuration, allowing the most suitable configuration for different needs.

DATA SHEET

Protection cabin	CLASS 1 (CEI EN 60825-1)
Access to the working area	sliding door with manual safety micro switch.
Loading area (W x D)	470 x 260 mm
Motorized and controlled axes	Z
Max. piece Height	275 mm (f-163 lens) 165 mm (f-254 lens)
Laser source	20 / 30 W fiber
Wavelength	1060 - 1085 nm
Laser Pointing / Preview	Red 635 nm, <1mW
Useful marking area	f163 lens: 112 x 112 mm (spot 32 µm) f254 lens: 174 x 174 mm (spot 50 µm)
Marking speed	up to 2450 mm/s (f-163 lens) up to 3900 mm/s (f-254 lens)
Connectivity	USB, RS-232, TCP/IP, Wi-Fi
Communication protocols	bermaCMD, Modbus
Fume extraction	Setup for Ø 50 mm tube + external BF10
Power supply	100÷240V – 50/60Hz
Electric consumption	1,224 kW (20W), 1,968 kW (30W)
External dimensions (W x H x D)	600 x 755 x 755 mm

FOCUS

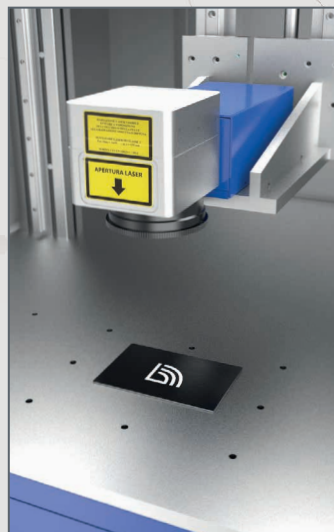
FIBER LASER MARKING SYSTEM

FOCUS guarantees an appropriate balance between marking accuracy, productivity, the possibility of marking medium/large sized pieces and contained dimensions thanks to the possibility of integrating the extraction and filtration system inside.

This maximizes the competitiveness of the production process, which will thus be able to comply with the specifications and/or regulatory requirements for product traceability, reducing execution times and costs.

The new design includes a loading door which, when opened, leaves the three sides free in order to obtain a generously sized, regular and easy to use piece loading compartment.

Different optional devices can be used, including the rotary axis, for marking cylindrical pieces up to 250 mm in diameter and the automatic plates feeder. It is equipped with 20W or 30W fiber laser sources, in Q-switched or MOPA configuration, allowing the most suitable configuration for different needs.



DATA SHEET

Protection cabin	CLASS 1 (CEI EN 60825-1)
Access to the working area	Sliding door counterbalanced with RFID safety micro switch
Loading area (W x D)	750 x 345 mm
Motorized and controlled axes	Z
Max. piece Height	350 mm (f-163 lens) 240 mm (f-254 lens)
Laser source	20 / 30 W fiber
Wavelength	1060 – 1085 nm
Laser Pointing / Preview	Red 635 nm, <1mW
Useful marking area	f163 lens: 112 x 112 mm (spot 32 µm) f254 lens: 174 x 174 mm (spot 50 µm)
Marking speed	up to 2450 mm/s (f-163 lens) up to 3900 mm/s (f-254 lens)
Connectivity	USB, RS-232, TCP/IP, Wi-Fi
Communication protocols	bermaCMD, Modbus
Fume extraction	Setup for Ø 50 mm tube + internal BF10/BF100 or external BF200
Power supply	100÷240V – 50/60Hz
Electric consumption	1,224 kW (20W), 1,968 kW (30W)
External dimensions (W x H x D)	1190 x 1898 x 878 mm

SUPREME

MULTI-AXIS MARKING SYSTEM



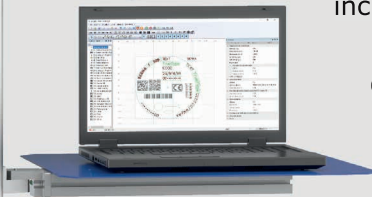
SUPREME-XL

SUPREME differs for the wide working area (up to 1044 x 424 mm) generated by the controlled movement of the scanning head on different axes. This allows the loading of pallets with various pieces in order to drastically reduce loading and unloading times which are often more relevant than processing times. It is also possible to work simultaneously with two different fixtures.

XL version, in addition to guaranteeing a greater load volume, can be configured with controlled movement also on the Y axis to obtain an even larger laser working area.

It can be completed and customized with various optional devices, including the rotary axis for marking cylindrical pieces up to 250 mm in diameter, or the automatic plates feeder.

It is equipped with fiber laser sources from 20W to 100W, in Q-switched or MOPA configuration, allowing the most suitable configuration for different needs.

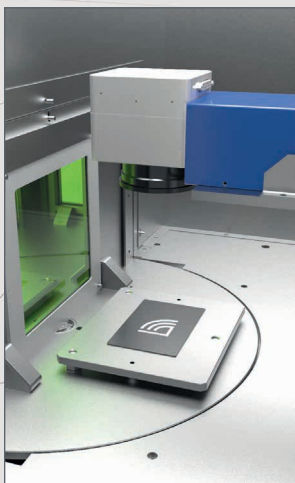


DATA SHEET

	SUPREME FX	SUPREME-XL
Protection cabin	CLASS 1 (CEI EN 60825-1)	
Access to the working area	Sliding door counterbalanced with RFID safety micro switch	
Loading area (WxD)	740 x 420 mm	1240 x 570 mm
Motorized and controlled axes	Z, X	Z, X, Y
Max. piece Height	410 mm (f-163 lens, spot 32 µm) 300 mm (f-254 lens, spot 50 µm)	
Laser source	20 / 100 W fiber	
Wavelength	1060 – 1085 nm	
Laser Pointing / Preview	Red 635 nm, <1mW	
Useful marking area	f-163 lens: 592 x 112 mm f-254 lens: 6040x 174 mm	f-163 lens: 982 x 362 mm f-254 lens: 1044 x 424 mm
Marking speed	up to 2450 mm/s (f-163 lens) up to 3900 mm/s (f-254 lens)	
Connectivity	USB, RS-232, TCP/IP, Wi-Fi	
Communication protocols	bermaCMD, Modbus	
Fume extraction	Setup for Ø 50 mm tube + external BF200	
Power supply	100÷240V – 50/60Hz	
Electric consumption	2,135 kW (20-30W), 2,879 kW (30W)	
External dimensions without pc support (W x H x D)	920 x 1940 x 920 mm	1586 x 1940 x 1113 mm

GYRUS

LASER MARKING SYSTEM WITH ROTARY TABLE



GYRUS is equipped with a 500 mm diameter rotary table positioning system with two positions which allows you to load/unload the pieces during the marking phase, thus reducing waiting times to a minimum between one operation and the other. The table is indexed and guarantees a concentricity in the order of ± 0.015 mm and angular repeatability in the order of $\pm 0.031^\circ$, allowing to maintain the maximum degree of precision even in the machining of numerous batches.

The automatic movement of the Z axis and the integrated fume extraction system allow the intensive use of the industrial marking machine guaranteeing the highest levels of quality and safety of the Operator's work in a reduced and optimized space.

It is equipped with fiber laser sources from 20W to 100W, with Q-switched or MOPA technology, allowing the most suitable configuration for different needs.

DATA SHEET

Protection cabin	CLASS 1 (CEI EN 60825-1)
Access to the working area	Two-position rotary table, Ø 500 mm aluminum plate Service door with hinges and safety RFID micro switch
Loading area (W x D)	200 x 170 mm
Motorized and controlled axes	Z
Max. piece Height	190 mm (lente f-163, spot 32 µm) 240 mm (lente f-254, spot 50 µm)
Laser source	20 / 100 W fiber
Wavelength	1060 – 1085 nm
Laser Pointing / Preview	Red 635 nm, <1mW
Useful marking area	f163 lens: 112 x 112 mm (spot 32 µm) f254 lens: 174 x 174 mm (spot 50 µm)
Marking speed	up to 2450 mm/s (f-163 lens) up to 3900 mm/s (f-254 lens)
Connectivity	USB, RS-232, TCP/IP, Wi-Fi
Communication protocols	bermaCMD, Modbus
Fume extraction	Setup for Ø 50 mm tube + internal BF10/BF100 or external BF200
Alimentazione elettrica	100 ÷ 240V – 50/60Hz
Consumo elettrico max.	2,135 kW (20W), 2,879 kW (30W)
Dimensioni esterne (b x h x p)	1190 x 1898 x 878 mm



Arrangement for loading and unloading with robot

INTEGRA-S (DPSS)

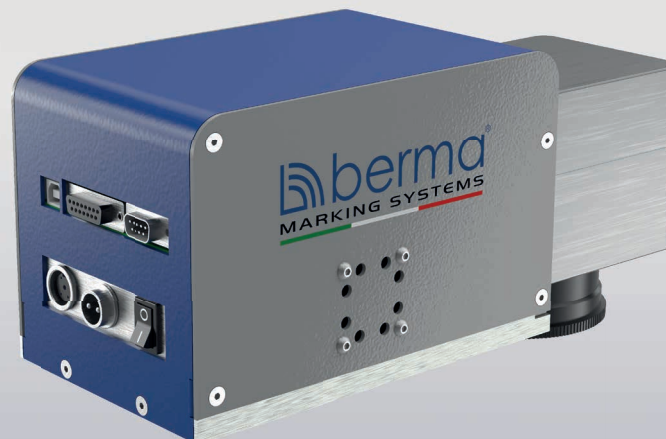
OEM LASER MARKING SYSTEMS

BERMA Machine Class 4 OEM integration systems are specifically designed to be inserted in other machines or in production lines or robotized islands.

They are designed for direct connection of bar code readers, with RS-232 connection, and it can be connected to other devices through proprietary protocol (bermaCMD) and standard fieldbuses (MODBUS).

It is possible to use lenses with different focal lengths to obtain work areas suited to the user's specific needs.

They are equipped with 3W diode laser sources or with 20W or 30W fiber laser sources, in Q-switched or MOPA configuration, allowing the most suitable configuration for different needs.



DATA SHEET

Laser source	3W (INTEGRA-3S)
Wavelength	1064 nm
Laser Pointing / Preview	Red 635 nm, <1mW
Useful marking area	f163 lens: 112 x 112 mm (spot 32 µm) f254 lens: 174 x 174 mm (spot 50 µm)
Marking speed	up to 2450 mm/s (f-163 lens) up to 3900 mm/s (f-254 lens)
Connectivity	USB, RS-232, TCP/IP (optional)
Communication protocols	bermaCMD, Modbus, Profinet (optional)
Head external dimensions (W x H x D)	125 x 145 x 306 mm
Power supply	100÷240V – 50/60Hz

INTEGRA-F (Fibra)

OEM LASER MARKING SYSTEMS

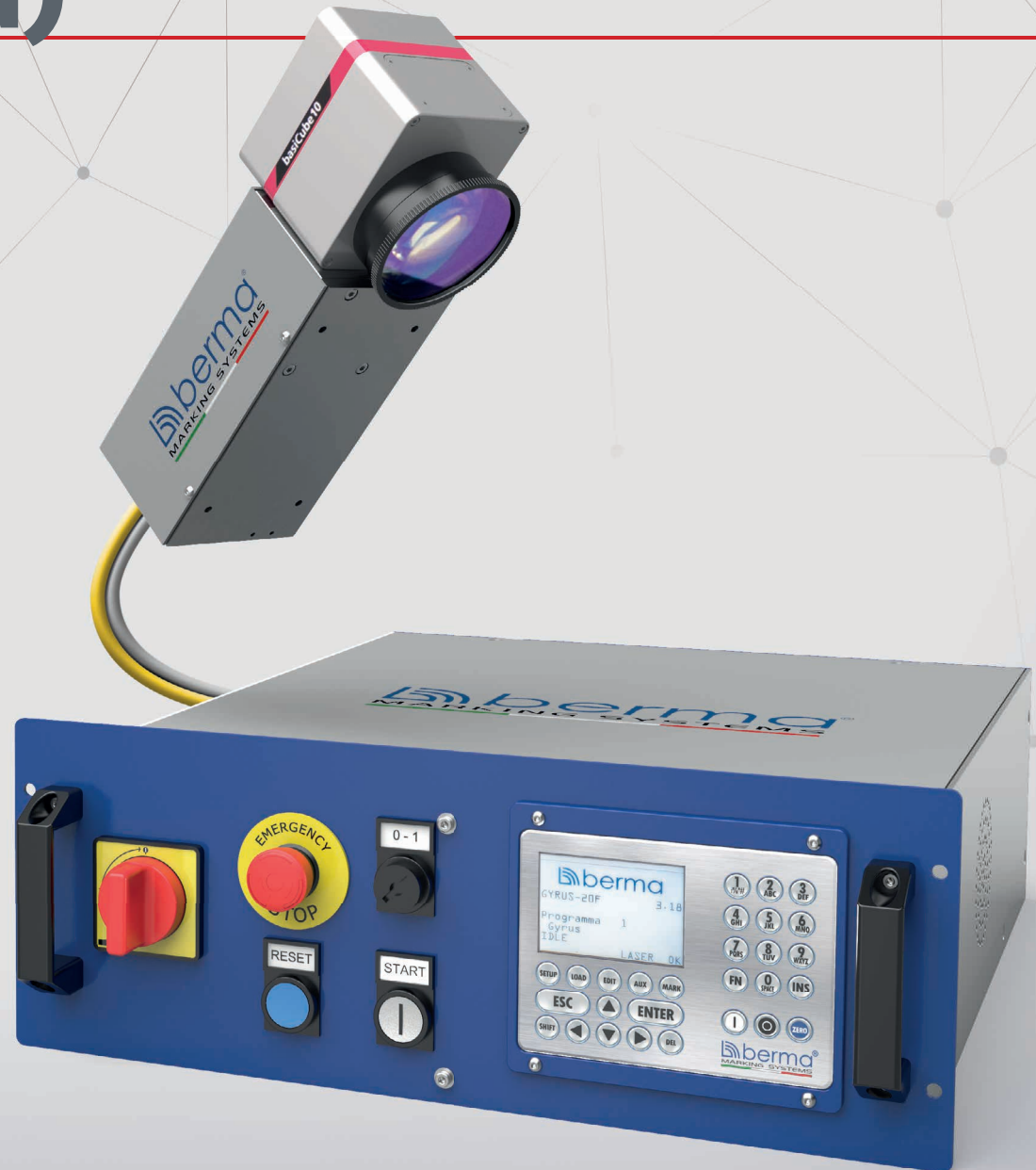
Advantages of Berma systems for integration:

- Storage of 1000 marking layouts
- Remote control via serial protocols and field buses (MODBUS)
- Reduced maintenance and very long lifespan of the laser source
- Optical elements with high performance and low power consumption
- High energy density = high marking quality in a short time
- Integrated red pointer (preview) to facilitate pieces positioning
- Direct and permanent marking without solvents, paint or labels

Focal lens f-theta

In case of processes or applications particular, it's possible to use focal lenses of different lengths from the standard ones.

By increasing the focal length, a greater marking area is obtained and a consequent lower resolution of the processing



DATA SHEET

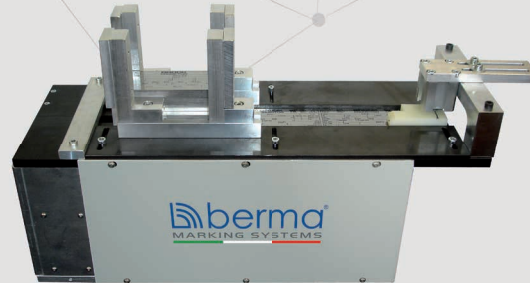
Laser source	20W (INTEGRA-20F) 30W (INTEGRA-30F)
Wavelength	1060 – 1085 nm
Laser Pointing / Preview	Red 635 nm, <1mW
Useful marking area	f163 lens: 112 x 112 mm (spot 32 µm) f254 lens: 174 x 174 mm (spot 50 µm)
Marking speed	up to 2450 mm/s (f-163 lens) up to 3900 mm/s (f-254 lens)
Connectivity	USB, RS-232, TCP/IP (optional)
Communication protocols	bermaCMD, Modbus, Profinet (optional)
Head external dimensions (W x H x D)	103 x 121 x 490 mm
Power supply	100÷240V – 50/60Hz

Accessories

Complete your Marking System

Automatic Plates Feeder

When there is a need to mark large quantities of metal identification plates, made of aluminum or steel, BERMA Machine has designed an automatic electro-pneumatic feeder which allows the vertical storage of a few hundred plates and their automatic loading and unloading from the marking area.



Data Sheet:

Plate dimensions from 25 x 25 mm to 120 x 100 mm

Minimum plate thickness 0.5 mm

Device management integrated in the marking system software.

Rotary Axis Device

This device allows you to make markings on cylindrical parts that are positioned on a spindle (manual or pneumatic). The direct connection to the marking system used allows it to be managed as an independent (W) and interpolated axis or as an off-line divider.



Data Sheet: (standard 125 mm spindle):

Internal grip diameter from 36 to 85 mm

Maximum external grip diameter 100 mm (extendable to 125mm)

Maximum workpiece dimensions Ø 250 mm, max. 8 Kg

Extraction and filtration systems

Compact saturation filter systems equipped with differential pressure monitored filter elements to ensure the necessary filtration efficiency.

Depending on the model, these systems are equipped with a pre-filter plus a two-stage filter (particulate and activated carbon) or a combined three-stage filter.



Gateway U-Gate e netTAP NT 50

Thanks to these converters it is possible to control BERMA marking systems via field buses MODBUS TCP (U-Gate) or Profinet (netTAP NT 50).

As for U-Gate, being a proprietary device, it is also possible to create customized firmware for connection to management software or other existing devices.



Speaking of BERMA

BERMA staff helps you find the most suitable solution to your identification and marking need, either standard or personalized

BERMA is an Italian company which deals with industrial marking since 1974. The company was founded by Mauro Bergamini and it started its activity producing pneumatic machines and utensils that revolutionized mechanical parts traceability business, formerly named "sector of the manual marking by hammer and punches".

In the mid-eighties the company developed its first numerical controlled marking systems using the "daisy" solution, that was a preliminary experience for the design of subsequent dot peen systems, which started a decade later. The generational handover took place in 2011 and the direction passed on to Fabrizio Bergamini, who completely renewed the company's mission and organisation with the introduction of a range of laser marking machines and the beginning of an internationalization process.

BERMA significantly increased its attention to the market and innovation thanks to the new certified quality management system, in order to provide quick and targeted answers to its customers' numerous requests. Since then, clients are increasingly placed at the centre of business processes and decisions.

The first local units have been opened in Robecco S/N (MI) and in Moncalieri (TO) for the purpose of pursuing these goals and establishing a closer relationship with the many customers of Lombardy and Piedmont.

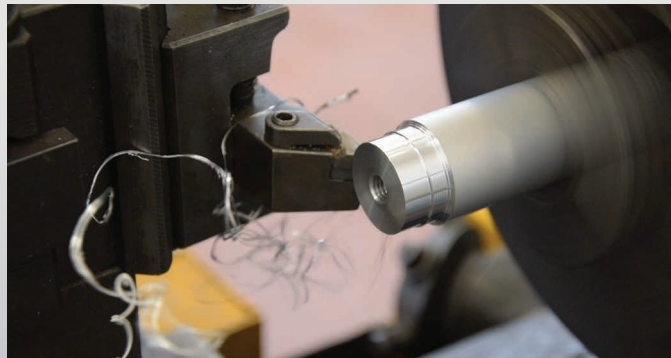
Today we have become specialists in providing the best solutions for the complete integration of our marking systems in customers' lines and production processes, thanks to the know-how acquired in the course of time.

We have developed a unique personal hardware and software platform that is common to all our dot peen, scribing and laser products.

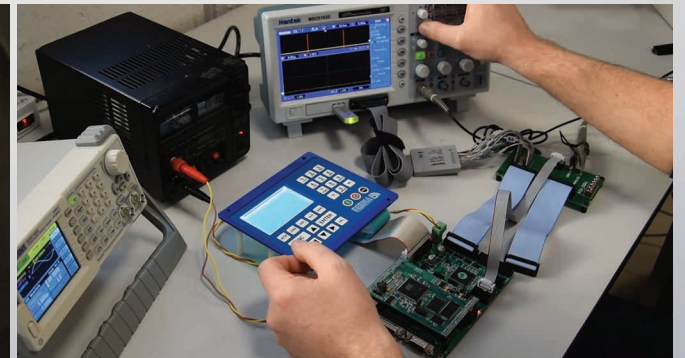
Moreover, the close cooperation with companies in the automation industry allows us to meet the different demands in the identification and industrial marking sector, which are continually growing on the national and international market.



DESIGN



PROTOTYPING



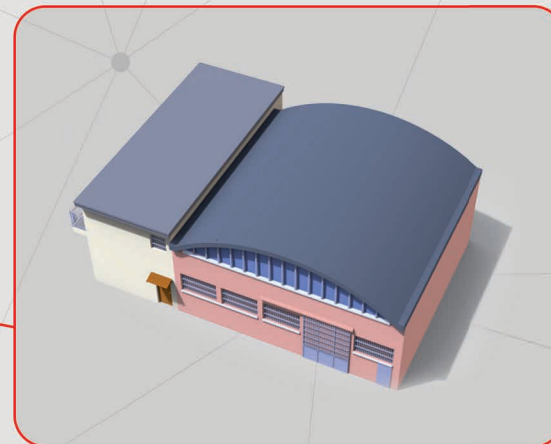
QUALITY CONTROL

Headquarters – Production unit

Via Roma, 14/18
20087 Robecco S/N (MI)
tel. 02 42449967

Office – Showroom

Via Pastrengo, 102/6
10024 Moncalieri (TO)
tel. 011 4156956



Office – Showroom

Via San Vitale 33
Z.I. Canaletti
40054 Budrio (BO)
tel. 051 802437

