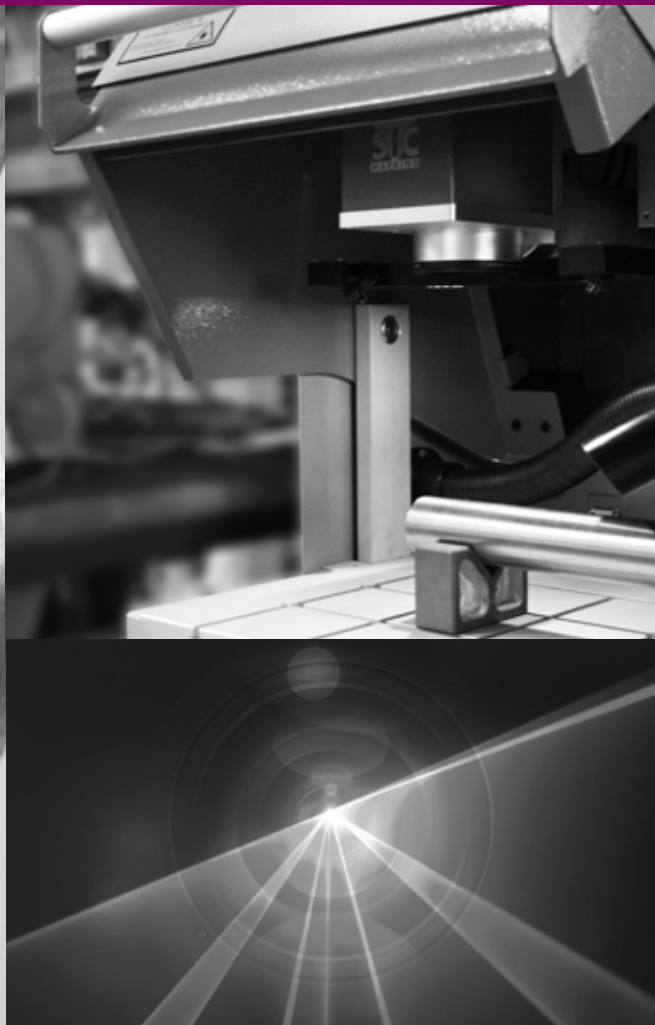




## FIBER LASER RANGE



[sic-marking.com](http://sic-marking.com)

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# WHO ARE WE?

We are the global expert in marking and traceability solutions.

SIC Marking is **an international company** developing innovative permanent marking solutions and automated identification for the complete traceability of industrial components.

**For over 30 years**, SIC Marking has engineered a full range of technically superior marking machines in dot peen, scribing and laser technologies for a wide range of materials such as steel, alloys, stainless steel, titanium, aluminum, and plastics.

Today we work with professionals in various industries such as: automotive, aerospace, metallurgy, mechanical engineering, plastics processing, railway, medical, construction, defense...

With an **experienced, responsive and involved team**, SIC Marking offers a complete range of standard products, and custom machines to meet all your needs.



**300 Employees**



**50 Million € Turnover**



**15% Annual growth**



**Installed base of 40 000 machines worldwide**



**More than 50 000 customers**



**Large Patents Portfolio**



**10 new products in the last three years**

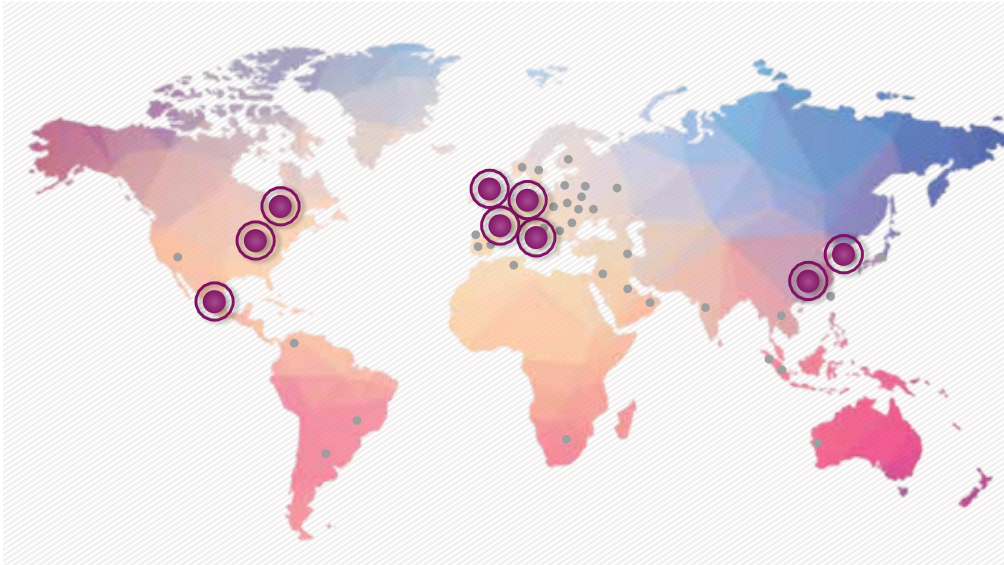


**10% of the Turnover invested in R&D**



# AT YOUR SERVICE

## SUPPORTING YOU ALL OVER THE WORLD



**Locations in Germany, Italy, the UK, Canada, USA, Mexico, China, South Korea and a network of over 40 distributors...**

## OUR CENTRES OF EXCELLENCE

We spend around 10% per year in R&D to develop new products in order to make our customers more competitive. Today SIC Marking offers the widest and most up to date range of products which runs from standard products to custom solutions.

We have a dedicated supply chain for our **custom solutions including a laboratory, design office, production workshop and a project management team**. This enables us to define both the best technical

solutions for our customers specific needs and to ensure a precise project follow-up for a smooth, quality on-time delivery.

**We have more than 100 trained technicians around the world** ready to support our customers during the entire product and/or solution life cycle: from commissioning and training to maintenance, supply of spare parts, repairs, upgrades and telephone helpline.





# OUR TECHNOLOGICAL APPROACH

«Quality, performance and innovation.»  
reflects SIC Marking's philosophy.



## THE FIBER LASER



Aesthetic



Endurance



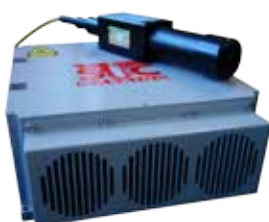
Speed



No maintenance

To meet the ISO quality requirements, traceability is essential. This the reason why laser marking is used by manufacturers to automate marking operations and thus **guarantee 100% control of their processes.**

This laser marking technology consists of **releasing radiation from a source** which is then amplified through an optical fiber and directed through a galvanometric head toward the part to be marked. The beam focused on the material by a lens creates a marking chemical reaction.

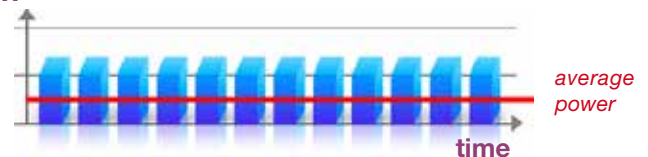


**Ytterbium doped  
SIC Marking  
fiber source.**

This technology is mainly used for permanent marking **on all types of materials**, from plastic to metal parts, irrespective of their hardness or surface finish. The laser is recommended for **high speeds and high quality markings.**

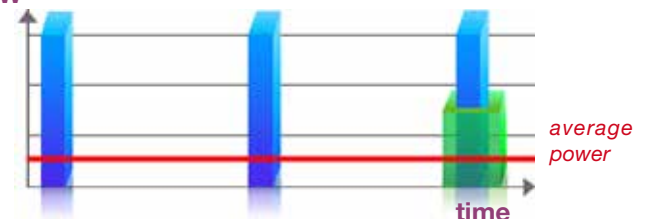
### The advantages of a fiber source:

kW



- Marking at reduced peak power
- High frequency
- Marking does not distort the material
- Variable pulse duration

kW



- Marking at high peak power
- Low Frequency
- Strong interaction with the material
- Variable pulse duration

## MARKING METHODS

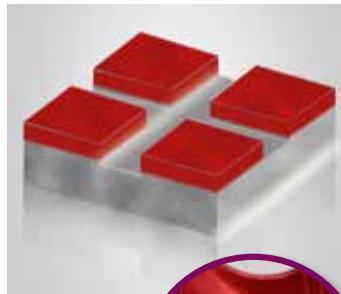
Surface condition  
respected (annealing)



Powerful marking with  
oxidation (foaming)



Removing layers



Removing material  
(engraving)



## TYPES OF MARKING



SIC

Single line



SIC

Double line



SIC

Hatched

## TYPES OF SURFACES



Flat marking



> Radiant



> Straight



Marking on  
circumference

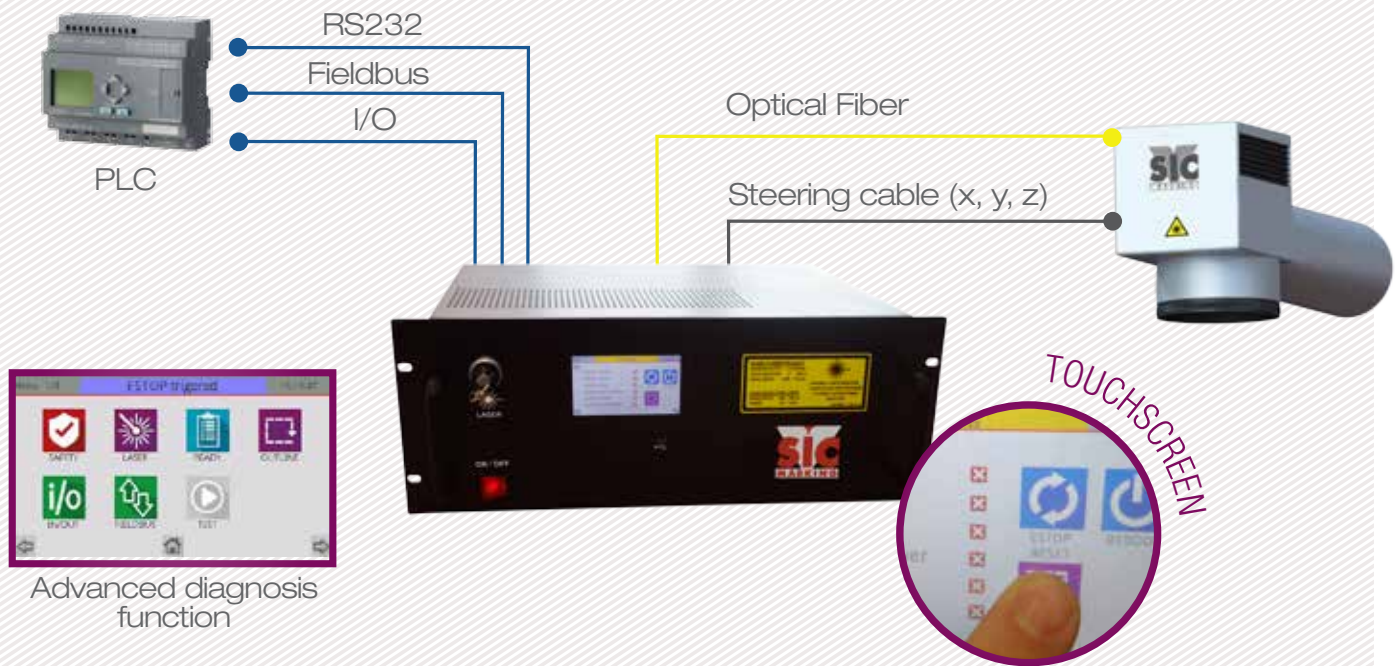


Curved marking



# OUR CONTROL UNIT

# FIBER UNIT



## + TECHNOLOGY & DESIGN

- Operating method: pulsed (variable frequency)
- Consumption: 750 W
- Wavelength: 1 064 nm
- Digital axis control (linear and rotary)
- Ultra Compact: 4U height (177mm)

## + RELIABILITY AND PERFORMANCE

- Long-life components ( $\geq 100\,000$  h)
- Self diagnostic function
- Cooling: by air only

## + COMMUNICATION CARDS

(optional)



## + OPERATING

- Laser driven by «SIC LASER» software
- USB interface, Windows environment
- User-friendly interface with icons navigation

## SECURITY

### ■ The NF-EN 60825 standard



The NF EN 60825-1 / A2 standard for the safety of laser products provides information on the classification of lasers for security, laser safety calculations, risk control measures, recommendations for laser safety managers

and for corporate hygiene and security committees. **For laser products manufacturers, the standard provides a reference for the compliance of installations. All laser products sold by SIC Marking meet this standard.**



### ■ Integrated security

- Unit certified by a specialised organisation
- Emergency stop
- Laser safety enclosure

### ■ Marking workstation

- Class 1 machines
- CE certified equipment

### ■ Integrated laser

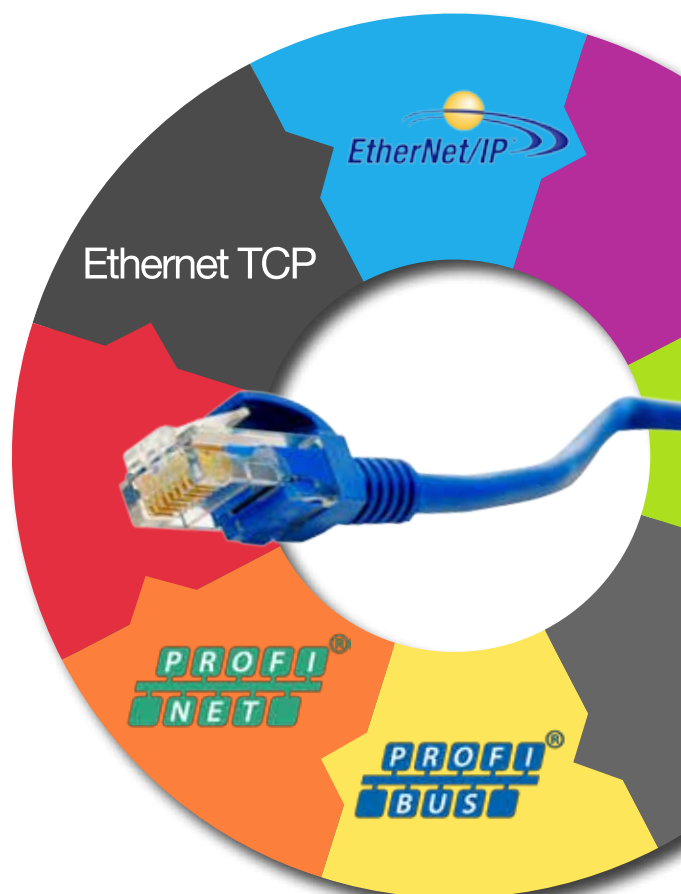
- Class 4 laser
- For an integration on a production line with adapted security rules

## COMMUNICATION

SIC Marking systems can be connected to industrial networks without any additional equipment.

Already equipped with full connectivity (digital I/O, Ethernet TCP/IP, RS232...), our systems also offer many features to interact with all the elements that set up their environment. **Our machines can be easily integrated on all production lines using Profinet, Profibus and Ethernet/IP.**

Direct connection to the industrial network without use of a gateway provides considerable time savings. It also reduces the cost of machinery installation, of engineering and of commissioning.



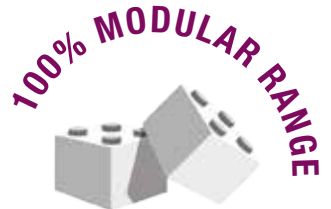


# OUR INTEGRATED LASERS

**i104**  
Easy  
LG  
HD

## OUR I104 RANGE

Our integrated laser systems have been engineered for intensive use in any industrial working environment. They can be integrated into production lines or used as a stand-alone marking station. They are suited for both low and high rates of production, and can be fully customized with additional features and tools. Resizing the housing, manufacturing dedicated tooling systems, or adding extra axes (e.g. Z and rotary) can be made on request.



### • Available configurations:

#### **Easy** 20-30W

Excellent value for money  
Marking on all types of materials and difficult surface conditions

 **VERSATILITY**

#### **LG** 50W

Deep marking  
Ultra fast marking

 **HIGH POWER**

#### **HD** 20W

Multi material (ideal for aluminums and plastics...)  
Reduced cycle time

 **HIGH CONTRAST**



#### **+ GREAT VALUE FOR MONEY**

- SIC Marking fiber laser
- Proven technology
- Multi applications (metals, plastics...)

#### **+ VERSATILITY**

- Marking on all types of materials and difficult surface conditions
- Surface or hollow marking
- 1D or 2D codes (Data Matrix) marking
- Images or vector logos marking
- Decorative marking

#### **+ EASE OF USE AND INTEGRATION**

- Small size
- Built-in communication cards and memory
- No PC required to operate on the line
- Adjustable pulse duration per object (*for HD configuration*)

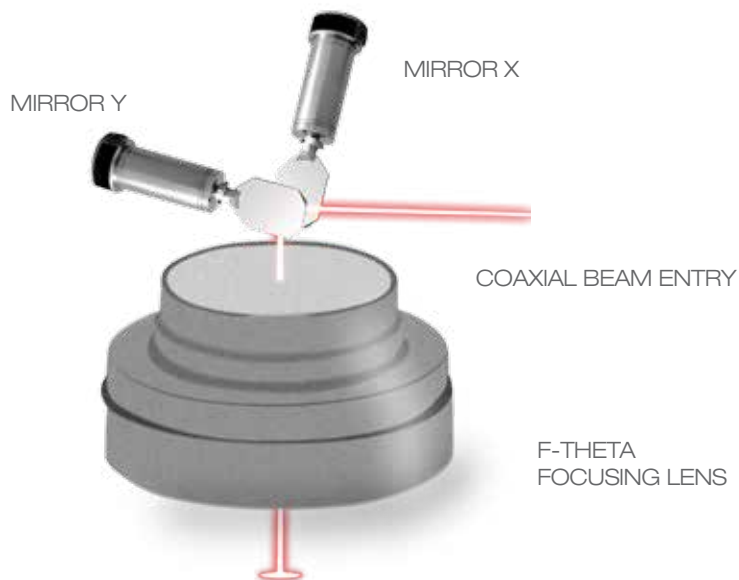
#### **+ ROBUSTNESS AND RELIABILITY**

- Long-life components ( $\geq 100\,000$  h)
- Suitable for intensive use in industrial environments
- Reduced maintenance
- 1 years warranty

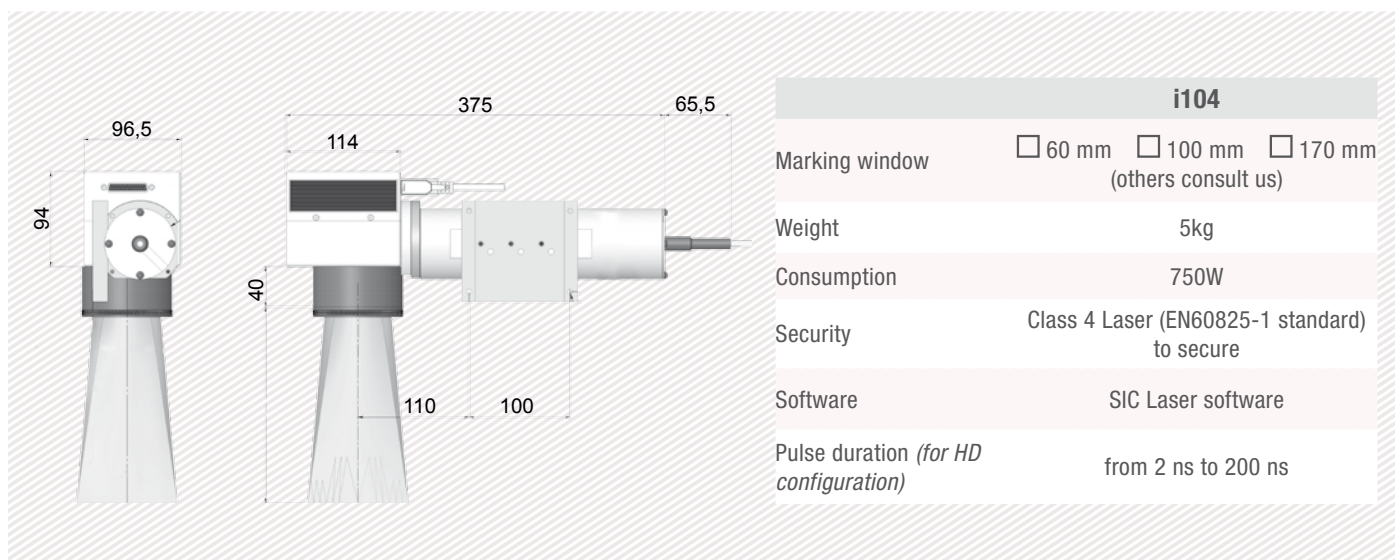


## GALVANOMETRIC HEAD

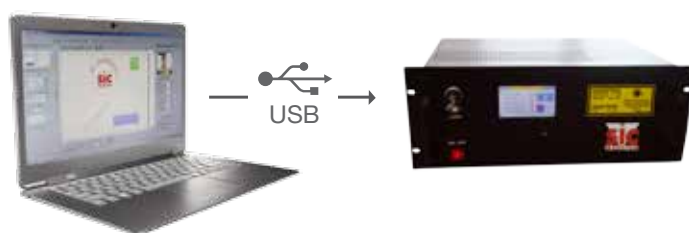
The laser beam passes through the collimator, to be directed to two oscillating mirrors. Each of these mirrors is an axis of the marking field. At the head's exit, the focusing lens concentrates the power in a single point.



### •Mechanical features:



### •Programming mode:



- Creation of entities to be marked: characters, logos, 1D or 2D
- Font choice «True Type»
- Pen setups

### •Production mode:

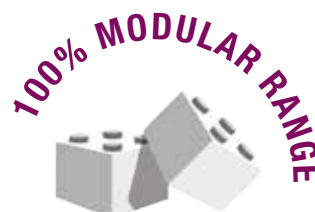


# OUR MARKING WORKSTATIONS

**L-Box**  
**XL-Box**

## OUR LASER WORKSTATION RANGE

SIC Marking's powerfully precise laser technology is the secret behind our laser marking workstations. They can be integrated directly into production lines, or operated as stand-alone, autonomous workstations. Resizing the housing, manufacturing dedicated tooling systems, or adding extra axes (e.g. Z and rotary) can be made on request.



• Available configurations:

### **Easy** 20-30W

Excellent value for money  
Marking on all types of materials and difficult surface conditions



### **LG** 50W

Deep marking  
Ultra fast marking



### **HD** 20W

Multi material (ideal for aluminums and plastics...)  
Reduced cycle time



### **+ ROBUSTNESS AND RELIABILITY**

- Long-life components ( $\geq 100\,000$  h)
- Reduced maintenance
- 1 years warranty (5 years optional)

### **+ FIBER LASER**

- SIC Marking Fiber laser sources doped with Ytterbium
- Technologie éprouvée
- 1D or 2D codes (Data Matrix) marking
- Fast and high quality marking

### **+ USER-FRIENDLY**

- Ergonomic door: soft opening
- Access the marking zone from 3 sides
- Large viewing window
- Reduced width for improved ease of use
- Automatic door system & Motorized Z axis

### **+ SECURITY**

- Class 1 security laser (EN 60825-1 standard)

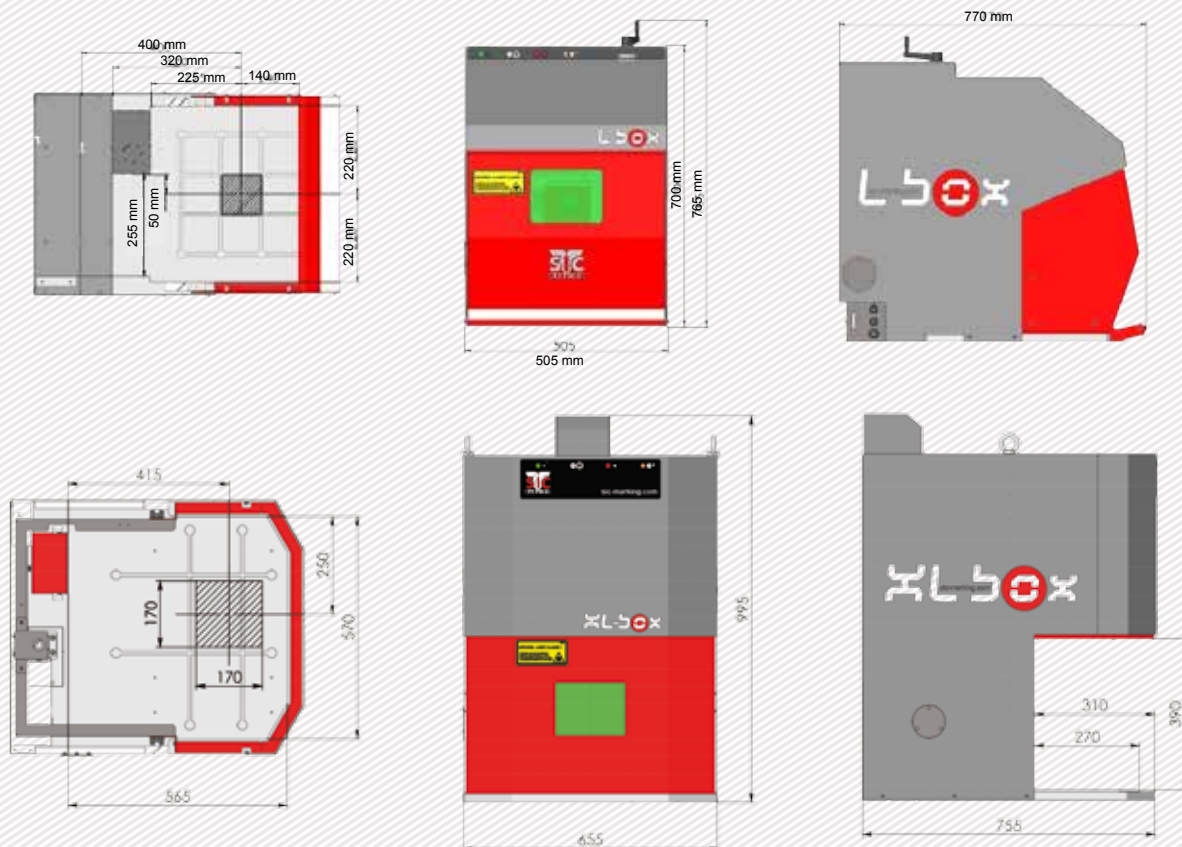
### **+ ROBOT MODE** (XL-Box)

- Laser fully controllable by automated robot cell



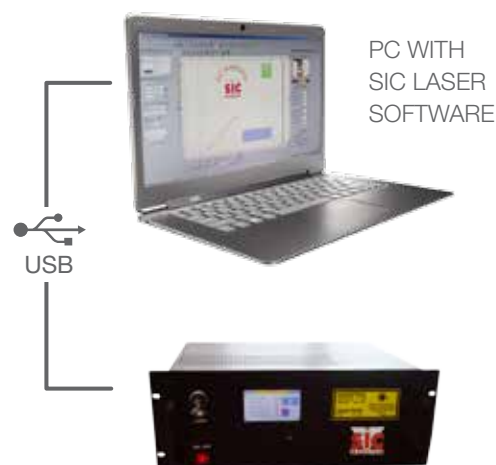
•Caractéristiques techniques mécaniques :

	L-Box	XL-Box
Marking window	□ 100 mm □ 170 mm (others consult us)	
External dimensions	505 x 770 x 765 mm	655 x 755 x 995 mm
Marked parts Dimensions	Max height: 223 mm - Max length: 440 mm	Max height: 370 mm - Max length: 570 mm
Lighting	LEDs on the work area	
Working distance adjustment	Manual or motorized column with counter and laser pointers	
Security	Class 1 security laser (EN 60825-1 standard)	



## «SIC LASER» SOFTWARE

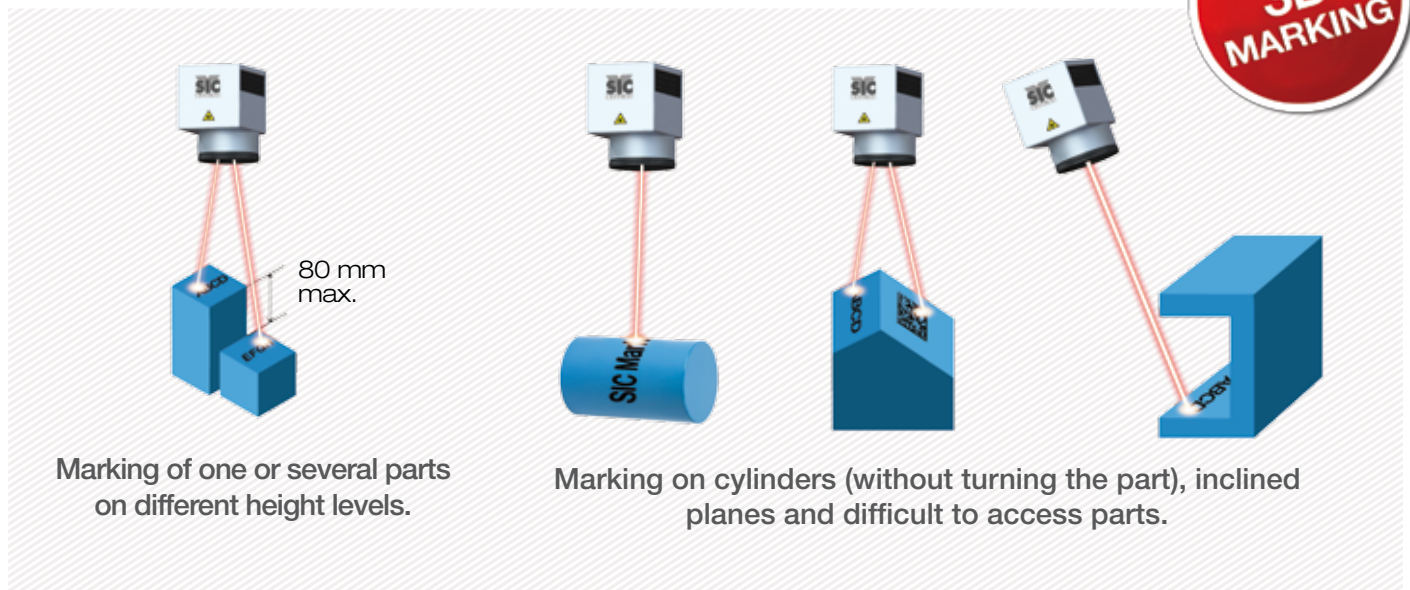
Function	Creation and marking file editing (drawing, text, bar code, Data Matrix code ...)
Laser settings	Defining multiple pens (speed, power, frequency ...)
Fonts	All TrueType fonts for PC
Encryption	1D Barcode and 2D codes (Datamatrix)
Image	Import of image files (.bmp, .jpg)
Logo/Illustration	Import of vector files (.plt, .dxf, .ai)
Data base	Link with external files (txt, xls)
Cylindrical parts	Marking function of rotary axis



# OPTIONS

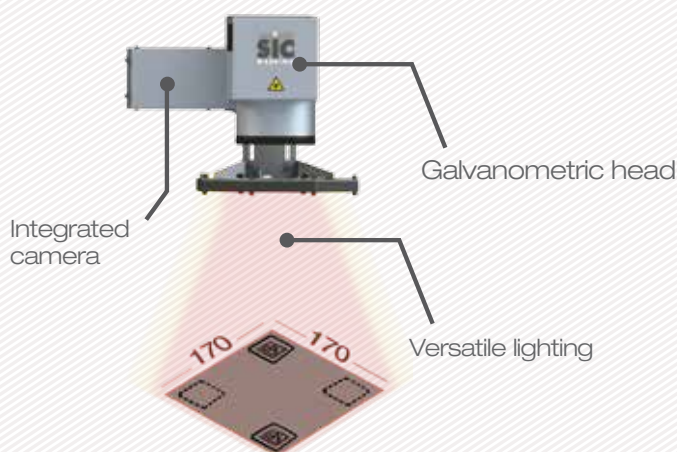
## i104 L-Box XL-Box

### 3D MARKING FUNCTION



### INTEGRATED VISION SYSTEM

SIC Marking's identification systems allow the reading of all types of characters (1D, 2D codes and alphanumeric characters). With its unique expertise, SIC Marking ensures a full service of marking / reading systems. SIC Marking is also developing marking analysis softwares and softwares to backup data (historical, image, reading report...).

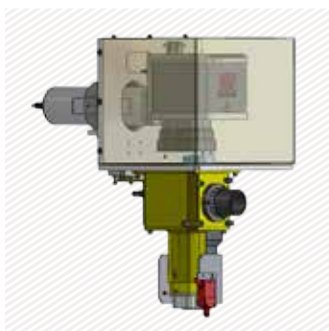


Reading & grading of several 2D codes (QR-Code, Datamatrix) in a large marking window (170 x 170). Reading possible in the entire marking window.





## ACCESSOIRES



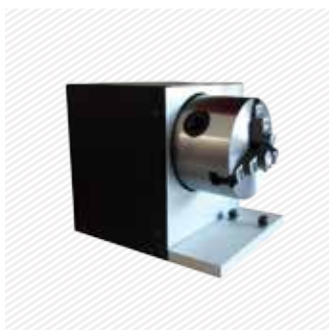
Protective sleeve



Extraction and filtration systems



Custom protective box



Divider axis



Motorized Z axis



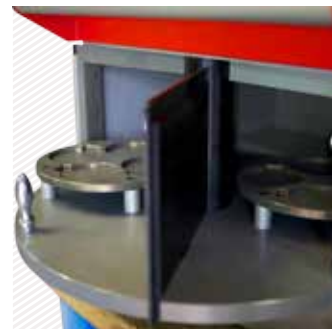
Full Chassis



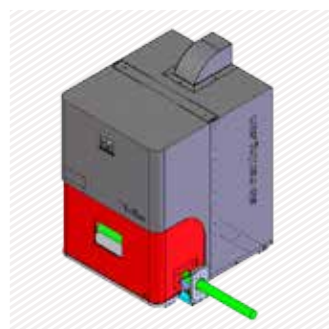
Part loading drawer



Lateral extension



Manual rotating platter



Long part marking

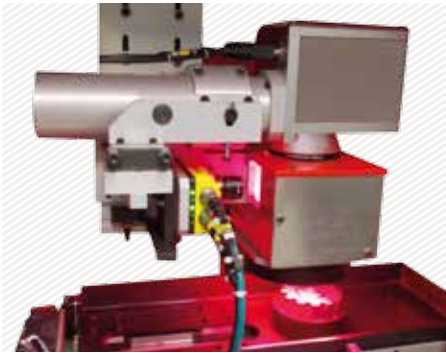
# OUR CUSTOM APPLICATIONS

## COMPLETE TURNKEY WORKSTATIONS

With an experienced, responsive and involved team, SIC Marking designs customized, turnkey solutions for all industrial sectors. Our design office produces machines in compliance with your specifications and your industrial standards.

We make changes to our standard workstations (resizing, adding movements...) or create specific systems to meet your specifications.

## CUSTOM INTEGRATIONS



Laser station equipped with a loading drawer and a dedicated reading system

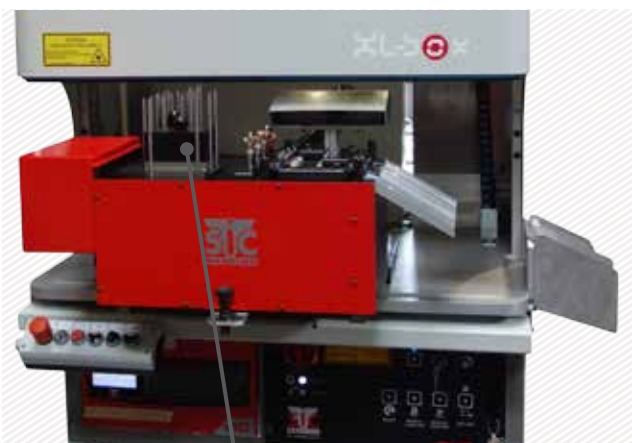


Protective sleeve for laser



i104 laser with a protective sleeve for manual marking of steel plates.

## AUTOMATIC NAMEPLATES CHARGERS



Loading area for blank plates



Stacking tub for plates

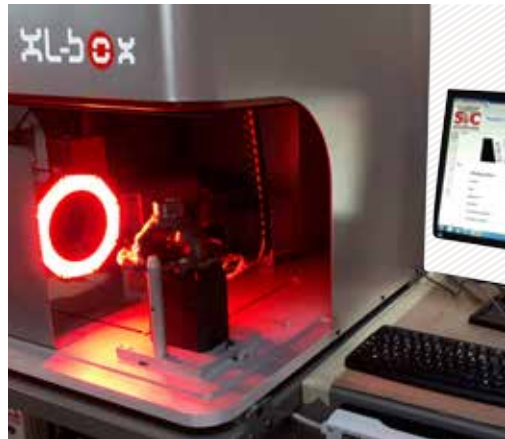


Automatic stacker

## MARKING AND READING



XL-Box marking station with deported reading system



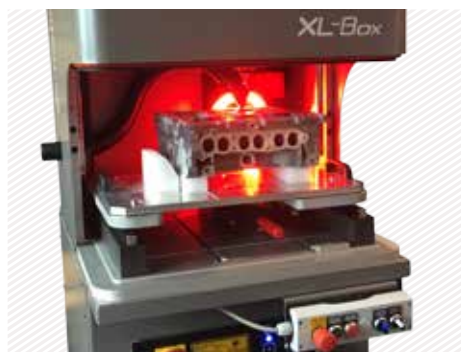
XL-Box laser machine with integrated vision in the marking head



## CUSTOM WORKSTATIONS



Laser station equipped with a turntable



XL-Box laser station with custom tooling



4-axis laser marking system



XL-Box laser station integrated in robotic cells



Laser station for large dimension parts



Laser station for marking three carbon brake discs inside and outside



# DIFFERENT TYPES OF MARKS

Steel



Deep marking on steel



High speed steel



Treated steel

Plastics





## Aluminum



Cast aluminium



Painted aluminium



Anodized aluminium

## Various



On metal sheet



On ceramic



On carbide



On rubber



On a painted part

## OUR TEST LABORATORY



■ Free tests



■ Marking and reading feasibility studies

# OTHER TECHNOLOGIES

## DOT PEEN



Our dot peen technology is known and approved, it has allowed SIC Marking group to become a world leader in industrial marking.

This type of marking is made by a succession of impacts or points. The force is transmitted by a controlled electric pulse through a coil, which powers the magnetic assembly and its stylus towards the surface.

We offer a complete dot peen range with portable, column mounted or integrated systems.



• Portable Range



• Column mounted Range



• Integrated Range

## SCRIBING



This technology is required mainly in applications where the noise level in the working environment is decisive. Scribing ensures a permanent marking of high quality, ideal for example for OCR reading

applications (Optical Character Recognition).

Our integrated marking machines are designed to be placed at the heart of the production lines and can also be adapted to specific needs, such as VIN marking (Vehicle Identification Number).



«More than 10000 customers trust us»



in many different industries»



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