

META-XY



META-XY LASER MARKING MACHINE

SYSTEM BROCHURE: V2024



ABOUT US

At Lotus Laser, we pride ourselves on our innovative approach to designing and manufacturing cutting-edge laser systems. With a reputation as industry pioneers, we cater to a diverse range of sectors, including aerospace, military, jewellery, and education.

Our relentless pursuit of excellence drives us to continuously improve the features and durability of our systems, with substantial investments in research and development. Rigorous testing and quality control measures ensure that our lasers not only outperform but also outlast competing systems.

01

How we began

Since the 1990s, our company has been at the forefront of laser cutting and marking technology. Recognising the vast potential of lasers across various industries, we initially operated as users and distributors for two leading laser brands. However, we soon realised the limitations of this approach and the growing demands of our clients. This realisation prompted us to redirect our focus towards extensive research and development, incorporating our expertise, aspirations, and customer feedback. Today, we are proud to be recognised globally as a leading manufacturer based in the UK.

02

Where we are today

We are proud of the growth we have experienced since the company began manufacturing in the 1990's. We stand at the very front of the wave in most areas of technology, precision and reliability, whilst maintaining exceptional value for money and environmental values. Our systems are relied upon by a number of Fortune 500 companies and household brands all around the world, backed by incredible SLA figures both from ourselves and our excellent international partners.

03

Step into the future

We invest a very sizable sum of our annual revenues on R&D to bring cutting-edge technology in the various models that we supply. Our range keeps expanding and improving as we offer exciting new options to existing and new customers. We will always strive to provide the complete solution, not just machines off a shelf. Our systems are designed to balance to the needs of your businesses in terms of Functionality, Affordability and Reliability (FAR).

WHAT IS META-XY?



META-XY is ideal for fast laser marking of multiple parts

Packed with performance enhancing features, our new laser is ideal for marking almost anything...



Dean Carpenter
MANAGING DIRECTOR

I decided to create Lotus Laser Systems with a strategy to become a truly specialist provider with unrivalled technology and applications know-how; a goal I think we achieved...

BUILD PROCESS

Our build process is customised per system and highly meticulous. To reduce the total build time, we test all our components in advance, so there is graded, tested stock components ready to be assembled and configured for the specific use.



All systems are designed and manufactured in the United Kingdom.

STAGE 1

STAGE 2

STAGE 3

STAGE 4

electronics

Every wire is crimped, numbered and routed by hand. Key electronics are up-rated, and we fit high performing Schneider Electric and Siemens PLC components where possible, rated for many millions of operations.

mechanics

Precision cut parts are assembled by our engineers to a level of accuracy a watchmaker would be proud of. Pneumatics are fitted and tested. We use aluminium throughout, despite the cost, due to its high strength, low weight and lower impact on the environment.

configuration

Our engineers dedicate 3 days to each machine produced, for best-in-class calibration. Precisely configuring beam shaping, scaling, and focal height for every lense provided to ensure optimal system performance.

testing

Our quality assessment team will run each system through a range of tests, checking compliance in work scenarios and then re-checking. By the end, we know your machine will be beyond perfect on arrival.

FEATURES

A true desktop laser engraving machine, nMeta has a 30% smaller footprint than leading competitors meaning it will fit on most work-surfaces. Ideal for engraving metals and plastics in workshops, jewellers and most industrial environments.



Fitted with our advanced ELI laser source and 3D marking head (3-Axis) for fast marking of multiple curved, 3D objects.

/01

UV, MOPA Fiber or CO2

Able to accommodate any of our latest laser sources, with a large format work area, the Meta-XY is extremely accurate and incredibly fast.

This means the range of materials you can mark is vast and, due to the Meta-XY chassis, we can fit larger laser sources upon request.



/03

High Speed & High Precision

Featuring a generous 368mm programmable Z-axis, with an industry leading accuracy $\pm 0.02\text{mm}$, you will achieve quick, repeatable and accurate results on even taller objects.

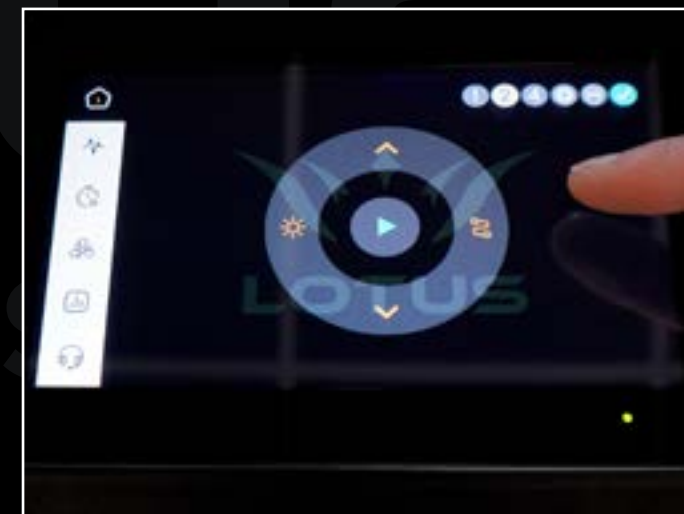
The high positioning speed (10,000m/s), fast auto-door and quick T-slot, ensure the lowest total job times.

/02

Extreme Durability

Our Meta range is robust and resilient, capable of withstanding continuous operation around the clock.

Crafted from military-grade aluminium and reinforced in key areas, it boasts exceptional durability, even capable of supporting the weight of a small truck*.



/04

Siemens PLC DLC and V3 Software

Lotus Mark 3.0 makes it easy to operate your machine, with 4-Axis support, import 3D models, imagery, vectors and much more.

Siemens modular PLC's ensure reliability, a long life and are complemented by our touchscreen for quick setup, job tracking and maintenance.

AS STANDARD

Extreme Durability

Our Meta range is robust and resilient, capable of withstanding continuous operation around the clock. Crafted from military-grade aluminium and reinforced in key areas, it boasts exceptional durability, even capable of supporting the weight of a small truck*.

Safe. Certified.

All systems are built to the highest safety standards, CE certified, in accordance with ISO9001, RoHSII and FDA regulations.

Automatic X-Axis

Our automatic 700mm x 500mm T-Slot worktable is ideal for laser marking multiple parts in one batch, allowing for quick, clip-in accessories and perfect, repeatable alignment of your parts.

180° Access

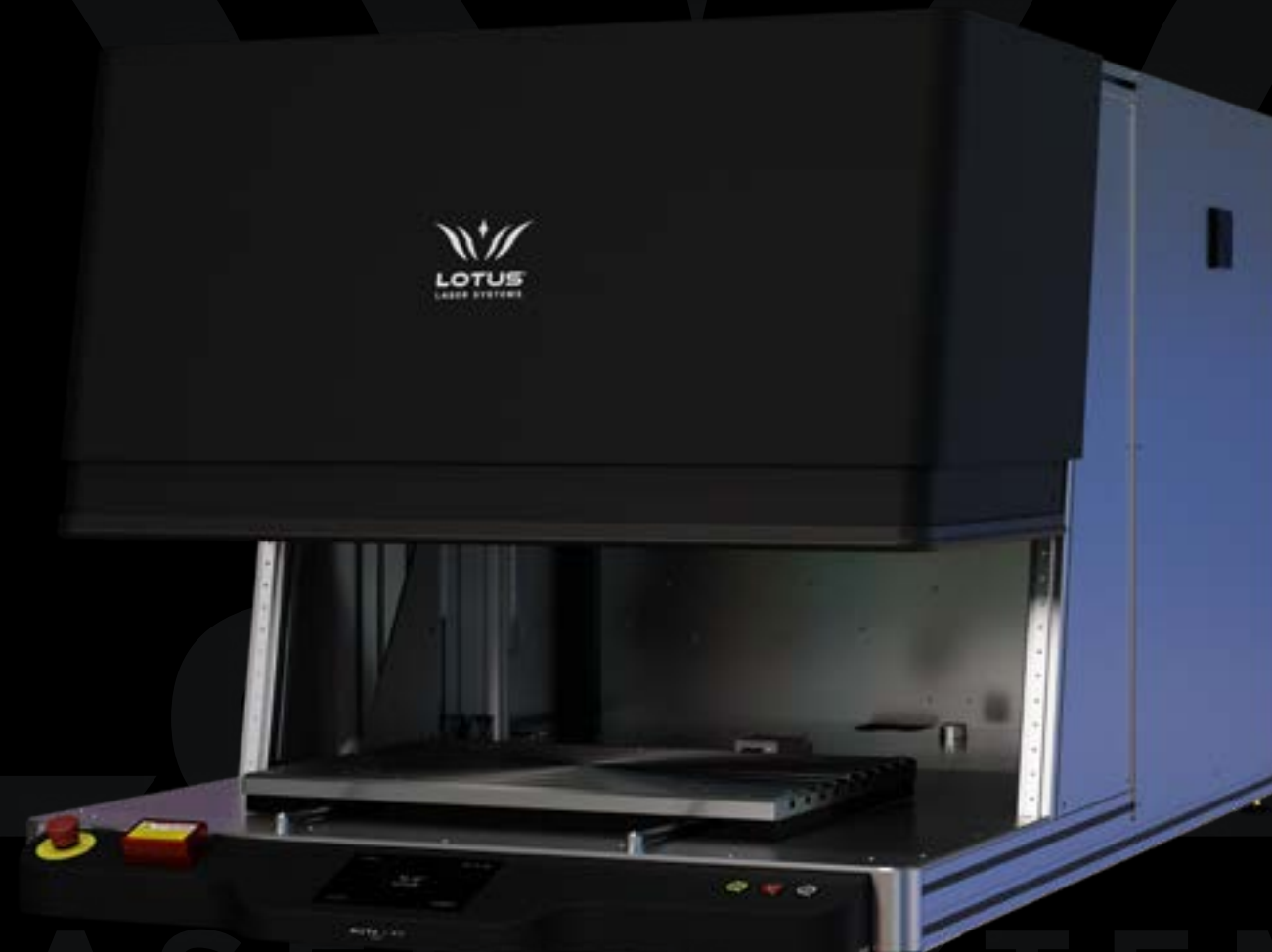
180° access let's you quickly setup and position parts. Doors closed, in Class 2, the max part size is 700mm wide x 380mm deep.

Built for industry

We only source the best components when we need them, from German electronics to Italian pneumatics. This means our machines excel in operating across a wider range of environmental conditions, temperature, humidity, and dust, surpassing most competing options.



Built for 24/7 industrial or commercial use, with a lifespan exceeding 15 years and counting...



Near Zero Failures

With significant numbers of machines in the field and with the help of our highly skilled support resources, we are proud that our customers report near zero failures even for machines that have been installed for 15 years or more.

Automatic Door

The automatic door is fast, safe and pneumatically actuated, it can handle 1,000,000's of operations, at higher speeds than motorised alternatives, meaning quicker job turnaround.

Interchangeable Lenses

We include three fully calibrated F-Theta lenses as standard, perfectly configured for your machine, delivering a variation of focal lengths, scan areas and focal point sizes.

Global Warranty

We are so confident in our design and build; we back it up with some of the longest warranties in the industry. Providing a 3-year global warranty as standard, extendable to 6 years or longer.

UPGRADE OPTIONS

+ Tailor your laser system to suit any setting, accommodating the needs of your users, customers, and business alike.

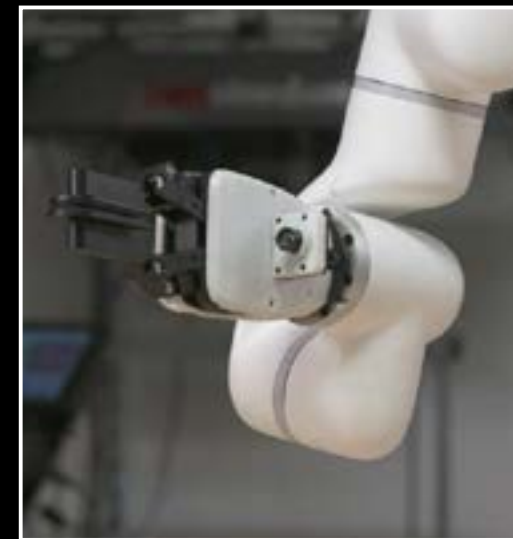


Front-of-Store Solutions

Offer that personal touch to your products.

Give your customers the option to walk into your shop, pick out your item, and then watch live as their chosen design or message is etched right onto it within seconds.

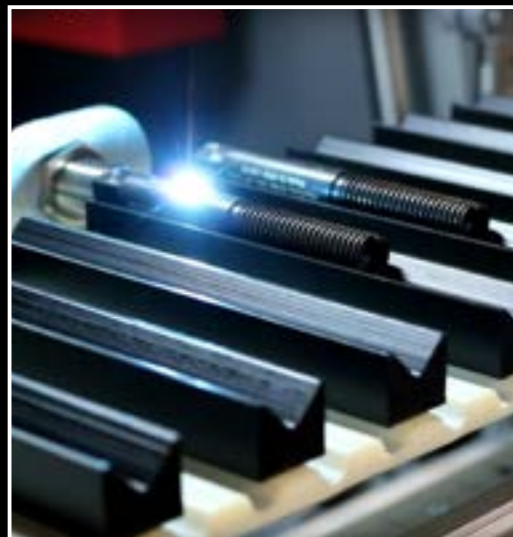
Offer fast in-store personalisation, add value and profit quickly on anything from glass bottles to mobile phones, shoes or engagement rings. Our under-counter laser systems are fully flexible and we can customise the design of POS software and the unit to match your brand.



Collaborative Robots

Remove the human element and lower costs.

Collaborative robots, or cobots, offer numerous advantages for manufacturing. Firstly, they enhance safety by working alongside humans, reducing the risk of accidents and injuries. Improve efficiency by automating repetitive tasks, allowing your staff to focus on more complex or creative endeavors. Additionally, cobots are cost-effective solutions, offering scalability and versatility without the need for extensive retooling. Why not find out how our options can speed up your production?



Conveyors & Automation Systems

Expedite and automate your production process.

We can integrate and create almost any automation system to fit your production process, from conveyors to auto-feeder solutions. We will help you streamline, ensuring consistent throughput, enhancing precision and efficiency.

This integration not only removes human error and possible contaminants (if applicable), but it is critical for manufacturing processes to meet the evolving demands of agility and reliability.

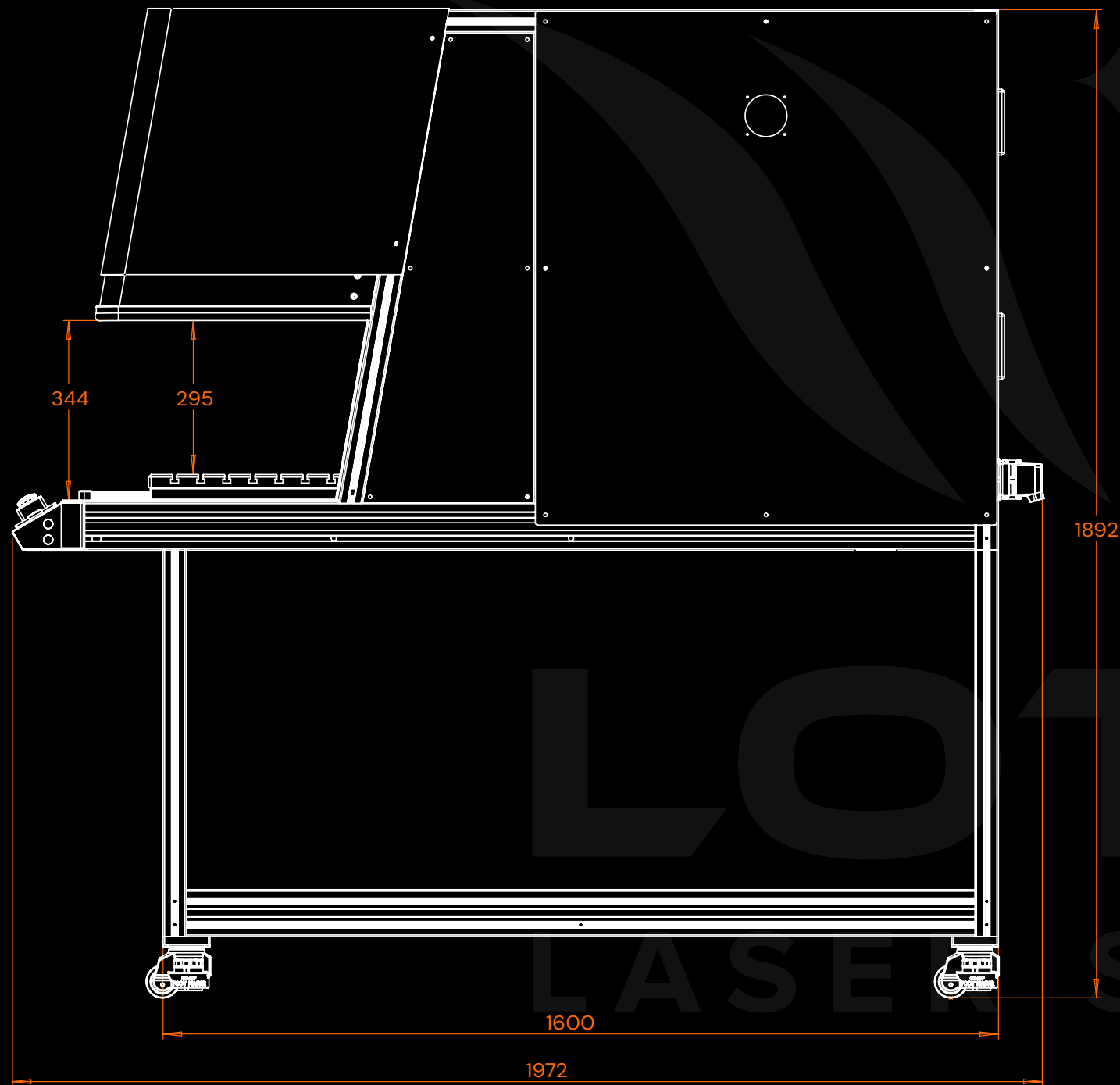


Batch Coding & Image Recognition

Automate placement of graphics on all your parts

To compliment our automated x-axis for part trays, cobots and other automation systems, we can also provide advanced camera systems. Through algorithms and cameras we can swiftly identify product surfaces, ensuring accurate placement of marks with precision. This technology ensures logos, serial numbers, or other identifiers are correctly positioned, enhancing product traceability and brand recognition. Moreover, image recognition streamlines production processes, reducing manual errors and increasing speed and efficiency.

SPECIFICATION



Technical Data

Laser Data

Laser Source	ELI-X17 MOPA FIBER, ELI-355 UV or CO2
Laser Head	3D (3-Axis)
3D Depth of Focus (DOF)	35mm
Accuracy	1µm (0.001mm)
Positioning Speed	10,000mm/s

Part Marking

Max Part Weight	35kg
Max Part Size (Closed, Class 2)	820mm x 620mm
Worktable Dimensions	700mm x 500mm (T-Slot Expandable)
Marking Area (F160 Lens)	112mm x 112mm
Marking Area (F254 Lens)	174mm x 174mm
Marking Area (F330 Lens)	220mm x 220mm
Rotary Max Part Diameter (contact for clarification)	230mm

General

Z-axis Stroke (useable)	368mm
Z-axis Accuracy	±0.02mm
DLC / Software	Siemens PLC / Lotus Mark v3.0
Dimensions (W D H)	1140mm x 1975mm x 1885mm
Machine Weight	~150kg
Global Warranty	3 to 6 years

United Kingdom

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