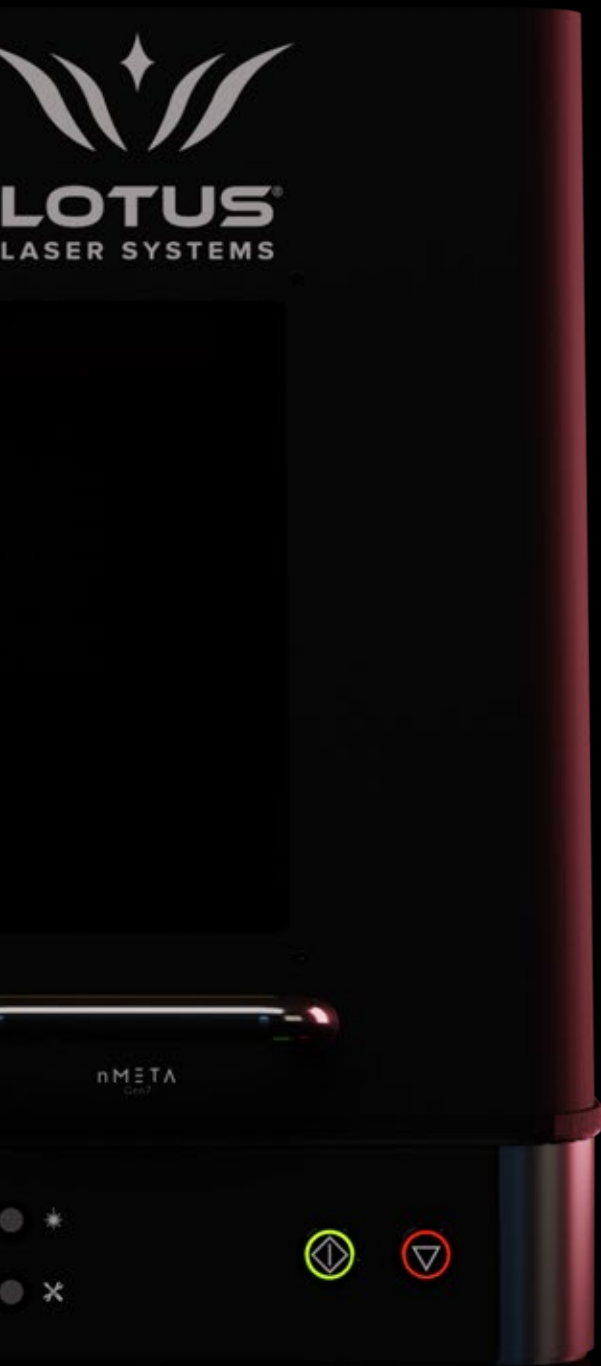


# nMETA FIBER



nMETA FIBER  
LASER ENGRAVING 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.

## How we began

01

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.

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## Where we are today

02

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.

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## Step into the future

03

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).

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# WHAT IS nMETA



**nMeta brings top-tier laser engraving to your desk.**

**Ultra-compact and feature rich, this MOPA laser system is ideal for jewellery, products, engineering and almost anything else...**



**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.

## STAGE 1

### 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.

## STAGE 2

### 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 it's high strength, low weight and lower impact on the environment.

# LASER S



**All systems are designed  
and manufactured in the  
United Kingdom.**

STAGE 3

STAGE 4

## **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.

## /01

### ELI-X17 MOPA Laser

The Lotus ELI-X17 goes beyond a typical MOPA Fiber Laser, with **17 waveforms**.

This means the range of metals and plastics you can mark vs. competing MOPA lasers is far better. You gain more accurate control, meaning less burning at the edges, a more homogeneous higher contrast marking, and repeatable results.



## /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\*.





**Fitted with our own ELI-X17 MOPA laser perfectly calibrated with selected lenses for easier setup and marking.**

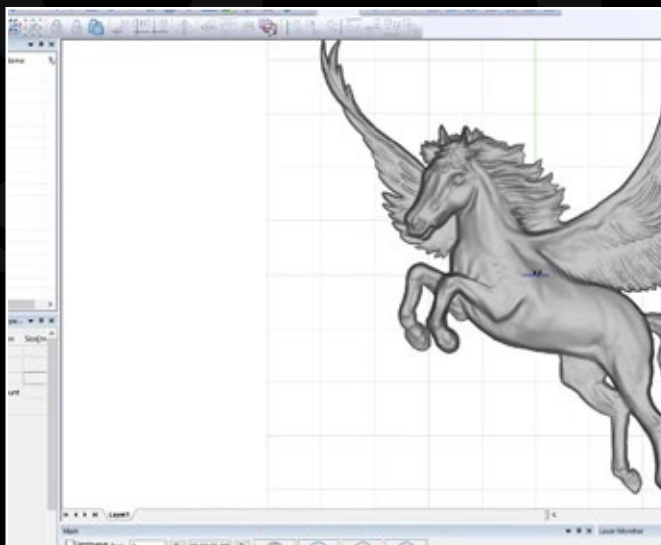


/03

#### High Speed & High Precision

Boasting a generous 200mm 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.



/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 and a longer life, allowing for 24/7 operation throughout the years.

# 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.

## Repeatable Results

We fit a 250mm x 250mm worktable with precision cut M5 threaded holes. This allows for quick mounting of jigs or other work holding fixtures, various clip-in accessories, and perfect repeatable alignment of your parts.

## 180° Access

The 180° access let's you quickly setup and position parts. Doors closed, in Class 2, the max part size is 350mm x 260mm 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.

## **Semi-Auto Door**

The semi-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 two 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.



# OTHER OPTIONS



## Front-of-Store Solutions

Offer that personal touch to your products.

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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.



## Conveyors & Automation Systems

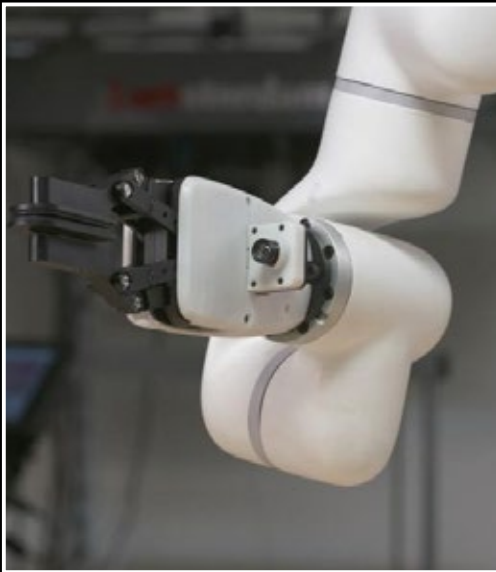
Expedite and automate your production process.

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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.

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



## Collaborative Robots

Remove the human element and lower costs.

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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?



## Rotary Devices

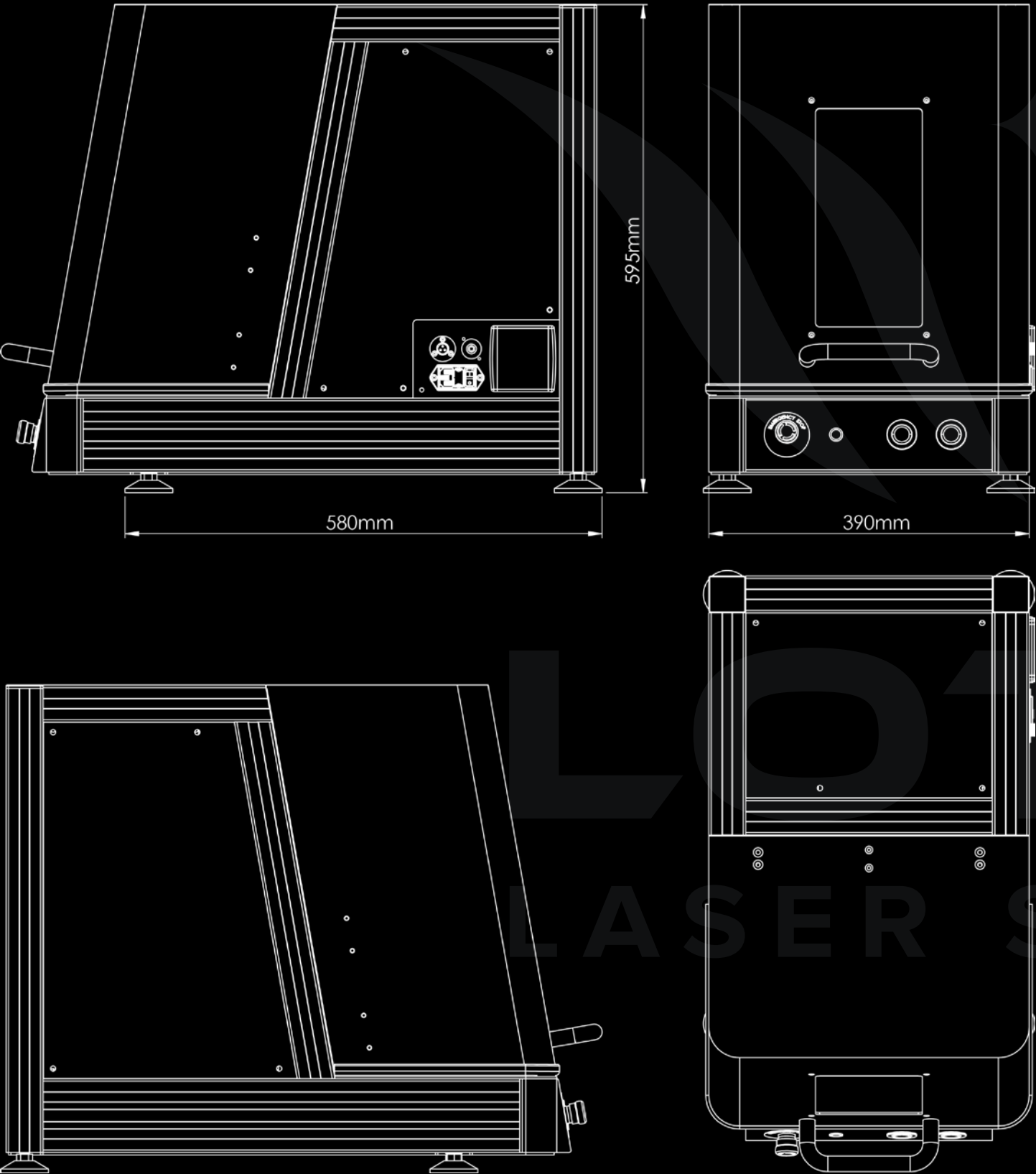
Mark around the circumference of your products.

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Mark or engrave around the circumference of rings, bottles, parts and more. The rotary device easily grips the part while turning it during the marking process to hold an accurate focal point.

For even more flexibility, opt for one of our systems with a 3D (3-Axis) laser head which can achieve much of the same around a smaller proportion of the circumference without any rotary at all. Please get in touch for more details.

# SPECIFICATION



# Technical Data

## Laser Data

Laser Source	ELI-X17 MOPA FIBER (30W)
Laser Head	2D (2-Axis)
3D Depth of Focus (DOF)	NA
Accuracy	1µm (0.001mm)
Positioning Speed	10,000mm/s

## Part Marking

Max Part Weight	30kg
Max Part Size (Closed, Class 2)	350mm x 260mm
Worktable Dimensions	250mm x 250mm (T-Slot Expandable)
Marking Area (F160 Lens)	112mm x 112mm (Max height: 105mm)
Marking Area (F100 Lens)	70mm x 70mm (Max height: 180mm)
Rotary Max Part Diameter (contact for clarification)	145mm

## General

Z-axis Stroke (useable)	200mm
Z-axis Accuracy	±0.02mm
DLC / Software	Siemens PLC / Lotus Mark v3.0
Dimensions (W D H)	395mm x 595mm x 725mm
Machine Weight	~50kg
Global Warranty	3 to 6 years

# United Kingdom

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**Perth:** 20 Brennan Way, Belmont, WA 6104

**Sydney:** Unit 2, 66 Riverside Road, Chipping Norton, NSW 2170



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