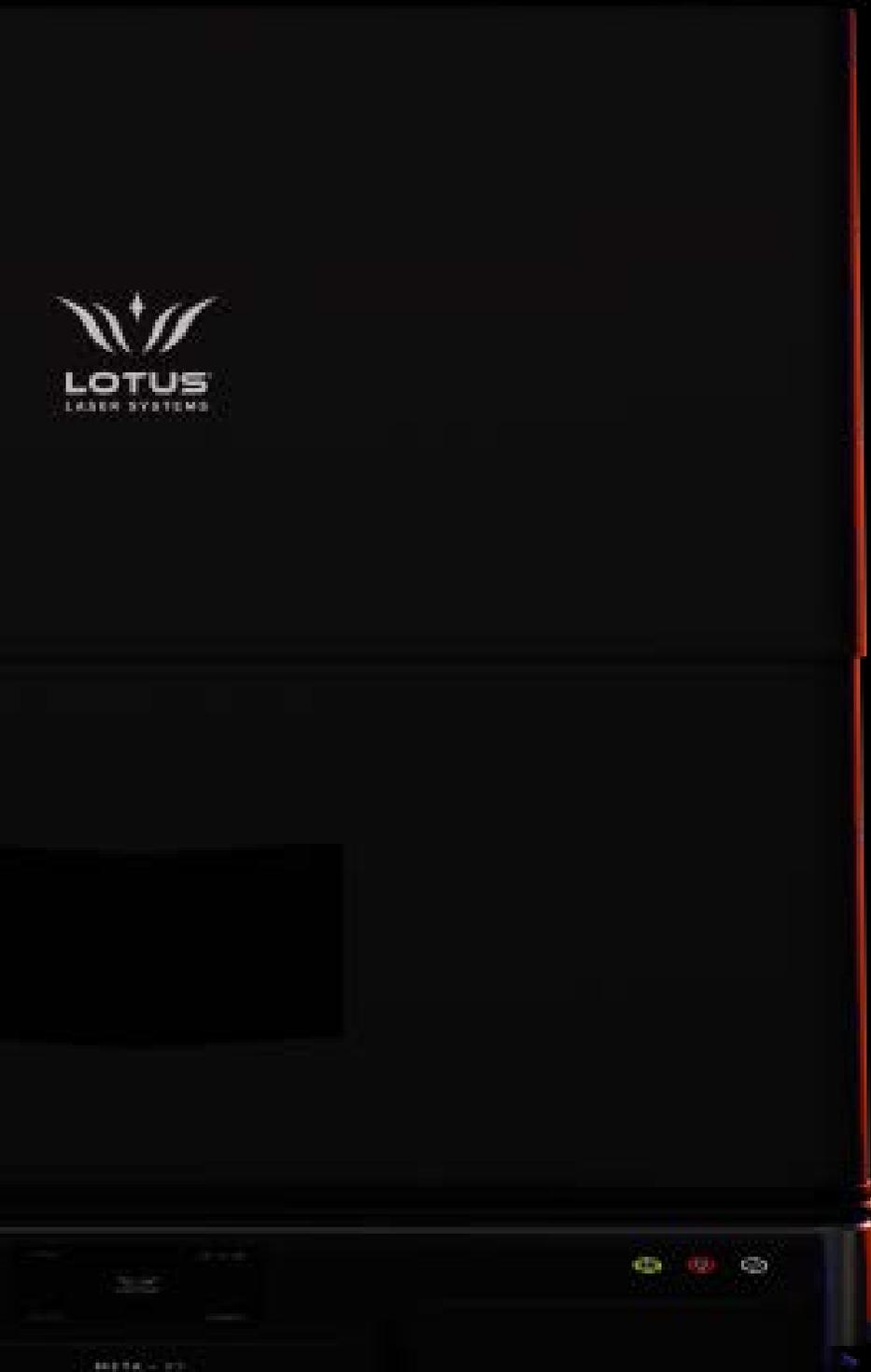


META-XY FIBER



META-XY FIBER
LASER MARKING MACHINE

SYSTEM BROCHURE: V2025



WHAT IS META-XY?

Extreme Durability

Meta-XY 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 strength-to-weight ratio, has non-magnetic properties and is rust and corrosion resistant.

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, and is tested no less than 500 times during the build process.

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.



LASER SYSTEMS

FEATURES.

The Meta-XY is built for high-volume laser part marking with minimal operator intervention. From its expansive XY-axis table to 3D marking capabilities it is the ultimate solution for high-throughput environments.



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

/01

30, 60 or 80W

The Meta-XY Fiber is available with a 30, 60 or 80W fiber laser, making short work of the most intricate marking and engraving tasks. Whatever material you're working with, this versatile system provides optimal results with high-speed precision, beating almost any other system hands-down.



/02

3D Laser Marking

Equipped with 3-axis technology, the Meta-XY effortlessly marks flat, curved, and irregular surfaces with pinpoint accuracy. This makes it the ideal laser part marking machine for industries requiring branding or traceability on complex components.



/03

Precision XY Axis

The fully automated, large-format XY table is designed for batch processing and high-throughput applications. This enables exact positioning across a wide marking area, allowing multiple parts to be processed in a single cycle, without the need for manual intervention.

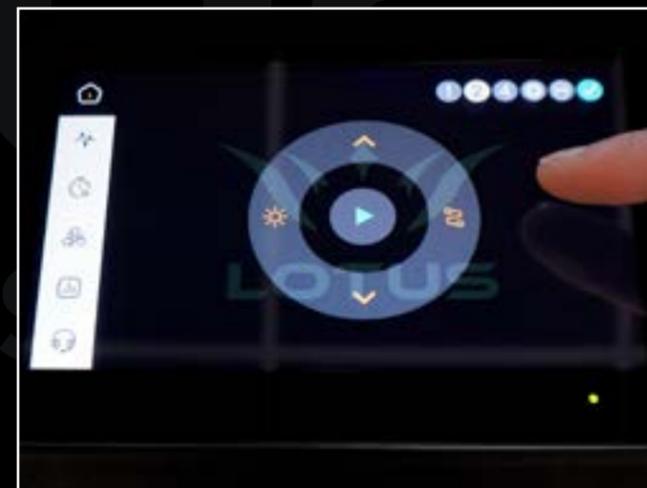


/04

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.



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.

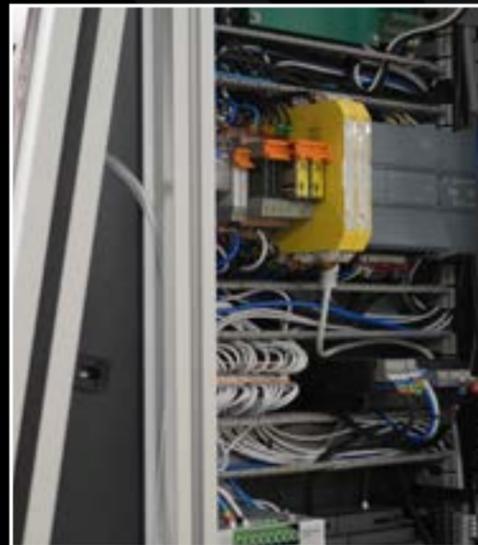


All systems are designed and manufactured in the United Kingdom.

STAGE 1

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 3

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 lens provided to ensure optimal system performance.



STAGE 2

mechanics

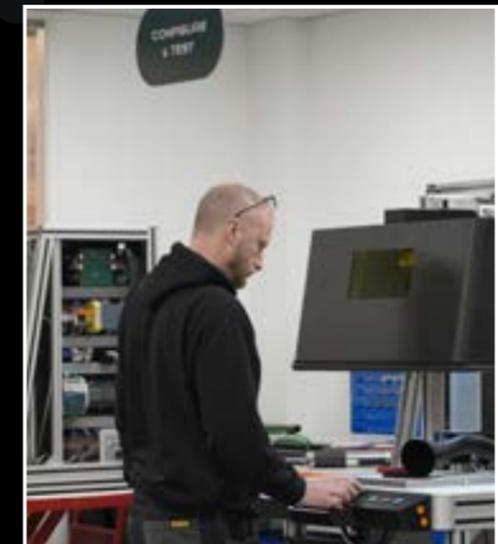
Precision cut parts are assembled by our engineers to a level of accuracy a watchmaker would be proud of. Pneumatics are fitted and tested. We use aluminium throughout, despite the cost, due to its high strength, low weight and lower impact on the environment.



STAGE 4

testing

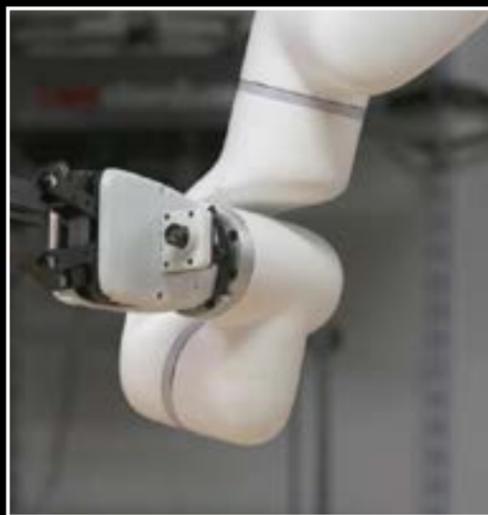
Our quality assessment team will run each system through a range of tests, checking compliance in work scenarios and then re-checking. By the end, we know your machine will be beyond perfect on arrival.



AUTOMATION READY.

We've dedicated extensive R&D time to develop some of the best automation solutions in the industry. Designed to integrate effortlessly into your production lines, our range of robotics, conveyors and software upgrades can significantly increase the profitability of your business.

+ Every element of our automation suite is designed with modularity in mind. The Meta-XY can be fitted with our automation accessories retrospectively. This means you can build your perfect laser, piece by piece, to suit the changing needs of your business.



Collaborative Robots

Remove the human element and lower costs.

Collaborative robots, or cobots, offer numerous advantages for manufacturing. Our cobot arm can work faultlessly 24/7, replicating any motion that a human arm can make with an accuracy down to 0.1mm. Improve efficiency by automating repetitive tasks and watch your productivity possibilities skyrocket with one push of a button.



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.



Lotus MultiMark

Flawless 3D engraving across multiple parts.

Lotus MultiMark is our advanced, custom-built software that is revolutionising batch 3D engraving. Offering a level of customisation that's never been seen before, it allows you to engrave dozens of parts from a single file – streamlining your workflow like never before.

APPLICATIONS.

Meta-XY Fiber delivers the highest quality results on aluminium, steel, ABS plastic and more.

Powder Coated Metal.

Sharp personalisation on metal bottles.



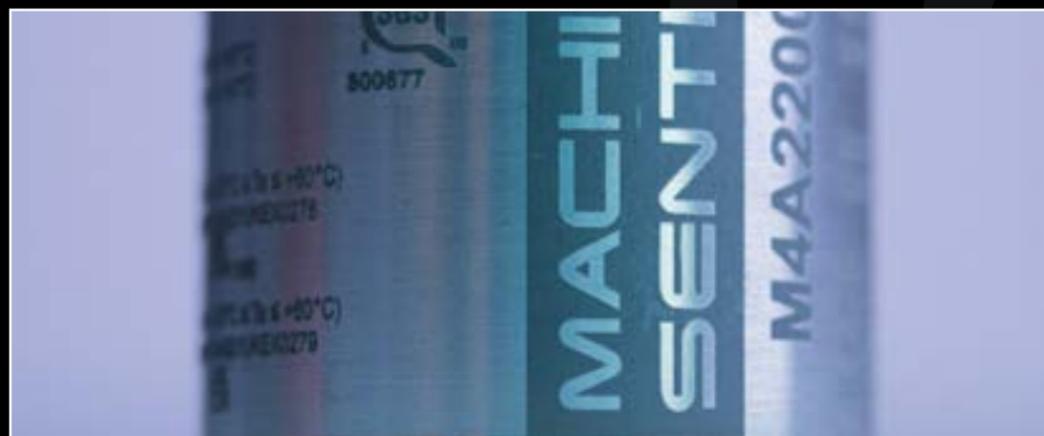
Aluminium.

Intricate laser marking ideal for branding.



Stainless Steel.

Clear engraving with incredible detailing.



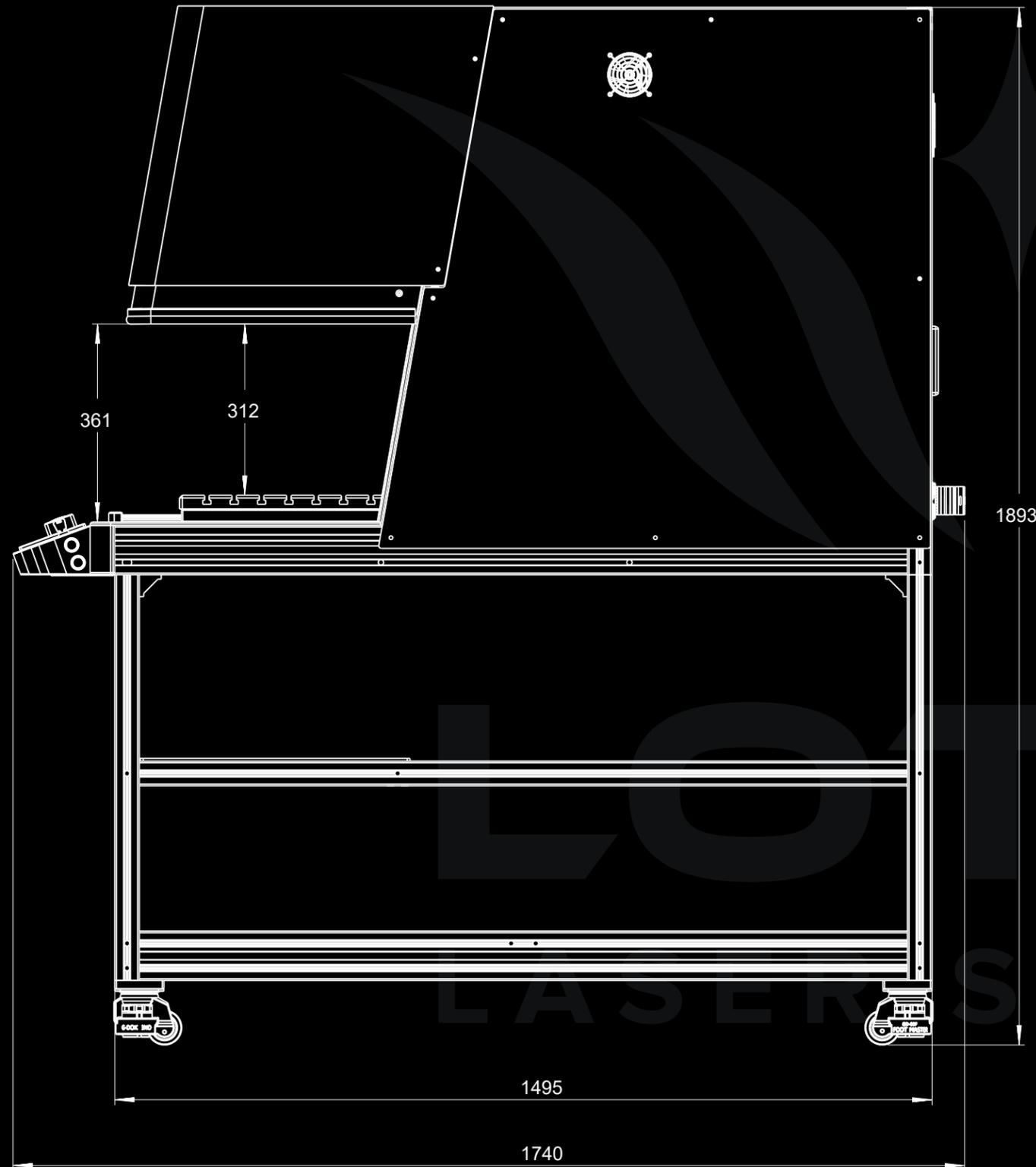
Plastics.

Clear, permanent marking for plastic components.



SPECIFICATION.

Technical Data



Laser Data

Laser Source	ELI-X17 MOPA Fiber
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

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).



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...

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