INTEGRABLE LASER MARKER

MOPA LASER

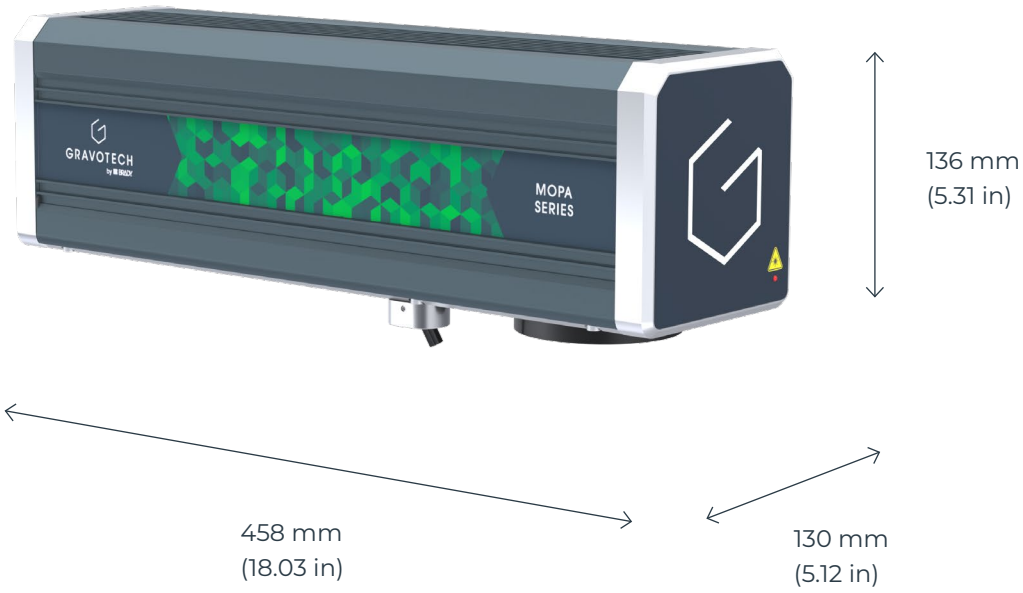
GRAVOTECH

by BRADY

INTEGRABLE LASER MARKER
MOPA LASER

Our most adjustable and versatile laser marking system

Our MOPA Laser stands out when marking various material types in short cycle-times, or when the marking must be as contrasted as possible. It outperforms traditional fiber laser machines.



PERFORMANT

With power outputs of 30 W and 60 W, this machine generates markings with improved cycle time compared to other laser technologies and offers better contrast on non-precious metals.

VERSATILE

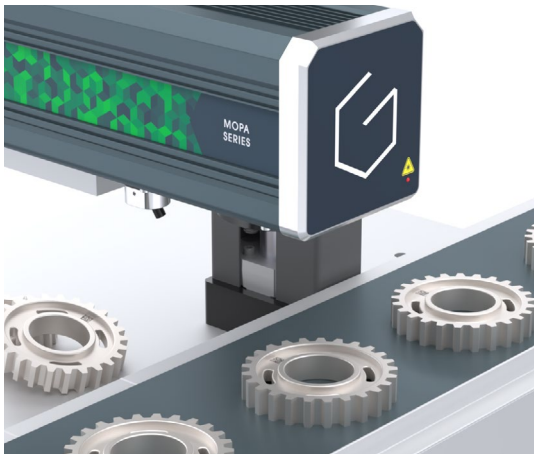
Along with other adjustable parameters such as power and frequency, our MOPA Laser is capable of having its pulse duration modified within a range of 2ns to 500ns. This adjustability enables it to cater to a very wide range of applications and materials: plastic or metal laser etching of industrial parts that are sensible or tough.

RELIABLE

Reliable design and high-quality marking head, this industrial laser marking system can operate with stability in intense environments. The robust profiled aluminum housing is rigid, reduces vibrations and resists shocks, contributing to a secure lifetime. The IP54 protection rating of the head reduces long-term maintenance costs by ensuring a splash and dust-proof protection.

SEE OUR VIDEO

KEY FEATURES

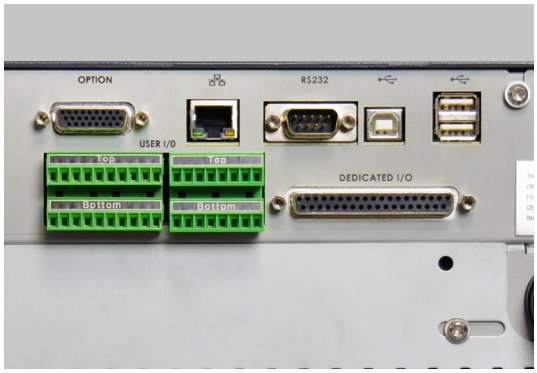


Integrable machine for production lines

The MOPA Laser is integrable in any production line. This marking machine comes in two elements connected by a laser fiber: a marking head and a control unit (CU).

Thanks to its sleek design, the marking head can fit in tight and industrially-dense environments, in any orientation, while the CU remains in a cabinet.

The control unit being separated from the head means it can be isolated up to 5 meters away from the marking zone; protected against particles and dust emanating from plastic and metal laser etching, or the surrounding environment. In addition, the metal mesh dust filter on the CU helps protect the electronics and laser source.



Communicative laser machine

The multitude of communication options on the MOPA Laser allows it to work with PLC's (Programmable Logic Controller), robot arms, and seamlessly integrate into any production line to achieve traceability requirements.

PROFINET, Ethernet IP, Ethernet TCP/IP and RS232 interfaces, as well as dedicated I/O and USB ports, make it easy to connect to your fieldbus for automatic control without a PC.

Tools for marking validation

Gravotech offers a dedicated support service to assist customers in setting up a marking verification and reading system directly on their production lines.

This service ensures the marking has been done properly and within the clients' specifications, to guarantee the traceability of his products. Our machines are compatible with many camera suppliers.

High performance reading cameras are usually bundled with lighting, auto-focus systems and protective lenses. Once set up, the combined camera and laser software can monitor several operations such as:

- marking detection
- code content verification
- activation of alerts if marking quality is below the limit
- enable operators to discard faulty parts

N.b.: Every feature of the above list may not be available depending on the camera supplier.

Mini-inline - Innovative solutions for permanent marking

The Mini-inline is a compact Class 1 laser nose that ensures operator safety without the need for a custom-built Class 1 enclosure. Its flexible and modular design allows seamless integration in any position and is fully compatible with robotic arms and linear actuators.

This makes it particularly suitable for marking large parts such as engine crankcases, large shafts, stamped panels, turbine blades, or other extended components.

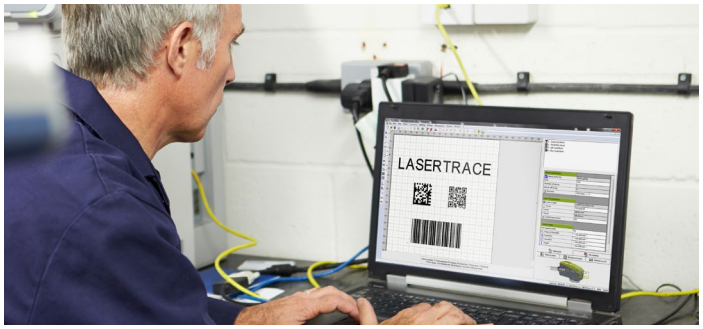
Together with the MOPA laser, it delivers a compact, secure, and highly adaptable solution for high-precision laser marking.

SOFTWARE

Embedded on the Laser

This MOPA laser marker can work independently in a production line and generate all data necessary to your identification without a computer.

This powerful embedded electronic can communicate and centralize information coming from your PLCs and database in real-time, saving you time while increasing your productivity.



LASERTRACE

Lasertrace is a unique software specially designed to create marking files to be loaded in the laser system. It includes a graphic composition to add text, logos and codes like Datamatrix in your marking templates.

You can describe your marking process according to specified rules: the actions (marking blocks) to be carried out, the sequence of execution and the possibility to implement a large choice of transitions (output activations, camera blocks, variables, etc).

ACCESSORIES

Exhaust system

Laser fume extractors guarantee clean and safe work and working environment.

Their role is to suck up dust and gases and filter out odours produced during machining.

Without a suitable laser fume extractor, particles will settle between the laser and the engraved object. This phenomenon affects the laser beam and impacts the engraving accuracy.

eZ Laser axis

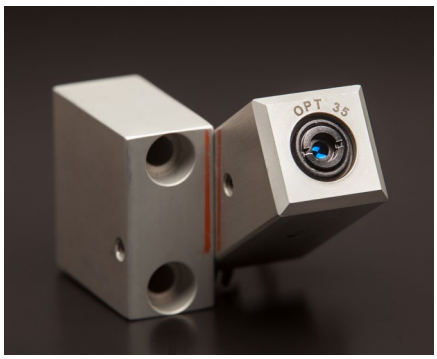
The eZ Laser motorized axis enables movement of the laser marking head along the Z axis. Compatible with every of our integrable laser markers, it features a maximum stroke of 295 mm.

This allows the identification of parts of different heights or shapes, thanks to the height adjustment of the support plate for the perfect focal distance.

Directly connected to the laser's control unit, the eZ Laser can receive marking jobs and commands from the CU.

MAKE YOUR SAMPLES

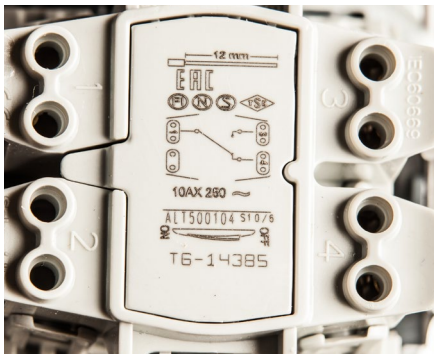
APPLICATIONS



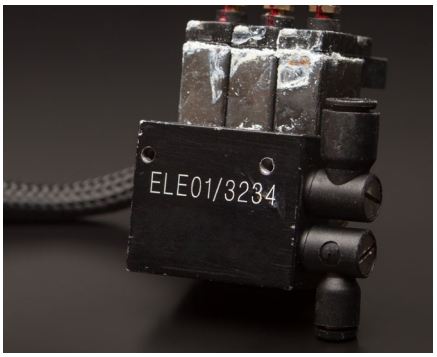
Aerospace and transportation

Hydraulic and pneumatic valves

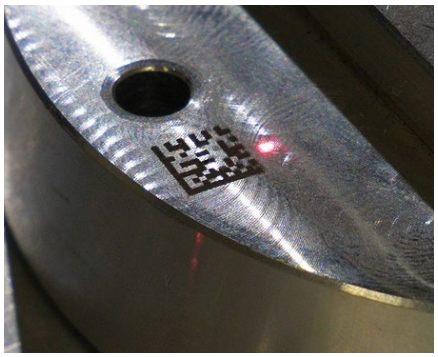
Tooling



High precision marking



High contrast marking



Annealing

SERVICE & SUPPORT

Training

Standard or customized training sessions, at your place or online.

Technical Support

Gravotech experts dedicated to support and guide you.

Maintenance

Gravotech has established a dedicated program for each machine type, including cleaning, adjustments, safety checks and more.

THEY TRUST US

TECHNICAL DATA

	MOPA SERIES
Model	MOPA 30 / MOPA 60
Laser source	MOPA 1,064 nm
Power	30 W / 60 W
Peak power	10 kW
Frequency	1-4,000 kHz
Marking speed	Up to 3,000 mm/s (118.11 in/s)
Marking area - Available lenses	**F100:** 65 x 65 mm (2.56 x 2.56 in) *(on request)* **F160:** 110 x 110 mm (4.33 x 4.33 in) **F254:** 175 x 175 mm (6.89 x 6.89 in) **F330:** 205 x 205 mm (8.07 x 8.07 in) *(on request)*
Machine dimensions (L x W x H)	458 x 130 x 136 mm *(without focal lens)* (18.031 x 5.118 x 5.315 in)
Communication Interfaces (standard)	Ethernet TCP/IP; Terminal block 8I / 8O; Laser Safety Dedicated I/O; RS232; USB
Fieldbus	PROFINET or ETHERNET IP
Display	Integrated screen with control panel
Marking specifications	+60 Gravotech fonts, possible to convert User & TTF fonts, all formats of barcode and 2D codes, logos
Operating temperature	10° to 40°C (50° to 104°F)
Humidity level	10-85%
Safety performance level	PL=e
Power consumption rate	**MOPA 30:** 200 W **MOPA 60:** 330 W
Rated voltage	100 - 240 V AC
Marking head weight / cable length	8.5 kg (18.74 lbs) / 3 m or 5 m cable
Control unit	11.7 kg (25.79 lbs)
Laser safety classification	Class 4 Laser system, possibility to switch in Class 1 for integration on a station or equipped with Mini-inline module

GRAVOTECH
by BRADY

contact@gravotech.com
+33 (0) 4 78 55 85 50
www.gravotech.com

GRAVOTECH MARKING
466 rue des Mercières - Z.I. Perica
69140 Rillieux-la-Pape
France

Distributed by:

Follow us: gravotech.off · Gravotech Group · Gravotech · Gravotech - Gravograph