GRAVOTECH
by BRADY

EBOOK

Ultimate Guide

How to choose the best jewelry engraving machine?

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How to choose the best jewelry engraving machine?

For jewelers, jewelry designers or retailers, the choice is not always easy when faced with the multiplicity of solutions for engraving jewelry. Our expertise at Gravotech has enabled us to bring together all the elements to take into account when choosing the best jewelry engraving machine for your application.

Whether you want to develop your ideas, internalize the customization, reduce your production time or upgrade your equipment, we have the solution!

For jewelry engraving, Gravotech (formerly Gravograph) has **4 dedicated solutions**, such as the **M10 Jewel** and **M20 X Jewel** our mechanical and rotary engraving machines, the **WeLase™** and **LW2** our jewelry laser engraving machines.

This ultimate guide reviews the different criteria to consider in order to help you find the best jewelry engraving machine based on: **degree of expertise, budget, types of jewelry, types of engraving, work environment, mechanical and laser technology and also software**.

Contents

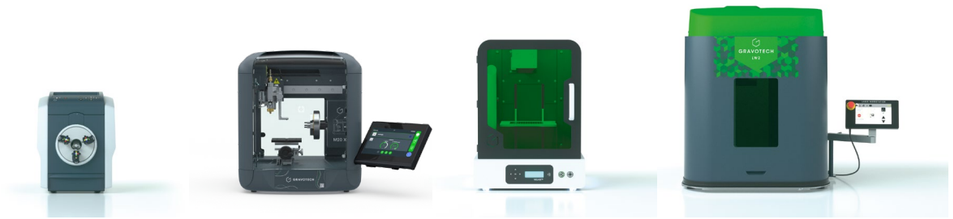
What is your level of expertise?

The first consideration in choosing the type of jewelry engraving machine adapted to your need is your current level of knowledge about engraving processes and engraving machines.

- **Have you recently taken an interest in engraving or are you going through a subcontractor?**
  To save time and be self-sufficient in jewelry engraving, look for an easy-to-use jewelry engraving machine like the M10 Jewel or a versatile machine like the M20 X Jewel.

- **Do you engrave your jewelry manually and want to modernize your equipment?**
  You have the choice between two solutions, the M10 Jewel and M20 X Jewel mechanical engraving machines which are quick to learn, or the WeLase™ jewelry laser engraving machine with faster marking speed.

- **Do you already own a rotary engraving machine or are you looking to improve your productivity?**
  Jewelry laser engraver remain the ideal solution for speed, mass production and to has a greater return on investment. We therefore recommend the WeLase™ or the LW2.



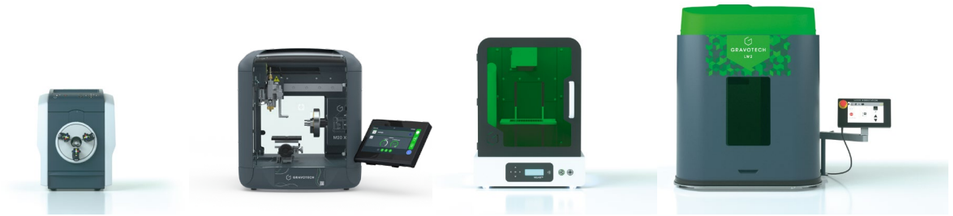
	M10 Jewel	M20 X Jewel	WELASE™	LW2
Technology	Rotary	Rotary	Laser	Laser
Learning time	⏱	⏱⏱	⏱⏱	⏱⏱⏱
Need for a computer	✗	✓	✓	✓
Windows™ tablet compatibility	✓	✓	✓	✗

What budget for a jewelry engraver?

There are many types of jewelry engraving machines for an infinite number of possibilities and budgets. The **estimated return on investment (ROI)** is part of the criteria to choose the best jewelry engraving machine for your needs.Other criteria to take into account are the **budget**, the **current or future volume of production**, the **cost of consumables and the cost of use**.

If you have a **limited budget**, you may prefer a mechanical machine. They are affordable jewelry engraving machines and they become profitable more quickly than a laser engraving machine.However, if you have a high volume of engraving to produce, a laser engraver will allow you to have more efficient productivity.

So, how much does a jewelry engraving machine cost? Here is an overview which will help you understand the different costs to take into account.



	M10 Jewel	M20 X Jewel	WELASE™	LW2
Technology	Rotary	Rotary	Laser	Laser
Initial budget	$$$	$$$	$$$	$$$
Cost of use (Electricity, maintenance and parts)	Low	Low	Medium	Medium
Cost of consumables*	$$$	$$$	$$$	$$$
Volume to be produced for a quick ROI**	Low	Medium	High	High

*Consumables include cutters, diamonds, lubricating gel, paints (color etching) and thinners.
**ROI between 1 and 6 months is calculated on the basis of an engraving between 10 to 40 objects per day for 5 to 10 each (depending on the machine).

What is your engraving application?

You can find different type of jewelry engraving machines depending on the shape and type of jewelry to be personalized. If you have a large catalog of jewelry to engrave, your future machine will have to be compatible with the different shapes and sizes of your pieces.

- **You want to engrave only cylindrical jewelry such as rings, wedding rings or round bracelets?**

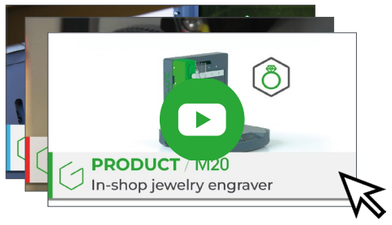
  The mechanical engraving machine M10 Jewel is dedicated only to bracelets and rings engraving. The M10 Jewel is an outside and inside of ring engraving machine thanks to its integrated rotating device.

- **You want to engrave pendants, flat bracelets and as well as rings?**

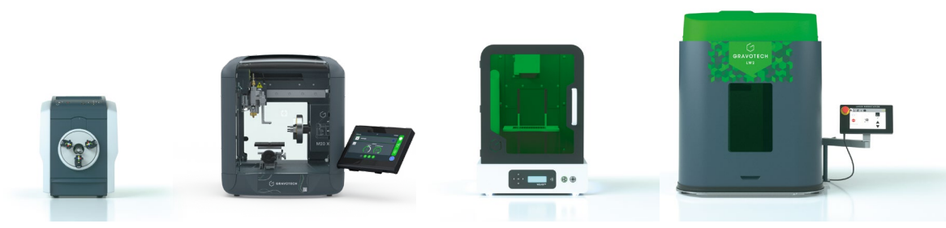
  The rotary engraving machine M20 X Jewel and the laser engraving machine WeLase™ are versatile machines. They engrave both cylindrical jewelry such as rings (inside and out), wedding bands or flat bracelets, and curved jewelry such as curb chains or bands.

- **You also want to engrave larger objects (metal cups, watch cases...)?**

  Jewelry laser engraver like the WeLase™ and the LW2, or the rotary engraving machine M20 X Jewel will be able to engrave larger objects.
  The comparative table below shows the main types of engraving that can be done on the different types of jewelry according to our machines.



SEE OUR MACHINES IN ACTION



	M10 Jewel	M20 X Jewel	WELASE™	LW2
Rings and wedding bands	✓	✓	✓*	✓*
Round bracelets	✓	✗	✗	✗
Flat bracelets (chain bracelets, bangles)	✗	✓	✓	✓
Medals, pendants, earrings, metal cups	✗	✓	✓	✓
Watches	✗	✓	✓	✓

*Requires the Jewel kit which includes a chuck for rings up to 27 mm and a jewel jig.

What kind of marking aesthetics?

The technology of the machine (mechanical or laser) determines the aesthetic look.

For a more authentic, tone-on-tone and traditional look, a mechanical engraving machine is recommended. On the other hand, for a more contrasted rendering, a jewelry laser engraver is recommended. It is also possible to do fine cutting of materials such as precious metals (gold, silver, etc.) with the M20 X Jewel rotary engraving machine and the WeLase™ and LW2 laser engraving machines. The cut will be precise and ideal for creating jewelry

What engraving results and possibilities do you expect from your future jewelry personalization solution?

- **Do you want to engrave and cut to create personalized pendants?**

  In addition to engraving, it is also possible to do fine cutting of materials such as precious metals (gold, silver etc.) with the mechanical engraving machine M20 X Jewel and the laser engraving machines WeLase™ and LW2.

- **You plan to engrave only names, dates or symbols and you want to have an authentic rendering?**

  You will have the choice between mechanical engraving machines M10 Jewel and M20 X Jewel, it will depend on the type of jewelry you want to engrave. In addition, if you opt for the M20 X Jewel, it will also allow you to engrave drawings and photos.

- **You want to offer contrasting engravings of symbols, texts, photos or vector drawings?**

  Thanks to their technology, the laser engraving machines WeLase™ and LW2 will quickly mark photos and drawings.

Few rendering examples:

White laser marking

Black laser marking

Mechanical engraving

Laser cutting

	M10 Jewel	M20 X Jewel	WELASE™	LW2
Technology	Rotary	Rotary	Laser	Laser
Fine cutting	✗	✓	✓	✓
Contrasted engraving	✗	✗	✓	✓
Engraving in color	✓*	✓*	✓*	✓*
Engraving letters and numbers	✓	✓	✓	✓
Engraving symbols and vector designs	✓	✓	✓	✓
Photo engraving	✗	✓	✓	✓

* Color is achieved by adding colored products (wax/lacquer, etc.).

Which materials to be engraved?

It is possible to engrave all kinds of materials (precious metals, organic, mineral or plastic materials...) with different marking technology, the engraving rendering will not be the same: mechanical engraving machines create a tone on tone engraving whereas laser engraving is contrasted.

The materials react differently to the two technologies, laser and mechanical, of engraving, so it is important to know what result you want to have with your machine.

Our jewelry engraving solutions can engrave precious metals (gold, silver, gold plated, stainless steel, etc.), organic and mineral materials (mother of pearl, leather, wood, etc.), and plastics (acrylic, ABS, etc.). Mechanical machines are efficient on precious metals and plastics, while laser machines can mark all materials depending on the source chosen.

		M10 Jewel	M20 X Jewel	WELASE™	LW2
Technology		Rotary	Rotary	Laser	Laser
Rendering		Tone on tone engraving		Contrasted engraving	
Precious metals	Silver	✓	✓	✓	✓
	Gold (yellow, white, red)	✓	✓	✓	✓
	Gold plated	✓	✓	✓	✓
	Stainless steel	✓	✓	✓	✓
	Brass, bronze, copper	✓	✓	✓	✓
Organic and mineral materials	Mother of Pearl	✗	✓	✓	✗
	Glass	✗	✓	✓	✗
	Leather	✗	✗	✓	✗
	Wood	✗	✗	✓	✗
	Ceramic	✗	✗	✓	✗
Plastic materials	Acrylic	✓	✓	✓	✓
	ABS	✓	✓	✓	✓
	Other plastics	✓	✓	✓	✓

What is your work environment?

In a store, in a workshop, on an e-commerce website or for an event; your working environment is a key element in the choice of your jewelry engraving machine.

Workshop and limited space

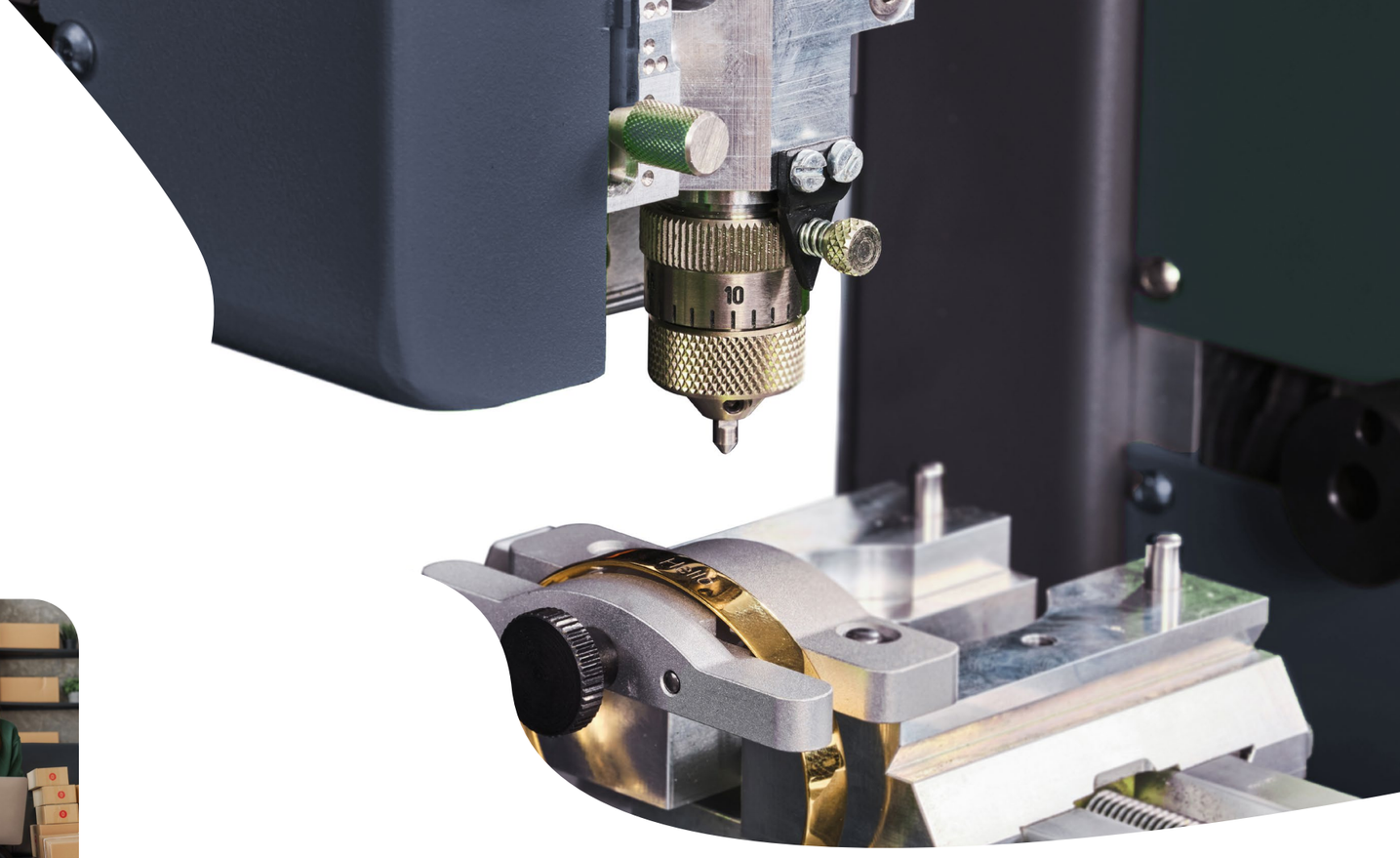
If you work in a workshop with limited space, the M10 Jewel will easily find a place to engrave the inside and outside of rings and round bracelets.

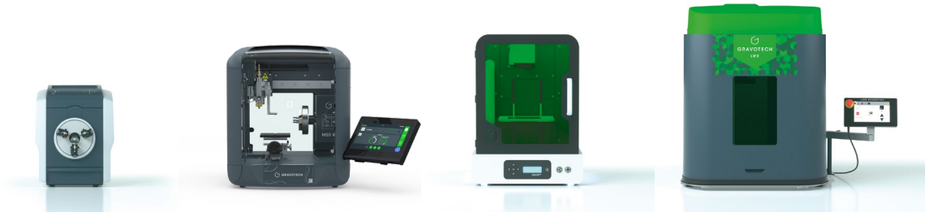
In store

If you offer personalization services in-store or during your events, opt for a versatile and transportable machine like the M20 X Jewel or WeLase™.

E-commerce site

If you have an e-commerce site, the LW2 laser station is ideal for engraving larger parts, making serial markings and increasing your productivity.





	M10 Jewel	M20 X Jewel	WELASE™	LW2
Dimensions L x l x H (inch)	9 x 11,5 x 11.4''	14.5 x 13.8 x 14.3'' (without screen)	17.7 x 22 x 24''	23.6 x 24.5 x 30.4''
Weight (lbs)	14,5 lbs	26,5 lbs	6 lbs to 97 lbs	132,3 lbs (laser head excluded)
Transportable machine	✓	✓	✓	✗
Maximum sound level	60 dB	up to 62 dB	N/A	N/A
Maximum engraving speed (in/s)	0,2 in/s	1,58 in/s	118,1 in/s	157,5 in/s
Control connectivity	USB, Bluetooth	WiFi, Ethernet	WiFi, Ethernet TCP/IP, Profinet, Ethernet/IP	Ethernet TCP/IP, Profinet, Ethernet/IP

FOCUS

ROTARY ENGRAVING

HOW DOES MECHANICAL ENGRAVING WORK?

This is the oldest engraving technique, as it can be done manually.

There are 2 ways to engrave mechanically:

- **for deep engraving,** a rotating cutter **hollows out the material**, in order to leave a groove;
- **for a thin engraving** that reflects light, a **diamond «scratches»** the surface of the jewel.

Deep engraving

Thin engraving

WHAT APPLICATIONS?

This jewelry engraving offers a **more authentic appearance**: it is the preferred technology for a traditional rendering, particularly suitable for luxury jewelry and precious metals. Thus, mechanical engraving is ideal for **jewelers, jewelry designers** or **costume jewelry dealers.**

Some mechanical jewelry engraving machines can perform **cutting operations** to create custom jewelry such as pendants.

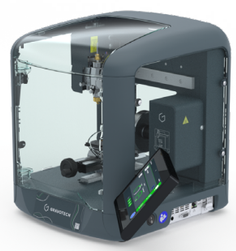
WHICH MATERIALS?

A mechanical engraving machine is particularly recommended for engraving **precious metals** (gold, silver, stainless steel...), **organic and mineral materials** (mother of pearl and glass) and **plastics** (acrylic...). The result is very high quality and authentic.

LIMITATIONS?

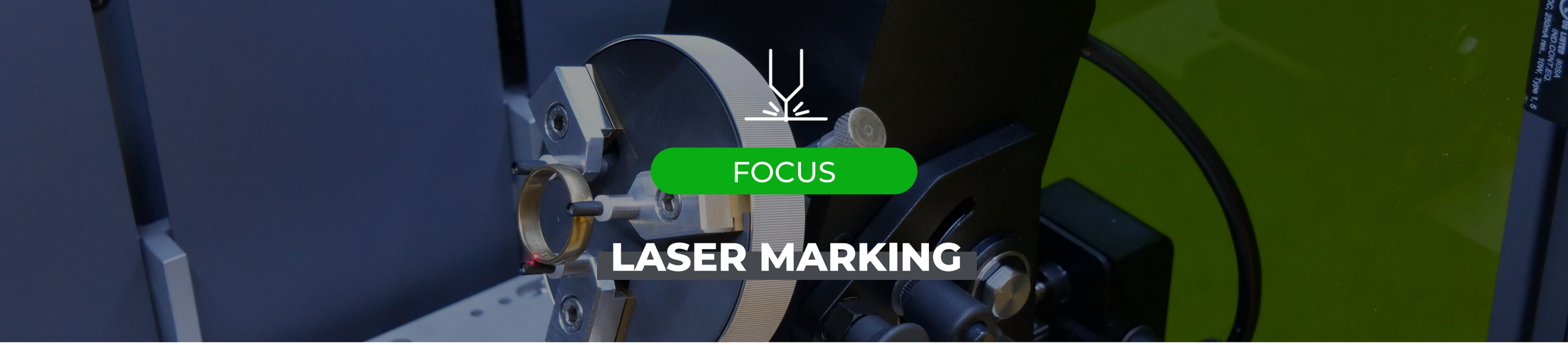
The noise level

During mechanical engraving with a rotating cutter is a louder technology than laser engraving because it requires a **motor**. The cube on the M20 X Jewel reduces possible noise pollution. The mechanical engraving with a scratch or diamond tip is however silent.



Non-contrasting results

As this technology digs or scratches the material, it does not offer **natural contrast**. It is necessary to use **consumables** (paints, cold wax sticks...) to obtain a colored or contrasted engraving.



FOCUS

LASER MARKING

HOW DOES LASER MARKING WORK?

Laser technology locally heats the surface of the object to be engraved in order to create a **permanent mark**, without removing any material. A laser marking machine requires **little maintenance**: it does not require any tools such as mechanical engraving (cutter, cutter, diamond...) and generates very little dust and shavings.

It is important to pay attention to the **safety classification** of your machine, a laser beam can be dangerous and must be properly protected. All Gravotech laser engraving stations are **Class I**, the safest category.

WHAT APPLICATIONS?

The laser marking of jewelry is much **faster than mechanical engraving**, which is why this technology is recommended, among other things, for large volumes.

It is possible to obtain **naturally black or white markings** depending on the setting and the material engraved, without the addition of dyes or chemicals before or after engraving. Depending on the reaction of the material, different levels of gray can be achieved allowing the **engraving of photo** with a quality rendering.

It is also possible to perform **cutting** operations on thicknesses up to 1mm and **«deep» markings** (0.3mm) with a longer engraving cycle.

WHICH MATERIALS?

The laser can mark **all materials** : precious metals and alloys, organic materials (wood, leather), and plastics (acrylics).

There are several **laser sources** that interact with materials in different ways.

The **Hybrid and Green** sources allow fine engraving, create little dust and offer different rendering possibilities, from black to white.

For engraving and cutting metal jewelry, we recommend the **Fiber** laser source. For organic and mineral materials, choose a **CO2** laser source. The **Fiber or Hybrid** sources are suitable for plastic.

For more information, consult the table of materials page 13.

LIMITATIONS?

Contrasting result

The engraving result, naturally contrasted and shallow, does not offer the traditional and authentic aspect of a mechanical engraving.

Cost

A laser engraving machine for jewelry is more expensive to purchase than a mechanical machine. It requires a certain volume of production before the machine becomes profitable.

Difficult to transport

Laser machines are heavier, bulkier, and more fragile, making them less suitable for events.

Our jewelry engraving machines

Discover the complete jewelry offer in ***"The Jeweler"***

Download

M10 Jewel

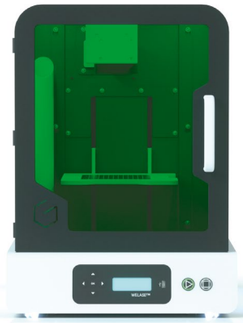
Technology: mechanical

- **Simple:** Little or no maintenance due to its intelligent design. Little technical knowledge is required to use it, the operator can be trained in a few minutes.
- **Quiet:** Engraving is done by diamond scribing, not by milling. The absence of a rotating spindle reduces the noise during engraving.
- **Internal and external engraving of rings and bracelets:** The M10 Jewel has an innovative multi-profile jaw that makes it easy to select the right combination depending on the desired engraving location as well as the size and shape of the jewelry to be engraved.

M20 X Jewel

Technology: mechanical

- **Versatile:** The M20 X Jewel engraves rings, pendants, bracelets and many more products from all materials. Accessories like jigs add flexibility and enable metal cutting.
- **Easy-to-use:** The touchscreen offers step-by-step guidance for easy M20 X Jewel use, while the queue system simplifies engraving job management.
- **High-end result:** Gravostyle fonts and precision tools deliver top-quality engraving on various materials, with adjustable spindle speed for exceptional customer pieces.



WELASE™

Technology : laser

- **Fast:** The laser can engrave a piece of jewelry in less than a second. Moreover, the piece does not need to be clamped, which reduces the time between two engravings.
- **Customer Experience:** The WeLase™ is the only laser engraving station that is fully glazed on three sides. This provides customers with optimal visibility on the engraving in progress, the customer experience generated is unforgettable.
- **Compact:** This laser machine is one of the most compact on the market and its and its footprint is minimal. It fits perfectly into any environment.

LW2

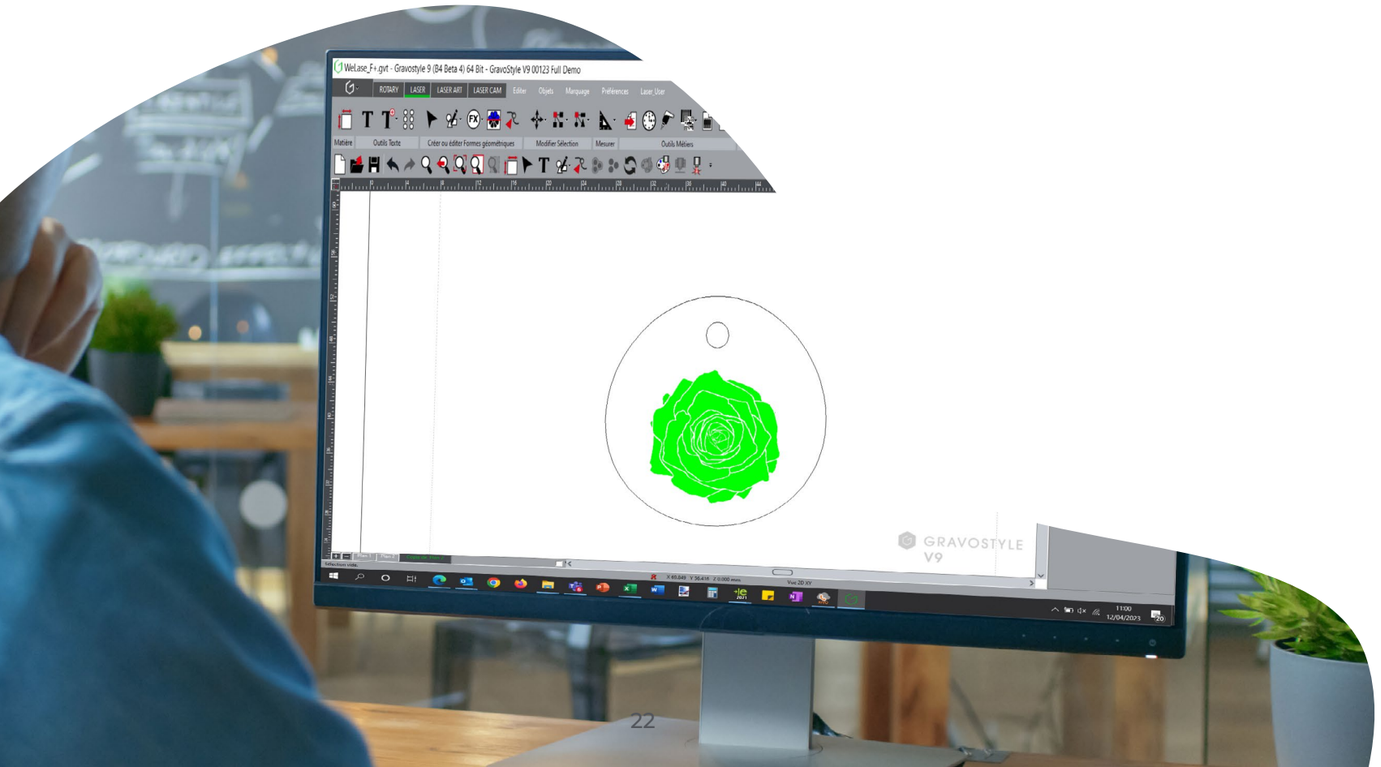
Technology : laser

- **Powerful:** The LW2 is the most powerful of our laser marking stations. His power allows him to be faster and cut materials of a greater thickness.
- **Automated:** The automated door, with its large marking area and semi-autonomous operation, is perfectly suited to for e-commerce activities and logistics platforms.
- **Productive:** The LW2 has a large marking area to carry out engravings in small and medium series in a semi-automated way.

Which software for jewelry engraving?

An engraving software has two functions: creating, modifying and configuring a design, and controlling your machine. Gravotech software fulfills these two missions, but you can also import your creations made on third-party software (Illustrator, CorelDraw).

- The **Catalog** software, the simplest of our solutions, gives the possibility to **pre-program the engraving parameters** of your jewelry in order to mark your offering of products to be engraved.
- The **ABC** engraving software is for beginners and allows you to **set up an engraving in 3 simple steps:** choose your plate size, compose your engraving, configure your machine.
- **Gravostyle™** is a comprehensive software package for experienced engravers, addressing **complex design, engraving and cutting needs.**



	Catalog	ABC	Gravostyle™
Recommended for	In-store	In-store	Workshop, e-shop
Engraving of alphanumeric characters	✓	✓	✓
Symbol engraving and vector drawings	✓	✓	✓
Creating and modifying vectors	✗	✓	✓
Drawing or handwriting (Dedicace™ accessory)	✓	✓	✓
Cutting	✗	✓	✓
Photo engraving	✗	✗	✓
Batch production	✗	✗	✓
Communication with database for semi-automation	✗	✗	✓
Machines compatibility	M10 Jewel, M20 X Jewel, WeLase™	M10 Jewel, M20 X Jewel, WeLase™	M10 Jewel, M20 X Jewel, WeLase™, LW2
Learning time	⏱	⏱⏱	⏱⏱⏱

The essential

A key step in the customization of jewelry is to acquire the right machine to your needs. We have summarized the most important criteria to help you, whether you are a beginner or experienced in the field of engraving and cutting jewelry.

	M10 Jewel	M20 X Jewel	WELASE™	LW2
Technology	Rotary	Rotary	Laser	Laser
Dimensions L x l x H	9 x 11.5 x 11.4”	14.5 x 13.8 x 14.3” (without screen)	17.7 x 22 x 24”	23.6 x 24.5 x 30.4”
Weight	14,3 lbs	26,5 lbs	86 lbs to 97 lbs	132,3 lbs (laser head excluded)
Transportable machine	✓	✓	✓	✗
Learning time	⏱	⏱⏱	⏱⏱	⏱⏱⏱
Compatible softwares	Catalog, Gravostyle™			Gravostyle™
Initial budget	$	$	$$	$$$
Types of jewelry	Rings Round bracelets	Rings, flat bracelets, medals, pendants, earrings, metal cups, watches		
Fine cutting	✗	✓	✓	✓
Possible materials to be engraved	Precious metals Plastic materials	Precious metals Mother of pearl Glass	Precious metals Plastic, organic, and mineral materials	Precious metals Plastic materials

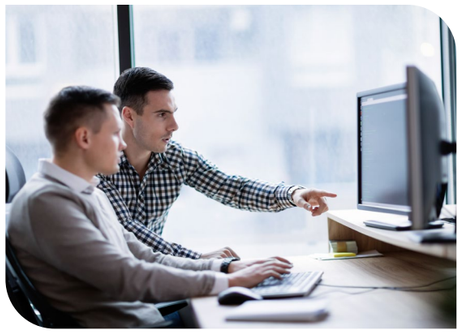
The service offer

Gravotech is dedicated to provide you with the best warranties, services contracts and local support.

Commissioning

At your doorstep

Set up and fine-tuning of your equipment by a Gravotech technician.



Training

Tailored sessions

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

Servicing

Expertise

Machine fleet audit and maintenance recommandations.

Preventive services

Necessary care to maximize your machine lifetime.

Technical support

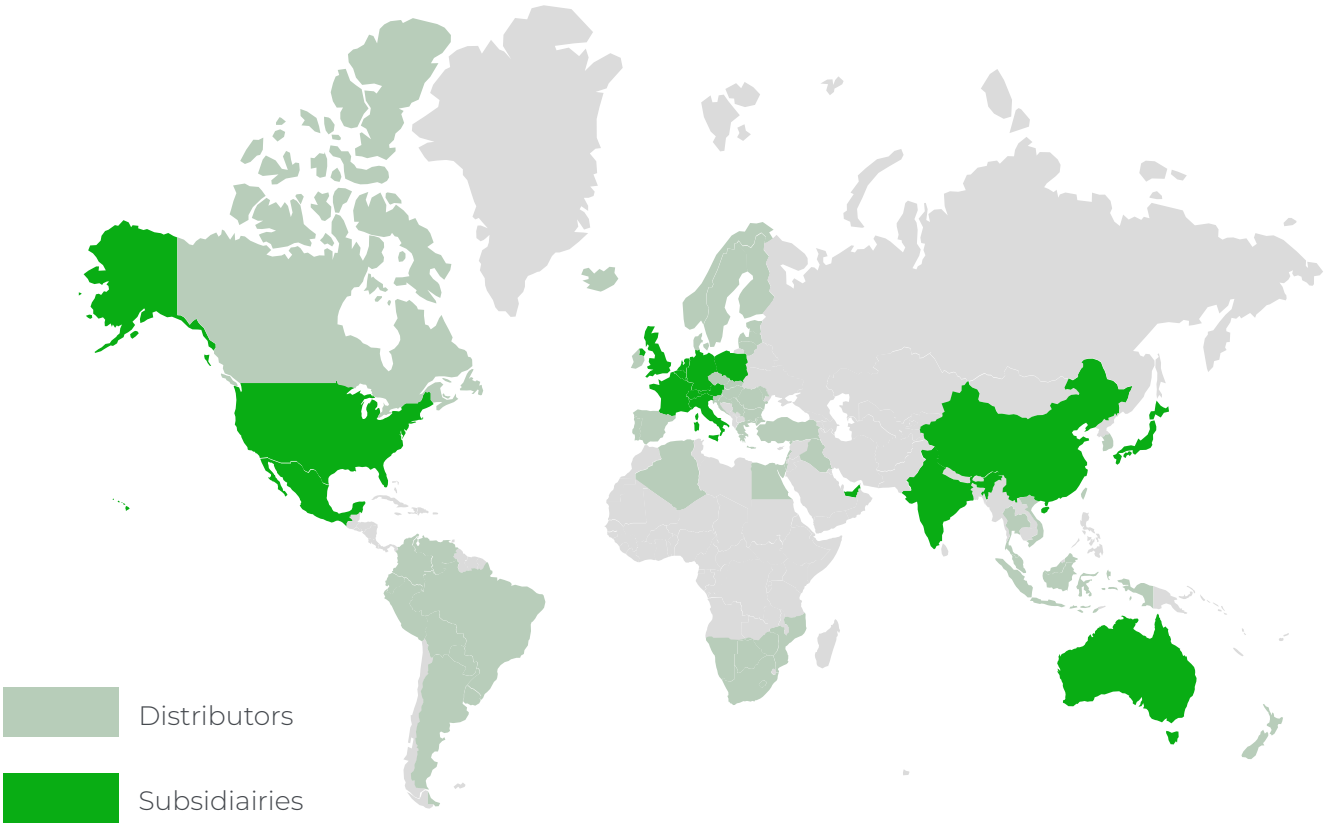
Phone assistance

Gravotech experts dedicated to support and guide you.

Remote assistance

Video or screen sharing sessions available on demand.

Gravotech, leader in permanent marking solutions



+85
85 years of expertise

+60 000
clients

+85%
of sales from exports

77
countries

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:

SOFRAY EMS Trading LLC
Office 302, Sama Building,
Al Barsha 1, Dubai, UAE
Tel: +971 50 5542 585
email: admin@sofray.com

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