



GLASS MARKING

Internal and external laser marking of glass



Whether you need an internal mark or surface etching, our laser glass marking systems can meet your needs. Due to its many advantages over traditional marking techniques, laser marking is found in an increasing number of industries—bringing flexibility, speed and repeatability to your application.

Other advantages include:

- **No consumables.** Laser marking doesn't require extra consumables like sand blasting, ink printing and other glass marking methods.
- **Repeatability.** Laser marking is extremely accurate and repeatable due to the laser's localized energy and system's accurate controls.
- **Flexibility.** Lasers can etch a variety of graphics and text, including intricate patterns. Switching between different parts is also simple, thanks to our custom software capabilities.
- **No stencils or masks.** Our marking systems steer the laser like a pencil on paper—eliminating specific masks for each design. Marking a new design is as simple as uploading a new drawing file.
- **Easy automation.** You can easily add laser glass marking to your automated operation. Our systems even mark glass [On-the-Fly](#).

INTERNAL AND EXTERNAL MARKING METHODS

The two basic glass marking methods are external and internal marking. External glass marking utilizes lasers to etch the surface of the glass part—causing light to reflect off the surface and creating a contrasting mark to the eye.

External marking uses the following laser wavelengths:

- 10.6 μm (CO₂ lasers)—mark the surface with dots that have little to no radial cracking. This allows the mark to have a consistent appearance and minimizes extra chipping. The CO₂ laser is the fastest option for marking glass and is found in many applications that require automation or [On-the-Fly](#) technology.
- 355 and 532 nm (Nd:YVO₄ lasers)—mark the surface with thin lines, or micro fractures—creating a frosted look. This method creates very intricate graphics and designs but is a slower process than CO₂ marking.

Applications for external glass marking span many industries. Popular examples include:

- Decorative glass marking
- Nucleation
- Marking rounded surfaces—the laser’s depth of focus gently marks even small variations in the surface of the glass, making laser marking suitable for rounded parts like wine bottles, stemware and other drinking glasses.
- Automotive anti-theft glass marking—we manufacture a portable, handheld laser glass marking machine for etching VIN numbers onto automotive windows for anti-theft protection (U.S. Patent No. 8598489).



IMAGES

