

HU Series On-The-Fly Laser Coding Machine

UV Picosecond
Laser Marking System



Introduction

The HU Series UV Picosecond Laser Coding System is a high-precision marking solution powered by a 355nm UV picosecond laser source. With high UV photon energy and The HU Series Infrared Picosecond Laser Coding System is a high-precision marking solution powered by a 355nm UV picosecond laser source. With an ultrafast pulse width of <15ps (1 picosecond = 10⁻¹² seconds) and high UV photon energy, it directly breaks the molecular chemical bonds of materials, rather than thermal-effect-based processing via melting and vaporization. Given its ultrafast energy-action duration, barely any heat conduction or diffusion occurs.



True cold-processing, Zero Heat Damage

The heat-affected zone is less than 1 μm , 100-fold smaller than that of nanosecond UV lasers. Free from burning, carbonization, melting, thermal deformation, warpage and thermal cracks, it suits heat-sensitive materials.



Ultra-Fine Spot, High Precision

The laser spot can be focused to <10 μm . It is capable of engraving ultra-fine characters and micro QR-codes. Machined edges are sharp and clean without burrs or molten residue, hence no post-processing polishing is required.



Ideal solution for polymer and transparent materials

Ideal for PC, PET, TPU, Acrylic, Silicone, and PPS without burning, yellowing, or cloudy marks.



Extremely high peak power for HR materials

The instantaneous energy density can reach the GW/cm² level, which addresses common troubles including metal light reflection and chipping-prone brittle hard materials.

Applications

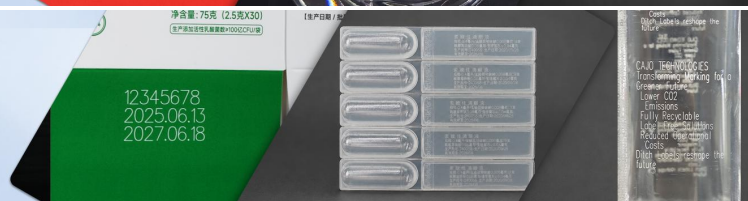
Food, Beverage & Alcohol

Paper boxes, plastic bottles, glass bottles, aluminum cans, flexible packaging, bottle caps



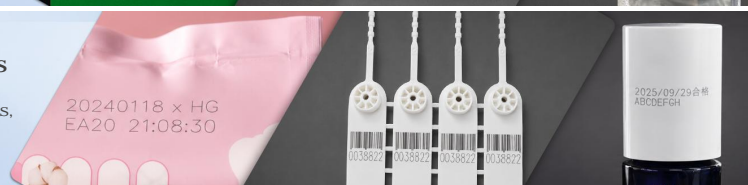
Biopharmaceuticals

Medicine boxes, aluminum foil, composite film bags, plastic bottles, glass bottles, ampoules



Personal Care & Household Chemicals

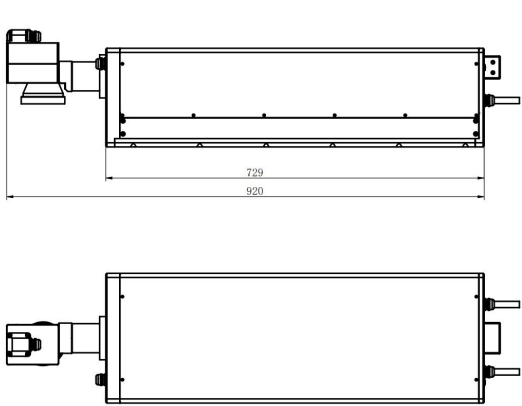
Plastic bottles, tubes, composite films, paper boxes, labels, spray bottles, bottle caps



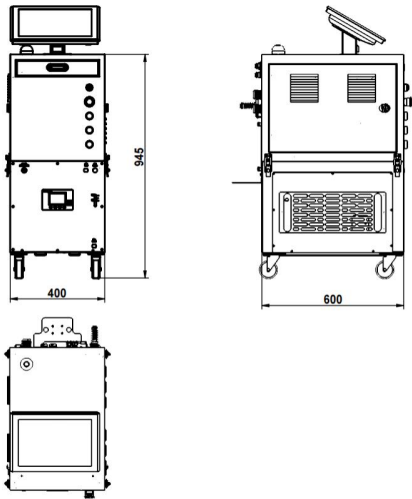
Model		HU15C	HU30C
Basic Configuration	Laser power	15W	30W
	Laser type	UV picosecond laser	
	Laser wavelength	355nm @ 15ps	
	Mark field	Standard: 110mm×110mm, maximum: 600mm x600mm	
	Positioning method	UV preview & Red-light positioning	
Marking Features	Production line speed	0~300m/min (varies according to materials and printing contents)	
	Image format	BMP/DXF/PNG/JPEG/PLT/JPG	
	Code type	Code128A, Code128B, Code128C, Code39, Code93, Ean13, PDF417, 01 Code; QR, DM, GS1-DM, AztecCode, HanxinCode, DotCode	
	Lines of characters	No limits within mark field	
System Features	Operating system	Linux	
	Type of drawings	Both dot matrix and vector	
	Language	Chinese Simplified, Chinese Traditional, English, German, Spanish, French, Italian, Japanese, Korean, Portuguese, Hindi, Russian, Turkish, Arabic, Persian, etc.	
	Interfaces	RS-232C / USB2.0 / Ethernet, I/O	
Structure and Conditions	Machine material	Anodized Aluminum (Laser Head) & Stainless Steel (Control Unit)	
	Power supply	220V - 50/60Hz	
	Power consumption	≤2475W	
	Machine weight	≤120kg	
	Cooling system	Water-cooled	
	Dimensions	920mm x 250mm x 190mm (Laser head) 600mm x 400mm x 945mm (Control box)	
	Working conditions	5-40°C; 30%-85% RH (No-condensing)	

Dimensions (mm)

15W / 30W Laser Head



15W / 30W Control Unit



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Portal to official website