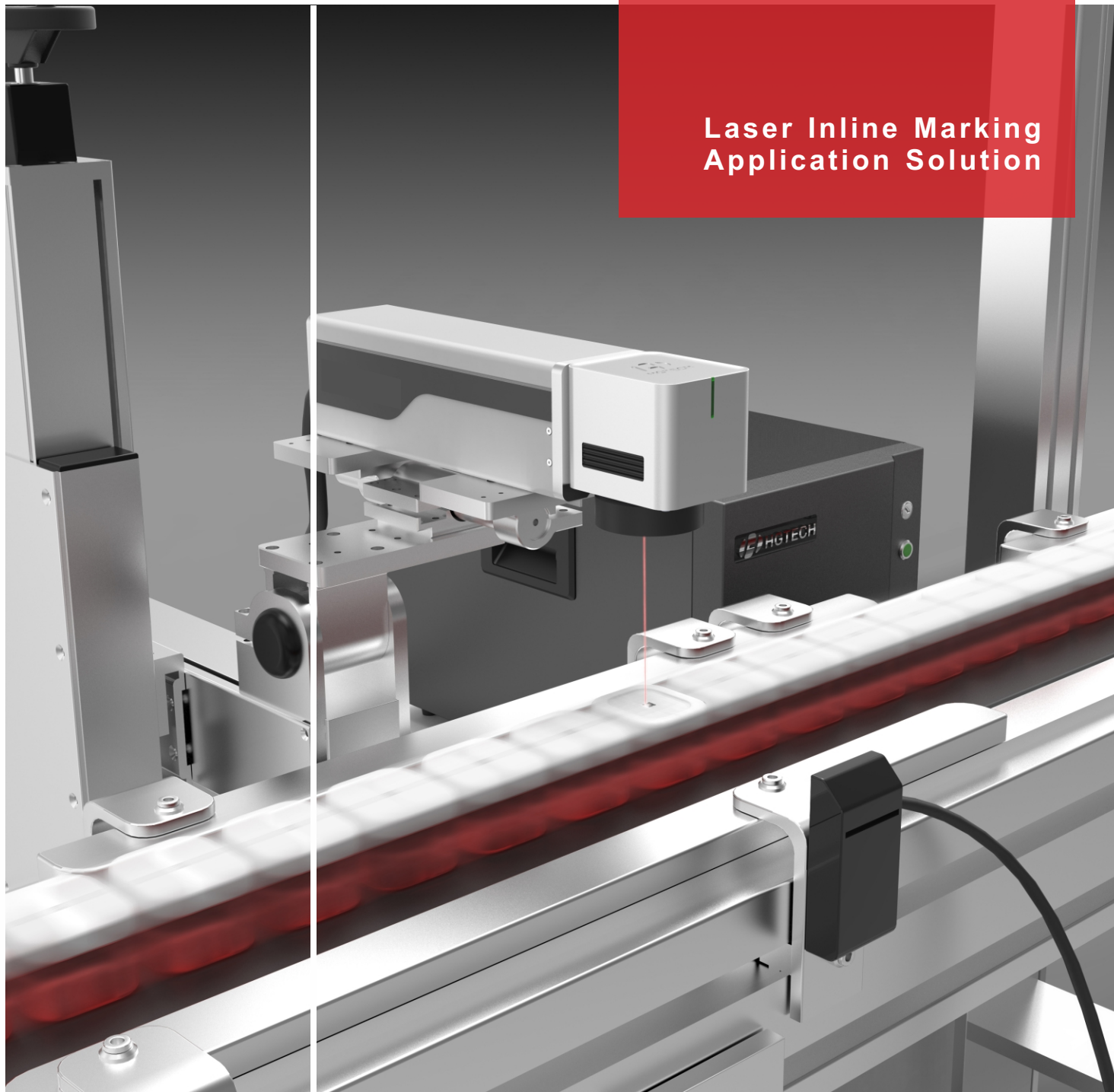


**Laser Inline Marking
Application Solution**



High Efficient · Precision



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Laser Marking

VS Ink Jet

With the development of the national economy and the progress of various industries, code marking equipment plays an important role on the production line. The code marking equipment displays the unique personality of the product through the packaging, which is the key link for enterprises to win the trust of consumers.

Through the identification equipment, the three phases (production date, expiration date, batch number) and traceability code give each product the needs of each industry, especially the fast-moving consumer goods industry. At present, the main processing method are Ink-jet and laser coding.

■ Laser



Ink Jet



High-speed, on-the-fly laser marking is used to increase productivity. Works in both static and high-speed lines.

Only when the product is in a moving state, the production efficiency is higher. Some printers may have ink jets blocking the print head and affect production.

Able to print serial code, batch number, bar code, dimensional code, logo and pattern. Restricted number of prints and fonts.

Able to print barcodes, batch numbers, simple patterns, etc., limited print lines and font size.

Stable and reliable performance, continuous operation around the clock, long time maintenance-free. Minimal maintenance provides maximum stable operation time. Affected by the environment.

The performance is basically stable and the failure rate is relatively high. The nozzle will be blocked due to changes in ambient temperature and dust. Heavy maintenance and cleaning work. Affected by the working environment.

Clear window software, display the boundary resolution, clear picture. Create and edit printed information easily and quickly.

The display interface is simple and the resolution is low. Only able to do simple editing of print information.

Simple and light cabinet, the smallest and lightest laser marking head can be directly installed on the production line, suitable for any production space.

The machine size is not same, some models also require external air compressors and other external.

A little High one-time purchase prices.

Low price for one-time purchases.

Extremely low operating costs, eliminating unplanned shutdowns and long-term maintenance-free operation of the equipment. no special maintenance required, no consumables, zero operating costs.

The Ink Jet printer consumes a lot of special inks and solvents, and the amount of consumables is large. The replacement of nozzles, pumps and other accessories are expensive. The cost of consumables for a single printer is between 3,000USD and 6,000 USD.

The control host adopts an industrial control computer with strong data transmission and processing capabilities. It can be connected to all anti-counterfeiting data systems to meet multi-level anti-counterfeiting requirements. The code marking is clear and permanent.

Adopt single machine control, limited data processing capacity, anti-counterfeiting function not good, clear marking effect but able to erase and change.

It does not produce substances harmful to the environment and the carcass. Produces scratches on the surface of the objects to be printed. It is an environmentally friendly high-tech product. It has been widely used in the production of food and medicine, also meets GB 7247-87; GB10320-88 standard.

Inks and solvents are highly volatile substances that produce more chemically toxic residues and pollute the environment. The chemical composition and odor of ink and solvent may penetrate the marked object. Internationally also gradually replacing ink coding equipment to Laser marking equipment.

Excellent performance, flexible and reliable

Simple installation, easy to use

Low operating cost and maintenance-free for a long time

Strong data processing, strong anti-counterfeiting

Safety and environmental friendly



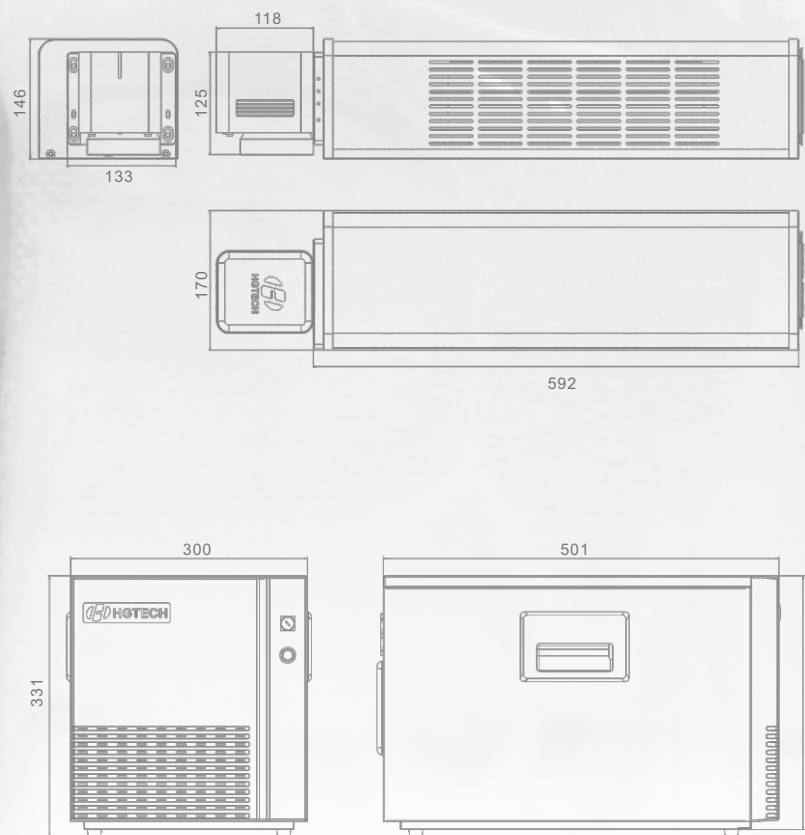
Flyingseries online laser marking equipment

The fast-moving products are coded with un-contact type lasers, and the markings is clear, it can be continuously and stably transported under harsh production conditions, with consumables and flexible equipment installation, even in extremely complicated conditions. It also can running smoot.

Tailored Solutions

Co2 laser marking is dedicated for mostly non-metal marking such paper package, file package, metal with coating, plexi-glass, resin plastic, PVC, and bamboo products.

CO2 laser marking machine now is widely used in beverage industry, wine brewery, milk package, clothing and animal skin, electric components, medical, personal skin care, tobacco industry, chemical& construction industry and etc.



Flying

Co2 series marking machines

It equips with metal radio frequency type of CO2 laser generator with features of optimized optical components to achieve updated marking character.

Laser generator has a reputation of reliability, solid seal and maintenance free.

Machine to be designed with installation friendly and flexible.

Machine can be applied widely.



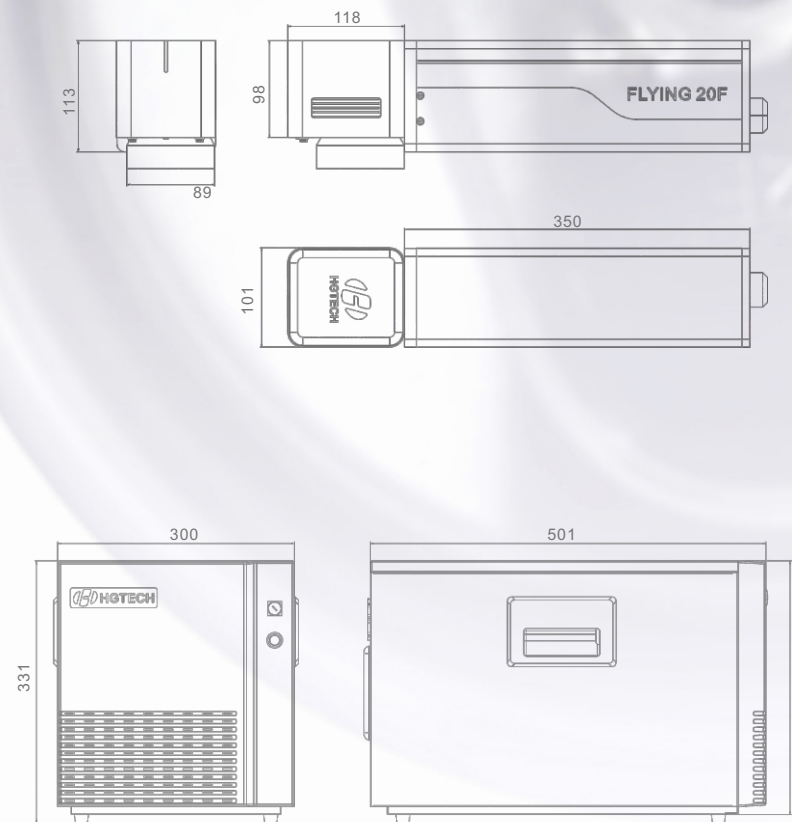
Specifications

Flying C Series						
Laser generator type	Flying30C-V	Flying30C	Flying55C	Flying70C	Flying100C	
Laser power	30W	30W	55W	70W	100W	
Marking specification	Focus lens	F=150mm (Standard)	F=100mm(Optional)	F=200mm(Optional)	F=250mm(Optional)	
	Marking range	100mm×100mm	70mm×70mm	140mm×140mm	175mm×175mm	
	Characters type	Many font of characters provided and special font can be programmed				
	Marking content	TEXT,Changeable content, Series number,Slot number,DM/QR code,Logo and pictures Unlimited for print lines number and font size				
	Marking speed	≤12000mm/s, speed varies depends on materials				
	Minimum marking line width	0.1mm(depends on actual material)				
Marking laser generator	Laser generator type	Radio frequency generation CO2 type source				
	Wavelength	10.6 μm/10.2 μm/9.3 μm				
	Power stability (average power)	±5%rms				
Others	Temperature of operation	Outside temperature 0-40 (32-105°F),environment humidity 10%-90%,no condensation				
	Communication	I/O, TCP/IP, RS232 programmer				

Tailored Solutions

Fiber laser on line marking machine is widely used for mostly metal material, partly non-metal material with surface treatment such as metal, PVC, HDPE, Aluminum file, rubber and plastic marking.

It has a widely usage in personel skin care, beverage package, brewery, wine and milk producing industry, electric components, chemistry& construction products for marking SN number, production date, name of maker, company logo and company characters.



Flying

Fiber series marking machines

It equips with fiber laser generator with highly stability optical components for small laser beam and solid sealing. It also has a 100,000 hours shell life as such as flexible fiber cable for long distance and complex working flow conditions.



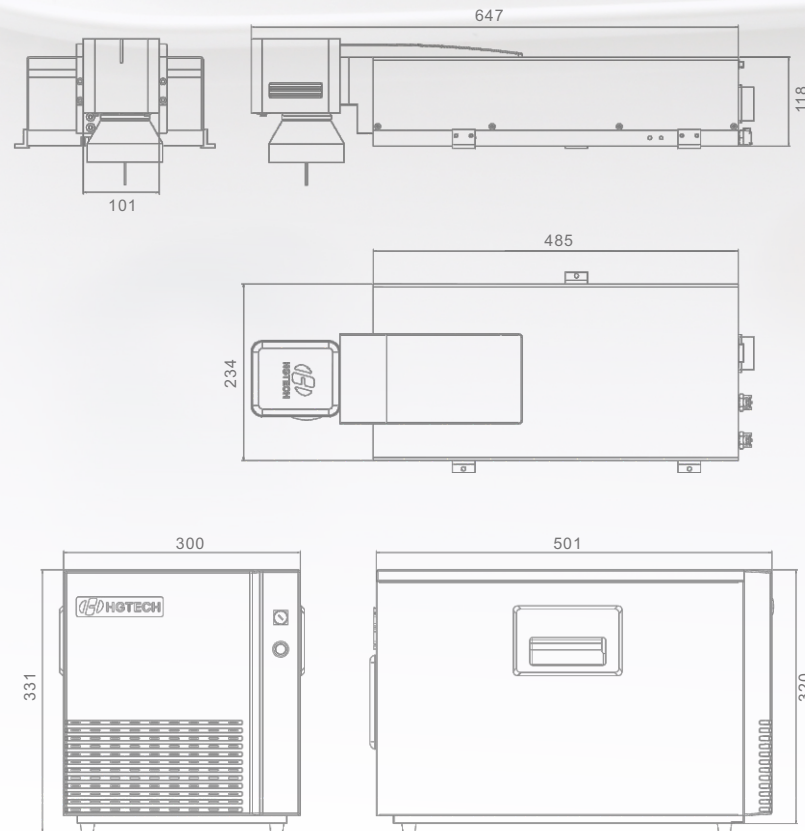
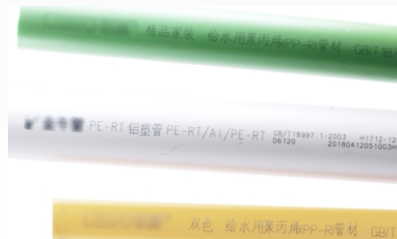
Specifications

Flying F Series					
Laser generator type	Flying20F	Flying30F	Flying50F	Flying100F	
Laser power	20W	30W	50W	100W	
Marking specification	Focuslens	F=160mm(standard)	F=100mm(optional)	F=210mm(optional)	
	Marking range	110mm×110mm	70mm×70mm	145mm×145mm	
	Characters type	Many font of characters provided and special font can be programmed			
	Marking content	TEXT,changeable content, Series number,Slot number,DM/QRcode,logo and pictures			
	Marking speed	≤12000mm/s, speed varies depends on materials			
Marking laser generator	Minimum marking line width	0.1mm (depends on actual material)			
	Laser generator type	Fiber laser generator			
	Wavelength	1064nm			
	Power stability(average power)	±5%rms			
Others	Temperature of operation	Outside temperature 0-40°C(32-105°F),environment humidity 10%-90%,no condensation			
	Weight	Laser head:9KG Control box:21KG	Laser head:9KG Control box:21KG	Laser head:9KG Control box:22KG	
	Communication	I/O,TCP/IP,RS232programmer			

Tailored Solutions

Flying UV on line marking is widely used in marking such as materials like tubes, plastic films, plastic caps and PPR, PVC and PE materials.

It has been widely used in beverage package marking, brewery, wine and milk production, electric components, medical, personal skin care, tobacco, chemical and construction products to mark production data, lot number, series number, maker name, company logos and pictures.



Flying

UV series marking machines

It has short wavelength UV laser source with smaller laser beams, less width pulse to contact with marking materials for less heating effect for a more beautiful marking results. It can do more accuracy marking for special material as well.



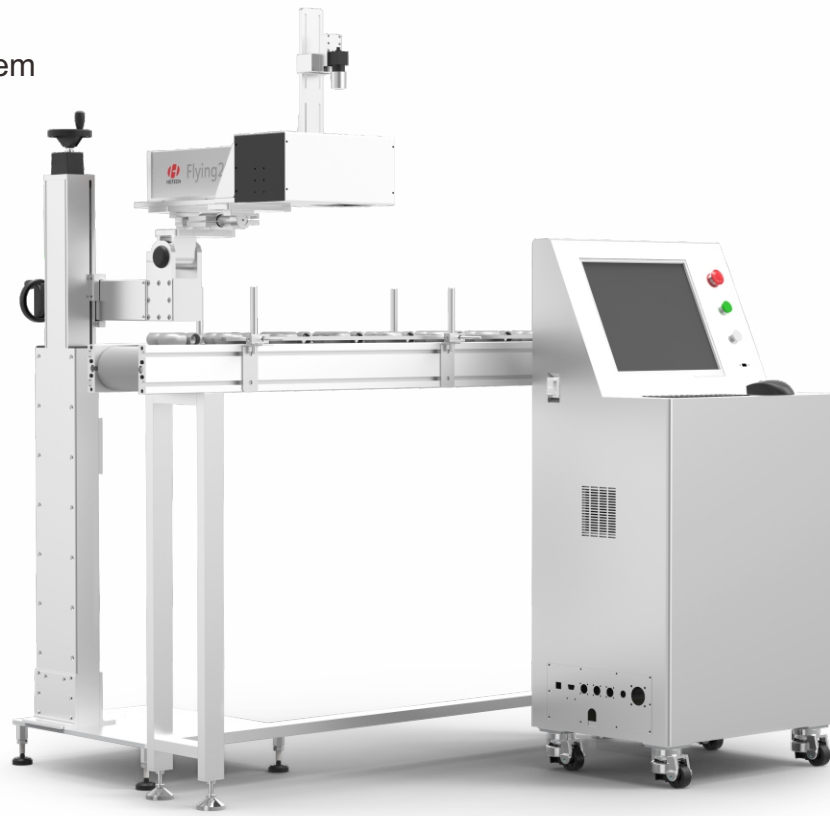
(No Chiller)

Specifications

Flying UV Series					
Laser generator type	Flying3U	Flying5U	Flying12U	Flying20U	
Laser power	3W	5W	12W	20W	
Marking specification	Focus lens	F=160mm(standard)	F=210mm(optional)	F=254mm(optional)	F=300mm(optional)
	Marking range	100mm*100mm	160mm*160mm	175mm*175mm	220mm*220mm
	Characters type	Many font of characters provided and special font can be programmed			
	Marking content	TEXT,Change ablecontent,Series number,Slot number,DM/QR code,Logo and pictures			
	marking speed	≤ 12000mm/s,speed varies depends on materials			
minimum marking line width	0.1mm(depends on actual material)				
Marking laser generator	laser generator type	UV laser source			
	wavelength	355nm			
	Power stability(average power)	±5%rms			
Others	temperature of operation	outsidetemperature0-40°C(32-105°F),environmenthumidity10%-90%,nocondensation			
	system power supply	2.5KW/AC220V/50Hz	2.5KW/AC220V/50Hz	2.5KW/AC220V/50Hz	2.5KW/AC220V/50Hz
	weight	Laser head:20KG Control box:21KG	Laser head:20KG Control box:21KG	Laser head:55KG Control box:22KG	Laser head:55KG Control box:25KG
	Communication	I/O,TCP/IP,RS232programmer			

Flying

Mv1000 series CCD Vision System



Easy to integrate with Laser Marking system, able to select integrate marking application or working independently. Easy operation to implement high precision calibration.

Vision System and Marking Integrate Application



Instantly Stop Coaxial (Outer) Visual Positioning Marking

Place the workpiece randomly in any position, even multiple workpieces enter the marking area at the same time, The Vision System will will calculate the workpiece pose, coordinates and angle in real time and implement laser marking, the positioning marking accuracy can reach 0.01mm.

Online Vision System Positioning and Marking

Place the workpiece randomly in any position, the pre-install Vision system calculate the workpiece pose, coordinates and angle in real time and implement laser marking, the positioning marking accuracy can reach 0.1mm.

Barcode / 2D code read



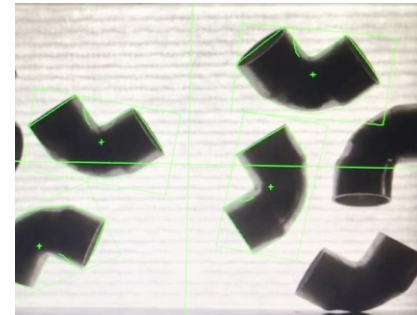
Image Pre-process for barcode/2D code marked /printed on objects.

Adjust the pre-process for Positive and Negative code, background color, brightness etc...base on real scenario to optimize performance and increase read efficiency.

Support read multiple code in multiple area and line in same time, speed up to 3200pcs/min. Code reading accuracy can achieve 99.99% (base on Scenario).

Support duplication verify for 5 million data and 2D code length/width verify in real time, and work piece center detection.

Character recognition / reading



With the new design algorithms able to implement high stable character reading even under complex background interference or low contrast condition.

Caps Laser Marking System



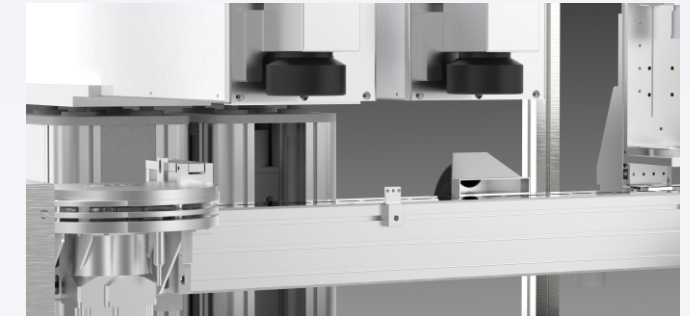
Combine Caps Sorting and Laser Marking function, mark unique code;

Vision system and kick-out system detect fail caps in real time;

Waterfall type caps sorting system meets multi-channel coding require;

Caps code marking speed up to 1500pcs/min;

No duplicate marking, missing marking, distortion marking etc.



Can Pull-Tab Laser Marking System



8 sets laser marking machine working in same time;

Top side & Bottom side marked 2D code or Digit detection, detect marked or not and the interval data compare;

Including software customize, independent control system, customize fixture, CCD inspection and kick-out system. The whole Can Pull-Tab laser marking solution;

Own research Vision Camera control system data identification and processing.

