Hangzhou EcooGraphix Digital Technology Co.,Ltd.
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EcooSpark Digital Label Foil Stamping and Varnish Printing Machine



EcooGraphix's newly developed EcooSpark digital varnish printing machine realizes digital synergistic processes such as **digital varnishing, 3D crystal bright, partial glazing, cold foil stamping, embossing, etc., without the need for plate making.** It can reduce costs and instantly realize unique visual effects of printing. This is a digital post-press equipment that creates new profit points for users, and is a digital efficiency-enhancing printing machine.

Applications: Wine Labels, Cosmetic Labels, Luxury Labels ,Medical Labels,Washi Tape ,Pouches and so on.






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EcooSpark Digital Foil Stamping and Varnishing Machine

Model	EcooSpark
Printing Technology	UV Piezo DoD-inkjet
Resolution	up to 1440*360 dpi
Printing speed	10m/min - 60m/min(depend on polymer layer thickness)
Variable Image system	PDF, optimized PDF, Optional barcode system
Supported image standards	PDF,PDF/VT,TIFF, JPEG, BMP & other data base files
Substrates	Offset, Digital, Plastics, Laminated and coated substrates
Printing image width	280mm (extendable to 330 mm)
Polymer	WB-DS-Clear Polymer
Polymer layer thickness	From 10 up to 250 microns
Ink curing	Inter UV-LED Pre-curing/Full curing by UV-LED
Unwinder diameter	Max. 700mm, Core 76mm
Rewinder diameter	Max. 700mm, Core 76mm
Substrates thickness	30-400 micro
Substrates width	330mm
Press with Foil station	3500mmx1900mmx1800mm (LxHxW)
Operating environment	Temperature: 15℃-30℃, Humidity: 40%-80% relative humidity
Power Supply	Voltage:23KW, 3x380, ±5% 3 phases +G+N ; Frequency: 50/60 Hz Current: Avg. 58.6 Amps
Weight	2800kg

Features：

* No heating required
* LED UV+water cooling roller
* Suitable for ordinary cold foil
* Unlimited image variety, high resolution up to 1440X360 dpi;
* Top UV inkjet drop on head with printing width 288mm and extendable to 330mm;
* Speed up to 60m/min; varnish printing thickness up to 180um~250um;
* Reliable and cost effective parts and UV varnish supply ;
* Proven market success with over 50 installations in Europe, China and other countries,satisfaction guaranteed with professional service;
* CE certificate.

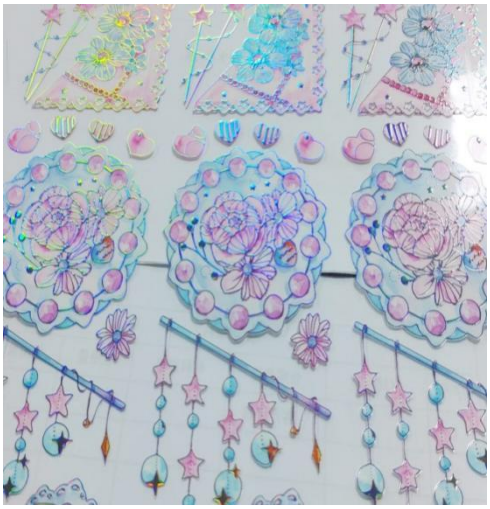


Digital post-press enhancement technology can realize the superposition application of a variety of post-press processes, which is not easy to achieve in the previous traditional processes, such as spot varnish, embossing, foiling and other effects, and even can realize the superposition of a variety of color foiling, so that designers have more creative imagination space and add value for products.

Washi tape is commonly made in a variety of decors, so EcooSpark is widely used in the use of adhesive paper, beautify, decoration, DIY and other purposes, such as luxury jewelry labels, wine labels, cosmetic labels, W2P and other printing companies







EcooSpark enhancement printing machine mainly has the following advantages:

Cost efficiency: There is no need for plate making, the setup time is shorter, and it also has the cost advantage of undertaking end user orders.

Higher quality: High shining surface finish, can be repeatedly stacked, with variable foiling technology, etc., which can be comparable to the traditional post-press process in the production process, and the registration accuracy is much higher than that of traditional printing technology. The "raise effect" or "embossing" effect is achieved by superimposed ink layers, and different heights can be stacked at the same time on the surface of the same substrate.

Environment Friendly: In addition to the short setup time, this is also manifested in terms of simpler operation and VDP design.

Multi-process: High turnover rate, controllable and adjustable, reduce waste, foiling, convex foiling, spot varnish, reverse varnish, Braille and other processes can be completed at one time. Using a piezoelectric inkjet head, a special "digital UV varnish" (a special formulation of transparent UV ink) is sprayed onto the substrate on demand to achieve spot varnish, and the scope and shape of the varnishes are variable. At the same time, the highlight and matte effects can be achieved in a single printing.

Regardless of whether the previous process is offset printing, gravure printing, flexographic printing or other printing, EcooSpark can fully digitally realize spot varnish, cold foiling, embossing and other digital enhancement processes, with high efficiency, low cost, high added value and other advantages, can help enterprises quickly complete extremely short to medium length orders, instantly achieve the unique visual effect of printing. In addition, the equipment can also cooperate with traditional printing, digital printing and other post press processes to issue encounter by other process problems, so as to find new profit growth points for printing enterprises.



预固化——保证在表面形成良好的细节和凸起高度
Pre-Curing: to ensure the formation of good details and bump height on the surface

激活——
让光油起粘
可以完成冷烫胶水的效果，使得冷烫膜的选择的宽容度增加。
Activation: Make the varnish sticky ;
The effect of cold stamping glue can be completed, which increases the tolerance of cold stamping film selection.

总固化——完成整个烫金过程
Final total curing: complete the entire stamping process





Can complete variable data printing;
Protrusion can be high or low;
Good detail performance;
High-gloss surface

Curing only at the edges and superficial surfaces;
Ensure sharp edges;
Fine lines and dots perform well;
Adjustable power

Make the varnish sticky;
The effect of cold stamping glue can be completed, which increases the tolerance of cold stamping film selection.

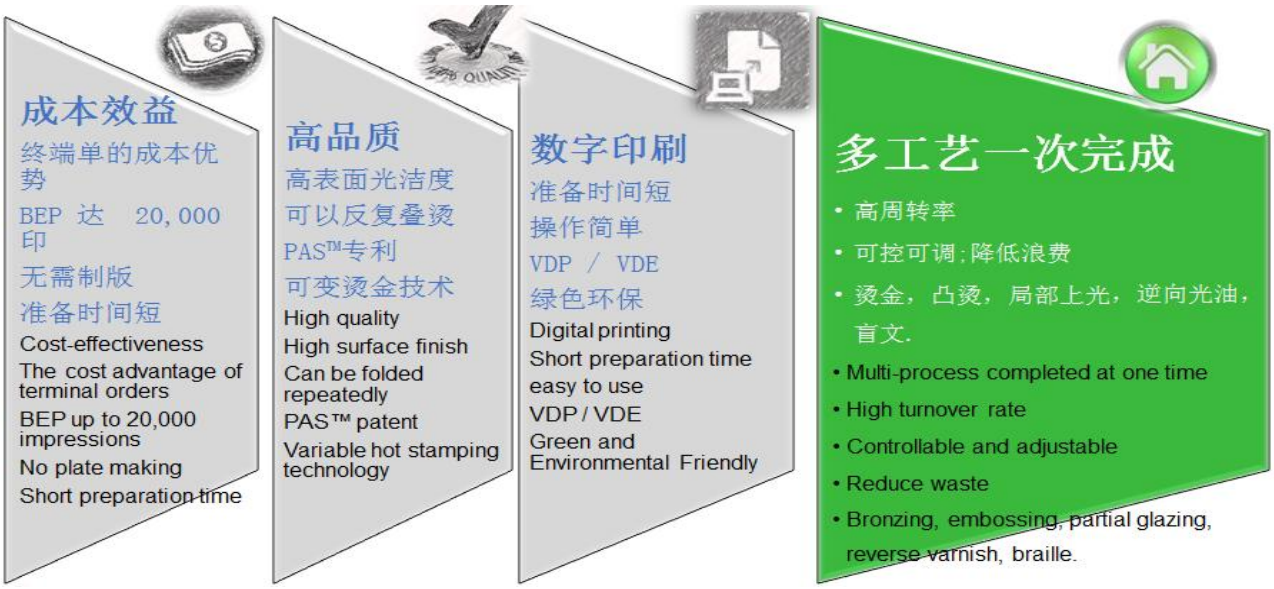
Can realize transfer of different protrusion heights;
Can complete large area hot stamping;
Can show fine lines and excellent detail performance

Water cooling roller+LED UVLittle impact on materials

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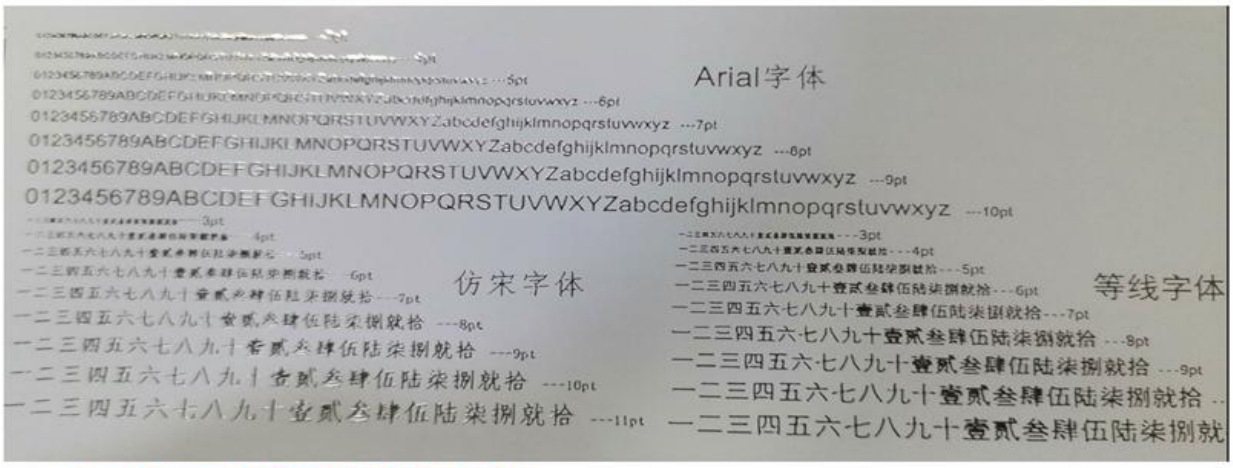
Effect of different thickness of foiling line on BOPP\PP\PET\Art Coated paper



BOPP\PP\PET\Art coated paper best line thickness =>0.01mm
Smooth surface Washi tape =>0.12
Special Art paper : Result not satisfactory on foiling line, best to have a pre-coat on printing surface before enhancement

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Effect of different type of fonts



Roman Alphanumeric character Arial font => 6pts
Complex multiple stroke Chinese character =>10 pts . At smallest fonts, different thickness of font will affect the foiling effect

Attachment

Specifications of Web monitoring system ELSCAN OMS3



- For narrow web applications up to a web width of 580 mm
- Field of view of 100 x 75 mm
- Patented "dualView" technology with 2 x 5 megapixel cameras
- Top image quality and brilliant colour representation
- Crossbeam with manual or motorized camera positioning
- Scan functions for controlled web monitoring
- Operation via mouse, keypad, or touch monitor
- Remote maintenance access

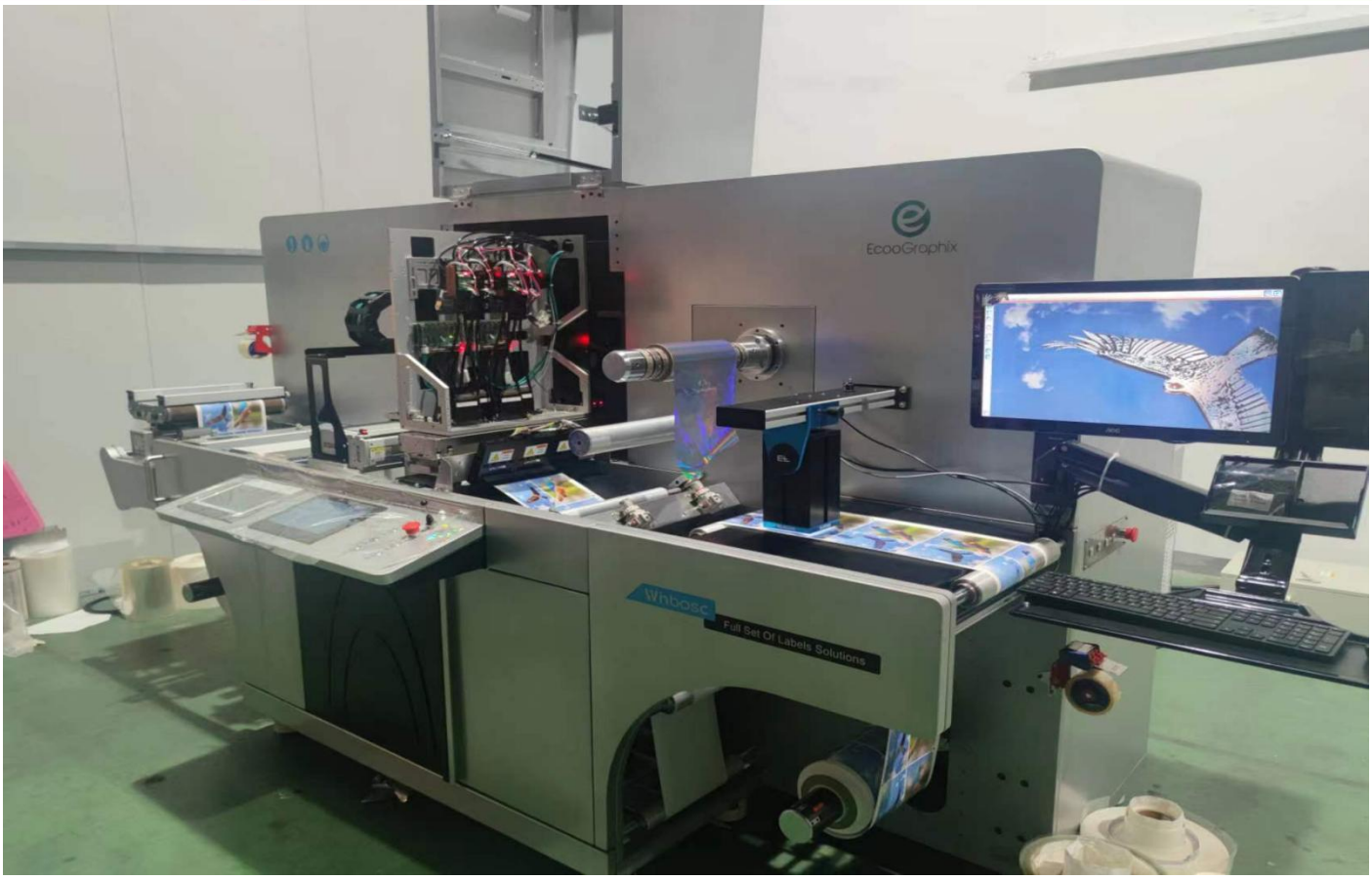
Description	Technical Data
Camera	2 x 5 megapixels, color (2596 x 1944 pixels)
Field of view maximum	W =100 x 75 mm (D= 28 x 21 mm)
Minimum field of view	12 x 7 mm
Resolution	W = 438 µm, 660 dpi / D = 11 µm, 2,350 dpi
Flash	Bright field
For web surface	Paper, labels, hot and cold embossing films, clear-on-clear
Crossbeam with integrated controller	
Length	300 - 700 mm
Operating width	180 - 580 mm
Actuating speed	≤ 350 mm/s
(motorized crossbeam)	
Operating voltage	20 - 30 V DC
Current consumption	1.5 A (max.)
Nominal frequency	50 - 60 Hz
Connections	24 V, HDMI, 2x USB, Ethernet, 2x D-SUB 9-pin
Monitor	
Operating voltage	90 - 240 V AC / 120 W (±10%)
Nominal frequency	50 - 60 Hz
Connection	HDMI
Resolution	22" Full HD (1920 x 1080 pixels)
Monitor type	Standard / Touch monitor
System data	
Web speed	Max. 400 m/min
Protection class	IP 30 (optical range IP 50)
Ambient temperature	+5 °C to +55 °C
Relative humidity	5 % to 95 % (non-condensing)
Synchronization	Gearwheel, print mark, proximity switch, shaft encoder or machine signal

Model：EcooSpark DS-288			
	Configuration	**Details**	**Unit**
1	Unwind Unit	Max Roll Dia 700mm	1
		3 inches Core Shaft	
		Web Guide	
		Auto Slowdown / Auto Stop	
		Closed Loop Tension Control System	
	Web Cleaner		
	Corona Treatment	3kw	
	Anti Static		
	Inkjet Platform	Inkjet，Foiling	
	Curing	UV（LED) Curing system with Chill roller	
	Rewind Unit	Max Roll Dia 700mm	
		3 inches Core Shaft	
	Control Unit	High Speed Drive Control System	
		Touchscreen GUI	
2	Foiling	Max Roll Dia 350mm	1
		3 inches Core Shaft	
		All type of traditional foil (Quality of foil will affect the overall quality	
3	UV Curing	UV-LED Curing System（With Chill roller）	1
4	Digital Print Tower		1

5	Digital Print	Monochrome 288mm (4pcs Konica KM1024i)	1
		Pre Press Software	
		Pinning System	
		Cover	






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Whbasc
Full Set Of Labels Solutions


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Technical Requirement

1. **Electricial : 3 Phase 380 VAC with N +PE**
2. **Compressed Air @ 0.6Mp**

