KONICA MINOLTA

TECHNOLOGY

JETVARNISH 3D Web

Digital varnish & iFOIL

WEB-FED DIGITAL SOLUTION FOR EMBOSSED HOT FOILING AND 2D/3D SPOT UV COATING

MGI

Digital Technology

CUSTOMIZATION. PERSONALIZATION. DYNAMIC PERFORMANCE.

REINVENTING THE DIGITAL LABEL MARKET.

Based on the worldwide success of JETvarnish/iFOIL technology, the new JETvarnish 3D Web brings even greater customization and personalization to the industry.

The JETvarnish 3D Web delivers exceptional value to the industry. It allows label printers to go digital for spot UV coating and embossed hot foiling without dies, screens or expensive tooling. The 100% digital process dramatically reduces make-ready times, eliminates waste and offers true variable data enhancement with a personalized foil option.

The MGI solution is designed for both 2D (flat) and 3D embossed spot coating over flexo, offset or digital web-fed printed output. Hot foiling can be added with glamorous metallic foil to embellish self-adhesive labels and flexible packaging. A digitally finished label provides eye-catching sensory and dramatic tactile enhancements to distinguish brands in the marketplace.

WIDE COMPATIBILITY

The JETvarnish 3D Web is compatible with most web and roll-fed printing technologies available on the market. This includes narrow web digital presses — such as Konica Minolta, HP Indigo®, Xeikon®, Epson® — and the traditional offset or flexo narrow web presses.

ROLL UNWINDER AND REWINDER

- Web width from 100 mm up to 420 mm (3.93" to 16.53")
- 3 inch diameter air shaft
- Reels up to 850 mm/33.4" diameter
- Automatic reel diameter calculation
- Automatic tension adjustment
- Web guide for ±15mm/0.6" lateral correction
- Splicing table

FULL ROTARY FLEXO UV STATION

- In-line rotary flexo UV station for full or sleeve printing (used to apply a primer coat prior to finishing)
- Makes UV varnish and hot foiling finishing possible on many substrates including coated and uncoated materials, synthetics, paper, light cardboard, plastics (PVC, PETG), shrink-sleeve and laminated films (ex. beverage, cosmetics and healthcare label stocks, wine stock)

SPOT UV COATING AND EMBOSSING STATION

- MGI's exclusive inkjet technology with precise piezo (drop-on-demand) applications
- Relief height independently adjustable
- Switch from one job to another with no equipment cleaning required
- High gloss varnish from 7 µm to 232 µm

A FLEXIBLE COMBINATION OF 3 IN-LINE CURING AND DRYING SYSTEMS

- LED to freeze the varnish and the 3D thickness
- Infrared lamps for 2D jobs to spread the varnish evenly over the label
- UV lamps to cure and fully polymerize the varnish
- A cooling roll for application on film and PE is included

iFOIL TECHNOLOGY

- Adds luxurious value and profit margins to self-adhesive labels
- Foil width from 100 mm up to 420 mm (3.93" to 16.53")
- Metallic, holographic and colored markets foils can be used
- 100% digital method eliminates all tooling required with conventional processes

DIE CUTTING UNIT

- Optional semi-rotary die cutting unit to finish labels in-line
- 2 slitter knives as standard (10 max.)
- Gap master system as option

DESIGNED FOR OUR PLANET

- Enhanced UV protection with lower energy consumption than traditional UV systems
- No make-ready, no plates (offset), no screens (silkscreen), no dies (hot foiling), no waste (electricity, paper, varnish and time)
- No cleaning steps between jobs (automatic inkjet head cleaning system)
- Reduction of consumables (elimination of many plastics)

The ever-changing digital label market expects more flexibility, shorter runs and faster time to market. The JETvarnish 3D Web delivers, positioning your business for growth and profitability.

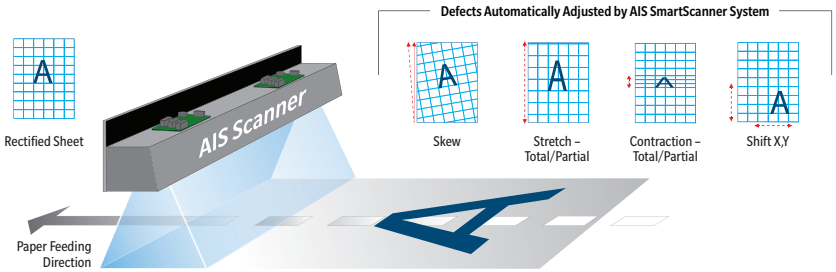
ARTIFICIAL INTELLIGENCE SMARTSCANNER (AIS)

The MGI AIS system is a revolutionary registration development for the printing and finishing industry:

- Eliminates over 80% of operator setup time spent on registration processes
- Allows quick and seamless integration within job workflows with a "scan and register" setup process
- Supports rapid equipment amortization with increased throughput, faster job completion and greater productivity
- Removes unnecessary operator wage costs and paper make-ready waste

The patented AIS system uses Artificial Intelligence to create an automatic varnish and hot foil registration for inkjet heads over printed web rolls. It's fully compatible with Variable Data Finishing (VDF) jobs. Using print image and inkjet synchronization algorithms, the AIS system runs at more than 5 billion operations per second. Without operator intervention or a decrease in feeding speed, it makes corrections and adjustments for any defects generated by the original offset or digital printing run and lamination process. For example:

- Sheet and image skew
- Sheet and image stretch – partial or total
- Sheet and image contraction – partial or total
- Sheet and image shift on X and/or Y direction



SOFTWARE SUITE AND TOUCHSCREEN INTERFACE

OVERSEE IT ALL

The JETvarnish 3D Web's software interface digitally manages and changes all machine settings — including print speed, drying and curing systems, iFOIL speed, pressure and temperature.

JOB COST CALCULATOR

Forecast varnish consumption costs down to the penny; automatically calculate precise production costs prior to actual production; manage supply costs; and make accurate job estimates. Also available on a PC for your pricing and sales departments.

SPOT VARNISH EDITOR

An easy-to-use tool for editing job enhancements on-the-fly. Eliminates going back and forth between your production and prepress departments. The 3D operator can do job file modifications right from the production floor.

Designed for a high production work environment, it improves operational workflows between production and prepress departments.

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TECHNICAL SPECIFICATIONS

Printing speeds	Up to 42m/mn (depending on application). Speed will vary according to printing parameter used.
Supported web widths	From 100 mm (3.93") up to 420 mm/16.53"
Finishing width	The maximum image width is 405 mm/15.9"
Substrate types	From 50 microns to 400 microns (µm) • Coated, uncoated and textured paper • Self-adhesive labels • White or transparent synthetics, PP, PE, POPP, PET • Light cardboard/folding carton • Shrink film: PVC, PETG
Wide compatibility	Compatible with the overall web-to-web printing technologies, narrow web digital presses and the traditional offset or flexo narrow web presses.
Unwinder	• Maximum roll diameter capacity: 850 mm/33.4" • Standard inside core diameter: 3 inches • Maximum roll weight: ±120 kg/264 lb
UV flexo station	An integrated flexo station for full-size sleeve coating in rotary. This station is used to apply a UV primer coat prior to finishing. The module comes with a UV dryer. The station is equipped with an anilox cylinder. Additional anilox cylinders are available as upgrade options.
Spot UV coating and embossing station	This station uses MGI award-winning inkjet technology for producing spot UV coating. Any defined label area can receive spot UV coating with or without raised 3D texture effects. A simple grey level TIF file designed by prepress controls the surface area and the thickness of the varnish applied over the printed roll. This 100% digital process eliminates traditional plates, screens and dies. **Varnish thickness:** From 7 µm to 232 µm of varnish thickness (from 2D flat coats to 3D raised effects). **Inline curing:** The unit is equipped with a UV dryer and cooling drum for optimum web temperature control. The curing sequence also includes a special forward and backward roll motion to dry each label and eliminate waste between runs. **UV varnish:** Gloss varnish. 99 GU.

Hot foiling station	The hot foiling station adds luxurious effects and brand value to label and packaging products. Any defined label area can receive digitally-controlled foil with or without raised effects.
	
	A simple grey level TIF file designed by prepress controls the surface area and the definition of the foil applied on the printed roll. This 100% digital process eliminates traditional dies, plates and screens. Foil application can be bypassed when not necessary.
	
	Foil rolls:
	• Foils are delivered on rolls:
	  • Foil widths from 100 mm/3.9" to 420 mm/16.5"
	  • Foil roll core diameter: – 1" and 3"
	  • Foil lengths from 400 m/1,310 ft to 2,000 m/6,500 ft
	• Available market foils (including metallic tones, holographic and multiple colors)
	• Optimized foil consumption system
	• Up to 3 simultaneous foil rolls on the same axis

Die cutting unit	A semi-rotary die cutting unit is available as an option to finish labels in-line on the JETvarnish 3D Web. The unit uses a 21" magnetic cylinder and an automatic registering system. 2 slitter knives are included as well as a matrix rewinder. • Format in semi-rotary: 100 mm up to 480 mm • Maximum matrix diameter: 600 mm • 2 slitter knives as standard (10 max.) • Gap master system for die height adjustment as an option
Rewinder	Servo-motorized unit 850 mm/33.4" maximum roll diameter capacity • Standard inside core diameter: 3" • Maximum roll weight: ± 120 kg/264 lb
Options	**Corona substrate treatment module:** In-line system made to optimize varnish adhesion on complex printed substrates. **Variable Data Printing:** • Manage and edit files on the workstation • Full variable data (text, graphic, image) for both 2D/3D spot coating and hot foiling areas • Integrated barcode (1D/2D) reader system and controller • Raster Image Processor (RIP) as an option
Dimensions and weight	Up to 11.85[1] x 1.58 x 1.81 m Up to 38.88[1] x 5.18 x 5.91 ft (l x w x h) 1 meter / 3.3' clearance required on all 4 sides Weight: ± 4,447 kg / 9,804 lb
Technical requirements	400 V - 3Ph 240 V - 1Ph Dry air compressor (oil-free): 8 bar / 102 psi - 24m[1]/h / 6 cfm

[1] Depending on the configuration.

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