



KONICA MINOLTA

TECHNOLOGY

## JETVARNISH 3D

Digital varnish & iFOIL

INKJET SPOT UV COATER WITH 3D RAISED EFFECTS



**MGI**  
Digital Technology

# INNOVATION THAT TAKES YOUR BUSINESS TO ANOTHER DIMENSION.

**Gain new customers and increase profits with visually stunning, tactile pieces.**

Success today means having a business that's multi-dimensional. The JETvarnish 3D adds opportunities to your business by featuring increased throughput for flat spot UV jobs and amazing 3D raised effects. It's made for operations with digital and offset presses up to 52 x 105 cm (20" x 42") format. And it's the perfect solution for 3D or traditional spot UV coating on runs from one to thousands — providing printers with true value-added services.

## **INSTANT PRODUCTION**

The JETvarnish 3D allows for fast startup without plates, screens or waste, producing anything from one to several thousand sheets per hour with ease. On the same document, the JETvarnish 3D can change the coating thickness from 3 to 200 microns, depending on the user's defined areas.

## **MGI DIGITAL ADVANTAGE**

With extended formats ranging up to 52 x 105 cm (20" x 42") and weights up to 600 gsm, you can use the JETvarnish 3D to upsell each one of your regular printed jobs into high margin spot UV jobs. The 100% digital JETvarnish 3D allows you to take a few sheets from a job and spot UV coat it, producing a sellable proof so your customers can see the potential and additional visibility and impact that their jobs could have.

## **3D SPOT UV COAT DIRECTLY ONTO DIGITAL PRINTS**

No lamination required. Take advantage of MGI's newly redesigned coating formula coupled with the ability to precisely vary the level of coating thickness on each sheet along with MGI AIS revolutionary registration technology to give your digital prints an additional WOW factor. The variable data option adds full personalization capabilities for maximum marketing impact.

## **INKJET TECHNOLOGY**

MGI's exclusive inkjet technology brings you the quality you deserve, from the first page to the very last. Precise piezo (drop on demand) printheads allow for lines as small as 0.5 mm (1/144") or as wide as the sheet (max. width 515 mm (20")). With MGI's patented coating formula, users can switch from one job to another with no equipment cleaning required.

## **HIGH-CAPACITY TANK**

For your medium and long runs, the JETvarnish 3D comes standard with a high-capacity tank (HCT) containing 18 liters of coating. No need to refill your tank as often so you save time and money.

## **UV CURING**

The JETvarnish 3D's integrated UV curing dries sheets "on-the-fly" via a conveyor belt, with no solvents required. Sheets are completely dry upon entering the high-capacity stacker and can be immediately handled.

## **SOFTWARE SUITE AND TOUCHSCREEN INTERFACE**



### **EASY TO MANAGE**

The JETvarnish 3D's software interface is able to digitally manage and change all the machine settings — including print speed, drying and curing systems, iFOIL speed, pressure and temperature.



### **JOB COST CALCULATOR**

Based on your job's image file, this powerful calculator forecasts varnish consumption costs down to the penny, and automatically calculates precise production costs prior to actual production. It's a valuable tool for managing supply costs and making accurate job estimates. Also available on a PC for your pricing and sales departments.



### **SPOT VARNISH EDITOR**

An easy-to-use tool designed by MGI for editing job enhancements on the fly. This eliminates wasted time going back and forth between your production and prepress departments. The JETvarnish 3D operator can do job file modifications right from the production floor.

This tool is designed for a high-production work environment and improves operational workflows between production and prepress departments.



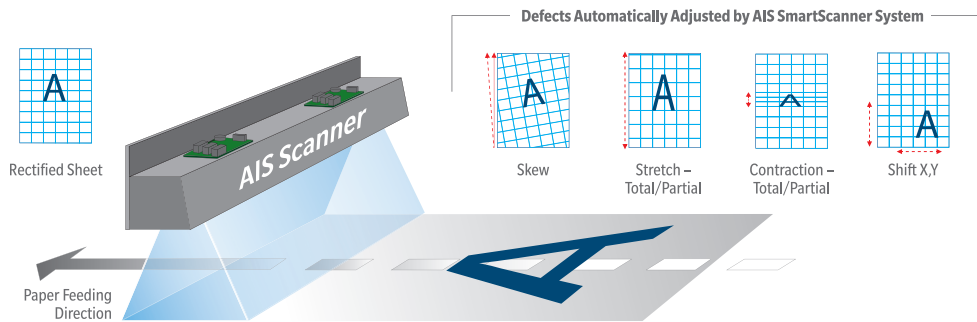
## ARTIFICIAL INTELLIGENCE SMARTSCANNER (AIS)

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 makeready waste

The patented AIS system uses artificial intelligence to create an automatic varnish and hot foil registration for inkjet heads over the preprinted sheet. 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



## MORE FEATURES FOR **MORE ADDED VALUE**

### IFOIL DIGITAL EMBOSsing AND HOT FOIL STAMPING

The JETvarnish 3D offers a fully integrated, in-line option to add to the award-winning iFOIL Hot Foiling System. This module can be installed at the time of purchase or in a future upgrade. The scalability of foil customization and personalization enables printers and trade finishers to expand into profitable new market segments. Spectacular and unique effects are now available within a 100% digital process:

- Embossing from 3 to 200 microns ( $\mu\text{m}$ )
- Multiple colored foils applied in one pass (up to five colors)
- Variable data foiling (VDF) with 2D/3D UV coating
- Foil over foil to create dramatic special effects
- Unique capability to foil and emboss on plastic (including on Polypropylene/PP)

The JETvarnish 3D and iFOIL combinations create both visual and tactile excitement that print buyers, end users and brand owners are looking for, to distinguish their products in the marketplace.

### VARIABLE DATA PRINTING (VDP)

The JETvarnish 3D opens a world of possibilities with its variable data printing option. Just imagine the impact it will have, pushing the limits on personalizing documents with varnish and hot foil variable data printing.

You'll be able to make basic customization with standard information such as name, address, sentence, etc. Or you can realize full customization with multiple criteria such as images, text, layout, etc., to create a truly unique piece.

A high-performance PC RIP with software and barcode camera are included with the VDP option.

### IMPROVED PRINTABILITY ON VARIOUS SUBSTRATES

The Corona Surface Treatment System (CSTS) is an optional module that works in-line with the JETvarnish 3D. It's a well-proven and simple way to modify the surface tension of a substrate to improve the printability of a variety of substrate materials, regardless of the printing process. It minimizes using the time consuming and costly lamination process.

Before the corona treatment, some substrates have a low surface energy, not allowing the varnish to “wet” homogeneously to the substrate, thus creating surface defects.

The CSTS uses an electric discharge transferred on the substrate using an electrode. The surface of the substrate is modified and better prepared prior to spot coating and eventually hot foiling. CSTS really pays off by increasing the dyne level or surface energy of the material, allowing the varnish to be perfectly laid.

# JETvarnish 3D

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## TECHNICAL SPECIFICATIONS

<b>Printing technology</b>	<ul style="list-style-type: none"> <li>• MGI's exclusive inkjet engine technology</li> <li>• Drop-on-Demand (DOD) inkjet application</li> <li>• Piezoelectric printheads in single pass printing</li> <li>• Flexible and scalable architecture</li> </ul>
<b>Variable coating thicknesses</b>	Depending on your file and the substrate used, the coating thickness can vary from a traditional flat spot UV coating of 3 µm up to 200 µm for 3D raised texture effects and a tactile finish.
<b>Production speed</b> <sup>(1)</sup>	Up to 3,123 B2 sheets size per hour (flat spot UV coating or 2D)
<b>Registration</b>	Left and right motorized registration side guides. Automatic registration using the built-in AIS SmartSanner technology for real-time management of entire sheet. No registration marks required. Overall registration of ± 200 µm.
<b>Managed paper formats</b> <sup>(2)</sup>	<b>Min.:</b> 21 x 29.7 cm / 8.37" x 11.7" (W x L) <b>Max.:</b> 52 x 105 cm / 20" x 42" 64 x 120 cm / 25" x 47"
<b>Printable width areas</b> <sup>(2)</sup>	51 cm / 19" (standard) 56 cm / 22" (extended)
<b>Substrate thickness</b> <sup>(3)</sup>	<b>Min.:</b> 135 gsm and not less than 150 µm / 6 mil before printing and lamination <b>Max.:</b> Up to 600 gsm
<b>Substrate compatibility</b> <sup>(3)</sup>	Enhancement on most matte or glossy laminated surfaces, with or without aqueous coating, layered paper, plastic, PVC and other coated materials. Spot 3D coat directly onto most digital prints (i.e., MGI Meteor).
<b>UV coatings and capacity</b>	Several coating formulas available, one dedicated to 2D (flat coat) and the other for 2D/3D usage. The JETvarnish 3D comes standard with two coating tanks and two coating circuits, allowing a quick changeover between coatings. Tanks have a high-capacity volume of 18 liters / 4.7 gal. "On-the-fly" tank refilling possible during production without any interruption and no waste.
<b>Automatic sheet-fed feeder</b>	High-capacity feeder able to handle a paper pile up to 60 cm / 23.6" high for 52 x 105 cm (20" x 42") sheets. Approximately 4,000 sheets at 135 gsm.
<b>Pile out stacker</b>	High-capacity stacker able to accommodate stakes up to 60 cm / 23.6" high for 52 x 105 cm (20" x 42") sheets. Approximately 4,000 sheets at 135 gsm.
<b>Paper path</b>	<ul style="list-style-type: none"> <li>• 100% flat paper path</li> <li>• Vacuum feed system</li> <li>• Air feed system</li> <li>• Automatic double sheet detection</li> </ul>
<b>In-line UV dryer</b>	"On-the-fly" drying and curing via integrated UV lamps
<b>Front-end system</b>	<ul style="list-style-type: none"> <li>• Intuitive touchscreen software management suite controlled by a 27" monitor</li> <li>• Includes functions for operators: Job cost calculator, image editor, queue manager and reprint, camera and printhead settings</li> <li>• Dedicated controller for equipment settings and technical data</li> <li>• Ethernet connection 10/100/1000 BT in RJ 45</li> </ul>

<b>iFOIL L</b>	Optional Digital Hot Foiling module application <ul style="list-style-type: none"> <li>• Production speed: Up to 1,750 <sup>(1)</sup> B2 sheets size per hour (or up to 25 m / 65.6' per minute)</li> <li>• Films: Optimization system of film consumption</li> <li>• Film Rolls: Max. roll diameter and length: ± 30 cm / 11.8" and from 400 – 2,000 m / 1,300' – 6,500' of film. Up to five simultaneous film rolls on the same axis (with a minimum of 10 cm / 3.9" per roll). Two cores available: 1" and 3"</li> <li>• Maximum surface: Hot foil substrate surface cannot exceed 51 x 104 cm (20.1" x 41") <sup>(4)</sup> or 55 x 119 cm (21.7" x 46.9") <sup>(2)</sup></li> <li>• Embossing: 3D hot foil raised effects. The surface of the metallized film may be covered with a layer of varnish or another foil</li> </ul>
<b>Other options</b>	<ul style="list-style-type: none"> <li>• Corona <sup>(5)(6)</sup> substrates treatment module: In-line system made to optimize varnish adhesion on complex printed substrates</li> <li>• Pallet feeder: Supports sheets up to size 64 x 120 cm / 25" x 47"</li> <li>• Pallet stacker: Supports sheets up to size 64 x 120 cm / 25" x 47"</li> <li>• Variable data printing (VDP)</li> <li>• Manage and edit files on the workstation</li> <li>• Full variable data (text, graphic, image) for both 2D/3D spot coating and hot foiling areas</li> <li>• Integrated barcode (1D/2D) reader system and controller</li> <li>• Raster image processor (RIP) as an option</li> </ul>
<b>Maintenance and remote technical support</b>	<ul style="list-style-type: none"> <li>• Daily maintenance completed in less than 10 minutes</li> <li>• Majority of procedures are automated</li> <li>• From cold start to production in less than 15 minutes</li> <li>• Remote troubleshooting and support via included web video camera (high-speed internet connection required)</li> </ul>
<b>Dimensions and weight JETvarnish 3D + iFOIL</b>	From 8.03 up to 12.72 x 1.76 x 1.93 m / 26.35 up to 41.73' x 5.74' x 5.97' (L x W x H) <sup>(7)</sup> Necessary clearance: 1 m / 3.3' on four sides Up to ± 3,072 kg / 6,773 lbs <sup>(7)</sup>
<b>Dry air requirements</b>	An on-site dry air system is necessary
<b>Electrical requirements</b>	JETvarnish 3D: 400 V, 50/60 Hz, 32A (63A plug) + iFOIL L: 400 V, 50/60 Hz, 25A (32A plug)
<b>Operating environment</b>	Temperature: From 18 – 30°C / 64 – 86°F Relative humidity: Between 30 and 50% (no condensation)

The default sheet size is B2 ISO (50 x 70.7 cm / 19.7" x 27.8") unless otherwise stated. All speeds are nominal.

(1) Speed will vary according to printing parameter used.

(2) With the pallet feeder and stacker options.

(3) Confirm substrate/lamination/toner/metallic film compatibility with MGI.

(4) Standard configuration.

(5) Require substrate above 42 cm width.

(6) Require paper above 250 gsm / 250 µm.

(7) Depending on the configuration selected.

## LOWER ENVIRONMENTAL IMPACT

- Enhanced UV protection with lower energy consumption than traditional UV systems
- No makeready, plates (offset), screens (silkscreens), dies (hot foiling) or waste (electricity, paper, varnish and time)
- Reduction of consumables (elimination of plastics)
- Closed-circuit system to minimize varnish consumption, thus preventing waste

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