

JET VARNISH 3D *Evo*

Digital varnish & iFOIL

***Digital Flat & Tactile Effects
Spot UV Coater
with Inline Hot Foiling.***

Upgradable Inkjet System

Format up to 75x120 cm/29x47"



INNOVATION IN MOTION

A TECHNOLOGICAL REVOLUTION...

THE TECHNOLOGICAL REVOLUTION: ARTIFICIAL INTELLIGENCE SMARTSCANNER (AIS)

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

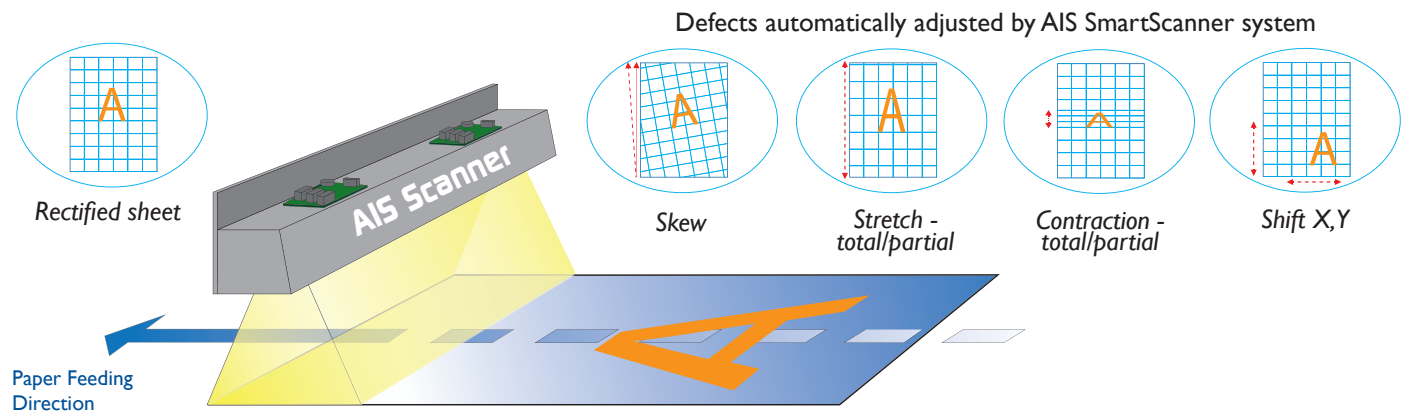
- Eliminates more than 80% of operator setup time spent on registration processes and reduces make-ready waste
- Allow quick and seamless integration within job workflows with simple, automatic “scan and register” setup process
- Supports rapid equipment amortization with increased throughput, faster job completion and greater productivity
- Removes unnecessary operator wage costs & paper makeready waste associated with analog setup processes

The *AIS system* uses Artificial Intelligence to create an automatic varnish and hot foil registration for inkjet heads over the preprinted sheet. It is fully compatible with *Variable Data Finishing (VDF)* jobs. Using print image and inkjet synchronization algorithms, the exclusive and patented AIS system runs at more than 5,000 billion of 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 any lamination process.

Examples:

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

“ARTIFICIAL INTELLIGENCE THAT DOES THE WORK FOR YOU.”



SOFTWARE SUITE AND TOUCHSCREEN INTERFACE

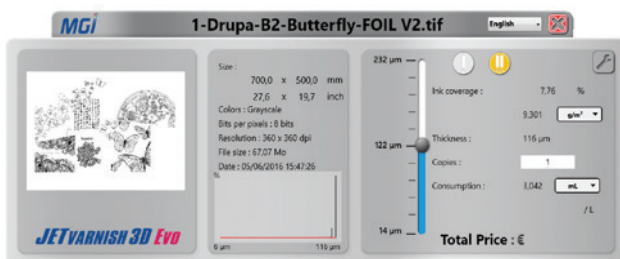
The *JETvarnish 3D Evo* has an innovative software suite developed by MGI that includes management tools such as: a job cost calculator, workstation image editor, reprinting utility, *AIS SmartScanner* setup and variable data controller. All job management functions operate via intuitive touchscreen interface. This software suite allows operators to manage all operations related to production and maintenance, via the workstation interface.

JOB COST CALCULATOR

Based on your job's image file, this powerful calculator forecasts varnish consumption costs down to the penny. This has never been possible before on traditional spot coating technologies. This powerful function automatically calculates precise production costs in advance of actual production. It is a valuable tool for managing supply costs and making accurate job estimates. This software can be also available on a PC for your pricing and sales departments.

SPOT VARNISH EDITOR

An easy to use graphical tool designed by MGI for editing job files at the workstation. This utility allows production operators to quickly modify enhancements without going back to prepress. This software saves time and allows operators to set up jobs in minutes and conduct rapid prototyping directly from the equipment workstation. Varnish and foil enhancements are designed for high production work environments.



...THAT SUITS YOUR NEEDS...

MGI pioneered the development of digital postpress enhancement technology with the first *Inkjet Spot UV Coater* in 2008, the original JETvarnish. Since then, MGI has installed more *Digital Spot UV Coaters* than anyone else in the industry.

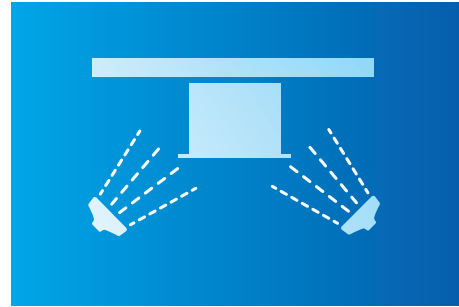
The *JETvarnish 3D Evolution* has been specially designed to offer digital and offset printers a scalable upgrade path for a full range of production environments. The *JETvarnish 3D Evo* delivers high volume productivity with up to 4,200 ISO B2 sheets size per hour (70.7x50 cm/19,7x27,8").

Its 8-up format (up to 75x120 cm/29x47") delivers dynamic performance for the most demanding applications in the fastest growing markets - including packaging. The *JETvarnish 3D Evo* gives added value and a sensorial dimension to your printings. You can also produce prototype and «ready for press» for an affordable price.



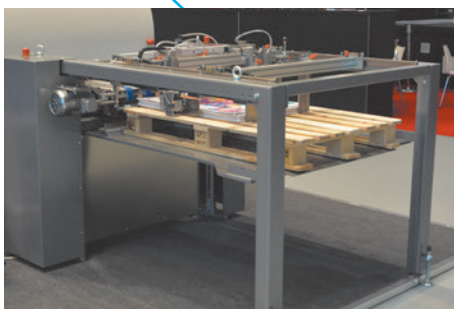
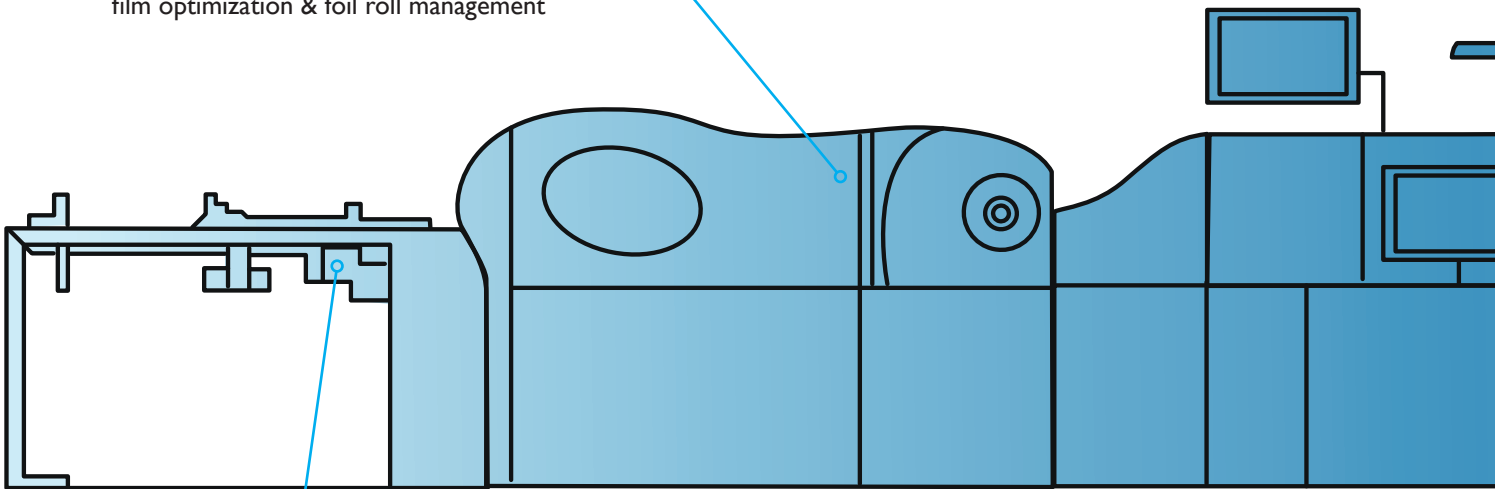
iFOIL L MODULE

Hot Foil Stamping option with OptiFoil film optimization & foil roll management



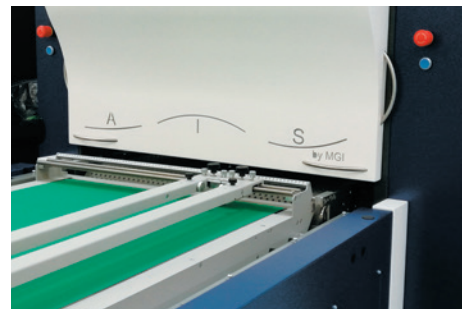
AUTOMATED MAINTENANCE

Inkjet head cleaning system



PALLET STACKER

Based on offset models, it simplifies pallet unloading and production workflows. Supports sheets up to size 75x120 cm (29x47").

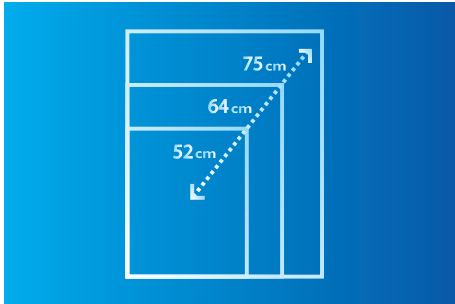


REVOLUTIONARY AIS SMARTSCANNER

Each sheet is scanned and checked
NO registration marks
NO make ready time wastes

...WITH MORE FEATURES...

The *JETvarnish 3D Evo* is available in three different widths: 52x120 cm, 64x120 cm & 75x120 cm (20x47", 25x47" and 29x47").

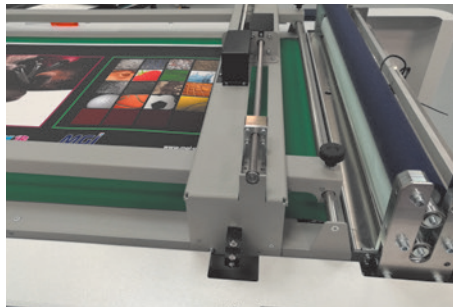


EVOLUTIONARY PRINT WIDTHS

Available in 52/64/75 cm (20/25/29")
Preserve your investment and expand your productivity over time

The design features a scalable upgrade path.

Adjustable to future operational needs, you can upgrade your *JETvarnish 3D Evo* in the field as your business grows and increase your productivity by expanding



MARGIN TABLE

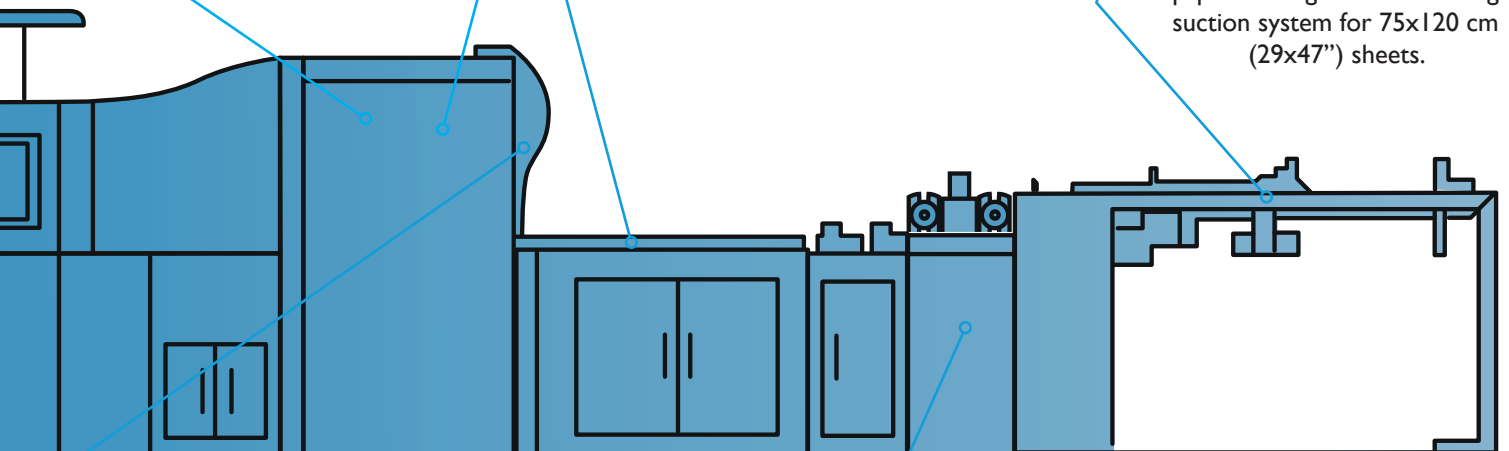
Motorized guides for improved productivity

your service portfolio with larger formats. *JETvarnish 3D Evo* is designed to protect the value of your investment for long-term business opportunities by giving you new options to "Evolve" your production postpress environment for the future.



NEW PALLET FEEDER

New pallet feeder featuring easy paper loading and new feeding suction system for 75x120 cm (29x47") sheets.



NEW CORONA MODULE

In-line system made to optimize varnish adhesion on complex printed substrates



ENVIRONMENT

Enhanced UV protection with lower energy consumption than traditional UV systems.

No makeready, 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).

iFOIL L - PERSONALIZED EMBOSSED HOT FOILING

All of the *JETvarnish 3D Evo* models offer a fully integrated, inline option to add the award-winning *iFOIL Hot Foiling System*. This module can be installed at the time of purchase or in the future as a field upgrade.



This functionality produces digital and variable embellishments such as very fine lines, small lettering and detailed texture effects on each piece. It is both a perfect prototyping tool and a complete high-volume production solution.

Through a revolutionary digital process, the *iFOIL* eliminates the need for films, dies, screens and makeready. This allows quick and easy production of foil stamping jobs from one to thousands of sheets.

This scalability of foil customization and personalization enables printers and trade finishers to expand into profitable new markets segments.

Spectacular and unique effects are now available within a 100% digital process:

- Embossing
- Multiple colored foils applied in one pass (up to 5 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 Evo* and *iFOIL L* combination creates both visual and tactile excitement that print buyers, end-users and brand owners are looking for, to distinguish their products in the marketplace.

The software suite simplifies layout mask changes on sheets ranging from A3 format to 75x120 cm/29x47" and on substrates ranging from 150 up to 800 microns (µm).



It is designed to produce brilliant foil effects on jobs printed on offset, flexo and digital presses. Foil can be applied on coated/uncoated papers, synthetics, plastics, laminated films and aqueous coated surfaces.

Adding in-line digital foil adds value and profitability while reducing outsourcing costs and job completion delays.

INVESTMENT PROTECTION AND INCREASED PRODUCTIVITY

The *JETvarnish 3D Evolution* has been designed to evolve with the growth of your business. The engine can adjust and expand according to changing business needs and new business development opportunities.

MGI Evolution machines can be upgraded in the field with Evo Extension Kits (52x120 to 64x120 to 75x120 cm/20x47" to 25x47" to 29x47"). Expansion of the equipment also increases productivity.

For example, the 52cm/20" version can fully embellish 3,123 B2 ISO flat coat sheets per hour and the increased surface enhancement area of the 75cm/29" version will increase overall production capacity by 35% to 4,200 B2 flat coat sheets per hour.

VARIABLE DATA PRINTING (VDP)

The *Variable Data Printing* option adds full *personalization* capabilities for maximum marketing impact.

Push your documents personalization beyond the limits with *varnish* and *hot foil stamping* variable data printing.

Make basic customization with standard information as name, address, sentence, basically with text. Or realize *full customization* with multiple criteria such as *images, texts, layout*, etc, to reach an unique piece.

Optical "on-the-fly" variable data system uses camera and preprinted barcodes. With the Variable Data Printing option, a high-performance PC RIP with software and a barcode camera are included. Generate your flow directly in and let the *JETvarnish 3D* amaze you.

Technical Specifications

UV INKJET TECHNOLOGY

- MGI's exclusive inkjet engine technology.
- Drop-on-Demand (Dod) inkjet application.
- Piezoelectric print heads in single pass printing.
- Flexible & scalable architecture.

VARIABLE COATING THICKNESSES

Depending on your file and the substrate used, the coating thickness can vary from a traditional flat spot UV coating of 3⁽¹⁾ microns (µm) up to 232⁽¹⁾ µm for 3D raised texture effects and a tactile finish.

PRODUCTION SPEED

Up to 3,123⁽²⁾ B2 sheets size per hour for all versions. Up to 4,200⁽²⁾⁽³⁾ B2 sheets per hour with a landscape rotation of the sheet.
Up to 2,291⁽²⁾⁽³⁾ B1 sheets size per hour.

REGISTRATION

Left & right motorized registration side guides. Automatic registration using the built-in AIS SmartScanner technology for real-time management of entire sheet. No registration marks required. Overall registration of ± 200 microns.

MANAGED PAPER FORMATS

Min: 42x29.7 cm / 16.5x11.5" (width x length)
Max: 52x120 cm / 20x47" (standard)
75x120 cm / 29x47" ⁽⁴⁾

PRINTABLE WIDTH AREAS

51 cm / 20" (standard)
56 cm / 22" ⁽⁴⁾
63 cm / 24.8" ⁽⁴⁾
74 cm / 29" ⁽⁴⁾

SUBSTRATE THICKNESS

Motorized inkjet head height-adjustment.
Min: 135 gsm and not less than 150 µm / 6 mil before printing & lamination.
Max: Up to 800⁽⁵⁾ gsm. Compatible with folding carton.

SUBSTRATE COMPATIBILITY

Enhancement on most⁽¹⁾ matte or glossy laminated surfaces, with or without aqueous coating, layered paper, plastic, PVC and other coated materials. Spot 3D coat directly onto most⁽¹⁾ digital prints (ie. MGI Meteor).

UV COATINGS AND YIELDS

The JETvarnish 3D Evo comes standard with 1 coating tank for both 2D & 3D applications. The varnish tank is having a high capacity volume (18 liters/4.7 US gal.).

PAPER PATH

- 100% flat paper path.
- Vacuum feed system.
- Air feed system.
- Automatic double sheet detection.

IN-LINE UV DRYER

"On-the-fly" drying & curing via integrated UV lamps

FRONT END SYSTEM

- Intuitive touchscreen software management suite controlled by a 27" monitor.
- Includes functions for operators: Job cost calculator, image editor, queue manager and reprint, print-heads settings.
- Dedicated controller for equipment settings and technical data.
- Ethernet connection 10/100/1000 BT in RJ 45.

iFOIL L

Optional Digital Hot Foiling module application.

- **Production Speed**
Up to 2,300⁽²⁾⁽³⁾ B2 landscape sheets size per hour (or up to 25 m per minute - 65.6ft per minute).
- **Films**
Optimization system of film consumption.
- **Film Rolls**
Max. roll diameter and length : ± 30 cm/11.8" and from 400 to 2,000 meters of film (1,300 to 6,500 ft). Up to 5 simultaneous film rolls on the same axis (with a minimum of 10 cm/3.9" per roll)
2 cores available : 1 inch as standard and 3 inches as option.
- **Maximum Surface**
Hot foil substrate surface can not exceed 74x119 cm (29.1x46.8").
- **Embossing**
2D & 3D hot foil raised effects.
The surface of the metallized film may be covered with a layer of varnish or another foil.
- **Dry Air**
Requires air without oil at 6 bar (87 psi) & 24 m³/h (14 cfm) supply.

OTHER OPTIONS

- **Corona⁽⁶⁾⁽⁷⁾ Substrates treatment module**
In-line system made to optimize varnish adhesion on complex printed substrates

Variable Data Enhancement (VDE)

Optical "on-the-fly" variable data system uses camera and preprinted barcodes. Variable data for text, graphic and image on both 2D/3D Spot Coating and Hot Foiling areas. PC RIP included.

REMOTE TECHNICAL SUPPORT & MAINTENANCE

- Automated inkjet head cleaning and wiping.
- Daily maintenance completed in less than 10 min.
- Majority of procedures are automated.
- From cold start to production in less than 15 min.
- Remote troubleshooting & support via included web video camera (high speed internet connection required).

DIMENSIONS AND WEIGHT JETVARNISH 3D Evo + iFOIL L

Up to (LxVxH) 12.72x1.86x1.84 meters/
41.73x6.1x6 ft (Evo 75 full options)
Necessary clearance: 1 meter (3.3ft) on 3 sides and 2 meters (6.6ft) on the stacker side.
Up to ± 4,524 kg (Evo 75 full options)

ELECTRICAL REQUIREMENTS

- JETvarnish 3D Evo
400 Volts - 50/60 Hz, 32A (63A plug)
- iFOIL L
400 Volts - 50/60 Hz, 25A (32A plug)

OPERATING ENVIRONMENT

Temperature : from 18 up to 30°C / 64 up to 86°F
Relative humidity between 30 and 50% (no condensation)

The defaults sheets sizes are ISO standard, unless otherwise stated.
All speeds are nominal.

- (1) confirm substrate/lamination/toner/metallic film compatibility with MGI.
- (2) speed will vary according to printing parameter used.
- (3) with the 75cm/ 29" Evo kit.
- (4) depending on the configuration selected.
- (5) with pallet feeder & stacker options
- (6) require substrate above 42 cm width.
- (7) require paper above 250 Gsm / 250 µm.

	JETvarnish 3D Evo 52	JETvarnish 3D Evo 64	JETvarnish 3D Evo 75
Sheet feeder 52x105 cm	Standard	n/a	n/a
Sheet feeder 75x105 cm	n/a	Standard	Standard
Pallet feeder 75x120 cm	Option	Option	Option
AIS SmartScanner	Standard	Standard	Standard
Sheet stacker 52x105 cm	Standard	n/a	n/a
Pallet stacker 75x120 cm	Option	Standard	Standard
64 cm Evo Kit	Option	n/a	n/a
75 cm Evo Kit	Option	Option	n/a

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Operator / end-users are invited to submit substrates and foils to MGI for validation.