ENG

MGI
Digital Technology

JETVARNISH 3D Web

Digital varnish & iFOIL

Web-Fed Digital Solution for In-Line

Spot UV Coating
Embossed Hot Foiling
Die Cutting & Slitting

Innovation in Motion

A VALUE-ADDED SOLUTION...

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

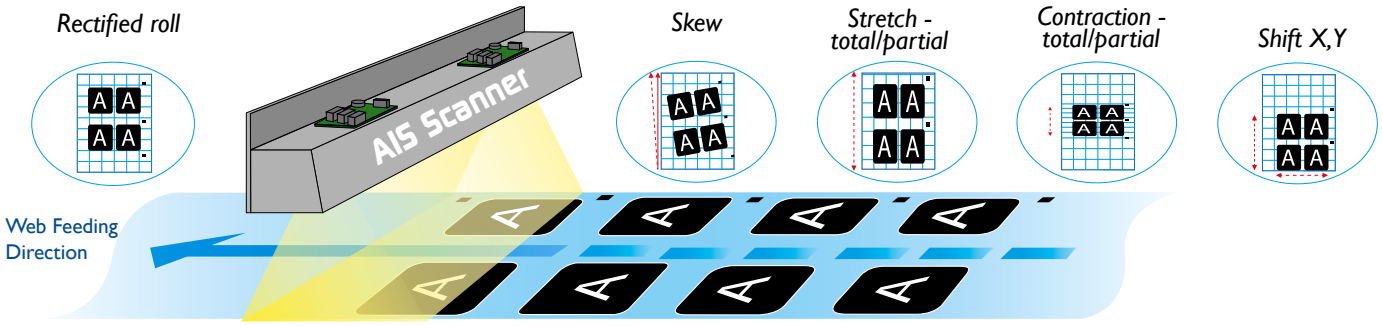
The *AIS system* uses Artificial Intelligence to create an automatic varnish and hot foil registration for inkjet heads over the preprinted roll. It is fully compatible with *Variable Data Printing (VDP)* jobs. Using print image and inkjet synchronization algorithms, the exclusive and patented AIS system 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:

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

"ARTIFICIAL INTELLIGENCE THAT DOES THE WORK FOR YOU."

Defects automatically adjusted by AIS SmartScanner system



SOFTWARE SUITE AND TOUCHSCREEN INTERFACE

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 Web* 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.

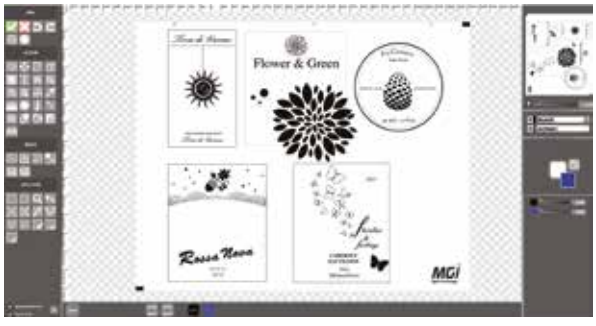
INTEGRATED PRODUCTION COST CALCULATOR

Based on the job file, this powerful calculator forecasts cost down to the penny - information that has never been available before with traditional spot coating technologies.

This tool allows you to calculate and predict accurate production costs, helping to make reliable and precise job estimates.

FLEXIBLE SETTINGS MANAGEMENT

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



...THAT DELIVERS...

The dynamically growing digital label market is expecting more flexibility, shorter runs and shorter time to market. Based on the worldwide success of the award-winning JETvarnish/iFOIL technology, MGI is bringing greater customization and personalisation to the decoration label and flexible packaging markets with the new *JETvarnish 3D Web.*

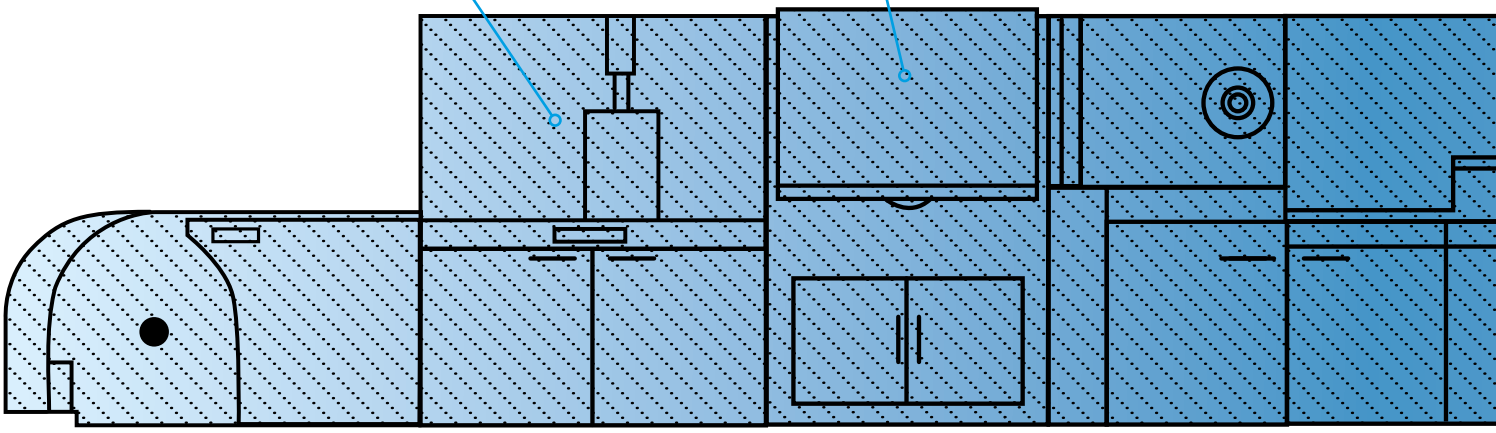
MGI has specifically developed the *JETvarnish 3D Web* to deliver exceptional value on the label market.
The *JETvarnish 3D Web* allows label printers to go digital for Spot UV Coating and Embossed Hot Foiling without dies, screens or expensive tooling. Using a 100% digital process, the MGI solution dramatically reduces makeready times, eliminates waste and offers true variable data enhancement with personalized foil option on every label produced.

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

IFOIL TECHNOLOGY

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



WIDE COMPATIBILITY

• The JETvarnish 3D Web is compatible with the overall web-to-web printing technologies available on the market. It includes narrow web digital presses - such as Konica Minolta®, HP Indigo®, Xeikon®, Epson®, Durst®, EFI®, - and any traditional offset or flexo narrow web presses.
• Coated and uncoated materials, synthetics, paper and light cardboard (ex. beverage, cosmetics & healthcare label stocks, wine stock) compatibility.

SPOT UV COATING & 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 to 232 µm.

...SPECTACULAR EFFECTS.

The *JETvarnish 3D Web* is designed for both 2D (flat)/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. A digitally finished label by the MGI solution provides eye-catching sensory enhancements and dramatic tactile sensations that brand owners are looking for, to distinguish their products in the marketplace.

JETvarnish 3D Web thanks to its labels die-cutting unit and roll slitter knifes offers a complete solution for an optimized production.

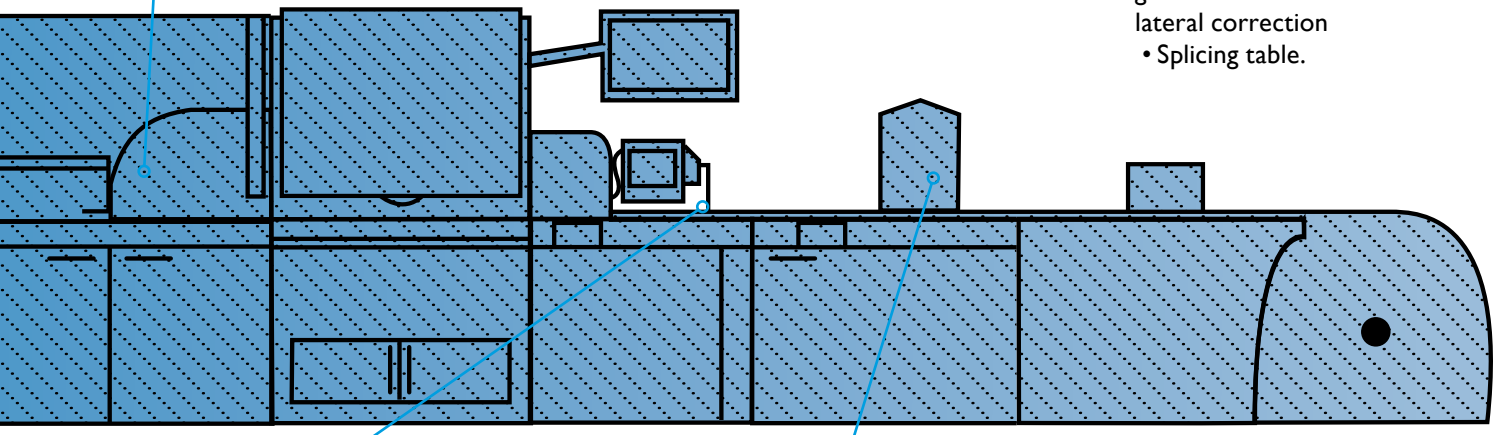
MGI has been developing, constantly for years, with a concern to respond as closely as possible to the needs of its customers, new innovations and solutions.

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

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

ROLL UNWINDER & 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

- Inline Rotary Flexo UV station for full varnishing or priming.
- Makes UV varnish and hot foiling finishing possible on many substrates including uncoated materials.

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).

Technical Specifications

Printing Speeds
Up to 42m/mn[1] (depending on application).

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[2]
From 50 up to 400 microns (µm)
- Coated, uncoated and textured paper, film or label
- 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 lbs

UV Flexo Station
An integrated flexo station for full size sleeve coating in rotary. This station is used to apply a UV protection varnish or primer prior to finishing. The module comes with an 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 TIFF 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[2] to 232[2] µm of varnish thickness (from 2D flat coats to 3D raised effects).

Inline curing
The unit is equipped with UV dryer and a 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“ up to 420mm/16.5 “
  - Foil roll core diameter: 1” and 3”
  - Foil lengths from 400 m / 1,310 ft up to 2,000 m/ 6,500 ft
- Up to 3 simultaneous foil rolls in the width.

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 sliter knives are included as well as a matrix rewinder.
- format in semi-rotary : 100 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 inches
- Maximum roll weight: ± 120 kg/264 lbs

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 & controller
- Raster Image Processor (RIP) as an option

Printing Press Compatibility List
Narrow Web Printing Presses
- Digital
  - Konica Minolta Accurio Label
  - HP Indigo WS4500
  - HP Indigo WS6800
  - Epson
  - Xeikon
  - EFI
  - Durst
  - etc.
- Offset
  All manufacturers and technologies : UV, H2O or WATERLESS
- Flexo
  All manufacturers and technologies : UV or Water base

Dimensions & Weight
Up to 11.85[3] x 1.58 x 1.81 m
Up to 38.88[3] 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 lbs

Technical Requirements
400 V - 3Ph
240 V - 1Ph
Dry air compressor (oil-free): 8 bar / 102 psi - 24m³/h / 6 cfm

All speeds are nominal.

(1) speed will vary according to printing parameter used.
(2) confirm substrate compatibility with MGI.
(3) depending on the configuration

C.C. 10935 - JETvarnish 3D Web UK - 12/03/2019

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