iDM® II

In-line Hot Stamping Decoration Module

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Decoration reinvented

TAPEMATIC®
The right choice

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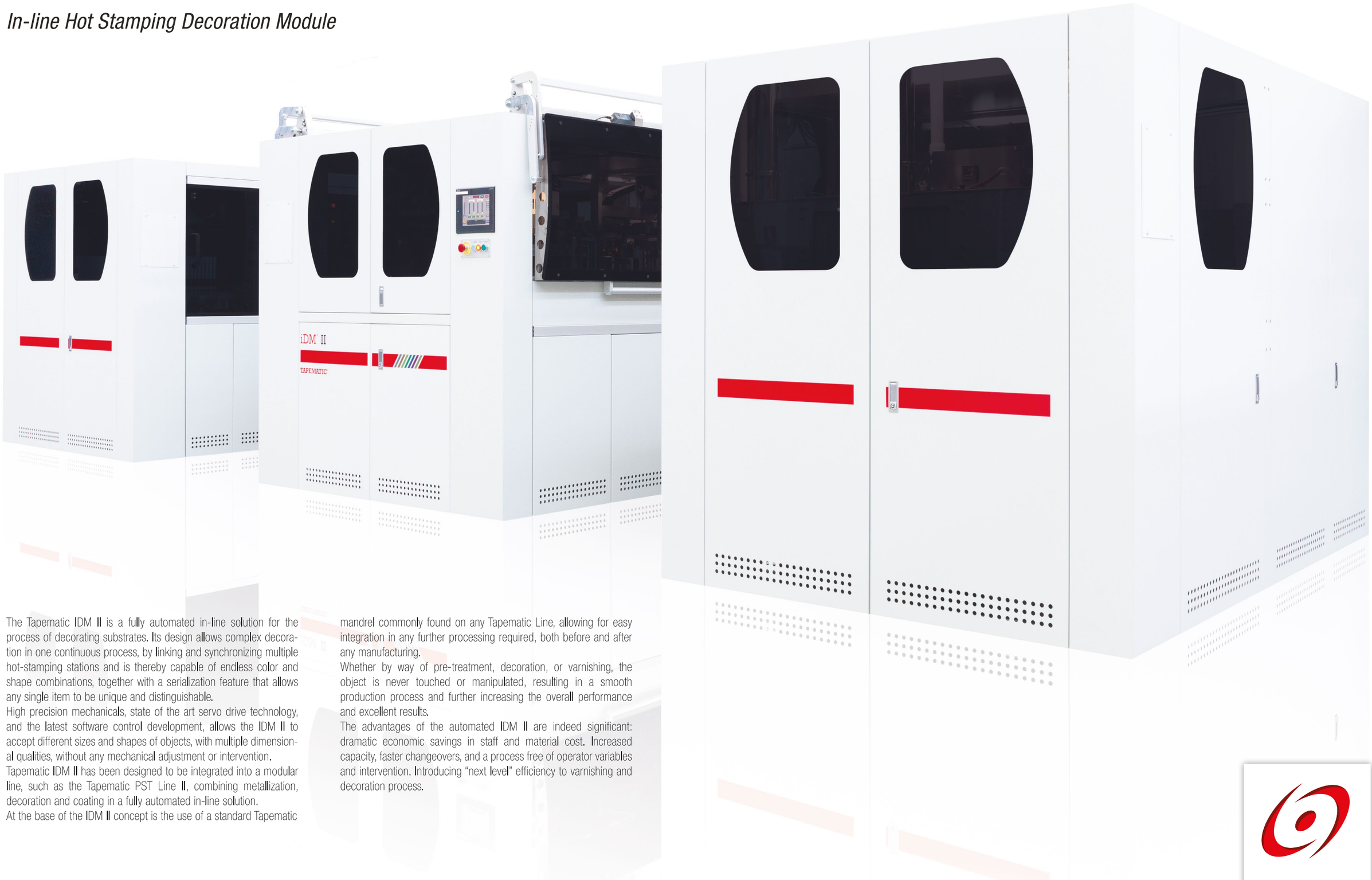
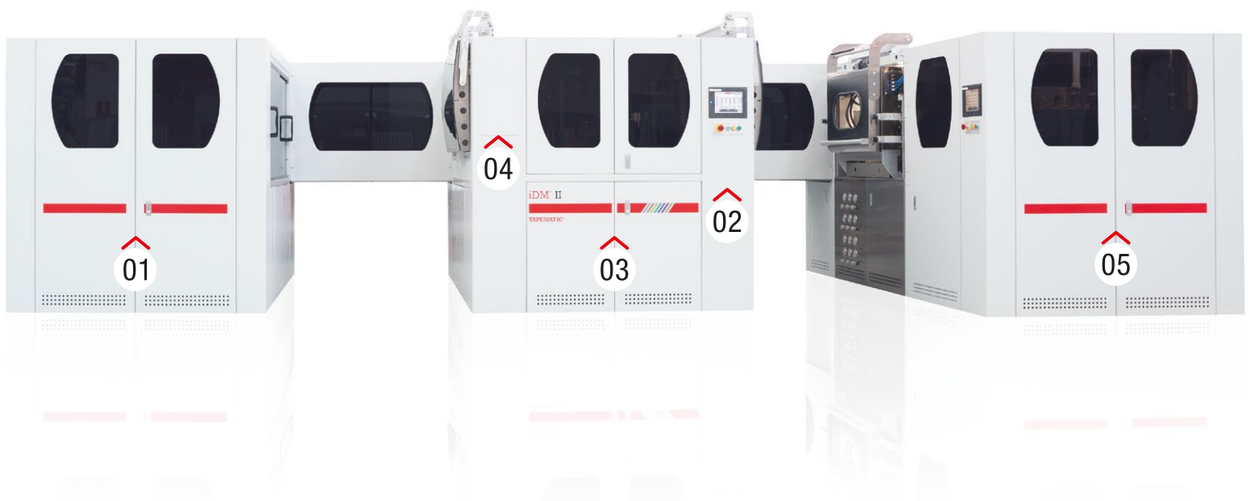
In-line Hot Stamping Decoration Module



The Tapematic IDM II is a fully automated in-line solution for the process of decorating substrates. Its design allows complex decoration in one continuous process, by linking and synchronizing multiple hot-stamping stations and is thereby capable of endless color and shape combinations, together with a serialization feature that allows any single item to be unique and distinguishable.
High precision mechanicals, state of the art servo drive technology, and the latest software control development, allows the IDM II to accept different sizes and shapes of objects, with multiple dimensional qualities, without any mechanical adjustment or intervention.
Tapematic IDM II has been designed to be integrated into a modular line, such as the Tapematic PST Line II, combining metallization, decoration and coating in a fully automated in-line solution.
At the base of the IDM II concept is the use of a standard Tapematic mandrel commonly found on any Tapematic Line, allowing for easy integration in any further processing required, both before and after any manufacturing.
Whether by way of pre-treatment, decoration, or varnishing, the object is never touched or manipulated, resulting in a smooth production process and further increasing the overall performance and excellent results.
The advantages of the automated IDM II are indeed significant: dramatic economic savings in staff and material cost. Increased capacity, faster changeovers, and a process free of operator variables and intervention. Introducing “next level” efficiency to varnishing and decoration process.

built to perfection: **modular concept**



01 CLEANING & PREPARATION

02 360° SIDE DECORATION

03 TOP DECORATION

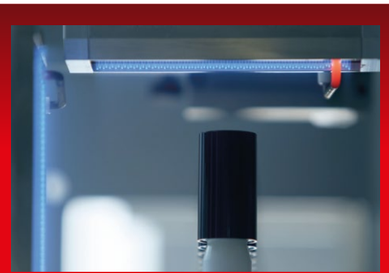
04 SERIALIZATION

05 UV COATING

Cleaning & Preparation

It is the first step of the IDM II line, and it is designed for multiple cleaning processes and allows for customized surface treatment to be installed. Antistatic air blows and multiple brushes are used to remove any foreign particles that may be present on the object's surface. Plasma torches and flame burners promote surface activation, allowing the item to proceed to the next station.

01



360° Side Decoration

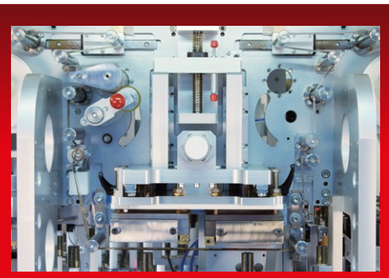
Multiple 360° round stamping heads are positioned around a rotary table, making possible the registration of different and unique graphics. All stamping parameters are simple and, therefore, quickly adjusted, even during production, making the whole process reliable and, importantly, reproducible at any time.

02

Top Decoration

Top stroke stamping heads are combined and synchronized with 360° side decoration allowing elaborate decoration in the same continuous process flow. The unique Tapematic foil feeding system assures constant foil tension throughout the entire production process. The integrated foil-saving mode reduces the cost of consumables to an absolute minimum.

03



Serialization

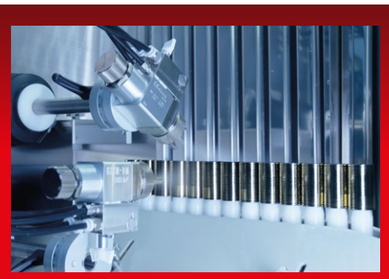
An innovative feature emphasizing the superior capabilities of the IDM II is the 3D digital decoration system that, through the laser engraving allows for the possibility of the uniqueness of any single item being produced.

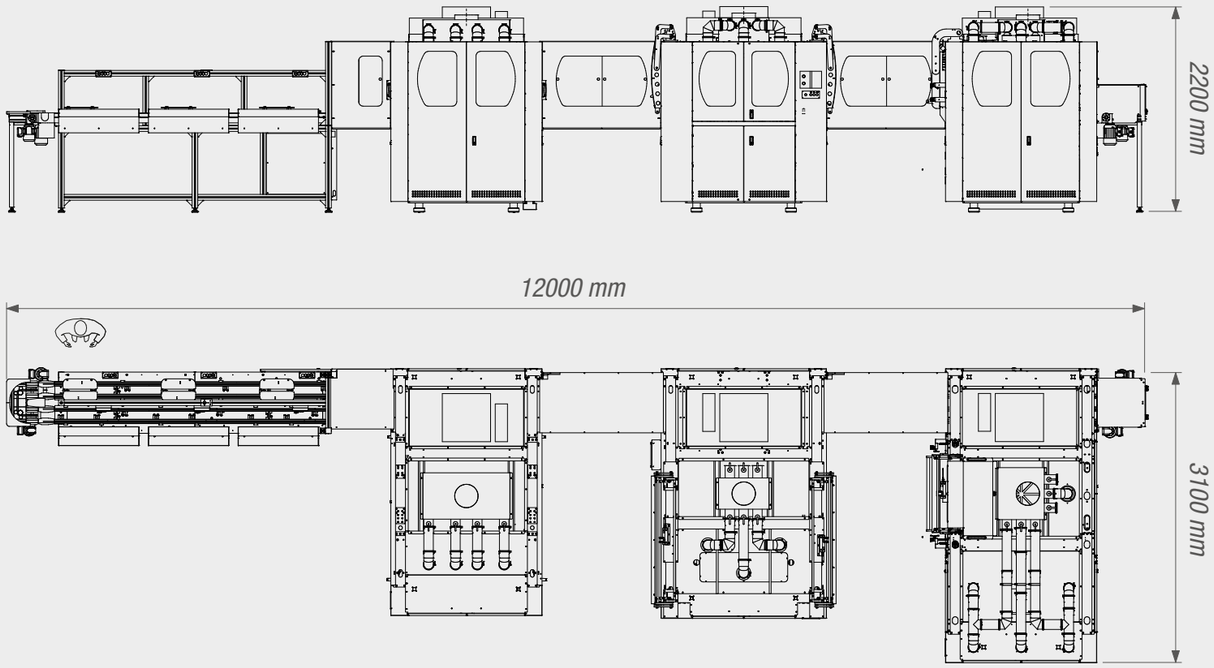
04

UV Coating

Thanks to a unique and innovative layout, the IDM II gives its best performance when combined with a Tapematic BT2 UV coating module. It can perform its decoration ability either before or after the UV varnish layer station. Everything at the touch of a button! Applying a layer of UV coat protects each object from possible contamination and embellishes the decoration with a stunning sparkling effect.

05





IDM II technical data

Substrate	
Substrate material	ABS, PE, HDPE, PC, PS, PA, PET, PVC, SAN, PPA, PP, PMMA, POM, Glass, Metal
Substrate maximum height	137 mm
Substrate minimum diameter	10 mm
Substrate maximum diameter	90 mm
Substrate maximum cone angle	2°
Handling process	
Loading / Off loading	6 individual manual stations
Transport	Modular chain conveyor system
Tray	13 configurable positions Tapematic standard tray system
Quality check	3D vision system
Clean room environment	Built in class 100 Hepa filter
Surface preparation	
Surface cleaning	Air deionizer and dust removal station
Brush cleaning	Multiple controlled brush stations
Flame treatment	Multiple controlled burners
Coating process	
Lacquer / paint	High solid UV curable lacquer / paint
Spray	High performance spray coating system
Flash off	Controlled quartz infrared oven
Curing	Water cooled 3D UV lamps
Decoration process	
Printing mode	360° rolling print (side), direct print (top)
Maximum print height (side)	117 mm
Inner foil diameter	25,4 mm
Maximum foil diameter	160 mm
Maximum print diameter (top)	90 mm
Foil handling	Electronic tension control. End foil, ripped foil sensors
Dies	Silicone flat dies
Serialization	3D serialization and decoration feature
Production	
Cycle time	Up to 4000 pcs/hr
Yield	95%
Up-time	85%
Physical	
Dimension	12000 w x 3100 l x 2200 h mm
Weight	9200 Kg
Utilities	
Power	400V 3 phase 50/60 Hz 30 k VA
Air	6 bar 200 N l/min
Water	3 bar 40 lt./min, 16-18°C, deionized, <10 µS
Exhaust	4000 m³/hr
Environment	
Working area	16 m x 8 m ceiling height minimum 3 m
Temperature	18 - 24 °C
Relative Humidity	35 - 55% non condensing
Safety	
CE	Complies with all current regulations
Patents	
European patent granted	EP3015176B1, EP2692450B1, EP3441148B1, EP3599030B1, EP3603818B1
United States patent granted	US9487857, US10889885

We reserve the right to make modifications without prior notice

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