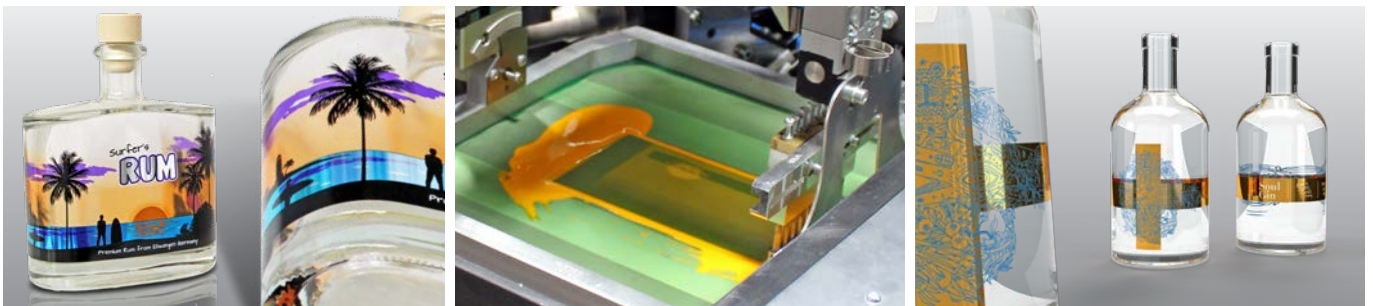




Glass Decoration with the I-Series

Individual printing solutions for glass bottles and hollowware





New perspectives for
your high quality
glass packaging





“Ideal bottle decoration must be noticeable – and memorable. Enabling our customers to profitably decorate complex shaped glass items is the focus of our business.”

Torsten Hirschnitz,
CEO ISIMAT GmbH Siebdruckmaschinen

Eye-Catching Images

High performance hybrid printing machines for multi-color printing onto glass items. Full CNC-controls enable screen printing onto complex shaped items.

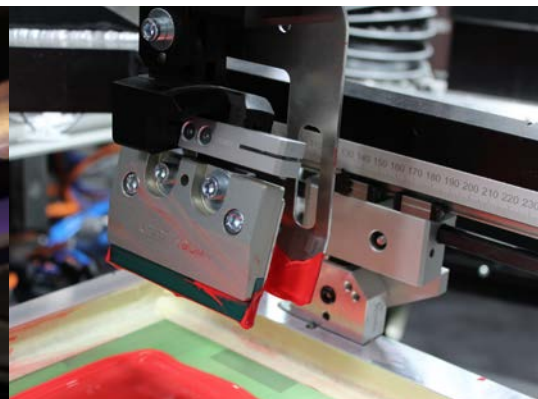
Comprehensive job storing and recalling reduces changeover times. A wide range of options allows customization to meet each customer's specific requirements.



Each fixture is driven by its own servo motor. Quick change fixtures reduce changeover times



Advanced UV curing systems ensure thorough curing of UV inks throughout the speed ranges



An advanced motion controller synchronizes four servo axes in each printing station during printing

We offer the technology. The choice is yours.

inLINE FOILING®

Basic

on cylindrical and complex articles



Your choice for
multi-color metallization

Conical (CiF)

on conical articles



Your choice for
multi-color metallization on conical articles

Screen Printing

on cylindrical and complex articles



Your choice for
razor-sharp text

Hot Stamping

on cylindrical and complex articles



Your choice for
metallization

Digital Printing

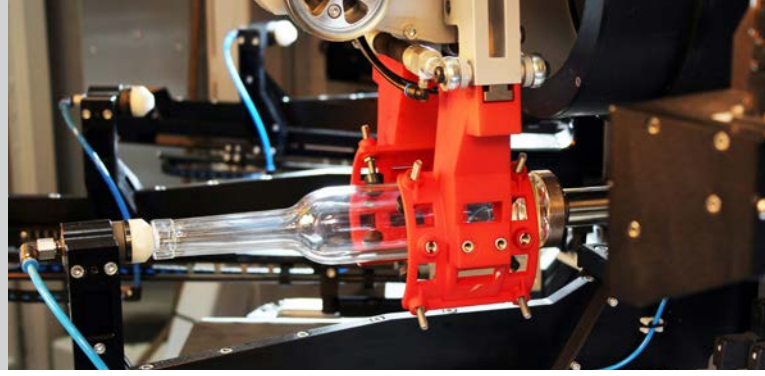
Direct Digital Decoration (DDD)



Your choice for
custom special editions

Loading and Unloading

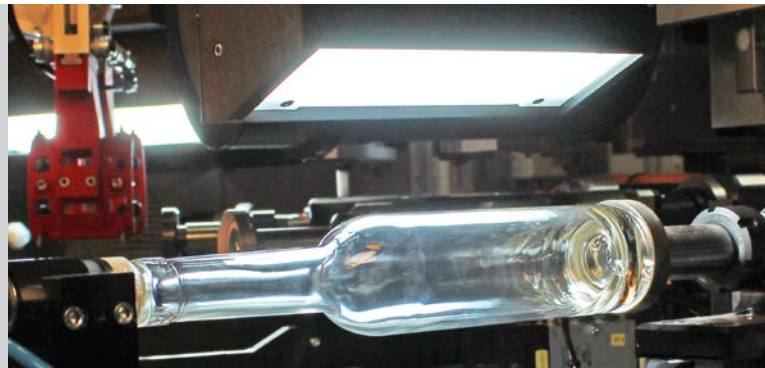
Versatile grippers in the loading and unloading stations reduce the number of different grippers required and the times when grippers have to be changed. However, if needed, the clip-on grippers are quickly changed without tools.



Item Orientation

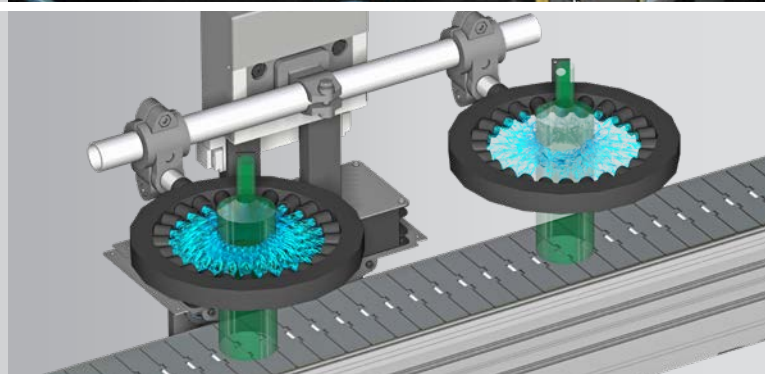
Item orientation determines the correct angular positions of the items for printing images precisely in the correct areas.

A camera based orientation system is an option when items are without sensor-detectable features on the top or at the bottom.



UVitro® - Lasting Adhesion of UV Inks to Glass

ISIMAT's patented UVitro® surface treatment ensures lasting adhesion of UV inks to glass. Glass items move through a UVitro® surface treatment machine on their way to a screen printing machine.



UV drying system

ISISTAR+ UV drying systems ensure within a fraction of a second thorough drying of UV inks. Each color is dried before the next color is printed. Glass items are ready for packaging after unloading from a screen printing machine.



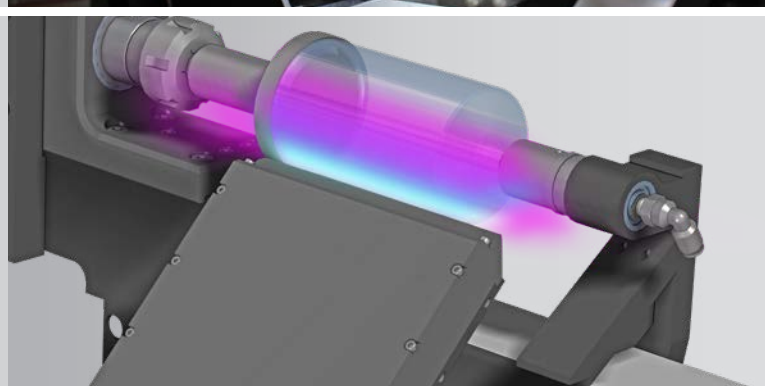
In-line Print Inspection

100% print inspection checks that every decorated item meets the set quality standard. Intelligent on-line print inspection allows operators to define different defect sizes and defect combinations for different printing areas. If defects in a image exceed the size or the permitted combination of errors, then the print article will be rejected.



Spot-UV LED

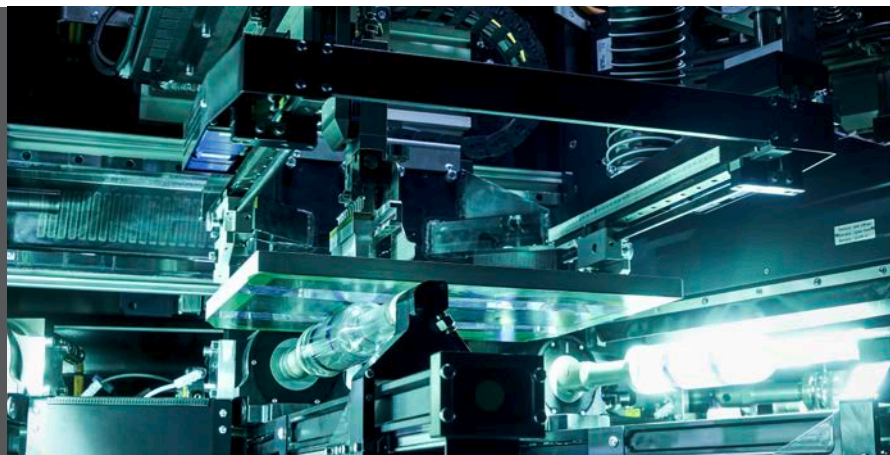
A Spot-UV LED dryer enables printing of 360° wrap-arounds with almost invisible overprints (with opaque colors). The Spot-UV LED dryer accurately dries a very narrow strip along the leading edge of the print. This enables overprinting of the leading edge with the trailing edge.

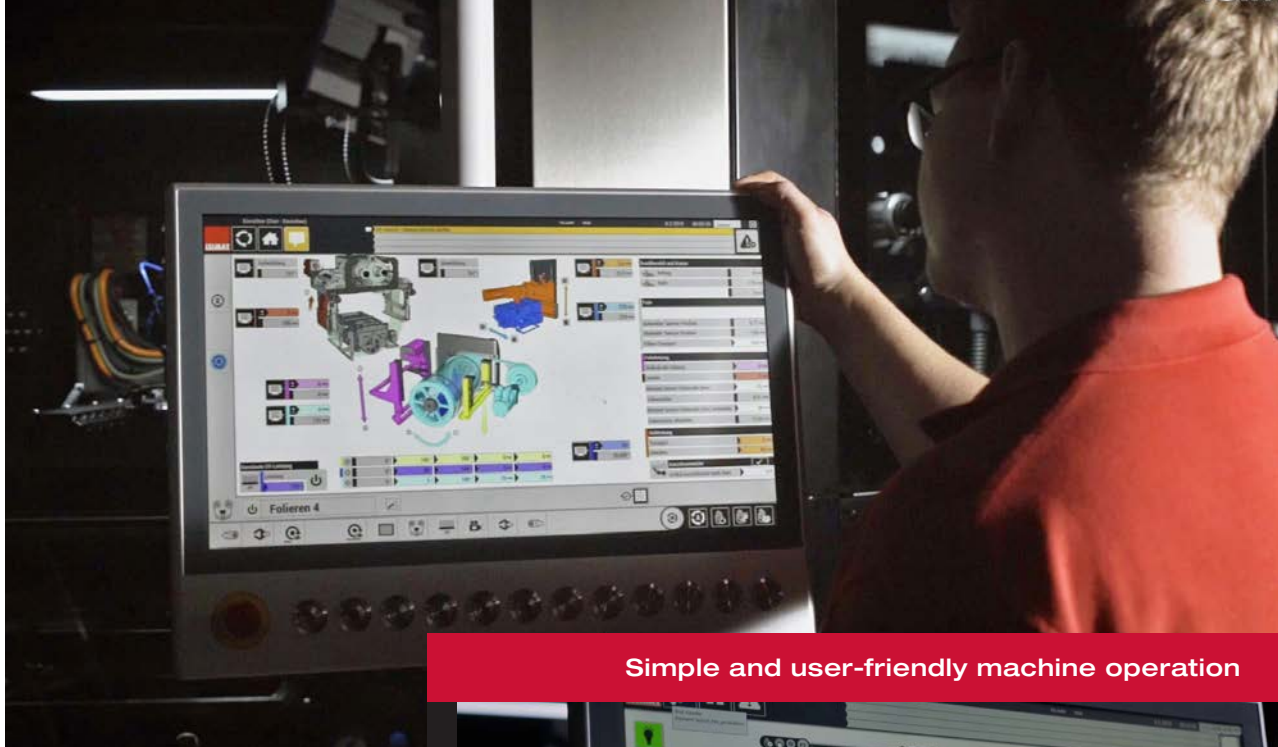


Printing onto complex-shaped items

ISIMAT's hybrid printing machines feature full CNC-control and enable decorators to print onto stylish shaped glass items.

The movements in a printing station of an ISIMAT machine are independent from the movements in the other printing stations. This enables printers to substantially improve print quality and enlarge image area when printing onto complex shaped items.

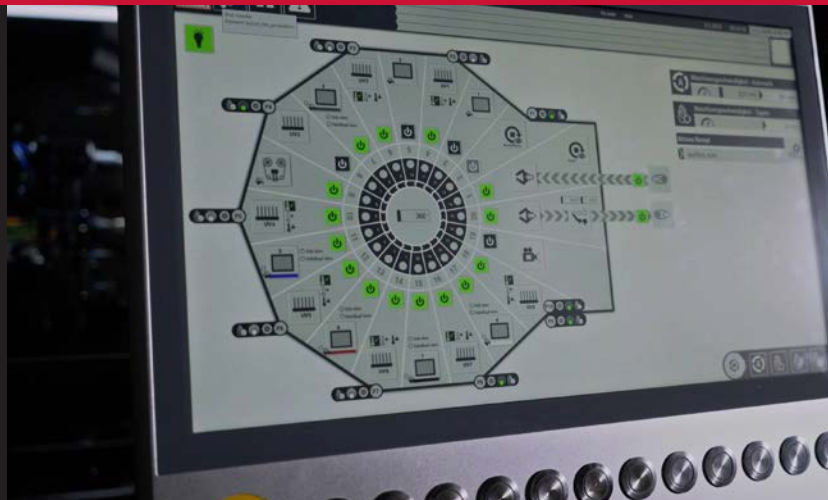




Simple and user-friendly machine operation

Intuitive user guidance

The large touch screen of the control system displays information and allows adjustments while the machine is running. Fields for adjustments and status information are color coded. Display of information is tailored to different access levels which can be password protected.



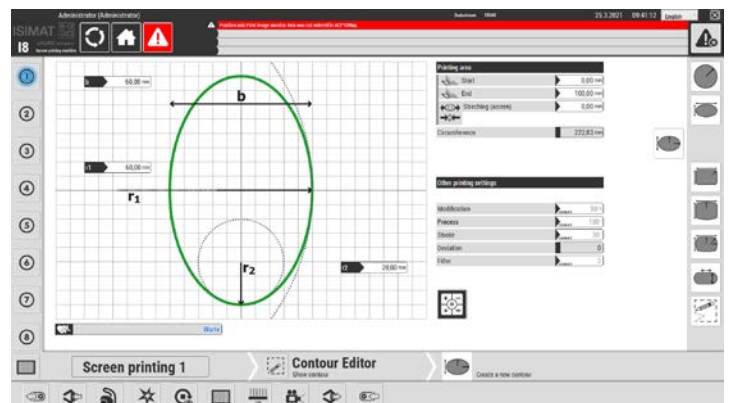
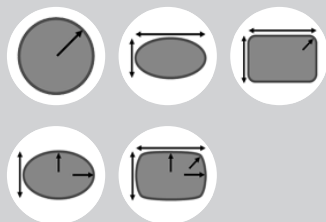
Clear graphics for easy understanding

Many clear graphics illustrate the movements and setting options of the controllable assemblies. This enables intuitive operation with little text.



Contour editor for complex shapes

The operator can easily edit and create standard contours. Import of special contours from CAD data is possible too.



Screen printing

Perfect for sharp texts and solids

The classic for decoration

The movements of four servo axes are synchronized in each printing station:

- Squeegee axis
- Screen axis
- Print head axis
- Support axis

Individual movements depend on the contours of the printing areas. Contours can be different in different printing stations.



Screen printing is a frequently used printing process that is particularly characterized by high opacity, feel, sharpness and brilliance of the printed images.

In screen printing, the color is transferred through a screen to the surface of the article with the help of a squeegee. The areas of the fine mesh where no color should be transferred are made impervious to color.

Our I-Series allows you to decorate a wide variety of materials such as glass, plastic, or aluminum.

It is also possible to decorate the article with both UV inks and ceramic inks. With UV inks, complete drying takes place directly after printing inside the machine by a UV drying station. In ceramic printing, on the other hand, steel screens are used, which are heated during the printing process to ensure that the color is transferred. However, the final drying takes place outside the machine in an oven.



Conical screen printing

Extended possibilities

The evolution of the classic

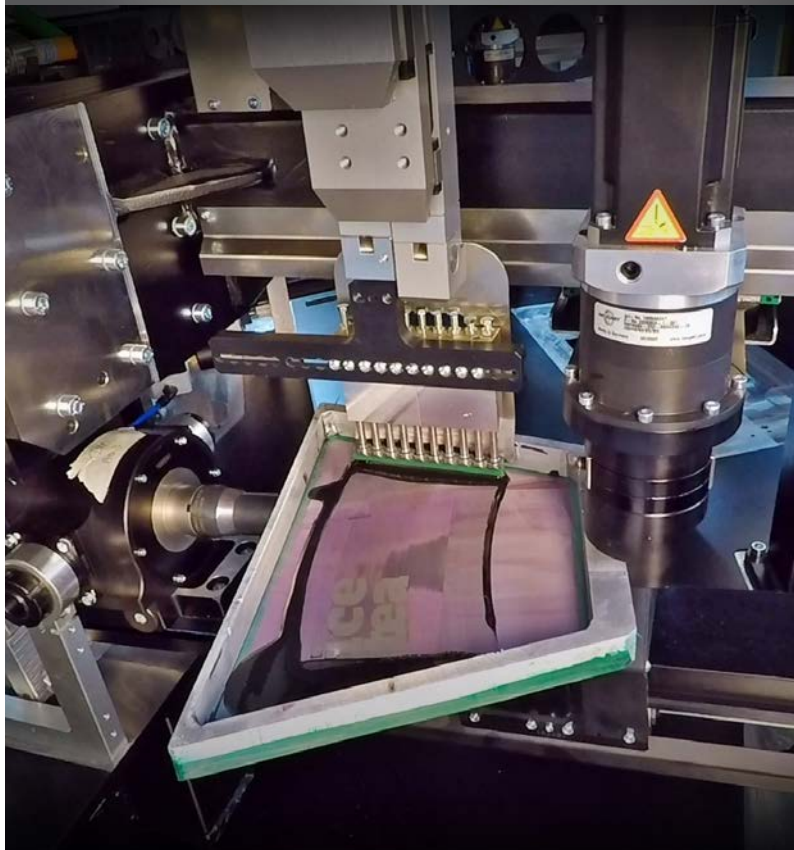


The movements of five servo axes are synchronized in the printing station for conical articles:

- Squeegee axis
- Screen axis
- Screen rotation axis
- Support axis
- Swiveling of support axis

The printing of conical articles required several process steps in the past. For example, a jar was divided into several printing areas and each printing area was printed separately by a screen printing station. That is why we started here and improved our screen printing technology for decorating conical articles. Now, with this new unit, we can decorate the conical article in a high quality with just one screen printing station.

In addition, conical screen printing offers all the advantages of conventional screen printing. The operator does not have to make any compromises when it comes to flexibility, as this station can also be used flexibly in the I-Series.





Classic

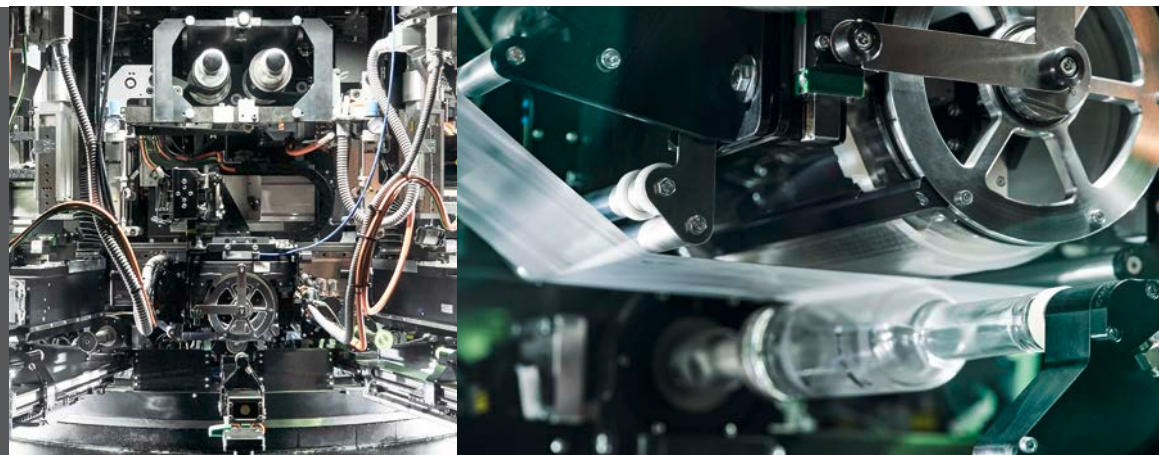
inLINE FOILING®

Brilliant metallic eye-catchers
on your bottles and glasses



Your advantages with inLINE FOILING®

- ✓ The silver foil can be over-varnished immediately with tinted varnish – offering countless color options for metallization
- ✓ Excellent edge definition
- ✓ High-gloss print motifs
- ✓ No additional product handling required – everything in a single pass at high speed



Finish even delicate glass without damage with high-gloss metallization – in just one pass

With the innovative inLINE FOILING® method, items can be finished easily, quickly, and cost-effectively with extraordinary metallic decors – with little pressure and no heat.

inLINE FOILING® can be used in conjunction with screen printing in one machine pass. Owing to the perfect color-to-color registration, no further product handling is necessary.

inLINE FOILING® works like this:

- A special adhesive is applied by screen printing
- Bringing the metallized layer of the foil into contact with the adhesive and curing the adhesive at the same time
- The metallization only sticks in the areas with the adhesive – the other areas remain unaffected
- The surface can now be over-varnished immediately to achieve a wide range of metallic effects



Adhesive



Silver foil



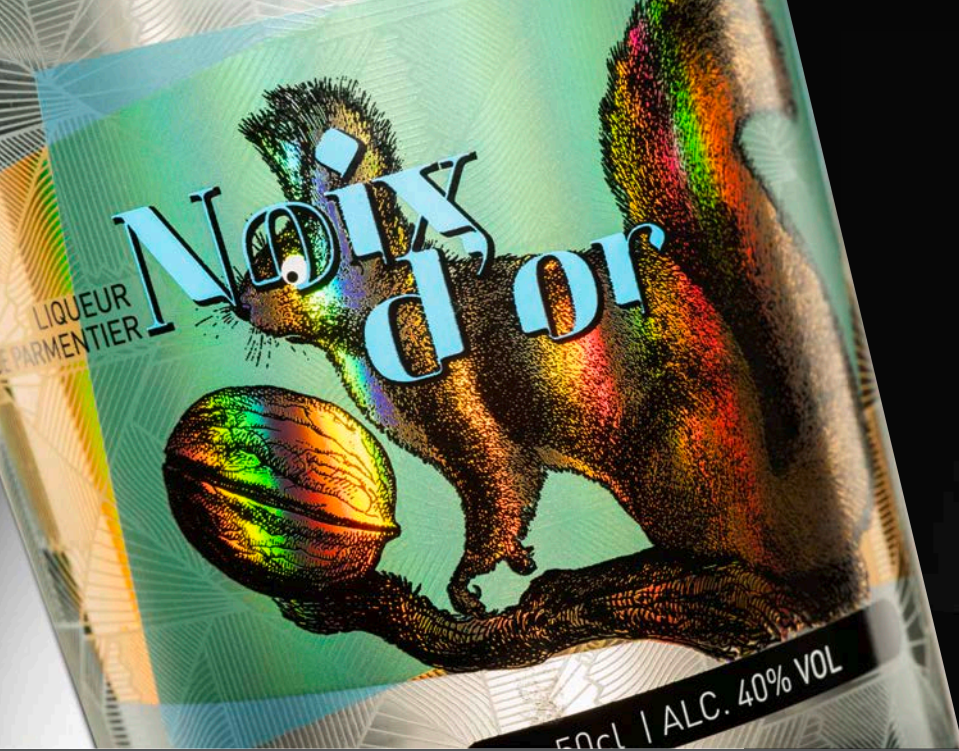
Tinted varnish - green



Tinted varnish - gold

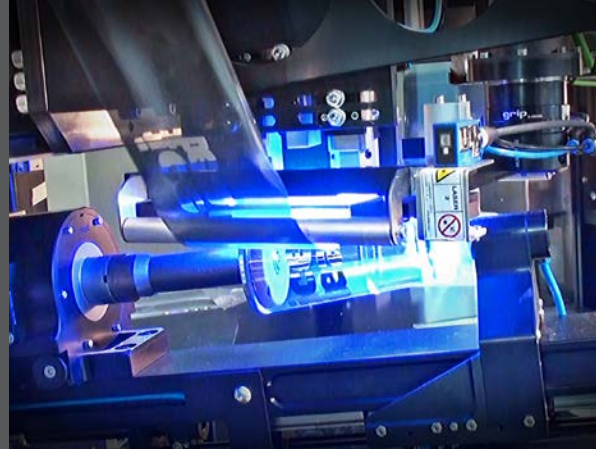


Screen printing



Now it is possible to metallize conical articles efficiently and economically. The proven inLINE FOILING® process has been further developed.

Conical articles such as, for example, beer glasses or wine bottles can now be decorated with a UV metallization.



Conical

inLINE FOILING®

Brilliant metallic eye-catchers on your bottles and glasses



1 Define the desired print area

Where and how big should the print image be placed?
First of all, the size and position of the desired print image must be determined.

2 Check whether it is possible to print and generate specifications - with the ISIMAT calculation tool

This tool calculates whether the print image can be done with the desired size and position.
All you have to do is enter a few dimensions of the print item. The tool generates the input values for the user interface of the machine and a graphic for the prepress in order to adapt and distort the printed image to the possible generated print area.

3 Adhesive is printed with screen printing

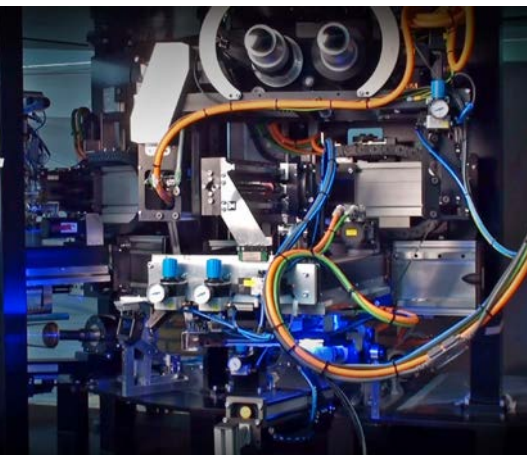
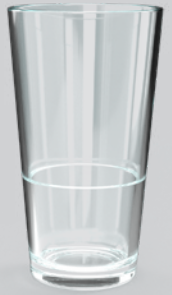
The adhesive is applied to the print item with the screen printing unit.

4 The foil is applied with the conical foiling unit

The foil is applied with our new unit for conical foiling. The foil follows the shape of the article and is unwound. At the same time, the UV adhesive is cured.

5 Colored inks with screen printing

As the last step, the foil is over-printed or over-varnished with the screen printing unit in order to achieve a variety of metallic effects.



The further development of our inLINE FOILING® process now makes it possible to use foil for UV metallization.

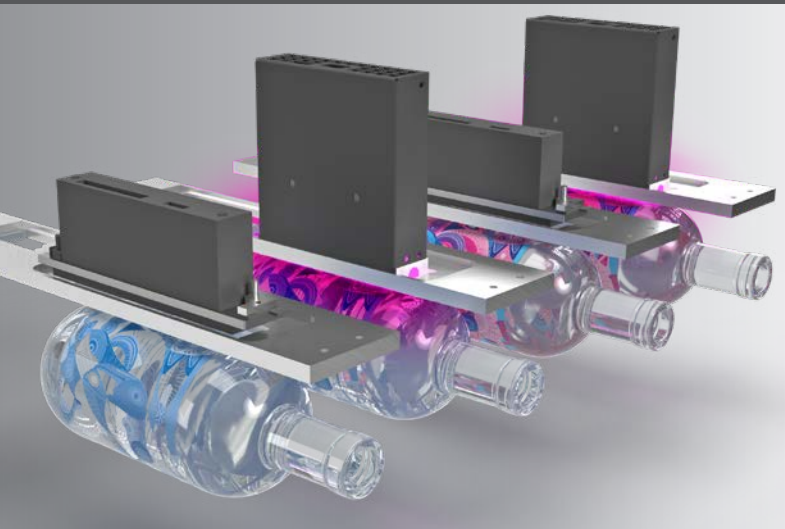
Up to now there was the limitation that conical articles could not be metallized with the help of a foil. The reason for this is the different article diameters that a conical article has. This results in different rotational speeds of the article during the application process, which leads to wrinkling during the transfer.

We can now counteract this effect by making an adjustment to the unwind process. The entire foil unit swivels with the article while the foil is applied, so that we can achieve a constant rotation speed at all times and with every article diameter.

Benefit from the digital advantage

High-efficiency glass finishing with Direct Digital Decoration (DDD)

Flexibility, Time and Cost – these are the three major factors that are increasingly deciding whether a project in your industry will be successful. Reason enough to include digital printing in your process portfolio in the future. In order to make today's and future glass decoration requirements even more flexible, we, as a glass printing provider, have thought out of the box and developed a highly efficient solution for our I-Series for printing on glass items: Direct Digital Decoration (DDD). It combines the proven advantages of our high-performance printing machines with the benefits of digital printing.



Double the flexibility for glass items with more personality

With our new direct digital decoration solution for the I-Series, you are ahead of the competition in two ways when it comes to glass finishing: You not only benefit from the efficiency benefits of the digital printing process itself. The technological principle of our modular ISIMAT solution for digital printing also offers advantages.

The print motif can, for example, be transferred to an already metallized print image. Synergies with other printing processes such as inLINE FOILING® or screen printing allow a lot of finishing options in just one machine pass.

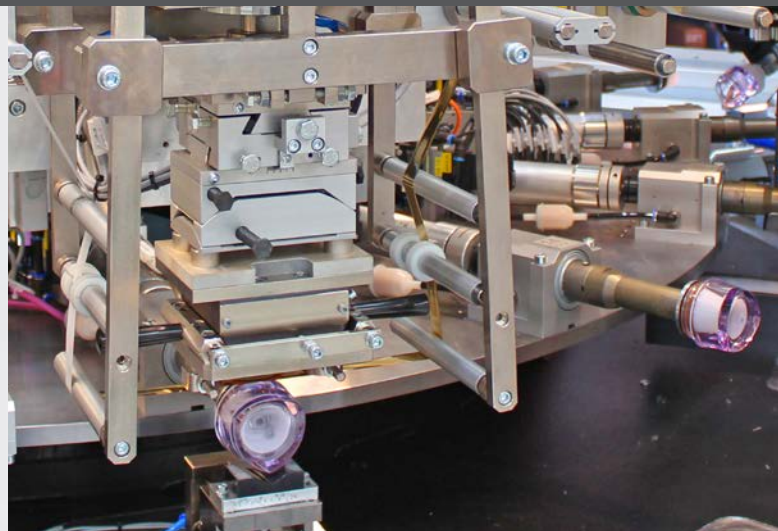
That means: From large runs with changing print images to individualized promotional series and personalized short runs to special editions with short production times - everything is possible.

Hot Stamping

Metallization of glass items

During vertical stamping, a metallized stamping foil is transferred to the material to be finished using temperature, pressure, and contact time. The hot stamping stations can be used in conjunction with other printing stations, e.g. in combination with a screen printing station:

- Up to 65 items/min
- With integrated control system for the foil supply
- Temperature adjustable
- Embossing area 100°



With hot stamping, an embossing foil is transferred to the printed article with an embossing die or an embossing roller under the influence of temperature, pressure, and contact time.

Before the embossing, a primer is printed on the article with the help of a screen printing unit, which corresponds to the shape of the print image. The embossing foil is only transferred where the primer is located.

ISIMAT offers both the stroke embossing process and the roll embossing process.

Sustainability

For a better future

Be a green leader



The Earth's environment is precious. We are aware of our global responsibility for our planet. That is why we are working on the positive implementation of our sustainability goal: A holistic lifecycle.

What use is the most environmentally friendly product if it is priceless?

That is why we focus on optimizing our hybrid machines.

We are constantly working to reduce the environmental impact of the products we manufacture.

Hybrid Thinking

Thanks to the hybrid solution and the use of many technologies in one machine, we effectively reduce the total energy requirement for finishing a product compared to using many individual finishing machines.



be a green leader

ISIMAT
a KURZ company

Recycling
Foil

LED Technology

The use of our transfer products has no negative impact on recyclability. In this way we can give your recyclable packaging a glossy finish without losing any of its sustainable character.



Our optional LED technology offers a sustainable benefit in significantly reducing the energy consumption of the machine

Service

Fast and digital



Digital service system and Kanban board

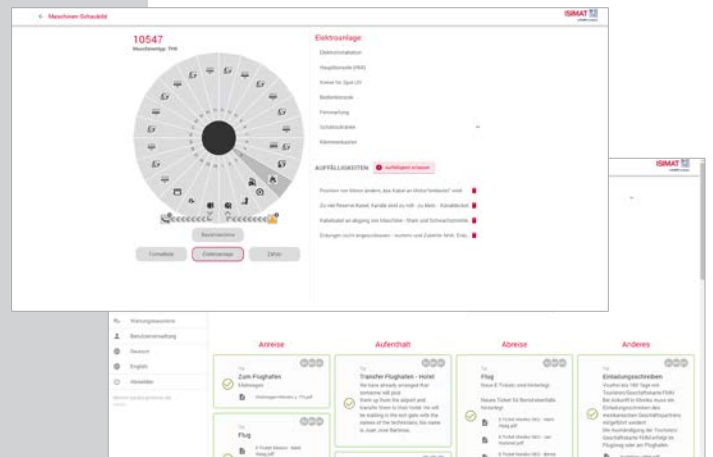
As a customer, you benefit from our efficient tools!

We offer you fast and seamless processing of your service cases.

isiCare Our digital service system

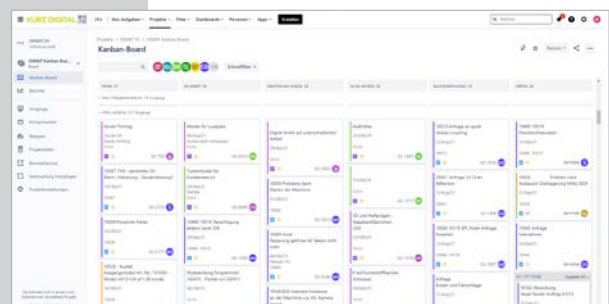
Together with our group sister, KURZ Digital Solutions, we have developed a web application that will be used to plan, carry out, and post-process all service calls in the future. With this application, all of our machines can be digitally mapped and documented by us:

- Resource planning
- Service with tailor-made checklists for each machine
- Documentation of machine problems
- Time recording for service technicians
- Commercial and technical post-processing



Intensive use of our digital kanban board

Our kanban board is used intensively by all departments. This enables us to organize and efficiently process all pending topics in service. This efficient way of working means that you, the customer, benefit from the quick and seamless processing of your service cases.



I-Series

Individual printing and metallization

Highlights of the I-Series

- ✓ Up to 80 items/min ¹
- ✓ Up to 8 printing stations
- ✓ All printing methods can be combined in one machine run
- ✓ inLINE FOILING® possible on non-round articles
- ✓ Individually configurable thanks to the modular design – inLINE FOILING®, Conical inLINE FOILING®, screen printing and much more
- ✓ User-friendly handling thanks to the new innovative and ergonomic design



Technical data

	18	16
Printing stations	up to 8	up to 6
Printing performance	up to 80 items/min	up to 80 items/min
Print items	Bottles, glass hollowware, jars	Bottles, glass hollowware, jars
Diameter of print items ²	20 - 120 mm	20 - 120 mm
Height of print items	30 - 370 mm	30 - 370 mm
Max. height of print image	230 mm	230 mm
Max. length of print image	282 mm	282 mm
Colors	UV inks, thermoplastic inks	UV inks, thermoplastic inks
Processing stations	20	16
Decoration options	<ul style="list-style-type: none"> Screen printing Conical screen printing Hot stamping inLINE FOILING® Conical inLINE FOILING® Direct Digital Decoration (DDD) 	<ul style="list-style-type: none"> Screen printing Conical screen printing Hot stamping inLINE FOILING® Conical inLINE FOILING® Direct Digital Decoration (DDD)

The ISIMAT decoration machines of the I-Series enable the efficient and economical decoration of glass, plastic, and aluminum items. The modular design enables the machine configuration to be completely adapted to the customer's requirements.

The customer can choose from various options for pretreatment, orientation or print image control. In addition, all available printing methods such as screen printing, inLINE FOILING®, Conical inLINE FOILING® or digital printing can be combined in one machine.

In order to ensure sustainable operation of the machine, the customer also has the option of equipping the machine completely with LED technology.

You have the choice

Equipment

- Infeed conveyor and separation
- Up to 8 screen printing stations
- Up to 8 drying stations
- Outfeed conveyor with reject shunt
- One set of size parts for round articles

Options

- Camera orientation
- Spot UV LED
- In-line print image control
- UVitro® treatment
- ...and many more

I5

up to 5

up to 80 items/min

Bottles, glass hollowware, jars

20 - 120 mm

30 - 370 mm

230 mm

282 mm

UV inks, thermoplastic inks

15

Screen printing

Conical screen printing

Hot stamping inLINE FOILING®

Conical inLINE FOILING®

Direct Digital Decoration (DDD)

I4

up to 4

up to 80 items/min

Bottles, glass hollowware, jars

20 - 120 mm

20 - 200 mm

200 mm

282 mm

UV inks, thermoplastic inks

12

Screen printing

Conical screen printing

Hot stamping inLINE FOILING®

Conical inLINE FOILING®

Direct Digital Decoration (DDD)

I3

up to 3

up to 75 items/min

Bottles, glass hollowware, jars

20 - 120 mm

20 - 200 mm

200 mm

282 mm

UV inks, thermoplastic inks

10

Screen printing

Conical screen printing

Hot stamping inLINE FOILING®

Conical inLINE FOILING®

Direct Digital Decoration (DDD)

1) higher speeds on request
2) other diameters on request



We look forward to
hearing from you!

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