

LABELLING



Digital inkjet label printing

Labels are used for many different applications, including product identification, name tags, warning and hazard identification, promotions and as decals for product decoration. They are typically printed roll-to-roll, using a combination of conventional print processes including flexographic, letterpress, offset, gravure and screen print processes.

The label sector is still growing – current estimates are that growth rate will remain at approx. 3% per annum for the next 5 years at least. Alongside market growth, there is increasing demand for shorter run-lengths and special or customised designs, and a drive to increase the speed of design change and reduce label inventory levels. Digital printing is perfectly suited to meet these customer requirements, and the recent development of hybrid printing solutions, like the Xaar Print Bar System, means that for more and more label converters it couldn't be easier to make the most of all that digital technology can offer.

The Xaar 1003 printhead is the first choice in many single-pass inkjet label presses, often built in-line with other processes such as laser cutting and over-varnishing, and where high quality images, fine text reproduction, and reliable, continuous printing are a must.

Xaar 1003

Unrivalled reliability

Outstanding print quality

Ultimate versatility

XAAR

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Why digital?

Mass customisation

- Digital printing enables cost effective production with no limit on the run length. Short print runs for limited editions or localised promotions become achievable as there is no minimum order quantity
- Image size is completely flexible and not restricted to the limited repeat lengths of analogue plates, this is good for decals for example
- The ability to print short runs of labels means, for example, printing in a single language is possible to free up space that can be used to maximise brand exposure or add targeted messaging.

Reduced cost

- Digital printing can supply exactly what is needed, when it's needed, so there is no need to produce unwanted labels due to minimum batch size
- Exact order quantities help to minimise inventory levels and prevents the cost of label waste due to design change
- The extra costs of setup time and material make-ready incurred with analogue print processes are avoided.

Improved manufacturing efficiency

- Digital printing offers rapid order turnaround once the design is agreed as it can be sent directly to print with minimal setup requirements and make-ready
- Samples, proofs and final product runs are identical ensuring job-to-job quality acceptance and 'right first time' production
- The availability of short-run digital printing frees up conventional analogue press capacity and enables the converter to print additional long-run jobs on existing equipment.

Why inkjet?

Excellent product resistance

- UV inkjet inks exhibit physical rub and chemical resistance characteristics. Labels remain in pristine condition with no ink offset or adhesion loss due to scratches, rubbing and exposure to water or chemicals
- This makes inkjet ideal for 'no-look' clear labels used for many beverage and health and beauty products and makes over-varnishing unnecessary, eliminating a process step and associated costs.

Wide substrate adhesion range

- UV inkjet has excellent adhesion to a wide range of substrates, including the main types used in label printing such as PVC and PE films
- Pre-treatment of substrates with a primer is not required, eliminating a process step and associated costs.

Flexibility

- Inkjet systems can be modular by nature, making it easy to incorporate additional colour stations or other in-line processes such as laser cutting or foil blocking
- Inkjet printheads are readily integrated to create variable print widths up to the standard label width of 330 mm and beyond.

Why Xaar?

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Unrivalled reliability

- The Xaar 1003 incorporates both TF Technology® (ink recirculation) and the unique Hybrid Side Shooter® architecture so that ink can flow directly past the back of the nozzle during drop ejection
- Ink recirculation means that air bubbles and dust particles present in the ink are carried away, which radically improves reliability even in the harshest industrial environments and ensures continuous artefact-free roll label production
- The Xaar 1003 is a self-priming printhead so maintenance cycles are short and infrequent. The printhead also recovers quickly from mechanical shock, making it the perfect printhead for the high uptime requirements of label converters.

Outstanding print quality

- 1000 Optimised Geometry nozzles deliver precise drop placement accuracy which ensures fine detail and reproduction of fine label text alongside outstanding image quality
- 360 nozzles per inch and up to 8 grey levels result in an effective print resolution greater than 1000 dpi. This results in smooth tonal gradients.

Ultimate versatility

- TF Technology® keeps the ink in constant motion and prevents sedimentation and nozzle blocking particularly important when using heavily pigmented and high viscosity inks, such as high opacity whites and varnishes. Perfect printing of opaque whites on transparent labels, an increasingly popular application for 'no look' labelling, is therefore very straight forward
- Xaar's systems components including the XUSB, XPM, the slimline HPC3 and Xaar's Hydra Ink Supply System, are designed to optimise the performance of the Xaar 1003; they are also easy to configure and integrate, reducing time-to-market
- Xaar actively partners with a wide range of ink manufacturers to develop high-quality ink solutions for its printheads. The Xaar 1003 is designed to be compatible with a range of solvent, oil and UV curable inks.

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