

# PACKAGING



## Digital inkjet packaging printing

From digital label printers to manufacturers applying a code onto secondary packaging like cardboard trays and boxes to multi-national FMCG brands or smaller contract packers decorating the container itself, Xaar printheads are today being used globally as part of packaging printing processes.

Most modern packaging is printed using conventional analogue methods, but digital inkjet has the potential to revolutionise this part of the manufacturing process. Xaar printheads for the packaging industry facilitate cost-effective print runs and rapid production turnaround in what is a fast moving industry. One packaging sub-sector which has started to adopt Xaar technology is the direct-to-shape printing of cans, bottles, cylindrical shapes and other curved surfaces. Another is the flexo labels market with the introduction of the Xaar Print Bar System.

The outstanding print quality of the Xaar 1003 printheads gives smooth tonal gradations, sharp detail and fine text reproduction for excellent print quality and brand graphics. Xaar's TF Technology® keeps inks in constant motion and prevents sedimentation which is essential when using heavily-pigmented inks, such as opaque whites needed to print onto transparent packaging or containers.

### Xaar 1003

Highest productivity

Outstanding print quality

Ultimate versatility

# XAAR

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## Why digital?

### Mass customisation

- Digital printing enables cost effective production with no volume limits: from long run lengths to the creation of an individual item with its own design, for example in personalised gifting. As a result, localised or customised promotional campaigns and decoration of low volume specialist goods are easily achievable.

### Fast job turnaround

- Job lead times are minimal with digital printing as there is no need to prepare, expose and set-up plates prior to the job, or adjust the press for registration. Printing can start at the touch of a button immediately after design approval; job changes can be made on the fly and designs can be printed in-line with the packing or filling process which can reduce time-to-market significantly.

### Reduced cost

- The short run capability of digital printing enables packaging converters to print the exact quantity required therefore reducing the need for long print runs and overs. This also significantly reduces capital-intensive inventory and storage space, and minimises waste when designs change. In addition, printing packaging digitally requires no plates, processing or cleaning chemicals and removes all the associated costs of labour and hazardous waste disposal.

## Why inkjet?

### Design creativity

- The non-contact nature of digital inkjet technology facilitates printing onto irregular shapes, and enables more design creativity. For example, printing images onto ridged or grooved areas of a substrate or container which are not suitable for labels or contact printing technologies.

### High throughput

- Inkjet printheads can be incorporated into high speed modular systems making it easy to add stations to further increase speed or expand the colour range. In addition, it is scalable so that printbars can be readily extended to accommodate large format sheets or wide rolls of substrate ensuring maximum productivity.

### Wide range of applications

- Digital inkjet printing enables the use of different ink types, including solvent-based, water-based, oil-based and UV inks. This ensures performance properties are matched to the broadest range of substrates and end uses, minimising the need for primers or protective varnishes. For example, UV inks printed onto PET or glass bottles offer excellent physical and chemical product resistance so designs are not damaged by rubbing, scratching and exposure to water or other liquids.

## Why Xaar?

The printhead of choice for the packaging sector today is the Xaar 1003.



### Highest productivity

Xaar's TF Technology® and unique Hybrid Side Shooter® architecture ensures continuous ink flow at a high rate directly past the back of the nozzle during drop ejection. This ensures that press uptime is maximised as:

- Air bubbles or unwanted particles present in the ink are carried away, significantly improving reliability, even in the most demanding manufacturing environments
- Xaar printheads are self-priming; therefore maintenance cycles are short, once per shift or less, and start up instantaneous
- The XaarGuard™ enables quick recovery from mechanical shock so that production interruptions are minimised.

### Outstanding print quality

- 1000 Optimised Geometry nozzles deliver consistent drop uniformity and highly accurate drop placement
- 360 nozzles per inch, and up to 8 grey levels result in an effective print resolution greater than 1000 dpi
- These combine to give smooth tonal gradations, sharp detail and fine text reproduction for excellent print quality and brand graphics.

### Ultimate versatility

- Xaar's TF Technology® keeps inks in constant motion and prevents sedimentation so that the use of heavily-pigmented inks, such as opaque whites needed to print onto transparent packaging or containers, is a given
- Xaar's systems components including the XUSB, XPM, the slimline HPC3 and Xaar's Hydra, 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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