

Xaar 1003



The benchmark for single-pass print quality

The new Xaar 1003 is the benchmark against which all other single-pass printheads are compared. With its all-round superior performance, this new printhead builds on the market-leading Xaar 1002 and its predecessor, the original and groundbreaking Xaar 1001.

The new Xaar 1003 printhead family introduces an important new feature – the **XaarGuard™** – which provides the ultimate in nozzle plate protection, and coupled with other design innovations, achieves the **longest maintenance-free production runs in the industry***. In addition, the new Xaar 1003 provides a step forward in consistent print quality across the wide print widths used in many single-pass applications, due to Xaar's new **Tuned Actuator Manufacturing** process.

Xaar's flagship piezoelectric drop-on-demand printhead is trusted by manufacturers for use in a wide range of applications such as ceramic tile decoration, label, direct-to-shape and other packaging printing, the production of wood laminates, glass printing and many other manufacturing processes.

Like its predecessors, the Xaar 1003 delivers high productivity and versatility. It is available in three drop sizes and incorporates Xaar's unbeaten combination of TF Technology® and Hybrid Side-Shooter® architecture for use in horizontal and vertical (skyscraper) jetting modes.

The benchmark Xaar 1003 is the result of Xaar's commitment to continuous improvement, ensuring its customers remain at the leading edge of print performance. For over 25 years, Xaar has led the way in inkjet innovation. With state-of-the-art manufacturing facilities in Europe, Xaar exports its products to manufacturers all around the world.

* Depending on fluid type and application

Xaar 1003 GS6

Fine detail and text
Smooth tones
Life-like images
.....

Xaar 1003 GS12

Double the colour intensity
Double the ink volume
Or double the speed
.....

Xaar 1003 GS40

Intense colour
Special effects
.....



XAAR®

Xaar 1003



Outstanding print quality

The new Xaar 1003 delivers exceptionally smooth print tones and solid areas which are perfect for printing amazing life-like images, pin sharp text and bold colours.

- 1000 Optimised Geometry nozzles deliver significantly improved drop placement accuracy and consistent drop volume even with heavily pigmented and high viscosity fluids
- Excellent print uniformity delivers even colour density across the printhead and the entire print width
- 8 grey levels, chosen dynamically, at 360 npi give an effective resolution greater than 1000 dpi, for Xaar 1003 GS6 and GS12
- The Xaar 1003 GS40 for UV applications has five grey levels and is ideal for high build spot varnish or textured effects for improved visual appearance.

Highest productivity

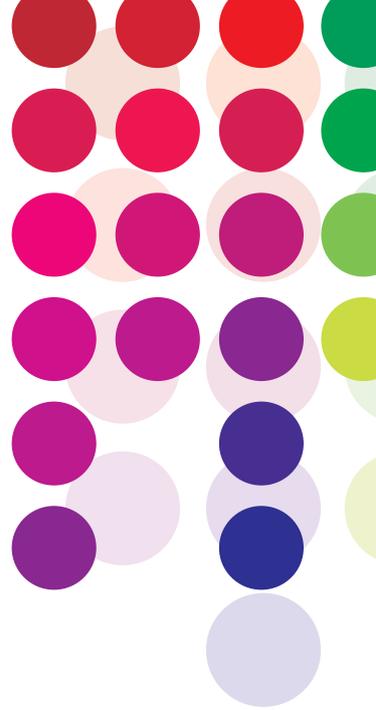
The Xaar 1003 printhead is designed to deliver maximum production uptime with minimum operator intervention which ensures high production output and a fast return on investment.

- TF Technology® (ink recirculation) and the unique Hybrid Side Shooter® architecture ensure continuous ink flow at a high rate directly past the back of the nozzle during drop ejection. This means that any air bubbles and unwanted particles present in the fluid are carried away. This radically improves reliability even in the harshest industrial environments
- TF Technology® ensures that the printhead is self-priming; therefore maintenance cycles are short, once per shift or less, and start-up is instantaneous
- The XaarGuard™ enables quick recovery from mechanical shock so that production interruptions are minimised.

Ultimate versatility

The Xaar 1003 is ideal for an extensive range of applications, is easy to integrate and is backwards compatible with the Xaar 1001 and Xaar 1002. Xaar also offers supporting products which ensure fast time to market, as well as services which facilitate the optimisation of printhead jetting performance.

- Using Optimised Geometry nozzles, the Xaar 1003 jets solvent, oil and UV-curable inks and other fluids with the widest viscosity range. This broadens the choice of fluid and enables the use of heavily pigmented or high viscosity inks and varnishes, including opaque whites and ceramic inks
- Actuator performance in each printhead is optimised with Xaar's Tuned Actuator Manufacturing. This process ensures full scalability with a simple and quick set up, streamlining printhead replacement, and achieves consistent print quality across long print bars with multiple printheads, at different greyscale levels
- Xaar's systems components, including the XUSB, XPM, 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 works closely with the world's leading ink manufacturers to develop approved inks with optimised waveforms for precise and reliable jetting performance
- Worldwide technical support is provided to all of Xaar's customers by our team of highly skilled Sales Engineers who through close working relationships deliver a professional and highly supportive service.



Approved inks

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.

Physical attributes	Xaar 1003 GS6	Xaar 1003 GS12	Xaar 1003 GS40
Active nozzles	1000	1000	1000
Print swathe width	70.5 mm	70.5 mm	70.5 mm
Number of rows	2	2	2
Nozzle pitch (interleaved)	70.5 µm	70.5 µm	70.5 µm
Drop velocity*	6 m/s	6 m/s	5 m/s
Nozzle density (nozzles per inch)	360 npi	360 npi	360 npi
Printhead weight (dry)	144 g	144 g	144 g
Ink type	Solvent, UV, Oil	Solvent, UV, Oil	UV, Oil
Drop volume* (at 8 levels)	6 to 42 pL	12 to 84 pL	40 to 160 pL
Number of grey levels*	8	8	5
Typical firing frequency*	6 kHz	6 to 12 kHz	6 kHz
Dimensions (WxDxH)	125x30x60 mm	125x30x60 mm	125x30x60 mm

* Dependent on ink used and system integration



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