

Xaar 001



Creating new opportunities in ceramic tile glazing and special effects

Deliver new levels of creativity and extend digitalisation of ceramics manufacturing processes with the new Xaar 001 printhead. Whether **applying decorative effects, coloured glazes or structure**, this premium printhead ensures customers can produce **exciting new tile designs** and remain at the leading edge of tile production.

This unique piezoelectric drop-on-demand printhead enables efficient and controlled laydown of very large particles in very high volumes. This is the first Xaar printhead with a drop volume size in nanoliters (nL) and a 10 fold increase in particle size producing a **broader range of effects** and a **wider colour gamut**. The Xaar 001 also provides **excellent reliability** using Xaar's unrivalled TF Technology™, minimising production interruptions.

For use both before and after decoration, the Xaar 001 complements the market-leading Xaar 1002 family of printheads to build layers of different materials adding structure and contrast. This also ensures **complete flexibility** in high quality tile designs and a **high production output**. As a non-contact process, a key advantage of digitally printing glazes and decorative effects is the increase in the number of perfect tiles produced.

The new Xaar 001 demonstrates Xaar's continued commitment to ensuring its customers stay at the leading edge of tile production enabling them to further digitalise the ceramic production line. Xaar is a world-leader in the development and manufacture of industrial inkjet technologies with over 25 years' experience. The company is headquartered in the UK and has offices in Sweden, USA, China and India. Today, Xaar's state-of-the-art manufacturing facilities in Europe are among the most innovative in the world.



Xaar 001
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High volume coverage
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Large particle capability
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Increased creativity
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Xaar 001



Maximum productivity

The large particle capability of the printhead enables the digital application of decorative glaze effects, structure and flood glazing on tiles. Tile manufacturers can create exciting new designs and offer a differentiated product range using the Xaar 001.

- The Xaar 001 printhead delivers controlled drop placement and consistent drop volume, improving the efficiency of the glazing process and minimising water consumption
- Digitalising the glazing process reduces tile defects and breakages ensuring high production output and less waste
- Fast set-up times and short print runs are possible which means that tile designs can be changed more frequently
- With a selectable drop volume of up to 200 nL, equating to approximately 700 g/m² of glaze, the Xaar 001 printhead delivers excellent flexibility for a range of decorative glaze effects
- The Xaar 001 printhead can jet particles up to 25 µm allowing a wide range of fluids such as glaze and heavily pigmented inks to be used. This allows for a broader range of effects or a wider colour gamut to be achieved.

Ultimate reliability

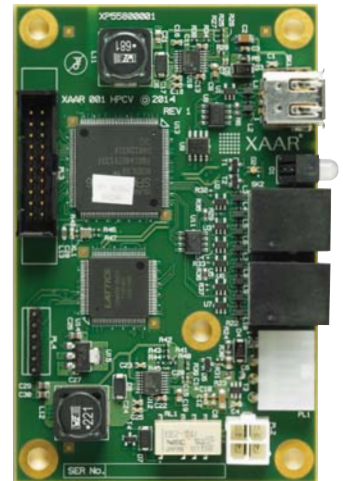
The Xaar 001 printhead is exceptionally reliable which results in increased production up-time even in the harshest industrial environments.

- Using market-proven TF Technology™, fluid is continually recirculated at a high flow rate directly past the back of the nozzle during drop ejection which radically improves reliability
- The printhead is continually primed and any large particles are kept in suspension which minimises production interruptions from nozzle blockages and ensures fast start-up times
- A vacuum cleaned nozzle plate removes glaze debris from the printhead, ensuring that nozzle jetting remains accurate and production up-time is maximised.

Simple integration

The Xaar 001 printhead is designed for easy mechanical integration and alignment within a digital print machine.

- Xaar has developed dedicated high performance cost effective systems components, including the XUSB, HPCV, HV and HVIC boards, to optimise the performance of the Xaar 001 printhead. The components are also easy to configure and integrate, reducing time-to-market.



Xaar 001 HPCV

Physical attributes	Xaar 001	Physical attributes	Xaar 001
Active nozzles	16	Viscosity	5-35 Cp
Nozzle density (nozzles per inch)*	40/50 npi	Typical firing frequency**	1 kHz
Print swathe width*	10.5 mm	Drop velocity**	2.5 m/s
Nozzle diameter	400 µm	Dimensions (WxDxH)	208x47x88 mm
Ink types	Aqueous	Printhead weight (dry)	1800 g
Drop volume**	Up to 200 nL		

* Depending upon printhead alignment ** Depending on fluid used and system integration