



Go beyond with the XAAR Nitrox

Powered by ImagineX, the Xaar Nitrox delivers unparalleled productivity and performance, so you can take on the toughest of applications.

Print fast

Get printing faster with the Xaar Nitrox. Operating at up to 48 kHz* and with drop-in plug and print capability, installation and setup is easy, so you can get up and running at speed in minutes.

- Prints at up to 48 kHz*, delivering speeds of 1.7m/s (100m/min)
- Using drop in printhead alignment, the printhead can be easily integrated into the print bar and Xaar's AcuChp Technology allows for automated setup, making the process quick, easy and reliable
- TF Technology delivers the highest fluid flow past the back of the nozzles ensuring instant priming and startup; this avoids delays and excessive fluid waste through repeated purging before printing can start
- High Laydown Technology with its high discharge rates delivers very high volumes of fluid in a single pass, increasing throughput overall. This is useful for printing high build varnish for tactile embellishments as well as for adhesives and glaze effects on ceramic tiles
- For functional fluid applications, High Laydown Technology offers increased printing productivity which accelerates build rate for parts. This makes it possible to print a broader range of fluids including higher viscosity materials and ultimately results in improved materials functionality in 3D parts.

Print perfect

The new Xaar Nitrox brings you unbeatable uniformity of print – so you can print perfectly the first time and every time.

- TF Technology fluid recirculation is a technically superior and unique solution that minimises temperature variation across the printhead; heat is removed directly from within the actuator channels virtually eliminating print density variations. The fluid is in constant motion, preventing sedimentation and nozzle blocking, particularly in heavily pigmented inks. Any air bubbles and unwanted particles in the fluid are carried away, radically improving reliability, even in the harshest industrial environment
- AcuChp Technology combined with small drop volume sizes improves print uniformity and drop placement, creating high definition image resolutions for smoother skin tones, gradients and colours. This is great for label and graphic applications as well as enabling fine details and features for functional fluid applications, such as PCB printing.

Print almost anything

The Xaar Nitrox has the widest application window and handles the broadest range of fluids, which means you can use it to print almost anything.

- Xaar's open fluidic architecture and TF Technology facilitate printing in multiple orientations. Consequently, the Xaar Nitrox prints extremely reliably, whether in vertical or horizontal mode, or even when being moved around by a robotic arm with accelerating and decelerating speeds
- Ultra High Viscosity Technology enables fluids of around 100cP at jetting temperature to be used. The ability to lay down fluids with higher particle loading and large particle sizes offers advantages such as printing an increased colour gamut, high opacity and higher molecular weight materials for Advanced Manufacturing and 3D printing applications.

XAAR Nitrox

Applications

Additive manufacturing
Ceramic tiles
Décor
Functional fluid printing
Glass
Graphics
Labelling
Laminates
Packaging
PCB printing
Product printing



Xaar Nitrox Core

For print applications using oil-based inks, such as ceramic tile decoration.

Xaar Nitrox Pro

For print applications with more demanding fluid requirements such as those for printing glass. Compatible with oil-based and solvent-based inks, glass frits and soluble salts.

Xaar Nitrox Elite

For printing at up to 48 kHz with exceptional drop placement accuracy and print uniformity ideal for high quality imaging. The Xaar Nitrox Elite is tailored for applications such as display graphics and labels using UV, oil-based and solvent-based inks plus glass frits and soluble salts. It is also the perfect printhead for functional fluids and 3D applications due to the wider range of compatible materials and small drop volume sizes.

Product configurator

	Xaar Nitrox Core			Xaar Nitrox Pro			Xaar Nitrox Elite			
Features										
TF Technology	•			•			•			
Xaar AcuChp	•			•			•			
XaarDOT	•			•			•			
XaarGuard	•			•			•			
In-line filter	•			•						
Optional extra										
UV in-line filter							•			
Customisation	•			•			•			
Serviceable	•			•			•			
Materials robustness										
Oil-based	•			•			•			
Glass frits				•			•			
Soluble salts				•			•			
Solvent-based				•			•			
UV curable coating							•			
UV curable decoration							•			
Performance										
Drop sizes [pl]	6	12	40	6	12	40	3	6	12	40
Maximum frequency up to (kHz)	36	36	24	36	36	24	48	48	48	24
Maximum productivity (g/ m ²) @1.3g/ cm ³	11	22	42	11	22	42	6	12.5	25	42
High Laydown (g/ m ²)	120			120			120			
Alignment capability										
X-Datum to 1st printing nozzle (µm)	±10	±20	±20	±5	±5	±10	±5	±5	±5	±10
1st to last printing nozzle (µm)	±4	±11	±11	±4	±4	±11	±4	±4	±4	±11
Centre line to 1st row parallelism (µm)	±50	±50	±100	±50	±50	±50	±50	±25	±25	±50
Dot accuracy										
X [3°]	••	••	•	•••	•••	••	••••	••••	•••	••
Y [3°]	•	•	•	•	•	•	••	••	••	••
Print uniformity										
Dot uniformity variation (%)	•	•	•	••	••	•	•••	•••	••	•

• Higher number of dots signifies increased capability over lower number of dots, not linear



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