



# 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 48kHz\* 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 48kHz\*, delivering speeds of up to 1.7m/s (100m/min at 720dpi print resolutions)
- The plug and print features ensure installation and set-up is quick. Using drop in printhead alignment, tight mechanical tolerances allow the printheads to be easily dropped into the printbar. Therefore set-up time and printhead installation is fast, and printer uptime is maximised. In addition, Xaar's AcuChip 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 usually experienced with other printheads that need repeated purging before printing can start
- High Laydown Technology delivers very high volumes of fluid in a single pass, and at high discharge rates, 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 compared to those printed with standard inkjet technology.

## 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 recirculation is a technically superior and unique solution that minimises temperature variation across the printhead as heat is removed directly from within the actuator channels virtually eliminating print density variations. Fluid viscosity is consequently also controlled, delivering uniform printing across the swathe and throughout the print job. The ink or 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
- Drop-in features which achieve excellent printhead alignment and Xaar's AcuChp Technology ensure superb print uniformity.

## Print almost anything

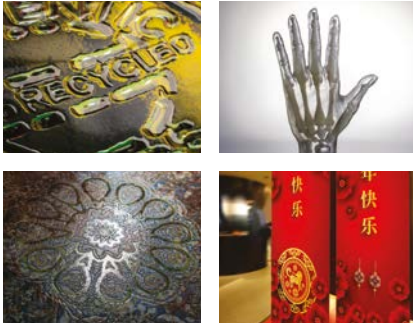
The Xaar Nitrox has the widest application window and handles the broadest range of fluids, which means you can use it to print almost anything.

- Xaar's open 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
- High Laydown Technology delivers very high volumes of all fluids, for example UV inks or high build varnish, in a single pass, as well as unprecedented ink discharge rates
- Unlike other printheads which can only jet materials with viscosities of up to 10-25 centipoise (cP), thanks to Xaar's unique TF Technology and innovative High Laydown Technology, fluids with significantly higher viscosities – up to 100cP – can be jetted with the Xaar Nitrox. 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 special effects. In addition, jetting higher molecular weight materials for Advanced Manufacturing and 3D printing applications is made possible.

# Xaar Nitrox

## Applications

Additive manufacturing  
Ceramic tiles  
Décor  
Functional fluid printing  
Glass  
Graphics  
Laminates  
Packaging  
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. Also features enhanced drop in alignment features to reduce set up time.

### Xaar Nitrox Elite

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

## Product configurator

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

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



Head Office / Europe  
+ 44 1223 423 663  
info@xaar.com

Asia  
info@xaar.com

USA  
+ 1 972 606 2520  
americas@xaar.com

www.xaar.com