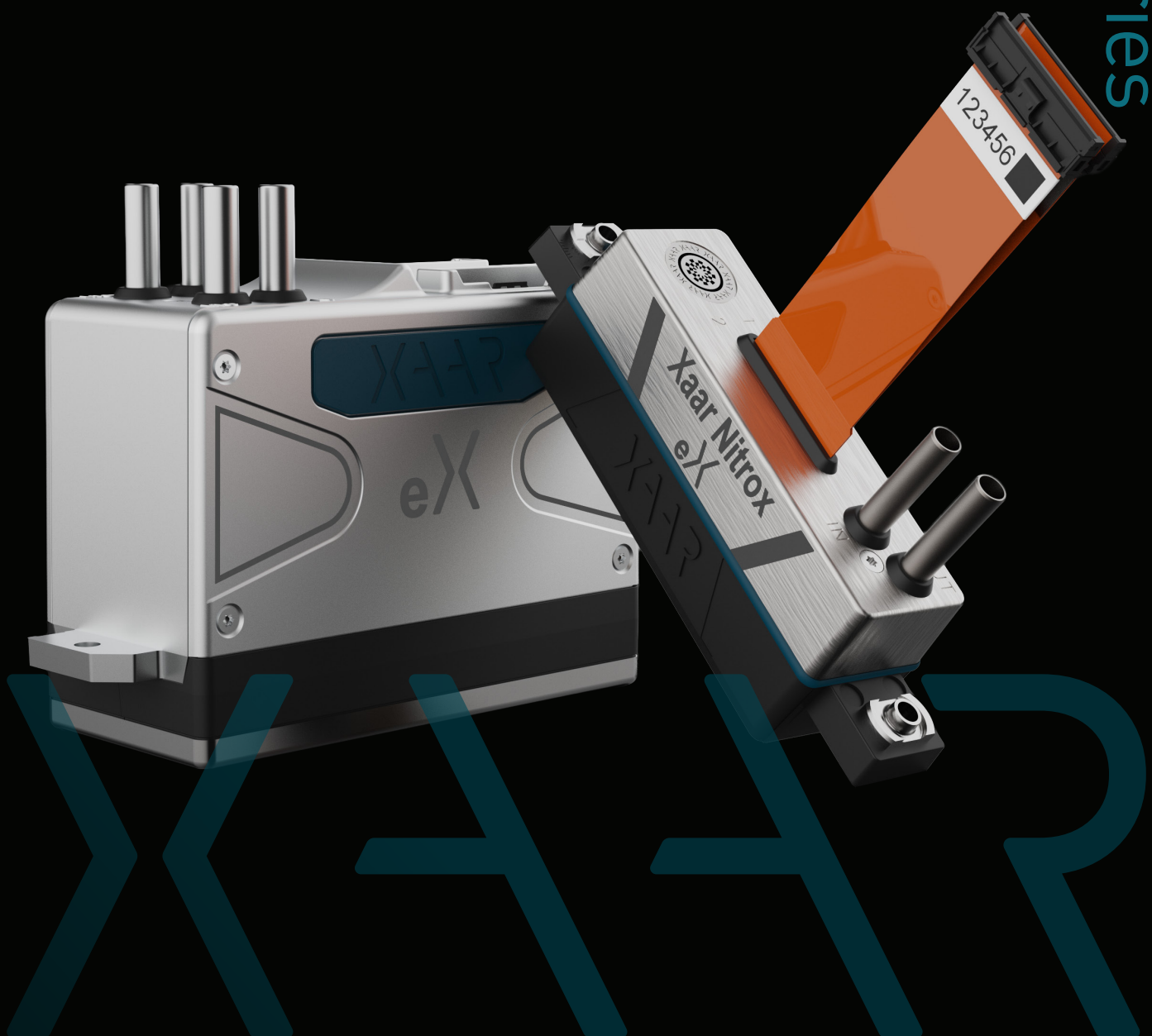


Xaar eX Series



The Xaar eX Series

The Xaar eX and Nitrox eX printheads have specifically designed for coating new generation batteries for electric vehicles, energy storage and other uses.

This printhead enables better coatings, superior production performance and an industrial reliability.

Print better coatings

Improve new generation battery coatings for a safer, more durable and overall better performance. The Xaar eX series of printheads can print coatings which outperform traditional solutions, ensuring more robust and reliable protection against the impact from heat generated during the battery charging process, as well as protecting against wear and tear.

- Xaar's Ultra High Viscosity printing technology allows battery manufacturers can jet advanced functional fluids with viscosities of up to 100cPs
- Enabling fluid manufacturers to develop formulations that can deliver improved UV coatings performance, including mechanical robustness and dielectric strength
- Ultra High Viscosity Technology combined with the 1000 nozzles per fluid channel makes it possible to jet extra thick coatings for more durability and overall better coating performance

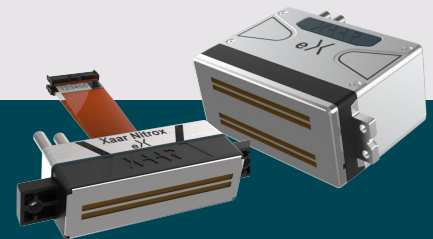
Superior production performance

Improve battery production performance and throughput whilst achieving coatings with a uniform layer thickness with the Xaar eX and Nitrox eX printheads.

- Thanks to Xaar's unique Through Flow Technology, the Xaar eX and Nitrox eX print extremely reliably and on all battery shapes, even on the battery sides and corners. This eliminates the time-consuming need to reposition the battery during the production process
- The Xaar Nitrox eX printhead's narrow architecture allows printing on cylindrical surfaces and in any physical orientation
- Xaar AcuChp Technology provides uniform drop volume, enhancing drop uniformity both within and between printheads. Together with High Laydown Technology, this delivers the coating layers with a uniform thickness required by battery manufacturers
- With High Laydown technology large quantities of coating fluids can be deposited in a single pass, also delivering increased production throughput.

Xaar eX series highlights

- Delivers exceptional print quality at 360 and 720dpi
- Designed for coating prismatic and cylindrical new generation batteries
- Superfast set up and installation times with plug and print
- Can jet up to 100cP high viscosity fluids
- Specifically optimised to use the viscous and challenging fluids required for coating batteries
- Continuous and reliable printing using TF Technology fluid recirculation and SureFlow self cleaning mode



Unmatched industrial reliability

Improve return on investment whilst optimising productivity by reducing costly production interruptions. The Xaar Nitrox eX printhead delivers exceptional reliability for demanding applications such as printing coatings, avoiding unnecessary downtime and ensuring consistent and uninterrupted operation.

- TF Technology ink recirculation keeps nozzles clear of unwanted particles and air bubbles, preventing sedimentation even when using heavily pigmented inks. This significantly improves reliability, even in the most demanding production environments, reducing the risk of downtime and maintaining a high level of performance
- Sure Flow self cleaning mode enables users to clear and prevent nozzle blockages without removing the printhead, minimizing mechanical interruptions and maximizing operational print time

Unrivalled printing capability with Xaar technology



Xaar's TF Technology together with the unique Hybrid Side Shooter printhead architecture enables fluids to flow directly past the back of the nozzle during drop ejection at very high flow rates.

- Nozzles are continuously primed, the printhead stays operational and the nozzles keep firing
- Sedimentation and nozzle blocking are prevented, particularly in heavily pigmented inks
- Any air bubbles and unwanted particles in the ink are carried away
- Reliability is improved, even in the harshest industrial environment
- Jetting is significantly more reliable compared to alternative printhead designs (where convoluted ink flow paths means recirculation is close to, but not at, the back of the nozzle)
- Startup after periods of idle time is trouble free.



Xaar's High Laydown Technology enables a range of new applications, thanks to its ability to deposit large quantities of fluid in each pass.

For packaging, labels and commercial print, it is capable of printing very high levels of UV inks or high build varnish in a single pass for tactile embellishments. In addition, the technology satisfies dimension specifications for printing Braille and complies with European standards for tactile warning triangles on labels, without the complexity of screen printing.

High Laydown Technology delivers unprecedented ink discharge rates for gloss and adhesive effects on ceramic tiles, so that effects can be printed at high line speeds.

For additive manufacturing applications, High Laydown Technology offers increased printing productivity which significantly accelerates build rate for parts and the ability to print a broader range of fluids including higher viscosity materials; this ultimately results in tougher 3D printed parts than those printed with standard inkjet technology.



Typically, inkjet is well known for being limited to jetting fluids of around 10 to 25cP. Xaar technology, however, is capable of jetting much higher viscosities up to 100cP (Ultra High Viscosity combined with Xaar's High Laydown Technology).

Ultra High Viscosity jetting opens up a range of new inkjet possibilities:

- Higher particle loading and particle sizes for increased colour gamut, opacity and special effects (for graphics, ceramic tile and glass printing)
 - Ability to print higher molecular weight photopolymers leading to increased toughness and flexibility for printed materials (useful in Advanced Manufacturing and 3D printing)
 - Reduced spreading for better edge definition on non-porous substrates (useful for example in glass printing applications)
 - Printing a wider range of functional fluids (such as paint, adhesives and solder masks).
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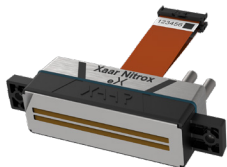
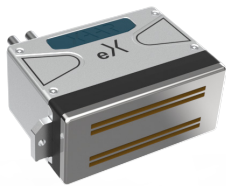
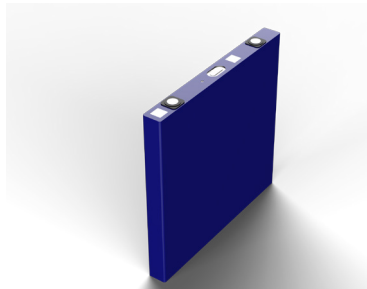
XAAR eX Series

Applications

Coatings for prismatic and cylindrical new generation batteries

Approved fluids

UV coating fluids



Product configurator

	Xaar eX		Xaar Nitrox eX	
Features				
TF Technology	✓		✓	
Ultra High Viscosity Technology	✓		✓	
High Laydown Technology	✓		✓	
AcuChp Technology	✓		✓	
SureFlow Self cleaning mode	✓		✓	
In-line filter	✓		✓	
Serviceable	✓		✓	
Jetting Capability				
Maximum viscosity at jetting temperature (cP)	100		100	
Printhead max operating temperature (°C)	65		65	
Fluid compatibility				
UV battery coatings	✓		✓	
Performance				
Active nozzles	2000		1000	
Print swathe width (µm)	70.52		70.49	
Number of fluid paths	2		1	
Nozzle density (nozzles per inch)	720		360	
Grey levels	8		8	
Drop sizes (pl)	12	40	12	40
Maximum frequency up to (kHz)	36	24	36	24
Maximum productivity (g/ m ²) @1.3g/ cm ³	44	85	22	42
High Laydown (g/ m ²)	240	N/A	120	N/A
Physical				
Printhead dimensions (mm)	132 x 50 x 85.7		124.4 x 30.4 x 39.6	
Printhead dry weight (kg)	445		144	

