Leading
**Inkjet
Innovation**

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XAAR®

Xaar Inkjet Technology

Xaar is the world's leading independent manufacturer of piezo-based drop-on-demand inkjet technologies.

Our printheads are trusted in industrial markets around the globe as the most effective way to lay down precise volumes of inks and fluids with absolute pin-point accuracy time after time.

Our technology is used in a wide range of manufacturing applications, including graphics, labelling, direct-to-shape, packaging, product decoration, ceramic tile decoration, décor, and outer case coding – as well as printing with specialist functional fluids for advanced manufacturing techniques.

Xaar's industrial inkjet technology has transformed a number of industries; in other sectors the pace of conversion to digital is starting to accelerate.

This is because we deliver a range of benefits which include unrivalled reliability, outstanding performance and process efficiencies which enable our customers to be more innovative, productive, versatile, competitive and creative.

Why Xaar?

Applications
Original equipment manufacturers (OEMs) worldwide rely on Xaar printheads and systems components to deliver exceptional quality, speed and digital drop-on-demand performance across multiple industrial applications.

Products
Our comprehensive range of piezoelectric printheads, system components and extensive range of approved ink offers maximum versatility and choice for manufacturers seeking to adopt digital drop-on-demand technologies.

Technology
With around 280 patents registered or pending, and major ongoing R&D investment, Xaar's digital printhead and precision jetting technologies create infinite possibilities for manufacturing innovation.

Inks and Fluids
To enable Xaar OEMs and end users to select the ink or fluid that best suits their application and business needs, Xaar evaluates and approves the widest range of inks and fluids of any printhead manufacturer.

Support
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 extremely supportive service.

Xaar inkjet technology has revolutionised the worlds of graphics and ceramics, and unleashed a whole new range of print applications for:

- **Advanced Manufacturing**
- **Coding & Marking**
- **Décor**
- **Graphics**
- **Labelling**
- **Packaging**
- **Direct-to-shape**

Xaar:
Advanced Manufacturing

Digital inkjet is increasingly considered for advanced manufacturing processes, including the depositing of functional fluids across a broad range of industrial applications.

As an inkjet innovator we are focused on developing these applications. We have a professional team working closely with manufacturers, fluid formulators and specialist printer makers to bring these new processes to market.

Benefits of digital inkjet
- Precise fluid deposition
- Faster set-up and non-contact production process enables efficient manufacturing
- Each digitally produced pattern can be different, reducing batch sizes and inventory and shortening time to market

Benefits of Xaar 1003 AMp
- Precise fluid control with drops between 1 and 3 pL
- Unrivalled reliability with Xaar technology
- Jet a wide range of fluids that can have higher viscosities and denser pigments

Applications
- Photovoltaics
- Printed electronics
- Semiconductors
- Additive manufacturing (3D printing)
- Flat panel displays
- Smart glass
- Biomedical
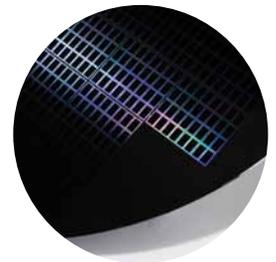
Xaar: Ceramics

Digital inkjet printing has revolutionised ceramic tile decoration. It has become the go-to technology, enabling ceramic tile manufacturers worldwide to produce higher quality tiles with life-like representations of natural materials.

Benefits of digital inkjet
- High quality tiles with smooth print tones and fine details for replicating natural materials, e.g. stone or marble
- Reduced cost due to faster set-up and non-contact production process
- Printing on textured surfaces and larger tiles

Benefits of Xaar 1003/Xaar 2001/Xaar 2001+
- Consistent drop volume, even with heavily pigmented ceramic inks
- Unrivalled reliability with TF Technology®
- Choice of a range of printhead variants, from fine definition with small drop size to intense colour and decorative glaze using high material laydown

Applications
- Floor tiles
- Wall tiles
- Tile cladding for building exteriors

Xaar: Coding & Marking

Also known as 'product identification' – which refers to the practice of putting variable, late stage information such as 'best before' and 'use by' dates or barcodes onto products such as food containers (primary packaging) and the cardboard boxes and cartons that they are packed in (secondary packaging).

Driven by legislation, this type of data enables effective supply chain management; allows consumers to easily see the lifespan of perishable food items, enables retailers to readily identify affected items in the event of a product recall, and gives brand owners a platform to customise their packaging.

Benefits of digital inkjet
- High flexibility enabling changes to variable data in-line, reducing production down time
- Reduced inventory as items can be printed on-demand
- Non-contact printing prevents damage done to the packaging

Benefits of Xaar 502 GS15
- High print quality delivering high contrast, sharp lines and alphanumerics for accurate machine and human reading
- Covering all standard EAN-13 barcode files with a print swathe up to 70.5 mm
- Specialised control logic and electronics to provide flexible control and fine-tuning for inks

Applications
- Primary and secondary packaging, outer case bar-coding
- Expiry date, traceability and batch codes
- 2D data matrix coding
- QR codes
- Brand graphics and logos

Xaar: Décor

The Décor industry is diverse and includes the decoration of wood laminates, glass, textiles, vinyl flooring and wallpaper. All sub-sectors are at the early stages of an exciting transition from using traditional analogue printing methods to digital inkjet technology.

Benefits of digital inkjet
- Mass customisation with no minimum run length or pattern repeats
- Rapid job turnaround and reduced inventory enabling faster time-to-market
- Consistent print finish on textured materials which vary in thickness due to the non-contact printing process

Benefits of Xaar 1003/Xaar 2001/Xaar 2001+
- High print quality delivering a fine detail finish with life-like representations of natural materials
- Compatible with a range of ceramic, oil, solvent and UV curable inks
- Unrivalled reliability with TF Technology®

Applications
- Wood laminates
- Glass
- Vinyl flooring
- Wallpaper
- Panelled doors or furniture

Xaar: Graphics

Graphics covers the digital printing of advertising materials – including the production of indoor and outdoor signage, exhibition panels, posters, billboards, fleet and building wraps.

The graphics sector was one of the earliest to be revolutionised by first generation inkjet printheads for large drop binary printers. This has evolved as expectations on print quality and productivity have increased.

Benefits of digital inkjet
- Able to print high quality images in shorter runs
- Reduced set-up time at a lower cost as there is no need for costly screen production
- Scalable technology for different sized substrates with a smaller machine footprint

Benefits of Xaar 501 GS8
- Print in binary mode at up to 1440 dpi with 8 pL drop size
- Print with 6 greyscale levels at 360 dpi delivering an effective resolution of over 600 dpi
- Industrial reliability with robust metal body and recessed nozzle plate

Benefits of Xaar 1201
- Print with four colours with four pre-aligned rows of nozzles at 300 dpi
- Print 8 grey levels at 600 npi for an apparent resolution better than 1440 dpi
- Jet solvent-based or aqueous inks for printing a range of substrates

Applications
- Outdoor and indoor signage
- Point-of-sale displays
- Fleet and building wraps
- Graphics on canvas, vinyl, paper, foam board, rigid laminate and textiles

Xaar: Labelling

Labels are used for many different applications, including product identification, name tags, warning and hazard identification, promotions and as decals for product decoration.

They are typically printed roll-to-roll. This sector is transitioning from using traditional analogue printing methods to digital inkjet technology.

Benefits of digital inkjet
- Mass customisation with no minimum run length, infinite design variations and no pattern repeats
- Rapid job turnaround and reduced inventory enabling faster time-to-market
- Wide substrate adhesion range, including the main types used in label printing such as PVC and PE films

Benefits of Xaar 1003/Xaar Print Bar System
- High print quality delivering precise drop placement accuracy for fine details, small text and high quality images
- Compatible with a wide range of UV curable inks for high product resistance, keeping labels in pristine condition
- Unrivalled reliability with TF Technology®, even with high opacity fluids, e.g. high opacity white and varnish

Applications
- Product identification labels
- Promotional labels
- Product decoration labels
- Name tags
- Warning labels
- Hazard identification labels

Xaar: Packaging

From product protection, storage, handling and transportation to promotion and brand perception, the role of packaging is extremely diverse. Digital is revolutionising the printed part of the manufacturing process.

Benefits of digital inkjet
- Mass customisation with no volume limits, from long run lengths to the creation of an individual item with a unique design
- Rapid job turnaround and reduced inventory enabling faster time-to-market
- Design creativity on a wide range of applications, including irregular shapes and ridged or grooved substrates

Benefits of Xaar 1003
- Consistent drop volume, even with heavily pigmented inks such as opaque whites printed onto transparent packaging
- Unrivalled reliability with TF Technology®
- Outstanding print quality with smooth tonal gradations, sharp detail and fine text reproduction

Applications
- Folding cartons
- Labels
- Sleeves
- Flexible packaging
- Containers, bottles and cans

Xaar: Direct-to-shape

This sub-sector of Packaging has been revolutionised by digital printing. Direct-to-shape (DTS) inkjet printing is the process of printing full colour images and text directly onto cans, bottles, and other shaped containers for beverage, personal care and home care products, amongst others.

This gives brands the opportunity to meet consumers' demands for greater choice, allows them to customise product design and messaging and implement creative marketing campaigns.

Benefits of digital inkjet

- No labels or associated application costs leading to significant savings especially for small quantities
- Print onto ridged or grooved areas of a substrate or container which are not suitable for labels or contact printing technologies
- Brands are able to communicate with consumers through product packaging to increase brand loyalty and engagement

Benefits of Xaar 1003

- Unrivalled reliability with TF Technology®, even with heavily pigmented inks such as varnish and opaque white needed to print onto transparent packaging
- Outstanding print quality with smooth tonal gradations, sharp detail and fine text
- The non-contact nature of Xaar's technology and Xaar's Hybrid Side Shooter® technology facilitates printing onto irregular shapes (horizontal or vertical skyscraper modes), enabling more design creativity

Applications

- Containers
- Bottles
- Cans
- Cylindrical shapes or curved surfaces

Xaar manufactures a wide range of binary and variable drop piezoelectric inkjet printheads which deliver high productivity, high quality and outstanding print performance. The range gives users the freedom to select the best printhead to suit their specific applications.

Why use Xaar printheads?

- TF Technology® together with the unique Hybrid Side Shooter® architecture leads to a high reliability through self-recovery of the printhead. The continuous recirculation of the ink also allows for the jetting of higher viscosity fluids, e.g. heavily pigmented inks
- Non-contact printing method, therefore suitable for a wide range of applications
- Xaar's TF Technology® and Hybrid Side Shooter® architecture enable printing onto curved and shaped surfaces in both horizontal and vertical 'skyscraper' modes, making Xaar printheads compatible with many production line handling systems
- A range of printheads develop a range of drop sizes – choose the right one for the job

Xaar 1003

The Xaar 1003 family of printheads raises the standard in single-pass inkjet printing. Building on the market-leading Xaar 1001 and 1002, this printhead delivers exceptional print quality, high productivity and versatility.

Available in different drop size variants, the Xaar 1003 is the printhead of choice for a wide range of applications as it delivers unrivalled reliability for single-pass printing.

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
- Unrivalled reliability in harsh environments

Xaar 1003 AMp

The Xaar 1003 AMp is perfect for very small drop fluid deposition on an industrial scale and is capable of consistently jetting droplets as small as 1 pL for the production of fine features, coatings, conductive tracks and borders.

The combination of highly accurate, very small drops and unrivalled reliability enables the industrialisation of advanced manufacturing processes in sectors such as photovoltaics, printed electronics, semiconductors, additive manufacturing (3D printing), flat panel displays, smart glass and biomedical.

Many applications require tight regulation of coating thicknesses, precise patterns and management of substrate surface characteristics.

To deliver the precise fluid control essential for such processes, the Xaar 1003 AMp combines:
- Highly accurate drop placement
- Consistent drop volume
- High frequency jetting with variable drop size capability
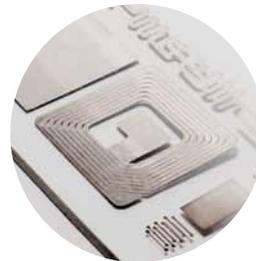
Xaar 2001+ Ceramics

The Xaar 2001+ is the most versatile family of printheads available for ceramic tile decoration offering unrivalled production flexibility, market-leading print quality and industrial reliability.

This printhead family, which is available in different drop size variants, is unique because it jets one colour at 720 dpi or two colours at 360 dpi each. Tile manufacturers benefit from its ultimate design versatility because they can select a printer set-up which meets their productivity, print quality and tile design requirements.

The Xaar 2001+ family of printheads have the new XaarSMART™ technology – reporting ink temperature and printhead status in real time so that printer performance can be easily adjusted to deliver consistent print quality throughout the production run.

Xaar 2001+ GS6C
- Prints very find details
- Ideal for wall tiles

Xaar 2001+ GS12C
- Balances detail and laydown
- Covers a wide range of ceramic tile designs

Xaar 2001+ GS40C
- Jets the highest laydown for special effects


Xaar 2001 GS12 Ceramics

The Xaar 2001 GS12C printhead for ceramic tile decoration delivers a powerful combination of market-leading image quality, highest productivity and industrial reliability. Tile manufacturers can print a wider range of tile patterns and designs whilst increasing production uptime.

Ultimate image quality is achieved by jetting one colour at a resolution of up to 720 dpi with 2000 nozzles per printhead; this delivers the high ink laydown needed for bold colours and special effects. Line speeds of up to 50 m/min ensure highest productivity and maximum throughput.

The Xaar 2001 GS12C has the new XaarSMART™ technology – reporting ink temperature and printhead status in real time so that printer performance can be easily adjusted to deliver consistent print quality throughout the production run.

Xaar 2001+ GS12C
- Balances detail and laydown
- Covers a wide range of ceramic tile designs
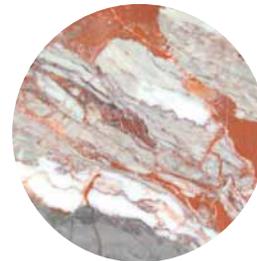
Xaar 128

The Xaar 128 has maintained its position as the leading 17 mm piezoelectric drop-on-demand printhead of choice for the Coding & Marking (C&M) and Wide-format graphics (WFG) print sectors. Its 20 year proven track record of reliability, ease of integration, throughput, speed and quality of print have made this printhead continuously sought after for new printers.

Whether it's outdoor or indoor graphics, barcodes, outer case carton coders or poster printing, the Xaar 128 is compatible with many ink types. The compact and versatile Xaar 128 is used extensively for a diverse range of applications, primarily in the C&M and WFG markets because of its high print quality, resolution and range of variants.

Recent manufacturing optimisations have enabled Xaar to provide the Xaar 128 with a programmable circuit which offers advanced control and tuning of the printhead as well as better control of ink characteristics and print quality.

The Xaar 128 has been designed to:

- Provide a reliable workhorse solution offering 40-80 pL drop sizes
- Have a compact footprint and light carriage weight of only 16 grams; ideal for applications where weight and size are a key factor in machine design
- Deliver industrial reliability and robustness
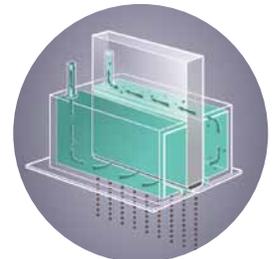

Xaar 501 GS8 WFG

The Xaar 501 GS8 printhead delivers excellent reliability, high production up-time and exceptional print quality to the Graphics market.

The Xaar 501 GS8 combines PrecisionPlus architecture with the option of Xaar's unique TF Technology® in pulsed mode to deliver exceptional reliability, even in the harshest environments.

For OEMs the remarkably uniform print swathe allows printheads to be mounted together easily. This, along with a combination of innovative features, ensures trouble-free integration, fast time-to-market and short servicing times.

The Xaar 501 GS8 has been designed to:

- Print in binary mode with a smallest drop size of 8 pL
- Or with 6 grey levels to increase productivity with high effective resolution
- Deliver industrial reliability and robustness with its WFG nozzle guard design

Xaar 502 GS15S

The Xaar 502 GS15S printhead delivers excellent reliability, high production up-time and exceptional print quality to the Graphics market.

The Xaar 502 GS15S combines PrecisionPlus architecture with the option of Xaar's unique TF Technology® in pulsed mode to deliver exceptional reliability, even in the harshest environments.

For OEMs the remarkably uniform print swathe allows printheads to be mounted together easily. This, along with a combination of innovative features, ensures trouble-free integration, fast time-to-market and short servicing times.

The Xaar 502 GS15S has been designed to:

- Print in binary mode with a smallest drop size of 15 pL
- Or with 6 grey levels to increase productivity with high effective resolution
- Deliver industrial reliability and robustness with its WFG nozzle guard design

Xaar 1201

The Xaar 1201 is a Thin Film Piezo Silicon Micro Electrical Mechanical System (MEMS) technology printhead for printing Wide-format graphics and textiles which jets aqueous or ECO solvent inks. It has 1280 nozzles arranged in 4 rows printing either 2 colours at 600 dpi or 4 colours at 300 dpi native resolution.

This is the perfect printhead for OEMs looking to design graphics printers for banners, signage and point-of-sale applications because it delivers a high quality of print combined with high productivity and is exceptionally easy to integrate; therefore time-to-market is minimised.

The Xaar 1201 has been designed to:

- Print with four colours with four pre-aligned rows of nozzles at 300 dpi
- Print 8 grey levels at 600 npi for an apparent resolution better than 1440 dpi
- Jet solvent-based or aqueous inks for printing a range of substrates

Xaar 502 GS15O

The Xaar 502 GS15O printhead delivers excellent reliability, high production up-time and exceptional print quality to the Coding & Marking market.

The Xaar 502 GS15O combines PrecisionPlus architecture with the option of Xaar's unique TF Technology® to deliver exceptional reliability, even in the harshest environments.

For OEMs the remarkably uniform print swathe allows printheads to be mounted easily together. This, along with a combination of innovative features, ensures trouble-free and easy integration for a fast time-to-market.

The Xaar 502 GS15O has been designed to:

- Print in binary mode with a smallest drop size of 15 pL
- Or with 6 grey levels to increase productivity with high effective resolution
- Deliver industrial reliability and robustness

Xaar Print Bar System

The Xaar Print Bar System is a high-precision engineered complete system which adds single-pass digital mono inkjet UV capability to digital or analogue web presses and provides print service providers with the benefits of digital printing easily and economically.

The Xaar Print Bar System is incredibly versatile and easy to configure. It prints fine reverse text, flawless barcodes, totally uniform solid areas, and high build effects through a multitude of Xaar 1002 printheads and approved ink combinations.

The Xaar Print Bar System delivers unrivalled reliability for single-pass printing for applications requiring:

- High opacity white
- Spot varnish
- Cold foil effects
- High build effects
- Fine reverse text
- Flawless barcodes
- Totally uniform solid areas
- Short run, customised labels
- Monochrome print speeds up to 75 m/min

Xaar: Systems Components

Xaar offers a range of systems components to accelerate time-to-market. These products ease development, saving time and cost whilst ensuring optimal performance of Xaar printheads.

Xaar Print Manager (XPM)

Available in two configurations, the XPM12 and XPM16 meet the demand for increased image complexity, fast image download and additional hardware acceleration as printers grow in size and functionality.

The XPM is a scalable, cost-effective data processing building block that offers the high performance and advanced functionality expected by designers of today's highly innovative industrial inkjet printers.

Key features include:

- 4 GB of high speed on-board memory
- Gigabit Ethernet connectivity
- Multiple XPMs can be easily and reliably networked together
- Full compatibility with the existing Xaar Scorpion application software

XUSB Drive Electronics

Xaar's XUSB Drive Electronics (DE) is a flexible, cost effective, easy-to-integrate solution designed to drive Xaar's complete range of market-leading printheads.

The XUSB DE minimises the costs and resources required by OEMs and inkjet innovators when developing bespoke printing systems, therefore significantly reducing time-to-market.

Key features include:
- Flexible configuration
- 12 Xaar XUSB's can be interlinked to control up to 96 Xaar printheads
- 512 MB on board memory per Xaar XUSB
- Compatible with the full range of Xaar printheads
- Reduces time-to-market

Xaar Hydra Ink Supply System

The Xaar Hydra Ink Supply System is a recirculating ink supply system which supports Xaar's 1003 and 2001+ based industrial printers ensuring optimal performance and reliability.

The Hydra Ink Supply System includes key features such as precise nozzle pressure and ink flow rate control, precise temperature control and an intuitive user interface for monitoring either via a PC or when operating in stand-alone mode.

Key features include:
- Simple reliable operation
- Wide fluid operating range
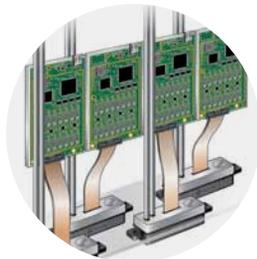- Reduced time-to-market

Xaar Head Personality Cards

The Xaar HPCs provide optimal and dependable data communication between Xaar's printheads and the remainder of the digital inkjet print data path.

The Xaar HPCs significantly reduce time-to-market and reduce costs and risks faced by OEMs developing bespoke printing systems.

Ink Development System

Xaar's Inkjet Development System is a kit with all the inkjet components necessary to build a prototype or evaluation process.

Inkjet development can be complex, involving the interaction of many physical, chemical, mechanical, electrical and software parameters. By providing all the components necessary for a fully-functional system, as well as drive electronics and an ink supply system designed for real world use, Xaar's Inkjet Development System lets developers create an inkjet solution that can be scaled to production without needing to redesign critical components.

Key features include:
- Drive electronics and ink systems designed for production
- Proven, de-risked solution with full on-site support
- Reference design source code
- Scalability to production which reduces time-to-market

Industrial inkjet technology has been in use for a number of years; it's an extremely versatile non-contact technology which is starting to make a huge impact on the world, bringing new opportunities to more people, and creating lucrative new markets. Industrial inkjet can apply a wide range of fluids with precision accuracy to a range of different substrates. Just one printhead can consistently pump 84 million drops of fluid per second.

TF Technology®

Xaar's revolutionary patented TF Technology® together with the unique Hybrid Side Shooter® architecture enables inks or other fluids in the printhead to flow directly past the back of the nozzle during drop ejection, at very high flow rates.

XaarDOT®

Xaar Drop Optimisation Technology encompasses a range of drop formation options, each with specific features. The drop size determines the image resolution and actual dots-per-inch (dpi). By tuning the options, printer manufacturers can design the printer to produce small drops for high quality photographic results for close-up viewing or larger droplets for high speed coverage on billboards or other signage.

XaarGuard™

The XaarGuard™ nozzle plate provides highly effective protection from mechanical impact so that production interruptions are minimised.

XaarSMART™

XaarSMART™ technology provides feedback on ink temperature and printhead status giving more control over printer performance which can be adjusted in real time.

PrecisionPlus

This architecture, which builds on Xaar's highly-successful Hybrid Side Shooter® design, optimises actuator performance by adding stability and robustness to deliver unprecedented drop velocity, drop volume and drop placement profiles for consistent colour across the print swathe.

Xaar operates an open ink policy which allows customers to choose the ink supplier that best suits them and their application. We work in partnership with the leading ink manufacturers to develop and approve the widest range of compatible inks and fluids specifically matched to our printheads.

All Xaar-approved inks go through the XaarDOT® fluid optimisation process, offering the additional benefits of a printhead warranty and the peace of mind that each ink has been optimised for performance and its application. This service consists of:

XaarDOT® CR

An analytical technique which determines the complex rheological characteristics of a fluid.

Materials compatibility and lifetime testing

To evaluate the effect of the fluid on the printhead construction materials, of the printhead materials on the fluid, and the robustness of the fluid with the printhead/waveform combinations.

Waveform optimisation

A waveform is developed for the fluid/printhead combination, ensuring greater drop placement accuracy, optimised operating voltage, print reliability and increased throughput.

Reliability testing

To simulate the performance of a fluid and printhead using the optimised waveform.

Warranty

Xaar-approved inks are warranted against long term damage to the printhead. This provides the reassurance that the fluid has been validated, approved and optimised to give unrivalled print performance and trouble free operation.

Xaar: Support

Our Sales Engineers have extensive knowledge of inkjet and its applications as well as considerable field experience. This means they are able to assist in the successful design, build, commissioning and post-installation support of all Xaar-based inkjet systems.

Our global Sales Engineers can be contacted by phone or email and will respond to any enquiry as quickly as possible. When required, site visits can also be arranged allowing face-to-face support for more complex issues or for onsite training.

Authorised clients can access Xaar's Customer Extranet to find specific product information, including printhead installation, operation and specification, waveforms and approved inks.

Xaar: Contacts

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Detailed below is our printhead comparison matrix, allowing you to compare all of Xaar's printheads at a glance.

Physical attributes	Xaar 128	Xaar 501 GS8	Xaar 502 GS15	Xaar 1003	Xaar 1003 AMp	Xaar 2001 GS12C	Xaar 2001+	Xaar 1201
Active nozzles	128	500	500	1000	1000	2000	2000	1280
Print swathe width	17.4 mm	70.5 mm	70.5 mm	70.5 mm	70.5 mm	70.5 mm	70.5 mm	27 mm
Number of fluid paths	1	1	1	1	1	1	1 or 2	1 - 4
Nozzle density (nozzles per inch)	185 npi	180 npi	180 npi	360 npi	360 npi	720 npi	Single colour: 720 Dual colour: 360	600 npi
Typical firing frequency[1]	8, 6, 4 kHz	10 - 27 kHz	7 - 9.5 kHz	6, 12 kHz	6, 12 kHz	6, 12 kHz	6, 12 kHz	8 - 50 kHz[5]
Drop velocity[1]	5, 6 m/s	6, 7 m/s	5, 7 m/s	5, 6 m/s	7 m/s	5, 6 m/s	5, 6 m/s	7 m/s
Printhead weight (dry)	16 g	208 g[2]	208 g[2]	144 g	144 g	445 g	455 g	90 g
Dimensions: width depth height	38 mm 12 mm 41 mm	104 mm 17 mm 113 mm[2]	104 mm 17 mm 113 mm[2]	125 mm 30 mm 60 mm	125 mm 30 mm 60 mm	132 mm 50 mm 105 mm	132 mm 50 mm 105 mm	45 mm 54 mm 76 mm
Fluid types[1]	Solvent Oil	UV Oil	Solvent Oil	Solvent UV Oil	Specialist fluids	Oil	Oil	Aqueous or Eco solvent
Sub-drop volume[1]	40, 80 pL	8 - 40 pL	15 - 75 pL[1]	6, 12, 40 pL	1 - 3 pL	12 pL	6, 12, 40 pL	2.5 pL
Firing mode	Binary	Greyscale	Greyscale	Greyscale	Greyscale	Greyscale	Greyscale	Greyscale
Maximum grey levels	2	6	6[1]	5[3], 8	8	8	5[4], 8	8

[1] Dependent upon printhead model and ink type   [2] Includies filter module   [3] Xaar 1003 GS40 only   [4] Xaar 2001+ GS40 only   [5] Preliminary