TECHNOLOGY OVERVIEW

Confidence in our Core Technologies

At Mimaki, we believe that our customers should have confidence that the engines of their business efficiently deliver consistently outstanding results. Mimaki printers include core technologies to offer you peace-of-mind by including features that reduce exposure to certain risks, which may delay – or halt – production.

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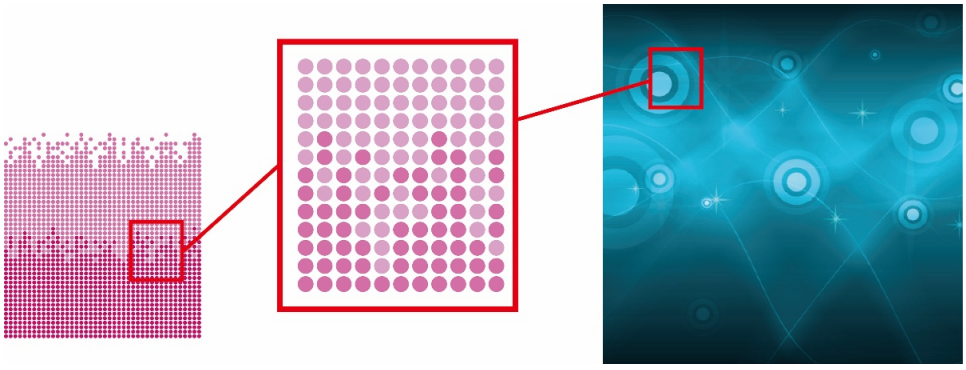
Presented here is an overview of Mimaki technologies[1], designed to deliver the best results, economically, and with maximum productivity.

For exceptional print quality

Mimaki Advanced Pass System reduces banding, **Variable Dot Printing** results in higher quality prints, **Waveform Control** delivers precisely shaped ink dots, **Mimaki Fine Diffusion** reduces noise and **Mimaki Clear Control** delivers a smoother, cleaner finish when using Clear ink.

- **MAPS - Mimaki Advanced Pass System**
  This core technology utilizes an advanced algorithm pattern to reduce banding, giving you confidence that your prints will look spectacular even at higher speeds.
  Supports MBIS core technology for optimal performance.



MAPS technology uses a gradational mask pattern resulting in a smoother image with no distinct bands.

[1] *Not all technologies listed here are included in every model; check with your Mimaki representative or authorized dealer for information specific to the product in question.*

- **VDP – Variable Dot Printing**
  This core technology uses smaller drops to produce smoother gradations and quartertones, or larger drops to produce uniform solids resulting in higher print quality.
  Supports WFC core technology for optimal performance.

Fixed dots result in a grainy image, particularly in skin tones.

Variable Dot Printing produces smoother skin tones and uniform solids. As well, high-density drops enable faster print speeds.

- **WFC - Waveform Control**
  This core technology utilizes finely tuned frequencies for each ink's specific gravity and viscosity to precisely shape and place individual drops, giving you confidence that your images are optimized even at lower resolutions.
  Supports VPD, MAPS & MFD core technologies for optimal performance.

When ink droplets are deformed in-flight, they do not result in accurate placement because either the jetting angle is out of tolerance or droplets break in the air.

With WFC, ink droplets are placed precisely without deformation because they maintain high circularity in-flight.

- **MFD - Mimaki Fine Diffusion**
  This core technology uses an advanced dithering process to reduce noise and produce more even colors, giving you confidence that your images are optimized even at lower resolutions.
  Supports WFC & MAPS core technologies for optimal performance.

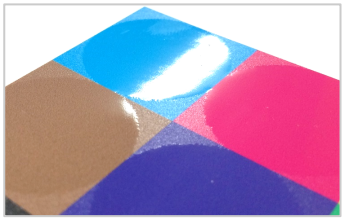
MFD1

Suppression of noise

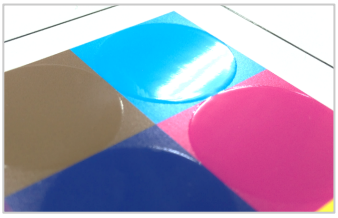
ILL diffusion

Repeat-pattern generated by noise

- **MCC – Mimaki Clear Control**
  This core technology reduces dust and noise, creating a smooth, clear ink layer by enabling the clear and CMYK inks to be printed simultaneously, and using a larger drop size, giving you confidence that your clear-coated or -accented items have a smoother, cleaner finish.



Without MCC



With MCC

For extended throughput

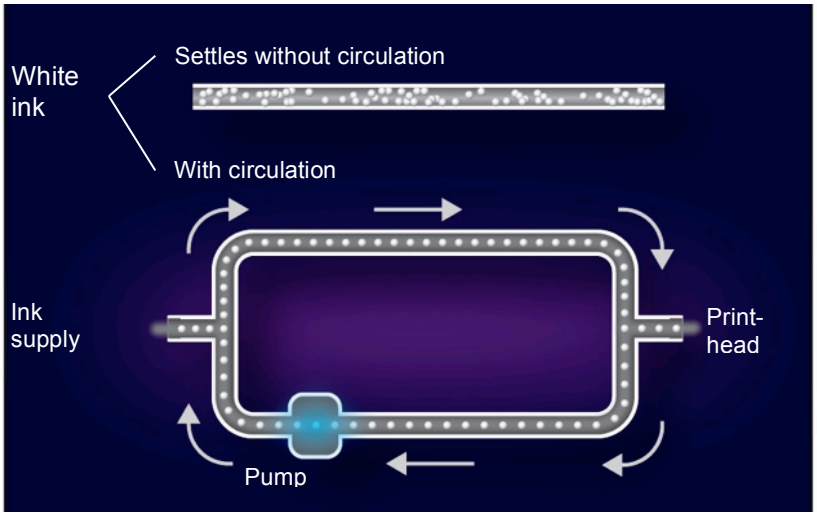
Mimaki Bulk Ink System delivers capacity, **Uninterrupted Ink Supply System** ensures continued replenishment and **Mimaki Circulation Technology** keeps ink particles from settling.

- **MBIS - Mimaki Bulk Ink System**
  This core technology enables easy scalability to higher ink capacity, giving you confidence that your production can grow with your needs without impacting costs.
  Supports UISS core technology for optimal performance.

Shown above is the two-liter MBIS system for the JV300 printer with the UISS cartridge system.

- **UISS - Uninterrupted Ink Supply System**
  This core technology utilizes a redundant ink supply for continued ink replenishment in four-color (CMYK) mode, giving you confidence that no matter what capacity is used, your production and costs are not impacted.
  Supports MBIS core technology for optimal performance.

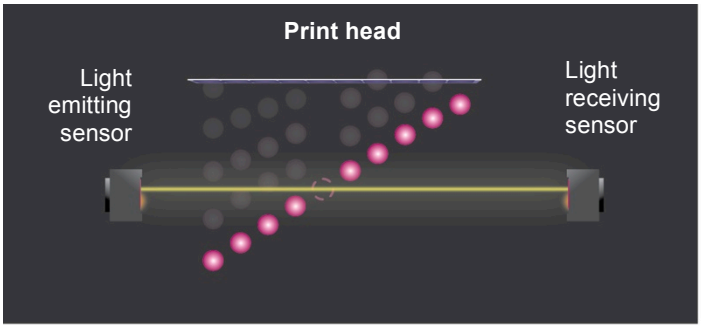
- **MCT - Mimaki Circulation Technology**
  This core technology continuously agitates inks that are susceptible to settling – such as White -- giving you confidence in print quality and economy in your production.
  Supports NCU & NRS core technologies for optimal performance.



For continued productivity

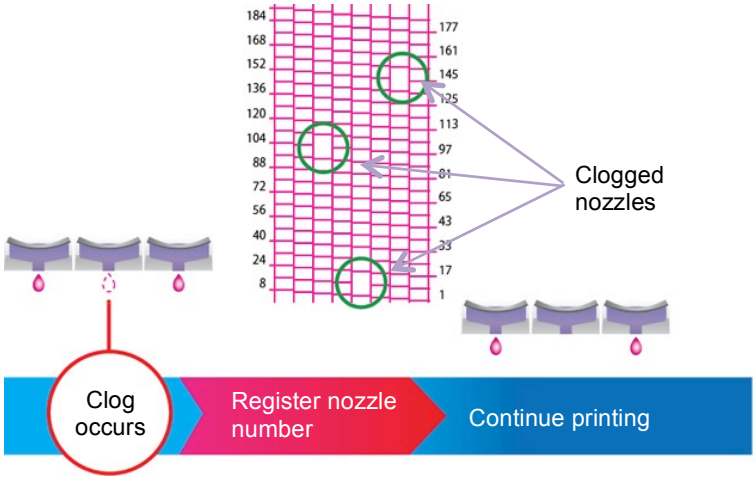
Nozzle Check Unit and **Nozzle Recovery System** work together to detect outages and remap working nozzles, and **Mimaki Intelligent Heaters** improve media and ink performance.

- **NCU - Nozzle Check Unit**
  This core technology monitors nozzle outages and automatically activates a series of recovery functions, giving you confidence that your production and costs are not impacted.
  Supports NRS core technology for optimal performance.

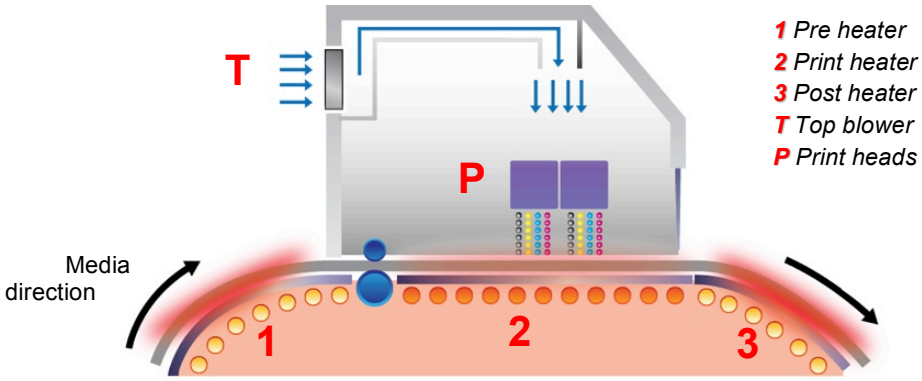


When light passes through to the receiving sensor, the printer determines that the ink is not being ejected properly and performs a cleaning function

- **NRS - Nozzle Recovery System**
  This core technology automatically assigns operational nozzles when an outage is detected, giving you confidence that your production and costs are not impacted.
  Supports NCU core technology for optimal performance.



- **MIH - Mimaki Intelligent Heaters**
  This patented core technology improves media and ink performance, giving you confidence in print quality and economy in your production.

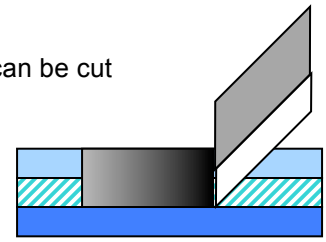


The above diagram shows the MIH system in the JV300 printer

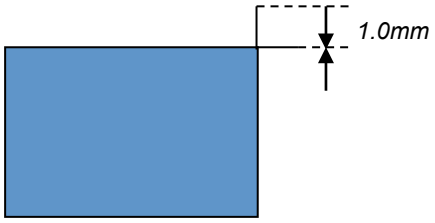
For precision cutting

Mimaki core technologies are present in cutting plotters, including printer/cutter models. **Half Cut, Over Cut, Continuous** and **Segment** features ensure precise cutting.

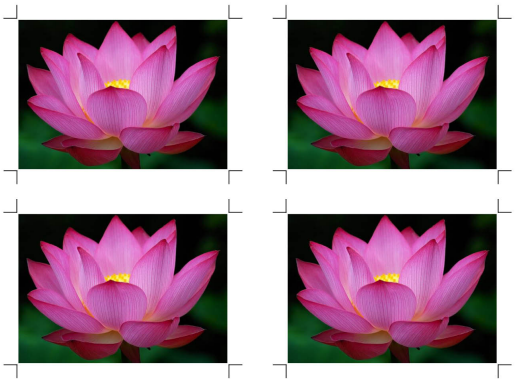
- **HC – Half Cut**
  With this proprietary function, the backing sheet can be cut leaving behind a small connecting point that can be easily detached when necessary, giving you confidence that your contour cut pieces will be easier to handle with less waste.



- **OC – Over Cut**
  This function makes a cross cut at the start and end positions, giving you confidence that your finished piece will have sharp edges with no undercut fragments.

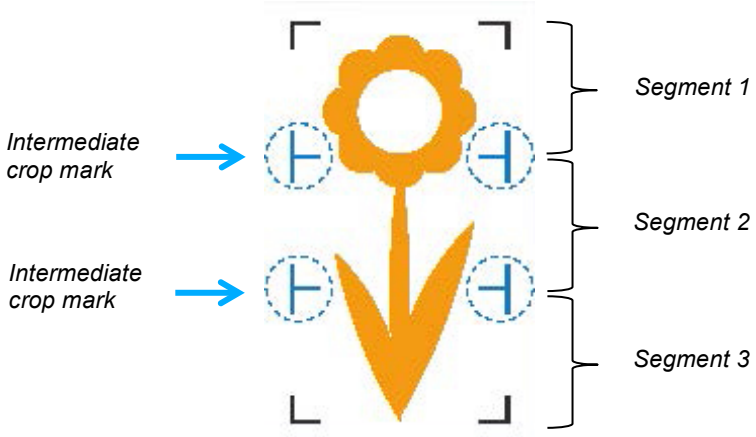


- **C – Continuous**
  Crop marks are automatically and continuously detected, giving you confidence that printed images are accurately cut.



This feature compensates for distortion and enables cutting of a whole roll of media without intervention

- **S - Segment**
  Detects intermediate crop marks in feed direction and enables four-point corrections for each segment, giving you confidence in accurate, long-length cutting, even if the image is distorted.



About Mimaki USA

Mimaki is an innovator and a pioneer in the development of digital printing and cutting products worldwide. The company has engineered and manufactured a complete line of digital printers and cutters, and offers a total workflow solution for the many applications found in the Sign & Graphics, Textile & Apparel and Industrial markets. In 2014, Mimaki USA celebrated 15 years of serving customers in the Americas. It is an operating entity of Mimaki Engineering of Japan, which celebrated its 40th year in 2015. For more information, visit www.mimakiusa.com.

- 30 -

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