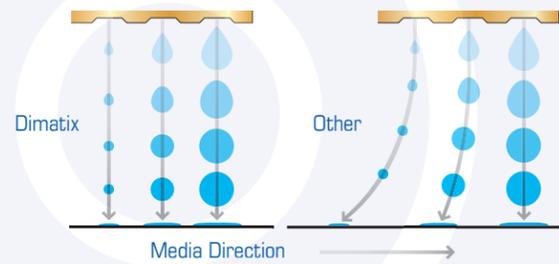And, unlike other grayscale implementations, VersaDrop offers a robust solution for modulating drop size by producing a single drop at the nozzle, at high speed rather than on the substrate, resulting in superior drop placement accuracy and print quality.

Dimatix   Other

Media Direction

Using VersaDrop to accommodate less optimal inks is an added bonus that allows a broader range of fluid characteristics and chemistries to produce exacting drop volumes and drop shapes for jetting straight and true at higher standoff distances onto a wider variety of substrates and surfaces.
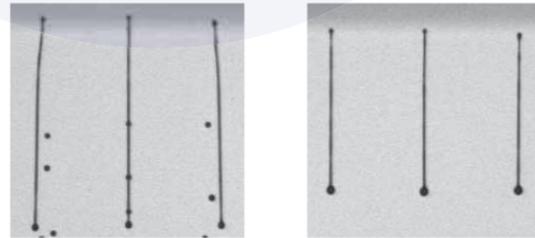
Untuned   VersaDrop Tuned

VersaDrop™ Integration

A choice of integration options makes VersaDrop easy to implement and easy to use.

Simplified Waveform Development
The Dimatix Developer's Environment helps systems designers and ink developers explore the rich features offered by VersaDrop. Using the Developer's Environment, developers and formulators can evaluate their imaging strategies to assure optimal ink and systems performance.

Optional Integrated Electronics
Also available from Dimatix is a comprehensive VersaDrop electronics package including a programmable waveform generator, and fire pulse amplifier; scalable from low duty cycle scanning systems to ultra-high speed single pass systems.

Integration Support
If waveform development is not part of your current expertise, Dimatix Technical Support will assist you with integrating VersaDrop into your products by helping to adapt our reference waveforms and accelerate a faster time to market.

Open Architecture, Infinite Possibilities
With VersaDrop's open architecture and flexible waveform development, system developers can advance entirely new concepts into their print system designs by incorporating multiple operating modes with just the right spot size for a given resolution, variable drop grayscale printing, and support for more ink types and properties with greater productivity than ever before – leaving the competition behind.

VersaDrop makes the best drop-on-demand printheads even better with best-in-class performance, operational flexibility and unparalleled print quality…and all without impact to productivity.

And that's what we mean by

VersaDrop™
Grayscale & Beyond

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VersaDrop™
Grayscale & Beyond

Dimatix
FUJIFILM ™

VersaDrop™

takes the performance of Dimatix printheads to unprecedented levels of quality and operational flexibility…all without impacting productivity.

VersaDrop™
Grayscale and Beyond

To combine outstanding print quality with unprecedented speed is the driving force behind high performance inkjet printing. As technological advances close the gap, Dimatix once again raises the bar with its VersaDrop Jetting Technology.

Whether designing scanning or single-pass systems, VersaDrop elevates Dimatix high performance graphic printheads to an entirely new level of operational excellence by providing unparalleled versatility without having to make trade-offs between print quality and production speed. Now you can achieve both, with a design that leaves the competition behind.

VersaDrop™
Makes Great, Even Better

We do this by making a great printhead even better. How? By leveraging the inherent characteristics of our printhead's high frequency response and velocity, superb channel-to-channel uniformity, low crosstalk and unparalleled jetting straightness and endowing it with entirely new attributes including:

- Multiple fixed drop sizes from just one printhead with no productivity loss
- Grayscale capability with no productivity loss
- Drop sizes less than native for exacting details
- Drops merged at nozzle rather than at the substrate for superior image quality
- Increased drop velocities resulting in higher standoff distance for greater choice of substrates and faster printing
- Wider variety of inks and fluid characteristics supported by waveform tuning

All this – with no impact to machine performance!

Smaller than native drops: Best overall image quality

Large drops: Best for high color saturation and long distance viewing

Systems using VersaDrop are unrivaled in flexibility, producing museum quality prints to big, bold, colorful graphics and everything in between with just one printer design and one printhead family.

The defining characteristic of VersaDrop is our open systems approach to creating and editing waveforms to pump precisely metered amounts of ink into a single drop before the tail detaches from the nozzle. This capability can be exploited to produce drop sizes ranging from 6 to over 200 picoliters within the same printhead family and at higher drop velocities resulting in increased standoff distances. It allows the same printhead to be used with either UV, solvent, aqueous inks or conductive fluids.

Grayscale: Best overall balance between delicate tones, saturated colors, and fine text

Practically speaking, this decreases the number and type of printheads required to accommodate diverse printing requirements such as in-store and outdoor, close-up and long distance viewing applications or when combining high resolution printing with surface coatings, underlayments or functional fluids.

Onboard high speed printhead electronic allow each channel not only to be addressed individually but to also precisely meter ink within each channel. This means that one or any number of channels can be programmed to behave quite differently, and on every firing cycle if necessary while maintaining unparalleled drop placement accuracy.

A VersaDrop enabled print system can satisfy the widest possible range of commercial requirements, from those demanding fine tonal rendering and crisp 4-point text within the same job to optimizing just the right spot size for multiple print resolution settings using the same printhead.
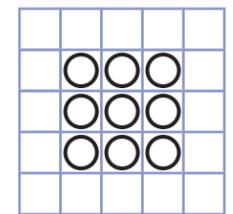
VersaDrop™
Best in Class Designs for a Performance Oriented World

In the simplest implementation – adjustable binary mode, all the nozzles of a single printhead can be programmed to fire the same size drop on every cycle. But even in this instance, the machine designer has latitude in selecting whether the constant drop size will be the smallest possible, the maximum volume or any amount in between– thereby matching the spot size to the print system's resolution setting.
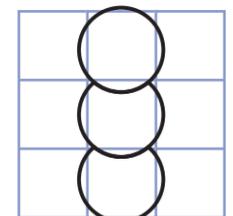
Another unique capability within binary mode is the ability to produce a drop that is considerably smaller than the printhead's native drop size. This allows the printer to be run in an ultra-fine rendering mode, producing very fine tonal details in jobs where edge definition is not as critical.

Beyond adjustable binary modes, VersaDrop is capable of supporting full grayscale. For example, any number of channels can be programmed to fire different size drops under program control, to print specific components requiring expanded tonal expression or even higher resolution – while operating at the print system's rated speed.

Higher Resolution
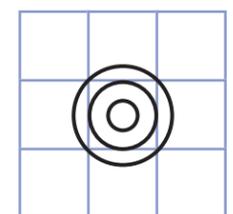
Lower Resolution

Grayscale

The ability to precisely modulate the size and shape of individual ink drops, and accurately place them, gives VersaDrop the ability to produce extremely fine features. Like binary mode, when using grayscale mode, generating a drop size that is considerably smaller than native is possible too.