

# Jetronica

## Digital FabriCoater

## Looking for better ways to digitally apply patterned coatings?

**Jetronica** is a novel dispensing technology combining the benefits of digital technology with the throughput and materials flexibility of established analogue industrial production processes.

Additive manufacturing, coating and adhesive applications require high volume deposition with consistent coverage. Jetronica provides all this and selective patterning at production line speeds. Jetronica delivers drop volumes from 100 micro litres down to pico litres per second. Able to dispense a wide range of viscosities and particle sizes, comparable to those used in screen printing, Jetronica is compatible with water, solvent or UV fluids.

### Key performance parameters

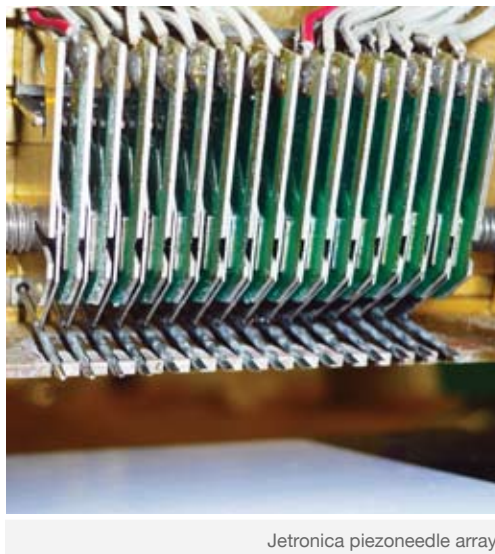
- ▶ High production speed and coverage
- ▶ Cost effective dispensing
- ▶ Wide viscosity range
- ▶ Broad range of materials

### Target sectors

- ▶ Coatings
- ▶ Additive manufacturing
- ▶ Bio dispensing
- ▶ Textiles
- ▶ Adhesives
- ▶ 3D printing applications

### Typical materials

- ▶ Optical and protective coatings
- ▶ Adhesives
- ▶ Food products
- ▶ Pigmented inks
- ▶ UV curable materials
- ▶ Functional fluids



Jetronica piezoneedle array

### Digital Productivity

Jetronica's robust dispensing array is designed for high volume coating and patterning for production line applications. Scalable and robust, Jetronica technology can dispense fluids typically used in analogue printing allowing more industries to realise the benefits of on demand, selective patterning or coating. Applying fluid only where it is needed, Jetronica offers the ability to improve production efficiencies and deliver sustainable manufacturing techniques in the coating, adhesive and additive manufacturing sectors.

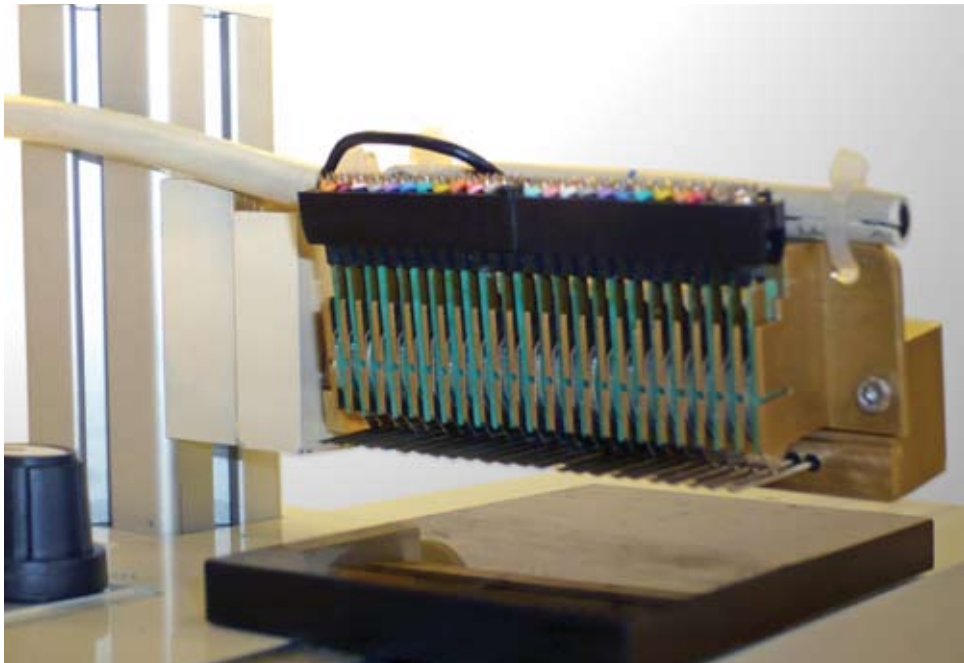
### Technology overview

Jetronica's patented technology is based on a unique piezoneedle array, which delivers a precisely defined fluid with digital control. The actuation of the piezoneedle generates a standing wave that ejects the fluid droplets from the nozzle. Offering maximum flexibility at much lower costs piezoneedle arrays can be engineered in a wide range of configurations for industrial use and can be tuned to accept a broad range of fluids including high viscosity and non-newtonian materials. Simplicity of design means the technology can easily be scaled for wider print widths or higher flow rates.

Jetronica technology is uniquely targeted for applications that fall outside the graphics specification determined by many digital technologies of high resolution and small drop ejection. Jetronica seeks to take digital productivity into new application areas requiring high speed, reliable coverage at tuneable thicknesses comparable to film thickness typically associated with analogue processes.

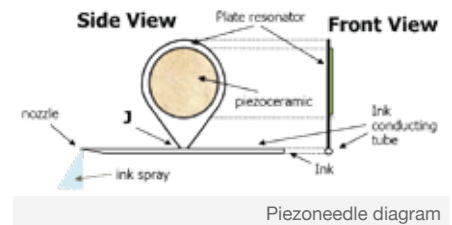
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The key driver for many industrial applications is higher production yield at lower cost-of-goods. Jetronica technology seeks to enable manufacturers across a wide range of industries to realise the benefits of a digital process, supporting the adoption of digital technology into a world of new applications.



### Wide fluid compatibility

Fluid can be designed specifically for a given application with the ability to jet a wide range of fluid viscosities and particle sizes. Existing screen and gravure paints can be used with only minor modifications, helping users to realise the benefits of a digital process without costly fluid reformulation and re-qualification requirements.

### Production cost

Due to its simplicity Jetronica technology is able to offer a significant reduction in cost per nozzle compared to other digital technologies. This means the technology can easily be scaled for wider print widths or higher flow rates and remains highly competitive when compared to alternative deposition or coating technologies.

Offering the ability to selectively pattern on demand, with no downtime in between design changes, Jetronica offers savings by reducing overall fluid use and eliminating the high volumes of waste fluid associated with analogue processes. Film thicknesses can be tuned for application specific requirements meaning drying times can be optimised to deliver additional operational savings.

### Jetronica Technology performance parameters

Print speed	>1m/second**
Coating thickness	Sub-micron to 50 microns
Fluid viscosity range	2cps up to approximately 500cps**
Particle size	Sub-micron to over 20um**
Drop volume	Micro litres per second down to pico litres per second
Fluid type	Aqueous, solvent, UV, oil based fluids
Temperature	Ability to heat fluid to extend deposition parameters

\*Specification subject to change without notice  
 \*\*Subject to needle array diameter and configuration