NOTION SYSTEMS

n.jet display

TECHNICAL INFORMATION

n.jet display

Display

The n.jet display series prints functional layers in various steps of display production, and for various display technologies. This includes rigid, flexible, OLED, QLED, and LCD displays. In addition to its unparalleled precision, the platform complies with highest demands on process environment and process stability.
Specifically developed features, like the no.mura printing technology solve long-standing challenges of the industry and enable an efficient, additive use of the valuable materials involved in manufacturing of next generation displays.

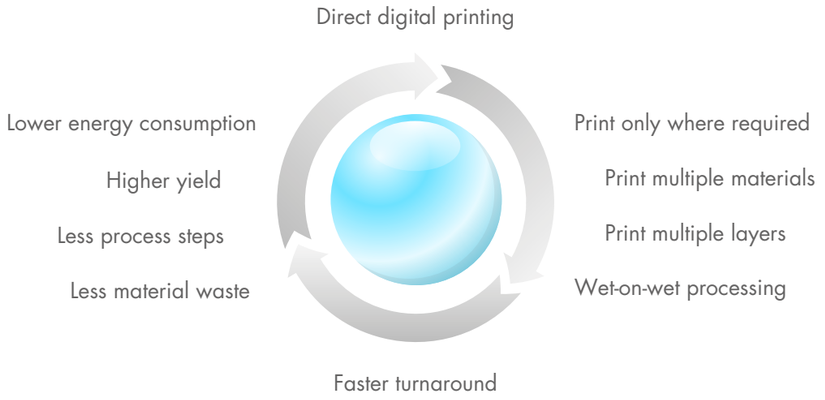
Applications:

- RGB printing
- Encapsulation
- Light blocking, switching & guiding layers

Advantages of inkjet printing

Inkjet is a non-contact, digital printing technology which creates fine structures of 30 microns and below. Non-contact printing enables wet-on-wet processing of substrates, and the fully digital process makes masks or screens obsolete. Inkjet is a highly integrated printing method, where several thousand nozzles are utilized to print at production speeds of up to 2 meters/sec.

Inkjet is used to replace established subtractive process sequences and reduces waste, energy consumption, and makes electronics production more ecological, and more economical at the same time.



Main Features

- Optimized maintenance concept for production platforms and minimized waste of materials
- Non-contact nozzle cleaning for highest process stability and long printhead lifetime
- Mura-free printing and nozzle & jetting calibration

High precision & process control:

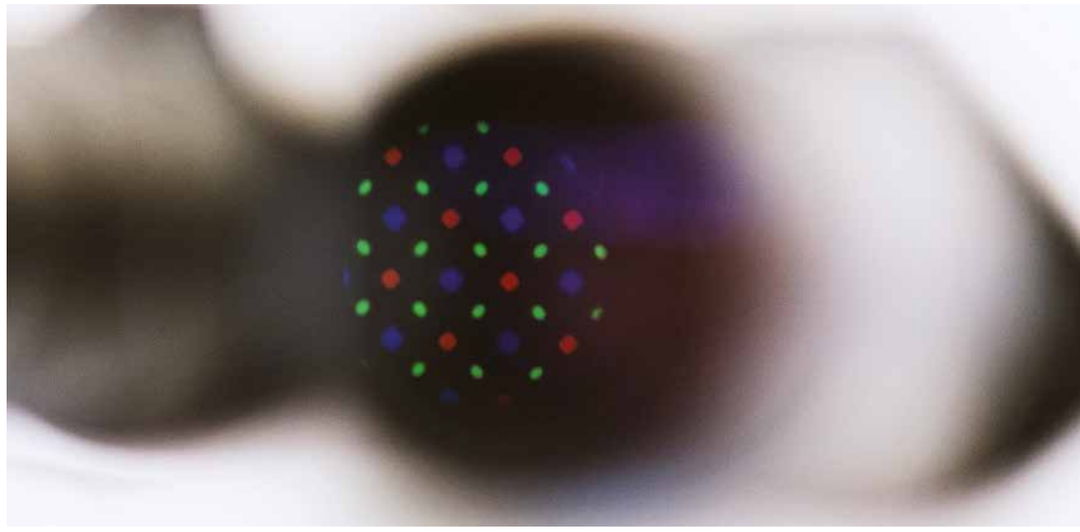
- Drop formation analysis for picoliter droplets
- High precision print position calibration

Open Material:

- Open material inkjet printer
- Full access to all process parameters
- Waveform editor with access to all drop formation parameters
- n.jet platform adapted to your production process (if supported by printhead model)

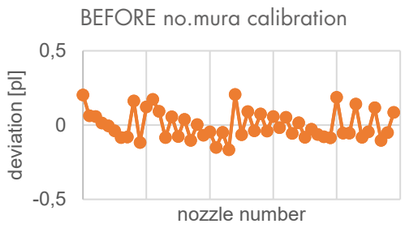
Customized Processes:

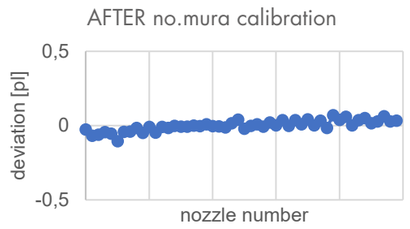
- Customized print head configuration and layout
- Supports all mayor print heads for display industry
- Fine tuned inkjet process
- Advanced printing strategies for display and electronics industry
- Precise drop volume control
- Your process scale-up supported by our inkjet experts

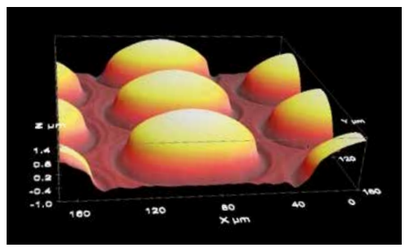


Mura Free Printing of RGB Layers

- Pixel to pixel volume variations need to be below ±1% to avoid visible defects in the end product
- Drop volume varations of industrial print heads are typically in the area of ±10%







pixel volume accuracy ±1%

Dimensions & Specifications

- Processes: RGB printing (OLED, QLED, µLED)
  color filter (rigid & flexible substrates) LCD ink application
  special & bespoke processes
- Substrate size: up to gen 4.5
- Alignment: better than 1 µm
- Drop placement: better than 5 µm
- Environment control: HEPA / Laminar flow / controlled T & RH / inert glove box
- Rotary stage: optional
- Drop watcher: optional
- Load/unload: manual / automatic
- Stage heating: optional
- Calibration: automatic

Cooperation with MBRAUN

Clean. Engineering. Expertise.

Notion Systems and M.Braun Intergas-Systeme offers a fully integrated solution that combines compact design with minimized nitrogen consumption.

Inert atmosphere is important, but a clean atmosphere too. MBRAUN systems can remove solvent vapors, dust and hazardous particles. The gas purification systems can be equipped with (regenerable) solvent filters to remove very quickly the solvent vapors produced during the printing process. To effectively remove evenly distributed particles, the unidirectional flow (laminar flow) is MBRAUN's preferred approach and allow us to achieve an ISO Class 2 cleanroom standard.

In addition to the inert atmosphere, MBRAUN provides system solutions which effectively pretreat the substrates and cure the printed layers. State of the art VCD tools allowing precise control of temperature and pressure. A range of thermal treatment solutions such as hotplates, convection ovens and vacuum ovens in batch and single substrate setup as well as UV-cleaning and UV-Curing equipment complete the fully process of pre-treatment – printing – curing.

NOTION SYSTEMS

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ECO FRIENDLY

THE FUTURE OF ADDITIVE MANUFACTURING

DISPLAY	ELECTRONICS	SEMICONDUCTOR	3D PRINTING
n.jet display RGB	n.jet soldermask	n.jet photoresist	n.jet optics
n.jet display TFE	n.jet etchresist	n.jet hybrid	n.jet lab
	n.jet roll2roll		

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