

iONE™ series

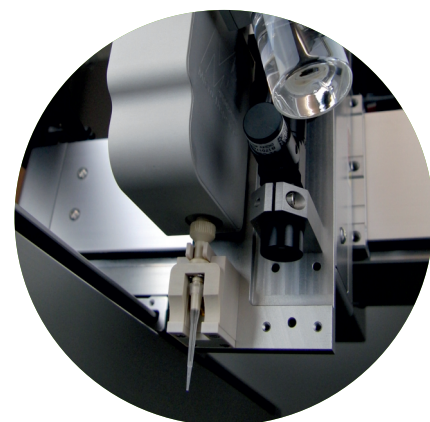
High performance in microarray dispensing „Spot on the Fly”



High accuracy &
the best resolution

- High throughput applications
- High production capacity
- Automated target and microarray imaging
- 2D- or 3D-imaging system for droplet determination
- Spot-on-the-fly for quick microarray spotting
- Inline QC for the highest quality
- Flexible deck configuration
- Different instrument sizes

M2-Micro-Dispensers present a new highly flexible technology in micro-dispensing which supports even dispensing out of low-cost, disposable pipette tips. All dispensers can be equipped with temperature control for maximum reproducibility and high volume accuracy. M2-Micro-Dispensers can be used for bulk dispensing, include online degassing and are also available as cartridges, with dispensing liquid, stored in their vessels.



Novel Quattro-Jet Technology

This technology combines four different micro-dispensers in one single instrument:

- 1) **Piezo Driven Micro-Dispenser (PDMD)** for pico- to low nanolitre applications
- 2) **Solenoid Driven Micro-Dispenser (SDMD)** for nano- to low millilitre applications
- 3) **M2-Micro-Dispenser (M2MD)** for low nano-to low millilitre applications
- 4) **Pin Driven Micro-Dispenser (PinDMD)** for pico- to low nanolitre applications with dual head and inline QC for an optimal microarray result

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Contact & Non-Contact Liquid Handling Solution

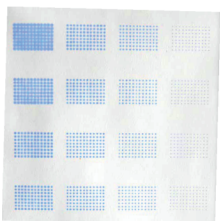
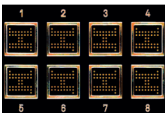
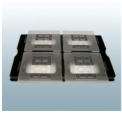
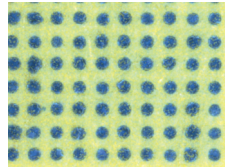
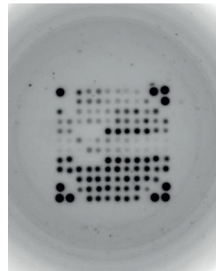
Intuitive User Interface

The InDot software running under Windows 10 is the result of more than ten years experience in micro-dispensing and arraying; guiding the user easily through all features such as target layouts, array formatting, reagent and volume settings.

- Main screen reflects the current instrument status and run configuration
- Substrate designer assists with designing dispensing patterns via simple mouse click
- Target access provides single click access to all target positions for dispensing and imaging
- Wash designer offers effortless drag and drop programming of wash sequences
- Real time imaging and drop observation within run
- Individual dispense parameters for every sample in a run

Instrument Applications

- DNA / protein / cell microarrays
- Multiplex ELISAs
- Lateral Flow applications
- Diagnostic biochips, Lab-on-a-Chip
- Diagnostic biomarkers and microbiology assays on multiple substrates (slide, MTP, NC membrane)
- Spotting according to custom specific substrates and formats
- Semiconductors
- Biosensors



- Integration of custom-specific components
- Temperature controlled unit (cooling and heating units)
- Humidity control
- Clean room conditions, HEPA filter
- Environmental enclosure
- Mobile instrument set-up
- Piercer for sealed MTPs

Technical Data:

Capacity:

iONE™-400 - 50 slides / 8 MTPs
iONE™-600 - 92 slides / 12 MTPs
iONE™-1000 - 156 slides / 27 MTPs
iONE™-1200 - 190 slides / 35 MTPs

Source formats:

96-, 384-, 1536-MTPs or 16 plastic vials of 0.5-2 mL or 1 mini-MTP: 24 wells of 100 μ L or 65 wells of 25 μ L or cartridge dispensing from 2-20 mL vial

Microdispensers:

Piezo Driven Micro-Dispenser:

30 pL to 300 pL per droplet; c.v. < 2 %; max. frequency 1000 Hz

Solenoid Driven Micro-Dispenser:

30 nL to mL per ejection; c.v. < 10 %; max. frequency 250 Hz

M2-Micro-Dispenser:

10 nL to mL; c.v. < 2 %; max. frequency 10-250 Hz, depending on version.

Pin Driven Micro-Dispenser:

75 pL+; cv < 5%

Dispense modes:

aspirate (air-gap possible); dispense; dispense out of large volume source vials; re-suspend samples

Resolution \leq 1.0 μ m

Positioning accuracy in XY directions \leq 3 μ m

Maximum positioning velocity: up to 20 sample depositions per second

Maximum drive range:

X=200/600/1200 mm, Y=320mm, Z=25mm

Dimensions:

W from 60 cm, D 60 cm, H 160 cm, weight from 95 kg

HEPA filter system: W 38 cm, D 41 cm, H 61 cm, weight 12 kg

Ergonomic user stand USTA for keyboard, mouse and monitor: W 44 cm, D 58 cm, H 175 cm, weight 36 kg

Power:

iONE 590 W, 100-230 V;
Safety housing 75 W
HEPA filter 20-160 W

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