Contact & Non-Contact Liquid Handling Solution

iZERO™ series

Micro-dispensing production line

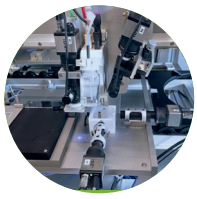
Spot your future

High throughput system with inline QC & the highest accuracy & comprehensive dispensing possibilities

The new series of instrument iZERO™ represents a fully automated, contact or non-contact ultra low volume liquid handling system with a fully flexible, scalable and highly automated production environment and with no need for changing or reprogramming the entire setting during production.
The changeover time of iZERO™ is reduced to minimum while maximizing its production time, which makes iZERO™ the perfect choice for your production.

- Dual active feedthrough transfer system and target handler with fast barcode reading
- DXF target format import for flexible and adaptable production line
- Adaptable volume range from picolitre to mililitre for single- or multidispenser system
- 2D- or 3D-imaging system for droplet fly path imaging and high performance magnetic drives for ultimate positioning of a spot on the target
- Distance sensor for scanning or controlling target distances
- Fully climate controlled system with integrated HEPA system and flexible deck configuration for various targets and sources
- Diverse instrument sizes for adaptivity in production capacity

iZERO™ equipped with a source MTP or vial holder, wash station, droplet volume detection system, head camera for QC, flexible deck configuration, where MTPs, glass-slides and vials can be placed next to each other. The M2-Automation Dispensing Technology systems enable protein and DNA microarray spotting in 30+pL, 10+nL to mL volume ranges, printing on different coolable targets under controlled conditions (controlling temperature, humidity and DEW point). The **iZERO™** system allows 2D/ 3D drop volume logging and **JATS** software control of variable individual sample parameters. The combination of the head camera and inline QC software facilitate recovery run on the missing spots for producing perfect microarrays with the lowest scrape rate.



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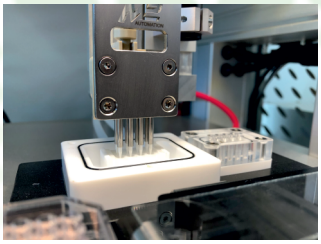
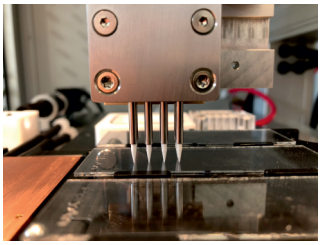
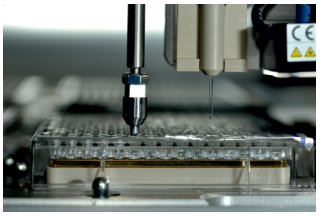
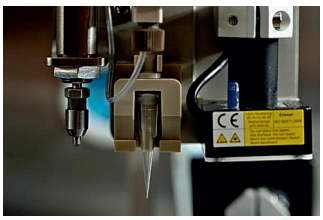




Instrument Applications

- 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





PRODUCED BY

Intuitive User Interface

All our dispensing systems are equipped with specially developed software InDot, running under Windows 10, which guides 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
- DXF or Substrate designer assists with dispensing patterns via simple mouse click
- Target access provides single click access to all target positions for dispensing an imaging
- Wash designer offers effortless drag and drop programming of wash sequences
- Real time imaging and drop observation within run

Key features

- **Fully automated iZERO™ system**
- **Distance Sensor system for a perfect dispensing on (un-regular) target surfaces**
- **Integration of custom-specific components**
- **Climate Control system for logging all production variables**
- **Clean-Room suitable, including HEPA-filter system and cooling unit**
- **Environmental enclosure for Co_2 control, UV light or ionizers**
- **Mobile iZERO™ set-up with easy exchange and maintenance**
- **Liquid Path Air-free for the best performance during your intensive production run**

Technical Data:

Capacity:
iZERO™ source formate: 96-, 384-, 1536-MTP / 16 vials of 0.5-2 mL/ 1x 24-well chip (well volume 100 µL)/ 1x 65-well chip (well volume 25 µL)/ cartridge dispensing from 2-20 mL vial (M2-Dispenser-CT)

iZERO™ target formate: 65 glass microscope slides (portrait); 9 MTPs (portrait); MALDI plates, microfluidics, biochips, wavers; (NC-)membranes; customized target.

Microdispensers:
Multiple micro-dispensers are optional and applicable for all our dispensing systems.
Piezo Driven Micro-Dispenser (PDMD):
30 pL to 300 pL per droplet;
c.v. < 2 %; max. frequency 1000 Hz
Solenoid Driven Micro-Dispenser (SDMD):
30 nL to mL per ejection;
c.v. < 10 %; max. frequency 250 Hz
M2-Micro-Dispenser (M2MD):
10 nL to mL;
c.v. < 2 %; max. frequency 10-250 Hz, depending on version
Pin Driven Micro-Dispenser (PinDMD):
100 pl up to nL per dispensing;
c.v. < 5%; frequency > 5000 samples/ day

Dispense modes: aspirate (air-gap possible); dispense; dispense out of large volume source vials; re-suspend samples, pin dispensing mode

Resolution <= 1 µm,

Positioning accuracy
in XY directions<= 3 µm

Drive range:
iZERO™- 400 Printable area: X = 350mm, Y = 400mm (Drive range (X/Y/Z): 400/400/80 mm);
iZERO™- 600 Printable area: X = 350mm, Y = 600mm (Drive range (XYZ): 400/600/80 mm);
iZERO™ Customized

Dimensions:
iZERO™ W 85 cm, D 130 cm, H 248 cm, high-end stand-alone model with a weight from 450/ 500 kg,
HEPA filter system, weight: 12 kg