Non-contact & contact Liquid Handling Solution

instrumentTWO 300P

High Precision microarray-dispensing instrument



instrumentTWO 300P is a precise and versatile liquid handling solution with a high and flexible capacity for source and target plates.

- Precision of 5 μm for high density arrays
- 4 MTP sized positions for source or target holders (coolable or heatable possible) spottable area of 220 x 300 mm
- Automated target and microarray imaging
- Optional climate controlled conditions such as temperature, humidity and HEPA filter system
- Flexible deck configuration



iTWO 300P[™] equipped with 2 wash stations for PDMD/SDMD (back) and PinDMD (front). PinDMD and a camera are mounted on the head. Deck can be choozen with different source and/ or target adapter.



Deck shows a source vial adapter for 3x8 vials and 4 MTP sized positions for target holders. Here: 16 slides as targets; alternate a planar/ vacuum table for up to 24 slides. PDMD is mounted on the head.

Non-contact and contact dispensing within one hybrid system

This technology supports in a single instrument four different micro dispensers:

- Piezo Driven Micro-Dispenser (PDMD) for pico- to low nanolitre applications (30 pL+; c.v. 2%)
- Solenoid Driven Micro-Dispenser (SDMD) for nano- to low millilitre applications (30 nL+; c.v. 10%)
- M2-Micro-Dispenser (M2MD) for low nano- to low millilitre applications (10 nL+; c.v. 2%) different versions available
- 4. Pin Driven Micro-Dispenser (PinDMD) Pin head for split, hollow or solid/blunt end pins



Intuitive User Interface

All instruments from M2-Automation have their own unique designed software package, which is easy to understand and simple to use.

The InDot software comes with a logical, intuitive interface and is flexible to meet specific individual needs, for the creation of customized procedures or personalized array layouts.

InDot is image-based, reflecting the instrument layout and providing a selfexplanatory, systematic work-flow to create an experiment.

- All designers can be used via drag & drop to define a sequence -> flexibility in wash runs and runs
- Flexible parameters for every sample possible in one run
- Nested run sequences for convenient experiment set-up
- Support of dxf files
- Automatic climate control reflects current and historical conditions of temperature, desired humidity and cryostat temperature
- Support for all non-contact and contact spotting instruments



Flexible parameters for every sample



Define washs and runs via drag and drop



Support of dxf files



Climate control

Instrument Applications

Our instruments are designed for a broad spectrum of applications.

- Diagnostic biochips, Lab-on-a-Chip
- DNA, protein and cell microarrays
- Glycan spotting
- Cell transfection arrays
- Diagnostic biomarker and microbiology assays on multiple substrates (e.g. slide, MTP, NC membranes)
- Drug discovery, e.g. small volume GPCR assays, immunoassays
- Screening of compound libraries
- Spotting to custom/specific substrates and formats
- Semi conductors



spot to spot distance: 100 μm, spot diameter: 50 μm

Technical Data

- Capacity:
- 4 MTP sized target holders for e.g. each for 4 slides = 16 slides or 1 planar target holder (vacuum possibble) for up to 28 slides or 1 planar target holder for wafers, membranes up to 180 x 300 mm or 215 x 215 mm
- Source: 96-, 384-, 1536-MTPs in one MTP sized holder or up to 2 source vial adaptor each for 24 wells of 100 μL or 65 wells of 25 μL and 2-4 reagent vials of 500 µL or/and cartridge dispensing from 2-20 mL vial
- Dispense Modes: direct dispensing, aspirate (air gap possible for PDMD); dispense out of large volume source vials; resuspend samples
- Maximum speed: X=700 mm/s, Y=800 mm/s, Z=400 mm/s
- Maximum drive range: 250 x 300 mm, Z=100 mm
- Spottable Area: 220 x 300 mm
- Positioning of repeatability: 5 μm
- Self contained pneumatic system
- Power: 100-230 VAC, 780W with usual components

Dimensions:

- Version A stand alone: W 60 cm, D 64 cm, H 62 cm Weight ~40 kg
- Version B in safety housing with some optional components: W 110 cm, D 75 cm, H 110 cm Weight ~125 kg
- Version C in safety housing with mobility option and foldable computer desk: W 160 cm, D 75 cm, H 180 cm Weight ~180 kg

Options:

- Ergonomic user stand for keyboard, mouse and monitor: W 44 cm, D 58 cm, H 175 cm, Weight: ~36 kg
- Temperature control (Cooling and warmings)
- Humidity Control
- Clean room conditions (HEPA-filter)
- Integration of custom-specific components