I.DOT HT

Fast. Accurate. Efficient.

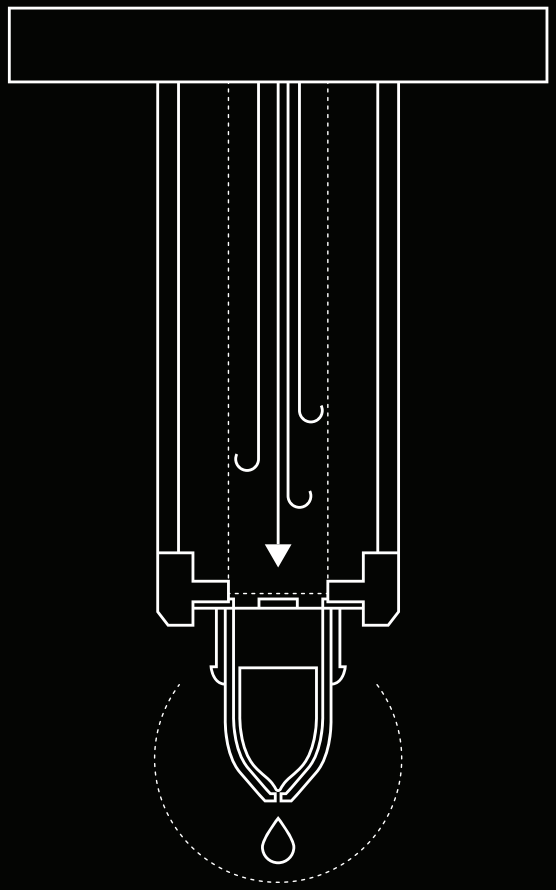
Non-contact Dispensers

I.DOT HT

Newest technology in noncontact dispensing for fast and accurate results every time

WHEN EVERY DROP COUNTS
The I.DOT HT has the critical advantage that allows users to quickly and efficiently screen large compound libraries at a quick rate while saving substantial amount of costs and increasing the throughput. Equipped with 384 source wells, high-throughput experiments can be accomplished more productively and streamline your processes effectively.

I.DOT HT's DropDetection is a patented feature that detects and counts every droplet released during a single dispensing run. It's a simple and powerful tool enabling droplet verification. DropDetection uses a circuit board mounted under the I.DOT HT source tray that leverages 384 barriers. To detect every droplet generated from each source plate position, identifying changes in light intensity to detect droplets as they pass the light barrier. After dispensing, DropDetection produces color-coded and text-file-based results.



How does the I.DOT HT work?

I.DOT HT's approach is precise and accurate non-contact liquid handling tasks. The system uses eight individually controlled positive pressure channels to generate droplets from 5.1 to 50 nanoliters from a small nozzle at the bottom of each well. Each channel can generate up to 100 droplets per second giving control and speed to the users all while minimizing cross contamination.

Watch our video to learn more about how the I.DOT works.

Key Benefits

Accuracy: Built-in droplet verification

I.DOT HT's droplet detection has the capability to detect when users run out of source liquid and can verify total dispense value.

Eliminate carryover and cross contamination

The technology enables droplets to be dispensed into the target plate below the source plate. I.DOT HT eliminates carryover and cross-contamination.

Save time

I.DOT HT's speed also saves you time per task from manual pipetting and reduces repetitive work.

Flexible

Dispense into any SBS target plate, including 96-, 384- and 1536-well plates, as well as customized labware.

Save tips

I.DOT HT uses less consumables per task and does not depend on pipette tips which enable laboratories to maximize budgets. With I.DOT HT's low dead volume, save 10 times on reagents used.

Low dead volume

Well reservoir design ensures dead volume of 10 µL for H2O.

Speed

Dispense 10 nl across a 96-well plate in 10 seconds and across a 384-well plate in 20 seconds.

Supports multiple liquid classes

Dispenses multiple liquid classes on-demand including aqueous solutions, various buffers and reagents, DMSO (up to 100%) and glycerol and defiens liquid glass at the well level.

I.DOT HT Automates Life Science Workflows and Executes Them More Efficiently

Assay Development

- Miniaturize your cellular assays into a 1536-well plate.
- Dispense up to 384 source liquids using a different volume in each well with I.DOT HT's DoE-friendliness.

Synthetic biology

- Dispense any volume from any source well to any target well like complex DNA structures to sub-cellular components.

Compounds dispensing

- Use I.DOT HT to dispense small molecules.
- Dispense combinations of serial compound dilutions.
- Remove variability in liquid handling by back calculating the exact concentration of dispensed drugs ising droplet verification.

Indexing/Combinatorial dispensing

- Perform complicated dispensing patterns across 96, 384 and 1536-well plates.

CRISPR reactions

- Leverage I.DOT HT's speed, accuracy and low dead volume to rapidly and cost-efficiently set up CRISPR reactions and other gene-editing protocols.

High-throughput screening

- Create multiple permutations of drug concentrations across the well plate with different drug mixtures in each well.
- Add reagents between 5.1 nanoliters and 80 µl per well using I.DOT HT's high dynamic range.
- Dispense from any source well into any destination well.

Genomics and proteomics

- Enables you to do sample preparation for single cell proteomics for a deep resolution of the proteome.
- Enhance NGS Library Prep and leverage miniaturization, low-volume dispensing and low dead volume.
- Dispense high-viscosity solutions with ease and reduce time

Pooling libraries

- I.DOT HT software calculates the volume needed to achieve the correct cDNA concentrations to be dispensed.
- Performs this function for up to 384 libraries in under one minute.

Drug Discovery

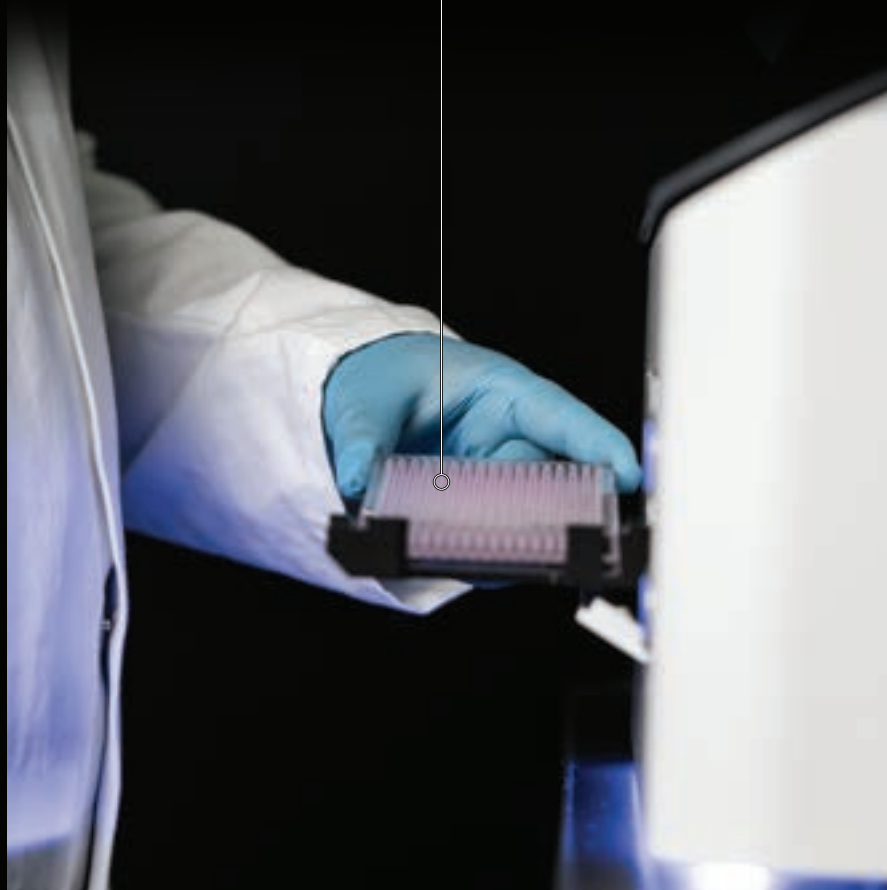
- I.DOT HT equipped with 384 source well 384 different compounds in 96- to 1536 well format in a high throughput screening (HTS) protocol.
- Combines speed with accurate nano to microliter volume dispensing whilst ensuring zero cross-contamination.

Assay Studio streamlines your workflow

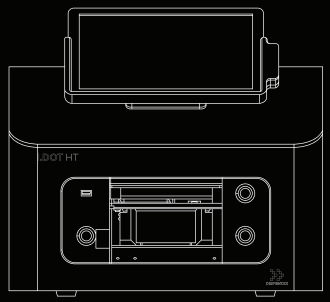
I.DOT's software Assay Studio optimizes protocol creation, and users can easily import CSV files to create more complex protocols. It is automation-friendly and integrates with any third-party scheduler.

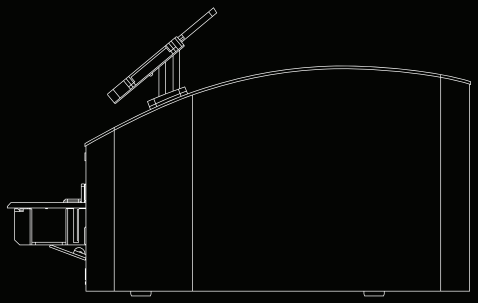
- Touch screen, user-friendly software
- Fast, intuitive, and CVS-friendly setup
- Multiwell and custom formats
- No programming or looping needed
- Improve processes and data quality

I.DOT HT plates are comprised of an SBS-compatible polystyrol frame with a PET foil bonded to the frame.



Dispensing nozzle	60 µm
Dispensing volume per well	5.1 nl to 80 µl
Well format	384 well plate
Well bottom	PET
Material frame	Polystyrol
Dead volume	10 µl for H2O
Accuracy Precision	< ± 5% ≥ 50 nl (H20) < 5% ≥ 50 nl (H20)
Droplet size resolution	0.1 nL





Customer Testimonials

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I.DOT has a small footprint, requires no special maintenance and offers a very intuitive user interface, which enables you to trace custom workflows in a few clicks or simply by importing premade Excel templates. We are able to easily create new workflows for PCR and NGS applications. It's a great system for making serial dilutions and for parallelizing simple biochemical reactions like restriction digesting, ligation and *in vitro* transcription, all while keeping reagent volumes small – making the whole process highly cost-efficient. I highly recommend this system for all labs running high-throughput assays that require complex liquid dispensing schemes, as well as those aiming to lower assay costs by reducing reagent volumes.

Nicola Crosetto, MD, PhD
Karolinska Institutet, Solna, Sweden

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The I.DOT enabled us to carry out complex assay development. The low volume capability ensured that we weren't wasting our previous controls and maintained lower costs. We love having the I.DOT's flexibility in our laboratory.

Hugo Klaassen, Manager Biology
Cistim, Leuven, Belgium

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