AD1500

RESEARCH & DEVELOPMENT SYSTEM

FEATURES AND BENEFITS

Speed

- "On-the-Fly" dispensing
- Non-contact mode reduces wash time

Footprint

- Small design to accommodate research environment

Multi-Mode Dispensing

- Contact and non-contact dispensing capabilities
- Dispense to slides, microtiter plates, or membranes
- Aspirate and Dispense or Continuous Dispense operations

PERFORMANCE

X-Y Table Speed

- Max 175 mm/sec; Typical 75 mm/sec

Minimum Aspirate Volume

- 1 µL

Minimum Dispense Volume

- 20 nL

Dynamic Dispense Range

- 20 nL - 250 µL

Motion Repeatability

- < ±10 µm (95% confidence)

The AD1500 is a tabletop workstation designed for high speed aspirating and dispensing applications to glass slides, microtiter plates or membranes. Its compact footprint and up to four BioJet Plus Pumps make it ideal for a research laboratory to investigate new applications.

Both chemical and biological reagents can be dispensed using the proprietary BioJet technology. BioJet Plus couples the X-Y-Z motion control system with the high precision displacement capabilities of a syringe pump and the high-speed actuation of a micro-solenoid valve. The three components synchronized together result in precise, non-contact liqid handling system.

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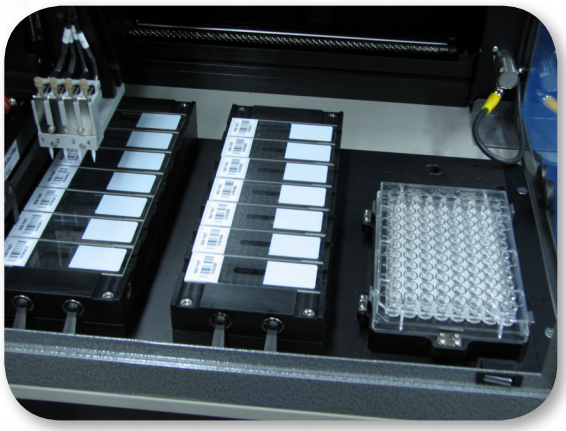
3 x 3 array dispensed into a 96-well microtiter plate.



Close up photo of an AD1500 configured with a 14 glass slide nest.

OPTIONS

- Up to 4 BioJet Plus Dispensers
- Silcon Microarray Pins, Printhead, and Wash Station
- Humidity Control
- Substrate Nest
  - Glass Slide, Microtiter Plate, or Membrane Hold Down
- Vacuum Pump
- Helium Degasser
- In Line Degasser

SPECIFICATIONS

Dimensions (L x W x H)
- 32" x 24" x 24"

Weight
- 85 lb (38.6 kg)

Power Requirement
- 110/220 VAC; 50/60 Hz

Vacuum Requirement
- Vacuum Wash Station: 2.1 CFM (~60 CL)

DISPENSING SPECIFICATIONS

System Precision
- X, Y, and Z-axis are ± 25µm (although typically <10 µm)
- Manual Nest: ± 250µm
- Shuttle Nest: ± 25µm

Z-Axis Height
- Top Plate: ±127µm
- MTP: ± 127µm
- Slide: ± 127µm

XY Axis Squareness
- 90.000 deg ± 0.050 deg

Nest to Axis Parallelism
- X-axis: ±127µm
- Y-axis: ±127µm

Motion Speed
- X-axis: 10.0 ± 0.5mm/sec
- Y-axis: 10.0 ± 0.5mm/sec
- Z-axis: 10.0 ± 0.5mm/sec

Accuracy of Dispense Volume
- ± 5% of target

Precision Dispensed Volume
- ≤10% CV at 20 nL

Total System Positional Accuracy
- ±150 µm (typically ±75µm)
- Std. Dev 50µm (typically ≤ 25µm)

Humidity
- 60 ± 5% RH

BIODOT

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