

# AD3200

## RESEARCH & DEVELOPMENT SYSTEM

### FEATURES AND BENEFITS

#### Speed

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

#### Multi-Mode Dispensing

- Aspirate and dispense
- Continuous dispense
- Multi-reagent priming

#### Flexible

- Suitable for R&D biosensor applications
- Configured with 9 position microtiter nest or 50 glass slides

### PERFORMANCE

#### Accuracy of Dispense Volume

- $\pm 5\%$  of Target

#### Precision of Dispense Volume

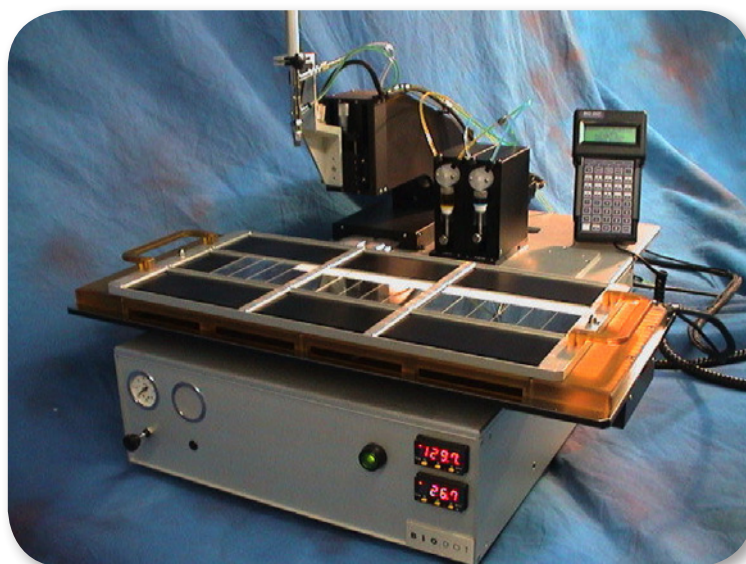
- $\leq 10\%$  CV at 20 nL

#### Total System Positional Accuracy

- $\pm 150 \mu\text{m}$  (typically  $\pm 75 \mu\text{m}$ )
- SD  $50 \mu\text{m}$  (typically  $\leq 25 \mu\text{m}$ )

#### Humidity

- $60 \pm 5\%$  RH



The AD3200 is a workstation designed for development and pilot scale production. Its standard 8 BioJet Plus and nine-plate nest configuration makes it ideal for a medium throughput Biosensor laboratory.

The proprietary BioJet Plus technology was developed for high speed dispensing. The technology involves (1) the coupling of a high speed micro solenoid valve with a high resolution syringe pump and (2) synchronization of the dispense system with the movements of the stage. The result is an extremely fast dispensing system, which can deliver volumes non-contact from 20 nL and 4  $\mu\text{L}$  in a single dispensed drop. BioJet Plus can work in either an Aspirate/Dispense or Bulk Dispense modes.

Use BioJet Plus to dispense buffers, antibodies, enzymes or cells. BioJet Plus dispensing is independent of the substrate allowing flexible dispensing to biosensor cards, microtiter plates, glass slides, or membranes.

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## SPECIFICATIONS

### Dimensions (L x W x H)

- 40" x 30" x 13" (each for 2 modules)

### Weight

- 160 lb (72.7 kg)

### Power Requirement

- 110/220 VAC; 50/60 Hz

### Vacuum Requirement

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

## MECHANICAL SPECIFICATIONS

### Dispense Modes

- Aspirate/Dispense (source to destination)
- Continuous (bulk reservoir to destination)

### Dispense Area

- 450 mm x 260 mm

### Valve to Valve Precision

- <10% average CV at 100 nL (8 valves)

### System Precision

- X, Y and Z-axis are  $\pm 25 \mu\text{m}$  (although typically  $< 10 \mu\text{m}$ )
- Manual Nest:  $\pm 250 \mu\text{m}$
- Shuttle Nest:  $\pm 25 \mu\text{m}$

### Z-Axis Height

- Top Plate:  $\pm 127 \mu\text{m}$
- MTP:  $\pm 127 \mu\text{m}$
- Slide:  $\pm 127 \mu\text{m}$

### XY Axis Squareness

- 90.000 deg  $\pm 0.050$  deg

### Nest to Axis Parallelism

- X-Axis:  $\pm 127 \mu\text{m}$
- Y-Axis:  $\pm 127 \mu\text{m}$

### Motion Speed

- X-Axis: 10.0  $\pm 0.5$  mm/sec
- Y-Axis: 10.0  $\pm 0.5$  mm/sec
- Z-Axis: 10.0  $\pm 0.5$  mm/sec

## OPTIONS

- Up to 16 BioJet Plus Pumps
- AirJet Dispensing
- Humidity Chamber & Control
- Substrate Nest
  - Glass Slide, Microtiter Plate, or Membrane
- Vacuum Pump
- In Line Degasser