

# AD6000

## PRODUCTION BIOCHIP SYSTEM

### FEATURES AND BENEFITS

#### Accuracy

- High resolution X-Y-Z overhead gantry for precise motion control
- Programmed parameters guarantee repeatability

#### Multi-Mode Dispensing

- Contact and non-contact dispensing capabilities
- Dispense to slides, microtiter plates, or membranes
- Aspirate and dispense or continuous dispense operations
- Ability to configure both non-contact and contact dispensing

#### Flexible

- Suitable for slide, plate, or membrane materials

### PERFORMANCE

#### Accuracy of Dispense Volume

- $\pm 5\%$  of Target

#### Precision of Dispense Volume

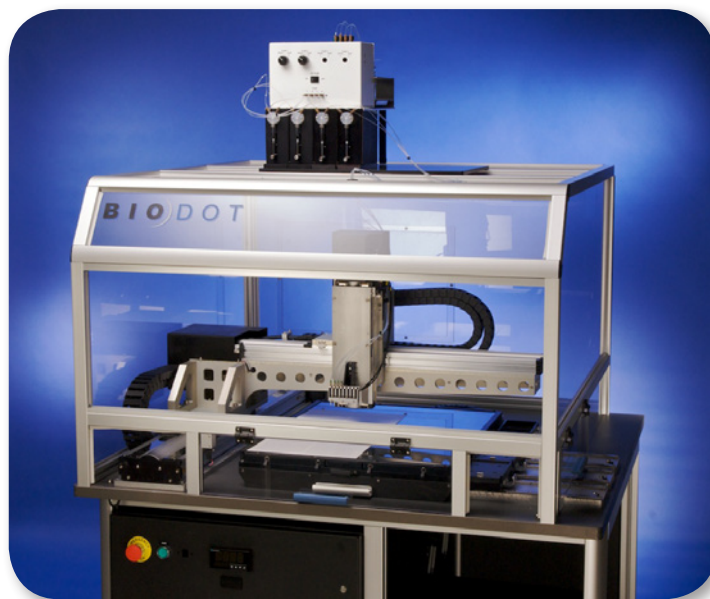
- $\leq 10\%$  CV at 20 nL

#### 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 AD6000 is a workstation designed for high throughput biochip manufacturing. Vision inspection (CCD camera) and barcode reading can be configured on the AD6000 for verification of substrate positioning and reagent spot dispensing.

BioJet Plus proprietary non-contact dispensing technology links high resolution syringe pump liquid displacement with micro-solenoid actuated valve, controlling drop ejections. BioJet Plus synchronizes all parameters to achieve "On-the-Fly" dispensing at very high speeds without compromising drop positional accuracy.

# AD6000 PRODUCTION BIOCHIP SYSTEM

## SPECIFICATIONS

### Dimensions (L x W x H)

- 122 cm x 113 cm x 170 cm (48" x 44.5" x 67")

### Weight

- 800 lb (364 kg)

### Power Requirement

- 110/220 VAC; 50/60 Hz

### Vacuum Requirement

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

## MECHANICAL SPECIFICATIONS

### 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

- $90.000 \text{ deg} \pm 0.050 \text{ deg}$

### Nest to Axis Parallelism

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

### Motion Speed

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

## OPTIONS

- Up to 48 BioJet Plus Pumps
- AirJet Dispensing
- Syringe Dispensing
- FrontLine Dispensing
- Pin Dispensing
- Humidity Control
- Substrate Nest
  - Glass Slide, Microtiter Plate, or Membrane
- Vacuum Pump
- In Line Degasser
- Ultrasonic Wash Station
- Barcode Reader
- Vision Systems
- Dual Shuttle