

. . . **B I O** D O T

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## **BIODOT . . .**

is the leading supplier of systems for the research, development and manufacture of diagnostic tests. Its Mission is to enable, inspire and educate scientists to commercialize their R&D ideas through to manufactured product. Using its core competencies in low volume non-contact and contact dispensing, cutting and lamination equipment, and technology transfer services, BioDot has developed a range of equipment for the research and development, and manufacture of biosensors.

With a commitment to fully understanding our customer requirements, BioDot's personnel have a genuine wish to help you develop your research ideas. Our sales teams are highly trained in providing expert advice in both process and material handling needs. They are backed by strong support from teams of applications scientists and service engineers.

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Bringing Manufacturing  
Strength to the  
Laboratory

# BIOSENSORS

## Overview of biosensor manufacturing process:

A biosensor incorporates a biological sensing element, such as an enzyme, antibody, antigen, nucleic acid etc, which is associated with a physiochemical transducer. When an analyte is presented to the transducer, a chemical reaction takes place that provides an electrical signal that is proportional to the concentration of the analyte.

The process is:

- 1. The base electrode** - Typically the base transducer is made from plastic. A number of elements are screen printed onto the plastic, including:
  - Carbon/graphite mix
  - Conductors
  - Reference electrode
  - Insulators/dielectrics
- 2. The biological sensing element is then applied to the transducer.** Screen printing process is unsuitable for most biological materials, particularly with high temperatures used to cure the printed electrodes. The alternative is to dispense the material. BioDot's range of Aspirate and Dispense (AD series) systems uses its proprietary BioJet™ non-contact technology to deliver "on the fly" dispensing. The drop-on-demand technology allows quantitative dispensing from 20 nL to 4 µL in a given drop.

Often the researcher will need to experiment with a wide range of variables when developing a biosensor. These include:

- Changing drop volume with low coefficient of variables (c.v's)
- Adjusting drop chemistries, often through a laborious trial and error approach.
- Adjusting drop spacing
- Applying multiple analytes

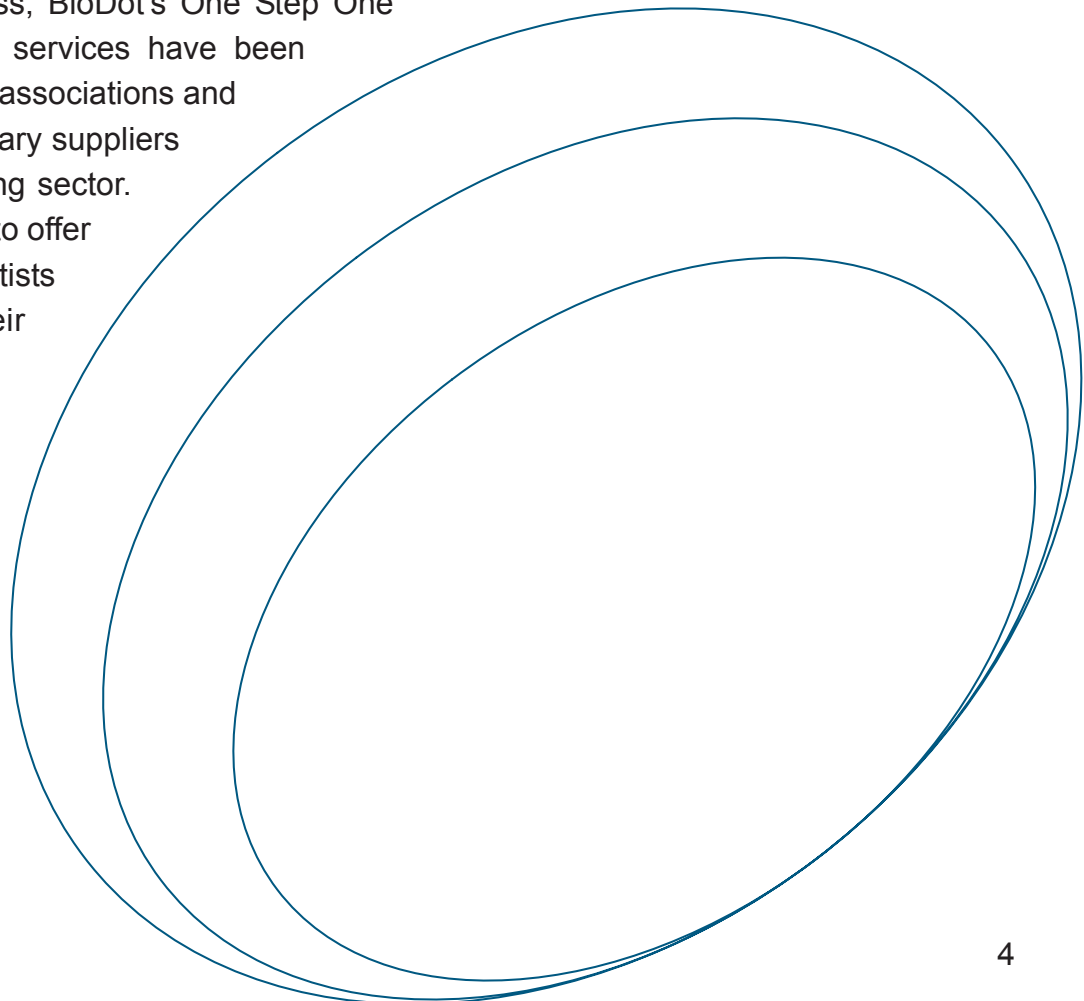
The BioJet Plus system combines high precision dispensing (typically less than 3% at 1 µL, 5% at 100 nL), with accurate XYZ stage movement (+/- 10 µm in X and Y). Its ability to aspirate and dispense, coupled with high level of control of the drop-on-demand volumes, allow combinatorial approaches to sensor development.

From a manufacturing viewpoint, BioDot offers a wide range of platforms with the BioJet Plus technology to allow researchers to scale-up their ideas from bench, through pilot production onto full manufacturing with a minimum of process development issues. On-the-fly dispensing allows extremely high manufacturing output with a typical card of 250 sensors being dispensed in less than 30 seconds.

### **3. The process continues to where the individual sensors need to be cut from the cards.**

BioDot offers both rotary and guillotine cutters with a variety of blade options to suit the researcher's specific material. Furthermore, the cutting systems can incorporate magazine card feed and bottle collection to automate the manufacturing process.

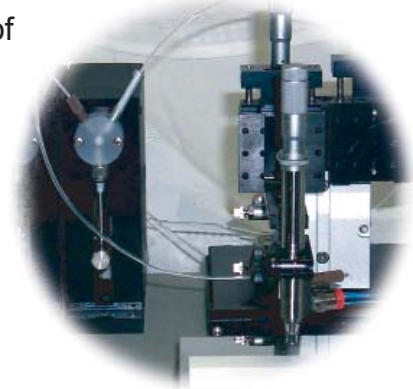
Throughout the entire process, BioDot's One Step One Solution technology transfer services have been developed through long term associations and partnerships with complimentary suppliers to the rapid-test manufacturing sector. These services allow BioDot to offer a "one-stop shop" for scientists wishing to fast track their research and product development programs. BioDot offers these programs either at customer facilities, or from our laboratories in California, and in the United Kingdom.



# DISPENSING TECHNOLOGIES

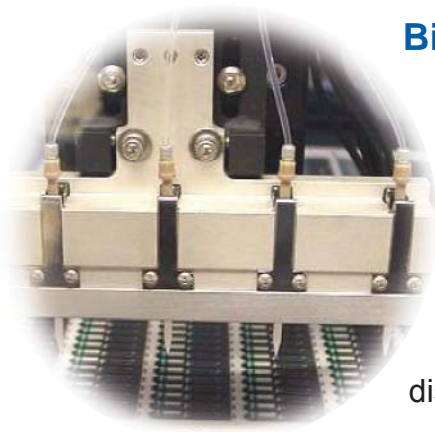
## AirJet Quanti:

AirJet technology is non-contact, quantitative aerosol dispensing. BioDot's proprietary technology couples the AirJet with a high resolution syringe pump to meter exact amounts of reagents. This process produces a precise and easy to use method for dispensing microliter quantities of fluids. Unique design features ensure repeatability and allow for disassembly and cleaning without affecting calibration.



## BioJet Plus:

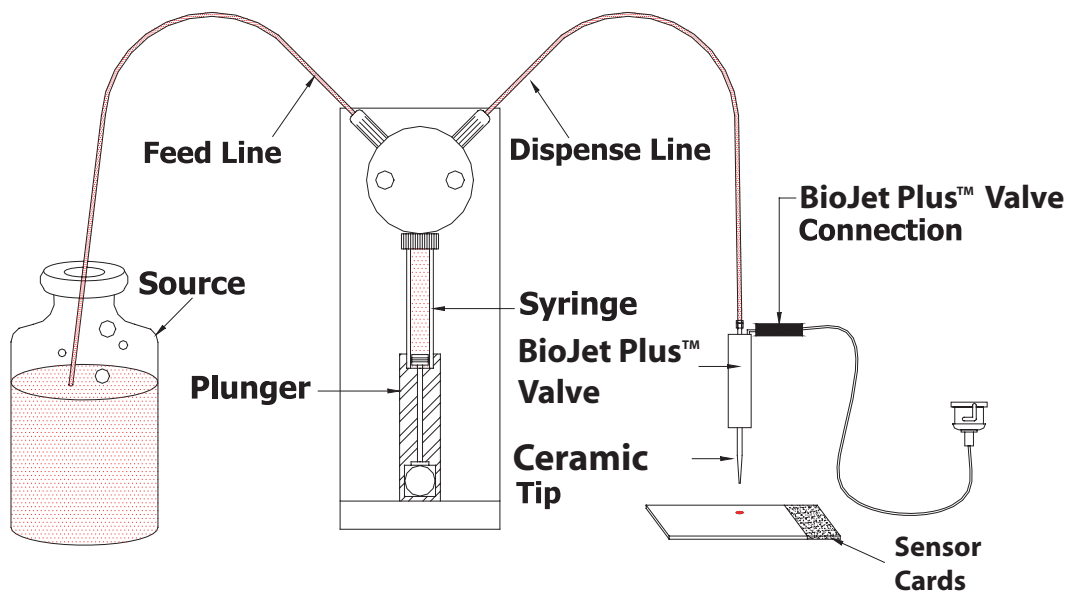
The proprietary BioJet Plus technology was developed for high speed dispensing. The technology involves (1) the coupling of a high speed micro solenoid valve with a high resolution syringe pump and (2) synchronization of the dispense system with the movements of the stage. The result is an extremely fast dispensing system which can deliver volumes from 20 nL to 4  $\mu$ L in a single 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 chips, sheets, microtiter plates, glass slides or membranes. BioJet Plus systems are available from compact R&D systems to complete integrated manufacturing modules.

The patented BioJet Plus technology is able to place 500 nL into 1536 wells in 20 seconds. This revolutionary non-contact dispensing of drops "on the fly" is ideal for the most demanding biosensor applications where high speed and precise low volumes are required.

## BioJet Plus™



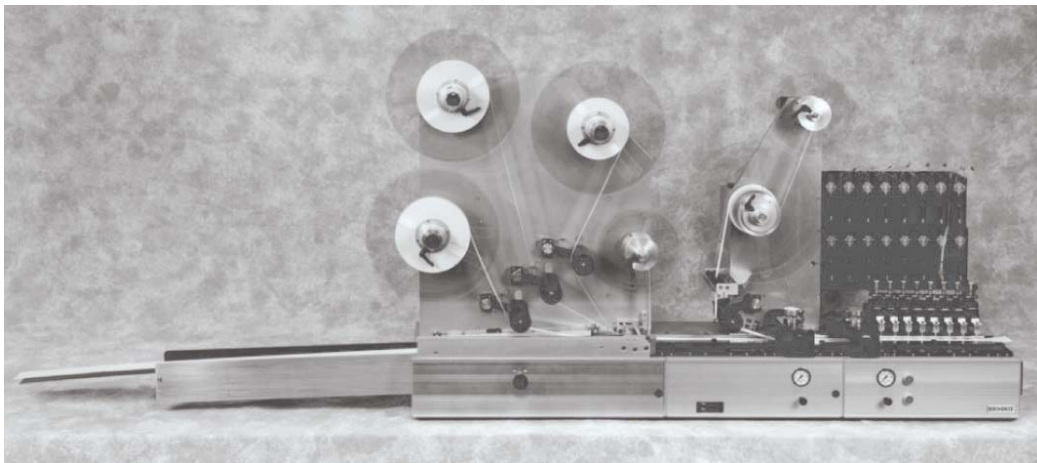
## LAMINATING TECHNOLOGIES

The laminating step can be done in either batch or automated In-Line modes.

**Clamshell Lamination:** For batch mode, a Clamshell or manual approach is designed for the accurate assembly of precut materials into a specific test strip product. Precut materials and plastic backing are brought together to form a laminated test strip. The Clamshell laminator contains top and bottom vacuum nests to hold test strip materials in place for the lamination process. The nests are customized to the customer's design but are easily interchangeable so other designs can be laminated as well. When the nests are brought together accurate alignment of the laminate is achieved.

**In-Line Lamination:** For a continuous lamination process, automated lamination is needed. BioDot has evolved a modular lamination system suitable for test formats comprised of multiple layers joined by adhesives.

Each material is fed from adjustable spindles through guides and under a pressure roller to assure complete adhesion to the support backing. The automated system can also be configured with dispensing or cutting technologies.



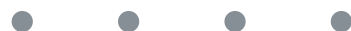
# CUTTING TECHNOLOGIES

## **Guillotine Cutting:**

Guillotine cutting technology is designed to provide robustness, flexibility and precision in both R&D and high volume manufacturing environments.

Titanium nitrate coated, hardened steel blades with high cutting angles guarantee long blade life, while high cut angles coupled with controllable tension friction feed rollers guarantee cut quality and precision. Cut widths and processing speed are easily programmable via the hand-held terminal, so the unit can be used for processing product of different final widths or for cutting of longer sections of roll-stock for use as components. A reel-feed option completes the utility of the system for component cutting, while anti-static and bottle attachments for collection of final product provide added utility for finished part processing.

Simplicity of operation and maintenance, coupled with flexibility and high throughput capability makes this technology ideal for trouble-free operation in biosensor applications.



## Rotary Card Cutting:

The Rotary Card Cutting System is a high speed precision strip cutting instrument used to cut sheet materials into thin strips down to 4 mm width. This module is also designed to cut a wide variety of rapid diagnostic test strip products from master sheets that include laminated and thick film circuit formats. A typical application is the cutting of lateral flow test strips which consist of a laminated card with up to 4 laminated layers. This system is primarily designed for high speed cutting of strips at rates in excess of 500 parts per minute which are typical for manufacturing operations. The module can be set up to collect slit parts in bulk or in bottles.

The Rotary Card Cutting System is designed for a quick exchange of blade set assemblies to modify cut widths. The module can be provided with a magazine feed and/or different collection chute options.

Its easy operation makes it ideal for use in either development or manufacturing environments.

# “HANDS ON” WORKSHOPS

BioDot conducts worldwide workshops and seminars on the technology of manufacturing of Rapid Tests. In these workshops, BioDot and its strategic partners bring together experts in the various disciplines of rapid assay technologies to provide the most up to date information possible.

The workshops are a mixture of lecture and laboratory to present both a “classroom” and “hands on” style.

## Classroom Sessions

- Introduction to Biosensors
- Screen Printing of Base Electrodes
- Enzyme Cocktail and Bio-stabilization Processes
- Materials and Selection Process to Build Circuits
- Sample Handling
- Adhesives and Tapes
- Dispensing Technologies
- Cutting Technologies
- Laminating Technologies
- Reading and Analysis
- Manufacturing Processes





### “Hands On” Sessions

- Screen Printing
- Adding Electrochemistry to Base Electrode
- Laminating Processes
- Cutting Processes
- Reading and Analysis

### Practical Considerations of Development & Manufacture of Biosensors

Location	Date
San Diego, CA	Feb. 2005
Boston, MA	April 2005
Florence, IT	May 2005
Kenilworth, UK	Feb. 2006
Toronto, CA	May 2006
Kenilworth, UK	Feb. 2007

### Emerging Rapid Assays Technologies

Location	Date
San Diego	Oct. 2005
Taipei, TW	Nov. 2005
Tokyo, JP	Nov. 2005
Salt Lake City, UT	Mar. 2006
Beijing, CN	Apr. 2006
Shanghai, CN	Apr. 2006
Dublin, IE	Apr. 2006
Chicago, IL	Jul. 2006
Amsterdam, NL	Oct. 2006
San Diego, CA	Oct. 2006
Taipei, TW	Oct. 2006

# PRODUCTS & OPTIONS . . .

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## Dispensing Systems

# AD1500

## Research & Development System



### PRODUCT DESCRIPTION

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 a precise, non-contact nanoliter delivery 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

- 1 Channel BioJet Plus Non Contact Dispenser
- Aspirate and Dispense
- Continuous Dispense

### PERFORMANCE

X-Y Table Speed

175 mm/second

Minimum Aspirate Volume

1  $\mu$ L

Minimum Dispense Volume

20 nL

Dynamic Dispense Range

20 nL - 250  $\mu$ L

Positioning Performance

Stepper Motor Resolution = 1.3  $\mu$ m

Repeatability <  $\pm$  10  $\mu$ m

(95% Confidence)

## **SPECIFICATIONS**

DIMENSIONS (L x W x H)

32" x 24" x 24"

WEIGHT

85 lbs

POWER REQUIREMENT

110/220 VAC; 50/60 Hz

VACUUM REQUIREMENT

Vacuum Wash Station: 2.1 CFM (~60 CL)



AD1500 shown with a Glucose  
Biosensor Card

## **DISPENSING SPECIFICATIONS**

DISPENSE MODES

Aspirate/Dispense (source to destination)

Continuous (bulk reservoir to destination)

DISPENSE TO DISPENSE PRECISION

<10% CV at 50 nL, <7% CV at 100 nL; <4% CV at 500 nL

DISPENSE ACCURACY

±7% at 50 nL, ±5% at 100 nL

DISPENSE SPEED

< 10 seconds for a complete dispense to a 12 position Biosensor card  
(shown above)

## **OPTIONS**

UP TO 4 BIOJET PLUS PUMPS

HUMIDITY CONTROL

SUBSTRATE NEST

Glass Slide, Microtiter Plate, or Membrane

VACUUM PUMP

HELIUM DEGASSER

# AD3200

## Development to Pilot Production System



### PRODUCT DESCRIPTION

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 to 4  $\mu$ 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.

### FEATURES AND BENEFITS

#### SPEED

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

#### ACCURACY

- High resolution X-Y-Z positioning

#### MULTI-MODE DISPENSING

- Aspirate and Dispense
- Continuous Dispense
- Multi-reagent Priming

#### FLEXIBLE

- Suitable for High Speed Biosensors
- Configured with 9 Position Microtiter Nest or 50 Glass Slides

### PERFORMANCE

X-Y Table Speed

175 mm/second

Minimum Aspirate Volume

1  $\mu$ L

Minimum Dispense Volume

20 nL

Dynamic Dispense Range

20 nL - 250  $\mu$ L

Positioning Performance

Stepper Motor Resolution = 1.3  $\mu$ m

Repeatability <  $\pm$  10  $\mu$ m

(95% Confidence)



## **SPECIFICATIONS**

DIMENSIONS (L x W x H)

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

WEIGHT

160 lbs (total)

POWER REQUIREMENT

110/220 VAC; 50/60 Hz

VACUUM REQUIREMENT

Vacuum Wash Station: 2.1 CFM (~60 CL)

## **DISPENSING SPECIFICATIONS**

DISPENSE MODES

Aspirate/Dispense (source to destination)

Continuous (bulk reservoir to destination)

DISPENSE TO DISPENSE PRECISION

<10% CV at 50 nL, <7% CV at 100 nL; <4% CV at 500 nL

VALVE TO VALVE PRECISION

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

DISPENSE ACCURACY

±7% at 50 nL, ±5% at 100 nL

DISPENSE SPEED

20 seconds to fill a 1536 well plate with 500 nL/well (8 channels)

*Note: All specifications are based on total experiment cv's, which include drop to drop plate filling (where applicable) and plate reader cv's.*

## **OPTIONS**

UP TO 16 BIOJET PLUS PUMPS

AIRJET DISPENSING

HUMIDITY CHAMBER & CONTROL

SUBSTRATE NEST

Glass Slide, Microtiter Plate, or Membrane

VACUUM PUMP

HELIUM DEGASSER

# AD5000

## Production System



### PRODUCT DESCRIPTION

The AD5000 is a workstation designed for high throughput biosensor manufacturing. Optical (wet/dry sensors) and Vision Inspection (CCD camera) systems can be configured on the AD5000 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.

### FEATURES AND BENEFITS

#### SPEED

- “On the Fly” dispensing
- Non-Contact mode reduces wash time

#### ACCURACY

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

#### MULTI-MODE DISPENSING

- Aspirate and Dispense
- Continuous Dispense
- Multi-reagent Priming

#### FLEXIBLE

- Suitable for Sheet or Chip Format Sensors
- Optional Shuttle Carrier for Continuous Operation

### PERFORMANCE

X-Y Table Speed

250 mm/second

Minimum Aspirate Volume

1  $\mu$ L

Minimum Dispense Volume

20 nL

Dynamic Dispense Range

20 nL - 250  $\mu$ L

Positioning Performance

Stepper Motor Resolution = 1.3  $\mu$ m

Repeatability <  $\pm$  10  $\mu$ m

(95% Confidence)

## **SPECIFICATIONS**

DIMENSIONS (L x W x H)

40" x 42" x 68"

WEIGHT

1000 lbs

POWER REQUIREMENT

110/220 VAC; 50/60 Hz

VACUUM REQUIREMENT

Vacuum Wash Station: 2.1 CFM (~60 CL)

## **DISPENSING SPECIFICATIONS**

DISPENSE MODES

Aspirate/Dispense (source to destination)

Continuous (bulk reservoir to destination)

DISPENSE TO DISPENSE PRECISION

<10% CV at 50 nL, <7% CV at 100 nL; <4% CV at 500 nL

VALVE TO VALVE PRECISION

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

DISPENSE ACCURACY

±7% at 50 nL, ±5% at 100 nL

DISPENSE SPEED

20 seconds to fill a 1536 well plate with 500 nL/well (8 channels)

*Note: All specifications are based on total experiment cv.s, which include drop to drop plate filling (where applicable) and plate reader cv.s.*

## **OPTIONS**

UP TO 48 BIOJET PLUS PUMPS

AIRJET DISPENSING

HUMIDITY CONTROL

SUBSTRATE NEST

Glass Slide, Microtiter Plate, or Membrane

VACUUM PUMP

HELIUM DEGASSER

ULTRASONIC WASH STATION

BARCODE READER

VISION INSPECTION

OPTICAL SENSORS

## Ordering Information

<p><b>AD1500</b></p> <p>1-4 BioJet Plus Channels 2 Microtiter Plate Positions <b>or</b> 7 Slide Nest <b>or</b> Vacuum Magnetic Hold-down Nest Integrated Wash/Vacuum Station Vacuum Pump Computer Controller</p>	<p><b>Nest Options:</b> Plate Nest: 6001-A105 Slide Nest: 6001-A107 Vacuum Nest: 6001-A106</p> <p><b>Humidity Control:</b> 115 V: 6001-A110-01 230 V: 6001-A110-02</p>
<p><b>AD3200</b></p> <p>1-16 BioJet Plus Channels 9 Microtiter Plate Positions <b>or</b> 50 Slide Nest <b>or</b> Vacuum Magnetic Hold-down Nest Integrated Wash/Vacuum Station Vacuum Pump Computer Controller</p>	<p><b>Nest Options:</b> Plate Nest: 6022-A063 Slide Nest: 6022-A060 Vacuum Nest: 6022-A064</p> <p><b>Humidity Control:</b> 115 V: HC3200-01 230 V: HC3200-02</p>
<p><b>AD5000</b></p> <p>1-48 BioJet Plus Channels 20 Microtiter Plate Positions <b>or</b> 100 Slide Nest <b>or</b> Vacuum Magnetic Hold-down Nest Integrated Wash/Vacuum Station Vacuum Pump(s) Computer Controller Humidity Chamber &amp; Controller</p>	<p><b>Nest Options:</b> Plate Nest: 6021-A011 Slide Nest: 6021-A012 Vacuum Nest: 6021-A015</p>

# PRODUCTS & OPTIONS

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## Laminating Systems

# LM5000

## Batch Laminating System



### PRODUCT DESCRIPTION

The LM5000, also known as the Clamshell, is a manually operated module designed for the accurate assembly of precut materials into a specific test strip product. Precut membrane, absorbent material, conjugate pads and plastic backing are brought together to form a laminated lateral flow test strip. The Clamshell laminator offers maximum productivity for a manually operated system.

The Clamshell Laminator contains top and bottom vacuum nests to hold test strip materials in place for the lamination process. The nests are customized to the customer's design but are easily interchangeable so other designs can be laminated. When the nests are brought together accurate alignment of the laminate is achieved.

### FEATURES AND BENEFITS

#### PRECISION ALIGNMENT

- Material Aligned with Dowel pins and a Custom Design Nest

#### CONVENIENT

- All Materials are Laminated at Once
- Does Not Require Scored Plastic Backing
- Versatile for R&D and Manufacturing Needs

#### SIMPLE

- Easy Operation
- High Throughput

## **SPECIFICATIONS**

### **DIMENSIONS (L x W x H)**

Standard: 16" x 12" x 3"

500 mm Nest: 24" x 12" x 3"

### **WEIGHT**

27 lbs

### **VACUUM REQUIREMENT**

25 CRM @ 18 in Hg

## **OPTIONS**

ADDITIONAL CUSTOM NESTS

VACUUM PUMP

# LM6000

## In-Line Laminating System



### PRODUCT DESCRIPTION

The LM6000 provides continuous lamination of materials onto a plastic support backing with adhesive.

The Automated Laminating system is a modular design to accommodate various numbers and types of materials. Each material is fed from adjustable spindles through guides and under a pressure roller to assure complete adhesion to the plastic support backing. The system provides ability to individually remove kiss cut adhesive liners for individual laminate materials. For fragile materials alignment is controlled through automated tracking. After lamination the materials can either be cut and stacked in a collection chute or rewound onto a take-up reel.

Other process steps such as dispensing, slitting, punching and inspection can also be integrated into the system. For materials that are not available or cannot be processed in roll formats a magazine feeding system has been designed.

The system can also be partially or completely enclosed for control of the manufacturing environment.

### FEATURES AND BENEFITS

#### PRECISION AND ACCURACY

- Sensor and Guides accurately align material during lamination.

#### FLEXIBILITY

- Various numbers and types of materials can be used.

#### USER-FRIENDLY

- Microprocessor control with the ease of keypad entry.

### PERFORMANCE

Linear Web Speed:

Up to 4"/sec (100 mm/sec)

Lamination Roller Pressure:

0-40 PSIG

Lamination Tolerance:

<+/-0.01"(0.25mm)

Liner Take-up Reel:

Max OD 8.0" (200 mm)

## SPECIFICATIONS

### DIMENSIONS (L X W X H)

9' x 22' x 40' (configuration dependent)

### WEIGHT

~1047 lbs (configuration dependent)

### POWER REQUIREMENT

110/220 VAC; 50/60 Hz (for all models)

### AIR REQUIREMENT

Air Supply: 0 - 90 psi (when AirJets & Capstan are configured)

## DISPENSING SPECIFICATIONS

### DISPENSERS

Up to 8 in any combination

### MEMBRANE WIDTH

Minimum: 0.20" (5 mm) \*

Maximum: 3.85" (98 mm)

\* Material dependent

### LINEAR WEB SPEED

Up to 4"/sec (100 mm/sec)

### WEB TRACKING

± 0.25 mm on take-up roll

± 0.25 mm on dispense tracking



Laminating System configured with a Guillotine Cutting Module

## MATERIALS SPECIFICATIONS

### PLASTIC BACKING:

Width up to 100 mm

Reel Core 3.0" (35 mm)

Reel OD 18.0" (460 mm) max

### LAMINATION WEBS: 13-100 MM WIDTH

Reel Core: 3.0" (75 mm)

Reel OD: 12" or 16" max

## OPTIONS

### DISPENSE MODES

FrontLine Quanti

AirJet Quanti

BioJet Quanti

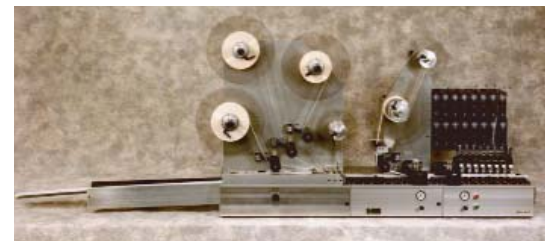
### CUTTING MODULES

### SLITTING MODULES

### INSPECTION STATIONS

### PUNCHING MODULES

### ENVIRONMENTAL ENCLOSURES



Laminating System configured with a Dispensing Module

## Ordering Information

<p><b>LM5000</b></p> <p>300 mm Nest or 500 mm Nest</p>	<p><b>Options:</b></p> <p><b>Additional Nests:</b> LM5000 N</p>
<p><b>LM6000</b></p> <p>Inline Continuous Laminator Modular Design Handheld Controller</p>	<p><b>Options:</b></p> <p><b>Reel Feed:</b> 6033-A022</p> <p><b>Material Feed 1:</b> 6033-A004</p> <p><b>Material Feed 2:</b> 6033-A005</p> <p><b>Material Feed 3:</b> 6033-A006</p> <p><b>Membrane Feed:</b> 6033-A003</p> <p><b>Capstan:</b> 6033-A001</p> <p><b>Inspect &amp; Mark:</b> 6033-A012</p> <p><b>Cutter:</b> 6033-A008</p> <p><b>Dancer:</b> 6033-A020-01</p> <p><b>Magazine Collection:</b> 6033-A009</p> <p><b>7 ft. Chassis:</b> 6007-A020-01</p>

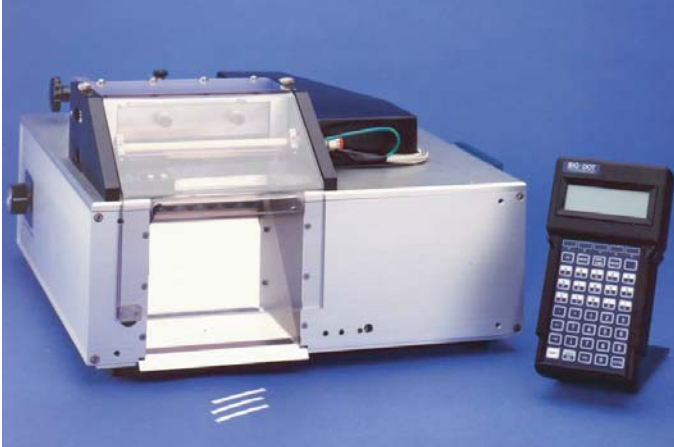
# PRODUCTS & OPTIONS . . . . .

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## Cutting Systems

# CM4000

## Guillotine Cutting System



### PRODUCT DESCRIPTION

The Guillotine Cutting module is a resilient, fully automatic system. The standard hold-down bar provides high quality cut precision. Additionally, two set screws allow the blade to be easily removed and cleaned without recalibration. Various blade angles are available to optimize cuts.

Cut widths and quantities are easily programmed through its Handheld terminal. Programs may be stored for system reference in either development or manufacturing environments.

### FEATURES AND BENEFITS

#### COST EFFICIENT

- Friction Fed Mini Rollers Eliminate Unnecessary Waste of the Master Strip

#### USER FRIENDLY

- Simple Handheld Operation
- Safety Interlock Device
- Easy Blade Cleaning

#### FLEXIBLE

- Adjustable Material Guides
- Various Blade Speeds

### PERFORMANCE

#### Cut Accuracy

$\pm 0.25$  mm (or 5% cut length)

#### Cutting Speed

240 Maximum Cuts/minute \*

#### Cut Width

Minimum: 1 mm

Maximum: Infinite

#### Material Handling

Individual Components

Assembled Devices

\* Faster cycle time is operator dependent

## **SPECIFICATIONS**

DIMENSIONS (L x W x H)

36 cm x 43 cm x 25 cm

WEIGHT

24 Kg

POWER REQUIREMENTS

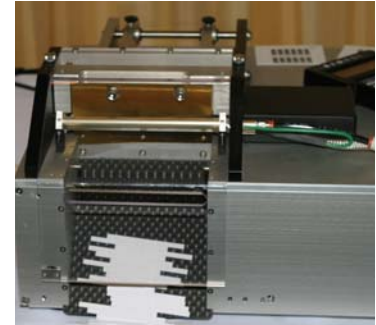
110/220 VAC; 50/60 Hz

0-90 psi Air Pressure (for anti-static option)

MATERIAL REQUIREMENTS

Standard Strip Width: <10 cm

Optional Strip Width: <20 cm



CM4000 shown with cut  
sensor cards

## **OPERATION**

MANUAL CARD FEED

SAFETY INTERLOCK

## **OPTIONS**

BLADE ASSEMBLIES

30, 45, 60

Various compound angles

LEADING EDGE SENSOR

REEL FEED WITH DANCER

REEL FEED WITHOUT DANCER

ACCEPT/REJECT CHUTE

MAGAZINE FEED

ANTI STATIC

# RCC4000

## Rotary Card Cutter



### PRODUCT DESCRIPTION

The Rotary Card Cutter is a compact system designed for fast cutting of paper, assembled cards, or other diagnostic materials. The standard configuration is with 5 mm blades, however other optional blade assemblies are available.

The Rotary Card Cutter can be configured with various types of collection chutes. Whether a bottle fill or removable collection chute, the Rotary Card Cutter can be modified for most cutting applications.

Its easy operation makes it ideal for use in either development or manufacturing environments.

### FEATURES AND BENEFITS

#### THROUGHPUT

- Up to 500 Parts/minute

#### EASE OF USE

- Touch Button Control
- Easy Blade Replacement
- Simple Cleaning Operation

#### FLEXIBLE

- Suitable for High Speed Cutting
- Optional Collection Chutes

### PERFORMANCE

Cut Precision  
0.1 mm

Cutting Speed  
7 sec. cycle time \*

Material Handling  
Individual Components  
Assembled Devices

\* Faster cycle time is operator dependent

## **SPECIFICATIONS**

### **DIMENSIONS (L x W x H)**

67.69 cm x 34.51 cm x 39.09 cm

### **POWER REQUIREMENTS**

110/220 VAC; 50/60 Hz

0-90 psi Air Pressure

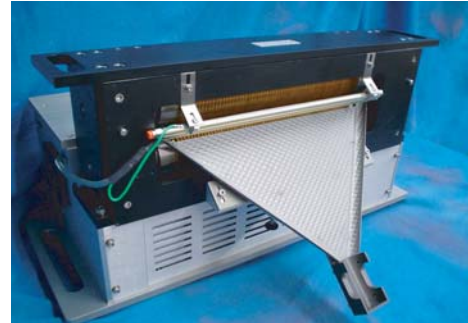
(for anti-static option)

### **MATERIAL REQUIREMENTS**

Maximum Source Width: 300 mm

Minimum Cut Width: 3 mm

Maximum Card Thickness: 2 mm



Rotary Card Cutter shown with an optional Single Bottle Fill

## **OPERATION**

MANUAL CARD FEED

SAFETY INTERLOCK

## **OPTIONS**

BLADE ASSEMBLIES

5 mm - 6 mm

Various angles

SINGLE or DUAL BOTTLE FILL

SINGLE or DUAL COLLECTION CHUTE

AUTOMATIC REJECTION OF END PIECES

MAGAZINE FEED

ANTI STATIC

## Ordering Information

<p><b>CM4000</b></p> <p>Guillotine Cutting Module 1 Titanium Nitrate Coated Blade Handheld Controller</p>	<p><b>Blade Options:</b></p> <p>30 Blade: 6008-0021-01 45 Blade: 6008-0021-02 60 Blade: 6008-0021-03</p> <p><b>Leading Edge Sensor:</b> 6008-A006</p> <p><b>Anti Static: 6002-A007</b> 115 V: 6002-A007-01 230 V: 6002-A007-02</p>
<p><b>RCC4000</b></p> <p>Rotary Card Cutting Module 1 Titanium Nitrate Coated Blade Set</p>	<p><b>Blade Set Options:</b></p> <p>5 mm: 6013-A101-01 6 mm: 6013-A101-03 7 mm: 6013-A101-04</p> <p><b>Collection Trays:</b></p> <p>Removable Inspection Tray: 6013-A114 Fixed Inspection Tray: 6013-A104 Pivoting Inspection Tray: 6013-A112 Dual Bottle Tray: 6013-A113</p>

# **P**RODUCTS & OPTIONS

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**“Hands On”  
Workshops**

## Ordering Information

The “Hands On” workshops are offered throughout the years at various geographic locations. Due to the “Hands On” format, attendance is limited to a set number of delegates.

Location	Date
Kenilworth, UK	Feb. 2006
Salt Lake City, UT	Mar. 2006
Beijing, CN	Apr. 2006
Shanghai, CN	Apr. 2006
Dublin, IE	Apr. 2006
Toronto, CA	May 2006
Chicago, IL	Jul. 2006
Amsterdam, NL	Oct. 2006
San Diego, CA	Oct. 2006
Taipei, TW	Oct. 2006
Kenilworth, UK	Feb. 2007



To register for the next workshop, log on to [www.biodot.com](http://www.biodot.com) and download the registration form.