

BIOMEK 4000

# DESIGNED TO HELP YOU MOVE

FROM MANUAL WORKFLOWS TO YOUR FIRST AUTOMATION... AND BEYOND

INTUITIVE SOFTWARE. MAXIMUM VERSATILITY.



DISCOVERY  
*in motion.*

# YOU TALKED. **WE LISTENED.**

## Moving to most automation from a manual method can be challenging and a difficult decision to make.

Your input and our experience led to the engineering of a liquid handling system that you can use to easily and effectively automate your manual methods.

From your input, some recurring themes appeared. And from those themes emerged a common foundation—for hardware, software, accessories, consumables and support—that's built on:

- **Simplification**, so you can focus more on science and less on managing your system
- **Efficiency**, to help you optimize productivity, increase walkaway time and learn more—faster
- **Adaptability**, so the technology you invest in can grow with you, not grow obsolete
- **Reliability and support**, to maximize instrument uptime so your research is always moving forward

On these customer-driven foundations, we built the Biomek 4000.

### Designed for the demands of today. And tomorrow.

As our world becomes a faster-paced environment, businesses from banking to manufacturing have turned to automation to **reduce costs** and **create efficiencies** in their daily operations. Life Sciences is no exception—the pressure to **streamline workflow** and automate laboratories is greater than ever.

The Biomek 4000 Laboratory Automated Workstation is truly intelligent automation. From its enhanced work surface with interchangeable tools to its flexible, icon-driven software, the Biomek 4000 system adapts to your ever-changing research needs. It revolutionizes everything, from the speed at which you can conduct your research to the ease with which you can complete it—all to move your discovery process forward at an incredible pace.

# ADVANCING SCIENCE BY ACCELERATING A WIDE RANGE OF APPLICATIONS.

## Moving to automation does not mean you have to limit your choice of applications.

As one of the first companies to automate liquid handling, Beckman Coulter Life Sciences has 30+ years of experience developing automated applications for a wide variety of laboratory methods. Virtually any lab focused on genomics, drug discovery, cell biology, proteomics, forensics and related research can run their methods on the Biomek 4000.

### A sample of genomics application areas that can benefit from Biomek 4000 automation:\*

- **Next-generation sequencing sample prep**
  - Whole genome sequencing
  - Transcriptome sequencing
  - Target/exome capture
  - Amplicon sequencing
  - Cancer panels
  - HLA typing
- **Microarray sample prep**
  - Genotyping
  - Gene expression
- **Nucleic acid sample prep**
  - DNA/RNA isolation
  - DNA/RNA clean-up
  - DNA size selection
  - Plasmid prep
- **Sanger sequencing**
  - Big dye clean-up
- **qPCR/PCR setup**

### A sample of other application areas that can benefit from Biomek 4000 automation:\*

- **Drug Discovery**
  - Analytical sample prep
  - ELISA methods
  - Transfection
  - Cell culture
  - Protein Characterization
  - Biological bioanalysis
  - Proteomics, lipidomics metabolics
  - Low throughput Screening
- **Forensics**
  - Sample prep
  - ELISA methods
- **Agriculture**
  - Sample prep
  - ELISA methods
  - Cell culture
- **Environmental**
  - Sample prep
  - ELISA methods

Our commitment is to provide the innovative technology you need to automate your lab—by simplifying your workflows, improving efficiency, increasing walk-away time and decreasing manually induced errors.

\* Not intended or validated for use in the diagnosis of disease or other conditions.

# EXPLORE THE INDUSTRY-LEADING **BIOMEK 4000 AUTOMATED WORKSTATION**

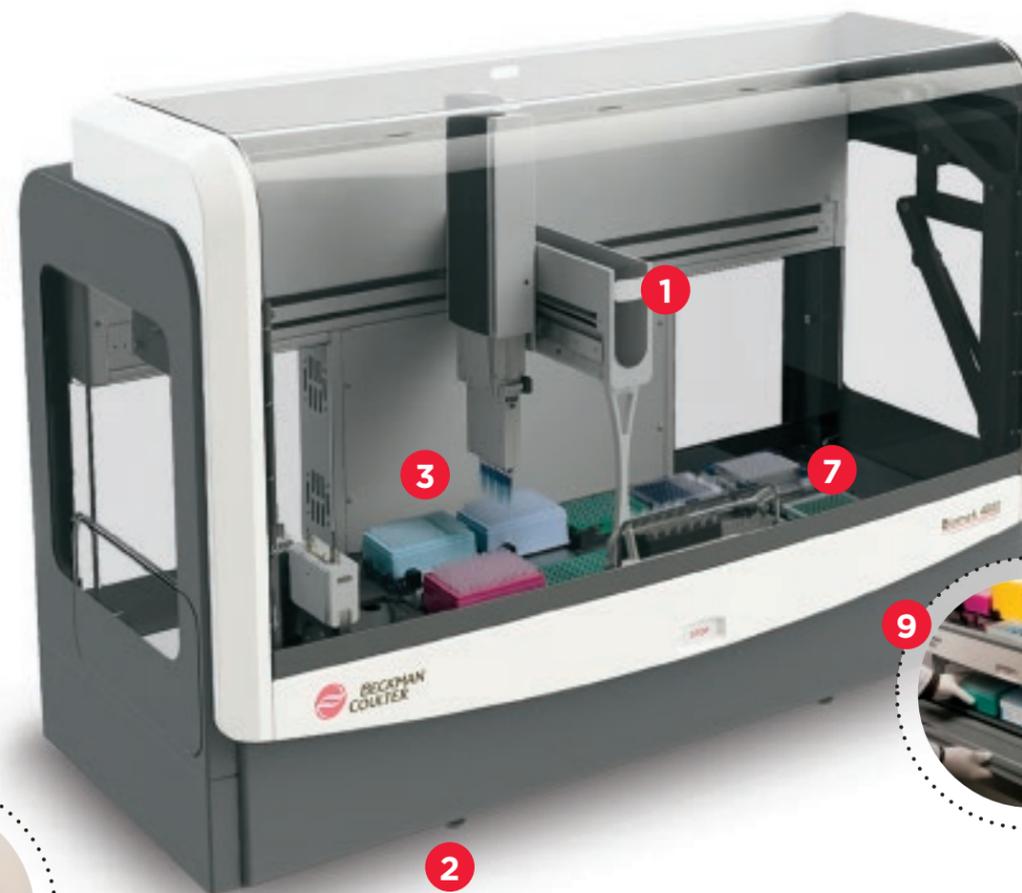
Representing the best of what has made Biomek workstations an industry leader—combined with enhancements suggested by customers like you—the Biomek 4000 Automated Workstation has been designed to optimize dependability and walkaway time for low- to medium-throughput labs.

## Simplicity so you can focus more on science

- 1 A bright, multi-color status light alerts you to the instrument's current mode, even from across the room.
- 2 The Biomek 4000's small footprint (122.5 cm (W) x 50.5 cm (D) x 67.5 cm (H)) fits comfortably into a laminar flow hood or smartly on your benchtop with its available enclosure.\*

## Efficiency to help deliver higher productivity

- 3 Biomek 4000 has a dynamic volume pipetting range of 1 to 1000  $\mu$ L for precise and robust pipetting, available in both single- and 8-channel.
- 4 Unique gripper tool design optimizes access to deck space, enabling more efficient workflows.
- 5 Improved wash tool performance allows for dispensing against the wall of a well, tip touches, bulk dispense and per liquid volume calibration to maximize the efficiency of your assay.
- 6 Fully automated deck framing tool (AccuFrame) provides increased accuracy using three-dimensional positioning without the hassles of traditional software programming.



## Adaptable to extend scale and reach

- 7 Twelve deck positions with four off-deck mounts that allow for the integration of thermal cycling, shaking, tool rack and waste disposal to maximize deck positions for critical labware while providing for a more efficient workflow and less hands-on time.
- 8 System can be customized for larger integrated applications by Beckman Coulter's Integrated Solutions team of experts.
- 9 Storage provided beneath the deck frees up even more precious lab space and keeps all your tools close at hand.

## Trusted reliability and support to reduce downtime

- 10 The BeckmanConnect remote connectivity platform offers a secure remote connection linking you to our team of hardware and application experts who, side-by-side, help to troubleshoot and resolve your instrument issue with direct access to your workstation.
- 11 Field service team with a service reputation unmatched in the industry is ISO 9001 certified and trained by our experienced technical support team.



\* Fits in laminar flow hood without optional enclosure.

# INDUSTRY-LEADING SOFTWARE FOR THE BIOMEK 4000 THAT **DELIVERS WORKFLOW INTELLIGENCE AT EVERY STEP**

At the heart of every Biomek is its software. Biomek software provides users with the confidence to know their samples are being treated consistently every run, and with every liquid transfer the data from your samples is being stored. The latest version of our Biomek 4000 software **maximizes ROI** by giving you unprecedented control over your liquid handler.

- Define new deck layouts and labware placement for fast and easy method creation.
- Import/export methods.
- Toggle between applications such as plate replication, genomic DNA purification, and mass spec sample prep with ease.
- Vary runs without programming.
- Quickly select pipetting techniques, liquid types and deck layouts from drop-down menus.
- Validate new method setup and search for logic errors with the Method Validation feature.
- Achieve more with accurate run time, deck optimization, and accelerated method design features.
- Scan plates and import sample IDs based on plate barcodes.
- Track sample IDs throughout the run for maximum accuracy.
- “Lock down” software access to protect validated methods from being altered through the use of electronic signatures.
- Enable 21 CFR Part 11 compliance in regulated environments.

## Focus on the analysis, not on being an IT expert.

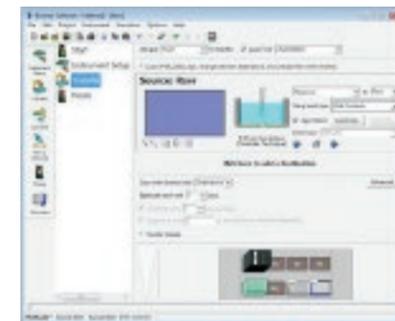
In a recent survey,\*\* **73% of current Biomek users indicated they never have to consult their IT department** to pull reports from their Biomek. While the software is sophisticated and robust, pulling reports for analysis is quite simple. A simple graphical user interface allows you to obtain first-rate results without the need to learn automation language.

Whether you are a first-time automation user or a seasoned professional, the intuitive simplicity and power of Biomek software make it easy to set up, edit and run even the most demanding applications.

Pre-written methods for common tasks, such as NGS sample prep, HLA sample prep, PCR setup, cell staining and LC-MS/MS sample prep ensure successful operation from the beginning.

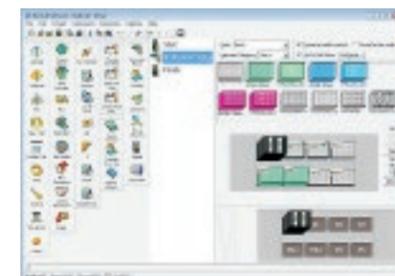
Biomek software enables laboratory compliance. Access to the system can be controlled and monitored to allow multiple user accounts, grant permission, track revisions and system usage, and enable electronic signatures.

\*\* TechValidate survey of Biomek customers.



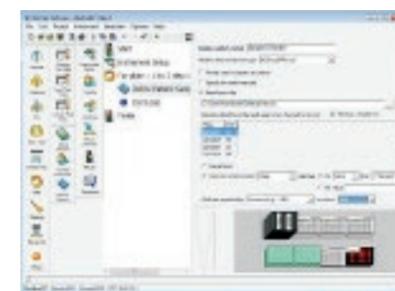
## Method Authoring

- Sets the standard for method authoring with a point-and-click Interface; no advanced software expertise required.
- Biomek 3D simulator saves time and consumables through its visual editor, which demonstrates your method in real time as you create it.
- Provides full control over movement of the tip in the well to match even the most complex manual pipetting motions.



## Biomek Method Launcher

- Improves accuracy and reduces errors by giving operators step-by-step guidance for placing labware on the deck.
- Makes it easy for lab technicians to launch/monitor methods by providing a simple point-and-click user interface.
- Enables remote instrument monitoring using any device with Google Chrome browser.



## Data Management

- Captures the data you need to validate your process and help ensure reproducible results.
- Integrates with LIMS systems to import work orders and export data.
- Seamlessly transfers data between methods so you can easily generate run, labware and sample reports at any time.
- Data-driven methods select appropriate actions during execution based on sample data generated in real time.

Additional software solutions include:

## DART Software

DART\*\*\* (Data Acquisition and Reporting Tool) is a software package that gathers data and synthesizes runtime information from Biomek log files to capture each manipulation of the sample during the course of the method. DART allows you to:

- Browse live and historical run data from any device using a networked internet browser.
- Reduce manual data integration.
- Leverage historical data on labware for enhanced method programming.
- Seamlessly port data between Biomek methods and individual liquid handlers.
- Generate data reports via MS Excel table and pivot views, and SQL views.
- Integrate with your Laboratory Information Management System.



\*\*\* DART software does not support 21 CFR Part 11 compliance



## SYSTEM-SPECIFIC CONFIGURATIONS FOR BIOMEK 4000 AUTOMATED WORKSTATION



Part No.	Product Description
B42929	Biomek 4000 Workstation for NGS
B22637	Biomek 4000 Workstation for PCR Set-up
B22638	Biomek 4000 Workstation for PCR Clean-up
B22639	Biomek 4000 Workstation for Cell Staining
B22640	Biomek 4000 Workstation for Genomics
B22867	Biomek 4000 Workstation for Liquid Handling
B37830	Biomek 4000 Workstation for CE SDS Sample Prep
B37892	Biomek 4000 Workstation for AC Prep
C23350	Biomek 4000 Workstation for HLA Prep



### BIOMEK PIPETTE TIPS: THE MOST CRITICAL POINT OF CONTACT

All Biomek workstations are optimized to perform as complete systems. That's why only Biomek pipette tips from Beckman Coulter Life Sciences are validated and approved for use with our systems.

To make setup, method writing, and operations easy and efficient, Biomek software already includes **point-and-click options** for Biomek tip definition, pipetting techniques and templates, and color-coded Biomek tip racks.

Biomek pipette tips from Beckman Coulter are certified to be:<sup>†</sup>

- **RNase- and DNase-free**  
Ensures high-quality nucleic acid purification and reliable testing results.
- **DNA-free (human & mouse)/PCR inhibition**  
Confirms the absence of both human and mouse DNA contaminants that contribute to erroneous results and interfere with PCR.
- **Pyrogen-free**  
Addresses pyrogen-sensitive applications, such as cell transformations and preparative protocols that use extracted biological material for in vivo experimentation.
- **Trace metal-free**  
Testing of the base, polypropylene tip resin reduces interferences due to chelation and denaturation.



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