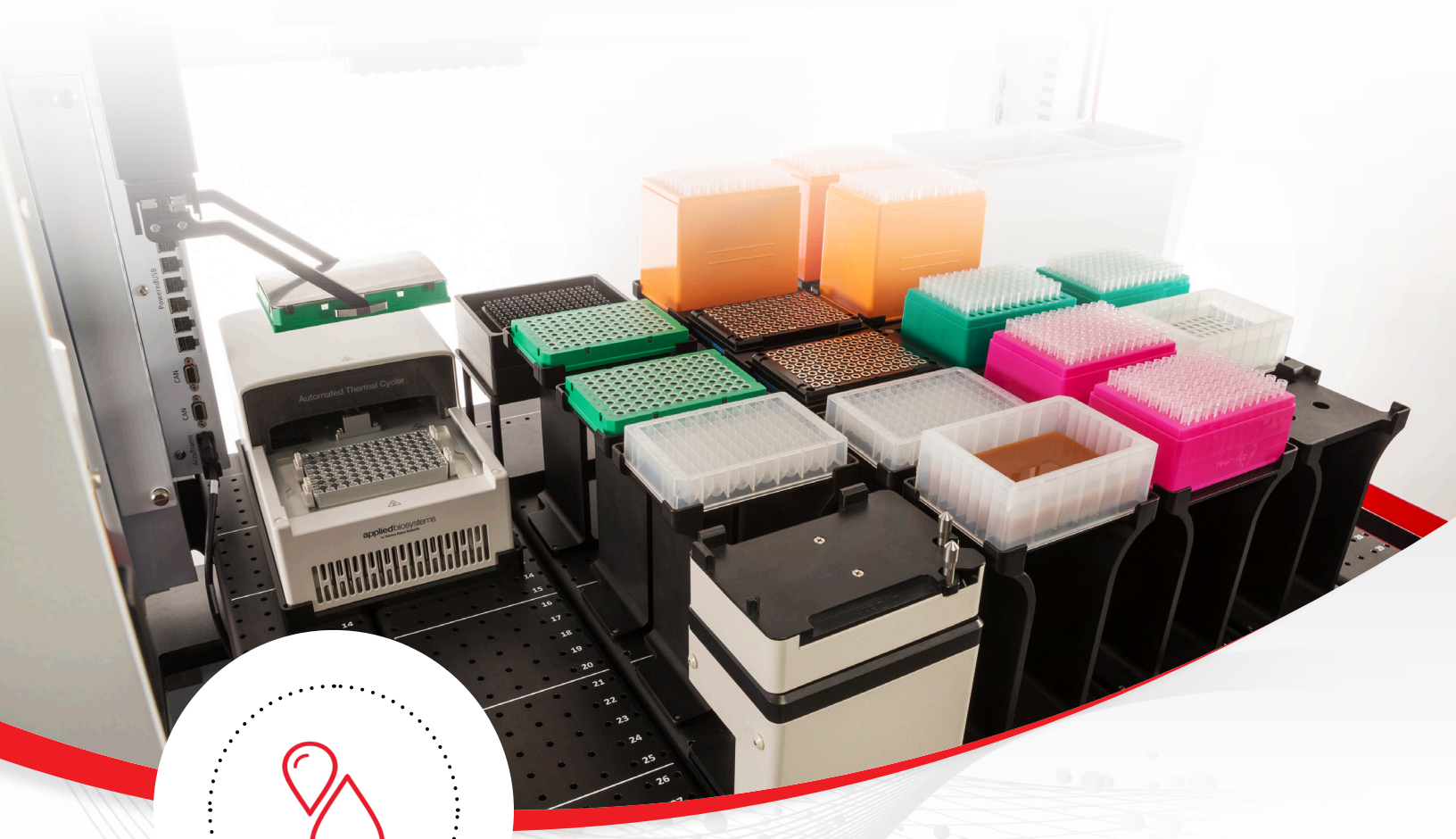
TAKE YOUR NEXT STEP WITH **CONFIDENCE**

Biomek-Automated Genomic Solutions



ACCELERATED WORKFLOWS. Faster Discovery.

BECKMAN COULTER
Life Sciences

START WITH DEFINING THE RIGHT WORKFLOW SOLUTION FOR YOU

Human Health • Agricultural • Animal Health • Environmental • Food & Beverage • Synthetic Biology • Forensics

Scientists using genomic analysis for discovery in life science research and applied applications take on new challenges every day. This process isn't easy.

We're committed to providing automated workflow solutions that help you reduce the sample prep burden and achieve repeatable, reliable results. We've listened to your challenges, needs and desires, and taken action to support your evolving workflow priorities.

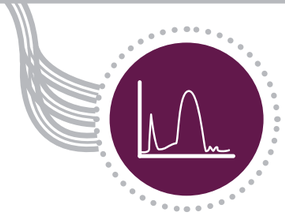
Extraction
- Nucleic acid isolation
- Clean-up

Nucleic Acid Quality Control
- Normalization
- Quantification
- Integrity check

Library Preparation
- Whole genome
- Whole transcriptome
- Whole exome
- Target capture

Sequencing

Purification
- SPRI purification
- qPCR/PCR



Size Selection

Library Quality Control Pooling
- Normalization
- Quantification
- Integrity check

Your partner for more comprehensive automated sample prep solutions

From the Human Genome Project to today's quest for precision medicine, Beckman Coulter Life Sciences is invested in providing sample prep solutions that improve your productivity. Biomek Automated Workstations combined with in-house nucleic acid sample prep reagent kits enable us to deliver more comprehensive workflow solutions.

We also partner with customers and leading technology vendors to develop and deliver the best solutions. The vast portfolio of Biomek-automated methods are demonstrated to generate quality data using real-world samples, and includes a growing number of Illumina-qualified NGS methods.

Automation for the entire workflow

Robust Biomek-automated solutions can start at nucleic acid isolation, then continue through steps like NGS library construction, and result in analysis-ready samples. Regardless of your workflow need, you'll receive much more than a liquid handler.

Standardized Workflows
- Reproducible results
- Reduced errors
- Simplified processes

Laboratory Efficiency
- Increased throughput
- Reduced hands-on time
- Faster results

Ready-to-Implement Methods
- Data demonstrated processes
- Quick implementation
- Easy execution through Demonstrated Method Interface

Extensive Support Network
- Knowledgeable applications, service and support teams
- Flexibility for change
- Real-time system analysis and resolution

Popular applications

A sampling of workflows that benefit from these solutions:

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

ACCELERATE YOUR RESEARCH WITH BIOMEK AUTOMATION

Learn about the current family of BIOMEK AUTOMATED WORKSTATIONS.

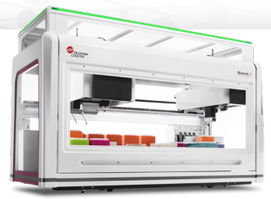
Platforms vary in size, deck capacity and overall capabilities. A variety of configurations allows you to optimize performance and reduce hands-on time for most genomic application workflows.

Biomek 4000 Automated Genomic Workstation

Deck Positions: 12
Pipetting Volume Range: 1 µL – 1,000 µL
Pipetting Technology: Multiple interchangeable single and eight-channel pipetting tools and gripper

Biomek i5 Automated Genomic Workstation

Deck Positions: 25
Pipetting Volume Range: 0.5 - 1,000 µL (MC) and 0.5 - 5,000 µL (Span-8)
Pipetting Technology: Multichannel head (96/384) or Span-8 pipetting with gripper



Biomek i7 Automated Genomic Workstation

Deck Positions: 45
Pipetting Volume Range:0.5 - 1,000 µL (MC) and 0.5 - 5,000 µL (Span-8)
Pipetting Technology: Choose from available single and dual pipetting head configurations: Single multichannel head (96/384) or Span-8 pipetting with gripper, dual-multichannel heads (96/384) with grippers, or multichannel head (96/384) and Span-8 pipetting with grippers

Active Automated Labware Positioners (ALPS) manage on-deck processing of incubations throughout a workflow.	○	○	○
Barcode reading and logging delivers real-time data tracking.	○	○	○
On-deck thermocycler (optional) integration capability eliminates need for manual intervention.	○	○	○
Protective enclosure (optional) provides dust protection and environmental control to reduce contamination risks.	○	○	○
Light Curtain provides key safety feature during operation and method development.		○	○
Liquid level sensing enables pipetting from liquid level and reduces the need for high reagent dead volumes.		○	○
Large-volume, 1 mL multichannel pipetting head expedites sample transfers and enables more efficient mixing steps.		○	○
Rotating gripper with unique offset finger design optimizes access to high-density decks, enabling more efficient workflows.		○	○
Open-platform design provides generous space for labware, accessories and on-deck integrations to accommodate intensive workflows to virtually eliminate user- intervention for most workflows.		○	○
Onboard cameras enable live broadcast and on-error video capture to expedite response time and system diagnosis.		○	○
Bright, multiple color- and pattern-coded status light bar alerts you to the instrument's current mode, even from across the room.		○	○
Internal LED light illuminates the instrument deck for easy access and monitoring of your workspace status.		○	○

SOFTWARE INTELLIGENCE AT **EVERY STEP**

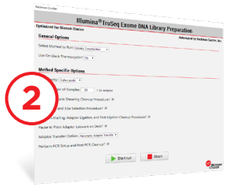
Biomek software gives you unprecedented control over your workflow.

- Modular methods help optimize flexibility for throughput and scheduling.
- Point-and-click interface simplifies method authoring with no programming required.
- Captures the data you need to validate your processes and help ensure reproducible results.
- Let's you "lock down" the instrument and protect validated methods from being altered inadvertently by operators.
- Integrates with LIMS to import work orders and export data (e.g., user IDs, lot numbers and sample tracking information).
- Enables remote instrument monitoring using any device with a Google Chrome browser.

Benefit from software packages that provide simplicity and flexibility when adding automated genomic methods to your workflow. This enables development of demonstrated, ready-to-implement methods that streamline your process, improve efficiency and significantly reduce hands-on time.

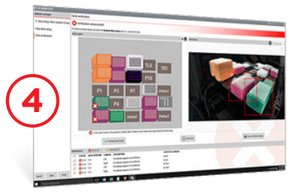
The Demonstrated Method Interface consists of four parts that make method setup virtually foolproof and error-free.

Biomek Method Launcher (BML) – secure interface for selecting methods and conducting system maintenance without affecting method integrity.



Method Options Selector (MOS) – Select runtime options and maximize flexibility in daily scheduling and method execution.

Guided Labware Setup (GLS) – Generated per options selected in the MOS, provides the user-specific text and graphical setup instructions with reagents calculation. Eliminates most setup mistakes and makes setup easy work.



DeckOptix Final Check analyzes the deck for common setup errors and alerts you prior to the start of a run to maximize the walkaway by avoiding costly method interruptions.

To further optimize workflow efficiency, consider these additional software tools:

- Data Acquisition and Reporting Tool (DART): gathers data and synthesizes runtime information from Biomek log files to capture each manipulation of the sample during the course of the method. Customizable reports provide compatibility with virtually all LIMS, including systems custom-designed for your lab.
- PowerPack: Makes easy work of cherry-picking, standalone, normalizations and other data-driven processes.

COMPLETE YOUR WORKFLOWS WITH **OUR GENOMIC REAGENTS**

Biomek automation can be complemented by a growing portfolio of genomic reagent kits from Beckman Coulter Life Sciences, which currently includes nucleic acid extraction and purification solutions for a range of input material. Our high-performance SPRI technology uses paramagnetic beads to selectively immobilize nucleic acids by type and size, and optimized binding conditions enable highly specific separation and cleanup protocols.

Portfolio examples include:

Nucleic Acid Purification

AMPure XP

- Removes primers, unincorporated dNTPs, primer dimers, salts and other contaminants
- Eliminates fragments < 50 bp
- Recovers both double- and single-stranded DNA templates
- No PCR degradation after storage at 4° C for 7 days
- Captures DNA > 100 bp

Size Selection

SPRIselect

- Used for fragment size selection for library construction in NGS processes
- Validated for target fragments between 150 bp to 800 bp in length
- Tight manufacturing specifications ensure run to run and lot to lot reproducibility

RNA Isolation

RNAdvance family - Blood, Cell, Tissue and Viral kits

- Extract RNA from blood (PAXgene tubes), cultured eukaryotic cells, tissue, or saliva and swab transport media
- Produce high-quality RNA compatible with a variety of analysis techniques, such as NGS, microarry, or qRT-PCR

cfDNA Extraction

Apostle Minimax High Efficiency cfDNA Isolation Kit

- Isolates cfDNA from 1-5 mL of plasma for liquid biopsy
- Demonstrated compatibility with a variety of collection tubes

Visit **beckman.com/reagents/genomic** for a complete listing of our genomic reagents.

WORLD-CLASS TRAINING, SERVICE AND SUPPORT ARE INSTRUMENTAL TO SUCCESS

From online classes or instructor-led training, to on-site application support – we're committed to doing everything possible to ensure that you can operate your Biomek workstation with confidence.

And you can expect service and maintenance of your workstation from an organization that's rated higher for technical support than any major competitor.

Further building on our commitment to world-class service, PROService Remote Monitoring is now available to help maximize system uptime by shortening service calls and expediting repair times.

This overview can't begin to encompass all the diverse automation-based solutions available to support your evolving genomics workflow priorities. Visit beckman.com or speak with your Beckman Coulter representative to learn more about the right solutions for you and your lab so you can take your next step with confidence.

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For Beckman Coulter's worldwide office locations and phone numbers, please visit "Contact Us" at **beckman.com**

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