

Biomek NGeniuS

NEXT GENERATION LIBRARY PREP SYSTEM

IT'S NOT JUST SMART. IT'S **INGENIOUS.**



You asked for an accurate, easy to use, cost-effective, NGS sample prep system with built-in error reduction and the flexibility to run an array of library preparation kits from multiple vendors—without requiring in-depth programming knowledge, and now it's here.

ACCELERATING
answers.

 **BECKMAN
COULTER**
Life Sciences



Introducing Biomek NGeniuS System

The **Genius** is in its Total Workflow Solution



1. Flexible application selection

As part of our comprehensive service agreement, the Biomek NGeniS System provides a wide range of complimentary demonstrated methods from a variety of reagent manufacturers, including:

DNA Sequencing

- Whole genome
 - Targeted re-sequencing
(Amplicon)

RNA Sequencing

- mRNA
 - Total RNA
 - Targeted RNA (Amplicon)



2. Application control

Control user access to applications with a simple authorization process (if required). Ensure that only authorized users have access to non-lab validated applications.



3. Work-from-anywhere batch set up*

Using the **Biomek NGeniS Portal software**, set up your batch run when and where it's most convenient for you.

Whether working from home, office, or benchtop you can program batch sizes from 4-24 samples.

The screenshot shows the BioProphet software interface with several windows open:

- Batches**: A main dashboard showing a summary of batches. One batch is highlighted: "demobatch" (Lighthouse Demo, 23 samples). It includes a status message: "Last activity by User Name: [redacted]".
- Demobatch**: A detailed view of the "demobatch" showing 23 samples. It includes a "Batch ID" section with "Batch: 12345" and "400 Library & Control Run for FPIE 20 samples". Below this is a "Last activity by User Name: [redacted]" message.
- Ready to Run**: A window showing a "Batch ID" section with "Batch: 12345" and "400 Library & Control Run for FPIE 20 samples". It also includes a "Last activity by User Name: [redacted]" message.
- Instrument**: A window showing a "Batch name" section with "Batch name: App name # samples Instrument name". It includes a green checkmark icon.
- Sample Status**: A window showing a "Batch name" section with "Batch name: App name # samples Instrument name". It includes a green checkmark icon.
- Retrieval Samples**: A window showing a "Batch name" section with "Batch name: App name # samples Instrument name". It includes a green checkmark icon.



4. Reagent preparation made easy

Once you select the application and enter the number of samples, the Biomek NGenius software creates a **Work Aid**, which includes:

- Reagent list needed for the run
 - Volume requirements for each reagent
 - Instructions on how to prepare and load reagents

The Work Aid saves time and effort while ensuring reproducibility during reagent preparation.

SECTION		DESCRIPTION		GENERATED: 10/12/2023 11:00AM			
REAGENT PREPARATION	REAGENT	PREPARE	DISPENSE	MINIMUM VOL (µL)			
Dynabeads MyOne Streptavidin T1 magnetic beads		Vigorously resuspend in a vortex mixer		600			
SureSelect Binding Buffer				100			
SureSelect Wash Buffer 1				3200			
Sr Immobilization Buffer				170			
Herculean II Fusion Dna Polymerase				8.5			
Herculean II Biotinylation Post-PCR				17			
SureSelect II Biotinylation				100			
SureSelect II Biot Indirect (primary protein)		Thaw, centrifuge, and remove seal before loading onto the incubator.		5			
		Wash with 1 mL SureSelect Wash Buffer.					
		Wash ES, EL, GL, GS, AL, BL, DA, DL, EL, FG, GL, HL, ME					
Nuclease Free Water				12516.5			
AllPurpose II Beads		Let the AllPurpose II beads come to room temperature for at least 30 minutes.		1440			
EDTA - 70% Ethanol				6000			
RESCUER LOADINGS							
	1 - A1	1 - A2	1 - B1	1 - B2	2 - A1	2 - A2	
Rescue water	AllPurpose II ^a 1000 µL	AllPurpose II ^a 1000 µL	Dynabeads MyOne Streptavidin T1 1000 µL	Surfactant Buffet	SureSelect II Biot 1000 µL	SureSelect II Biot 1000 µL	
	12743.5 µL	1480.5 µL	6000 µL	6400 µL	3200 µL	9600 µL	12800 µL



5. Error-reduced instrument setup

Sophisticated optical analytics combined with the head-up display give you real-time feedback on labware placement, virtually eliminating loading errors.

Now you can allow less-experienced operators to run complex applications with confidence.



7. Simplified sample processing

The **Multi-functional Reaction Vessel (RV)** combines three consumables into one, reducing time spent on labware inventory management:

- Sample input plate
- Thermal cycling plate
- Clean-up plate

Track your samples—with up to **100 million unique RV barcodes**—throughout the application run.



* Requires a Google Chrome or Microsoft Edge enabled computer.

Biomek NGeniuS System

The latest in a long line of Smart Automation Technology

Inspired by Beckman Coulter's 30-plus years of laboratory automation and Smart Automation Technology, Biomek NGeniuS System represents an evolutionary leap in NGS liquid-handling systems with its best-in-class performance, error-reduction technology, ease-of-use, reduced hands-on-time, and flexibility.

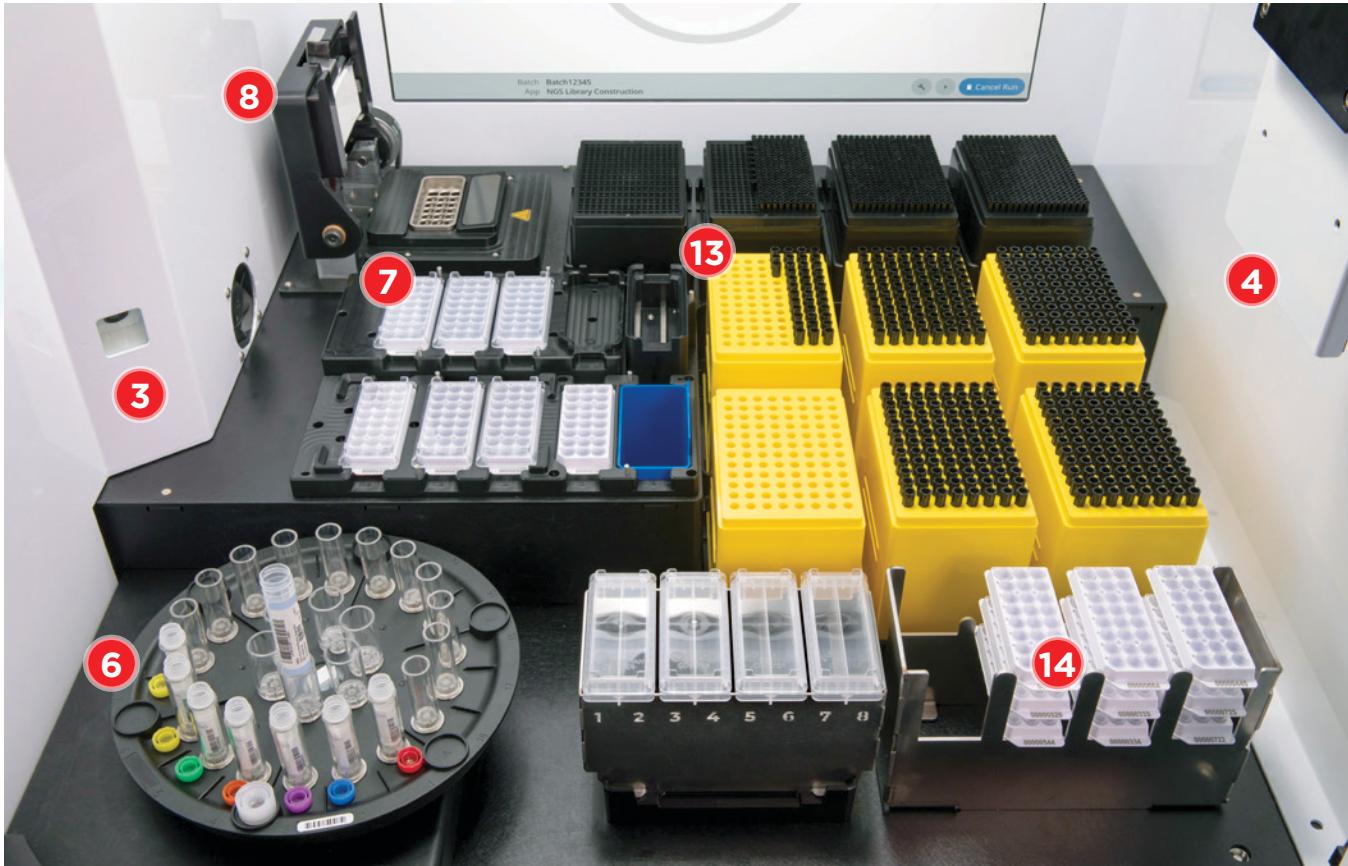


Error reduction

- 1** **Dynamic DeckOptix** system provides software-guided labware placement and confirmation
- 2** **Head-up Display** ensures mission critical information is in sight
- 3** **Reagent Carousel Auto ID** confirms the correct reagents are on board for the samples being processed
- 4** **Multi-channel Liquid Level Sensing** aids in the detection of insufficient reagents, alerting the operator before it becomes a processing issue
- 5** **Sample Tracking** eliminates the worry of mixing up samples when running in pre- and post-PCR lab environments

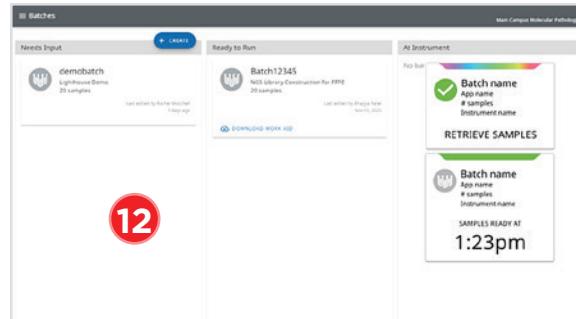
Less hands-on-time

- 6** **Reagent Carousel** reduces the need to manually transfer reagents and automates most reagent kits designed for manual use
- 7** **Temperature-controlled Reagent Storage** protects reagents from thermal degradation and allows you to run end-to-end chemistries
- 8** **Integrated Thermal Cycler** extends walkaway time
- 9** **Multi-functional Pipetting Pod**
 - **Pipetting Range** - 1 to 1000 µL
 - **Selective Tip Type** - ensures the right tip for the right volume without manual intervention
 - **Select Tip** - 1 to 8 tips for pipetting efficiency
 - **Labware Transport** - enables longer walkaway time
- 10** **UV-C Light** standard on the system



Easier to use

- ⑪ **Software Navigation Dial** makes system programming as simple as turn and select
- ⑫ **Biomek NGenius Portal Software*** allows setup and monitoring of batch runs from wherever it's most convenient for you
- ⑬ **Partial Tip Box Use** eliminates manual tip transfers and/or wasting partially used tip boxes
- ⑭ **Multi-functional Reaction Vessel** provides 3-in-1 functionality and less inventory management
- ⑮ **Multicolor Status Light** provides 360° line of sight system status



Flexible design

- ✓ **Dynamic Sample Batch Size** accommodates batch sizes of 4 to 24 samples
- ✓ **Complimentary Application Library** is designed to evolve with your changing chemistry needs
- ✓ **Network Enabled Scalability** enables you to seamlessly set-up and run multiple instruments from your Biomek NGenius portal.
- ✓ **Continuing Application Development** ensures your investment is protected for the foreseeable future

* Requires a Google Chrome or Microsoft Edge enabled computer.



The Genius is in its Simplicity

The unique instrument design and software functionality of the **Biomek NGeniuS** System not only make it easy to operate, but advanced programing skills are not necessary to set up an application and complete a run.

Set up and run a batch in 6 easy steps...

On the Biomek NGeniuS Portal software:

Step 1 Select an application

The screenshot shows a web browser window titled 'Customer Portal'. The address bar shows 'cpui-demo-appservice.azurewebsites.net/batches'. The main content area has a blue header bar with the text 'X Select App'. Below this, there's a section titled 'Approved Apps' containing a list of applications. One application, 'NGS Library Construction', is highlighted with a light gray box. Other visible applications include 'NGS Kit'.

Step 2 Enter batch name and number of samples from 4 to 24

The screenshot shows a web browser window titled 'Customer Portal'. The address bar shows 'cpui-demo-appservice.azurewebsites.net/batches'. The main content area has a blue header bar with the text 'X Configure Run'. Below this, there are two input fields: 'Enter batch name' containing 'Batch12345' and '# Samples' containing '20'. At the bottom right of the form, there is small text '4 - 24'.

Step 3 Make any necessary run adjustments

The screenshot shows a web browser window titled 'Customer Portal'. The address bar shows 'cpui-demo-appservice.azurewebsites.net/batches'. The main content area has a blue header bar with the text 'X Configure Run'. Below this, there is a section titled 'Settings' with a table of run parameters. The table has columns for 'Setting', 'Value', and 'Unit'. Some parameters have dropdown menus or checkboxes. The settings listed are:

Setting	Value	Unit
Bead Dry Time	5	minutes
Final Elution Volume	25	ul
Fragment Time	600	seconds
Library Prep Input	100	
Perform PCR	<input checked="" type="checkbox"/>	
PCR Cycles	3	cycles
Settle Beads on Magnet	3	minutes
Standard Cleanup Post Ligation	<input checked="" type="checkbox"/>	
Standard Cleanup Post PCR	<input checked="" type="checkbox"/>	
Index Plate	A	

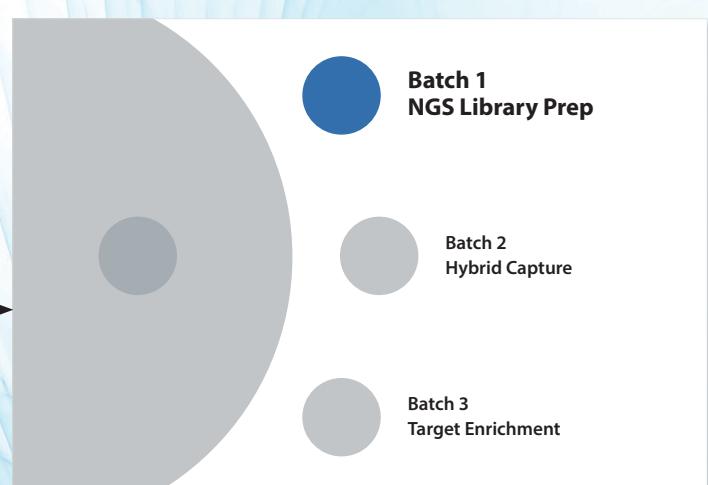
Step 4 Select the stop point that fits your schedule

Step 5 Upload your Sample Data and select 'Ready to Run'

Well	Sample_ID	Index	Initial Concentration	260:280	260:230	Pool
A1	1234	A1	100			1
B1	1235	B1	100			1
C1	1	C1	100			1
D1	four	D1	100			1
E1	five	E1	100			1
F1	ONE	F1	100			2
G1	seven	G1	100			2
H1	8	H1	100			2
A2	9	A2	100			2
B2	ten	B2	100			2
C2	eleven	C2	100			3
D2	twelve	D2	100			3
E2	thirteen	E2	100			3
F2	fourteen	F2	100			3
G2	fifteen	G2	100			3
H2	sixteen	H2	100			4
A3	seventeen	A3	100			4
B3	eighteen	B3	100			4
C3	nineteen	C3	100			4
D3	twenty	D3	100			4

On the instrument:

Step 6 Use the dial on the instrument to select the batch and you are ready to run



Biomek NGenius System

Small footprint, unimaginable power and performance

Part Number	Description	Power Requirements	Weight	Dimensions (W x D X H)
C62703	Biomek NGenius System	10 A, 100-240 V, 50/60 Hz	135 lb (61.23 kg)	73.2 cm x 78.5 cm x 128.5 cm (with door open)

Biomek NGenius Consumables

The most critical point of contact

The Biomek NGenius System is optimized to perform as a complete system, which is why only Biomek consumables from Beckman Coulter Life Sciences are validated and approved for use.

Part Number	Description	Quantity
C62705	Biomek Reaction Vessel, 24 well	64/Box
C62706	Biomek Lid, 24 well	96/Box
C62707	Biomek Bulk Reservoir, 20 mL/section	32/Box
C59585	Case, Tips, 1025 µL, Conductive, Filtered, 480 Tips	5 Racks/Box (96 per rack)
C62712	Case, Tips, 70 µL, Conductive, Filtered, 3840 Tips	10 Racks/Box (384 per rack)
C70672	Case, Biomek 1025 µL Tip Box, Empty, 5 Racks	5 Racks/Box
C70673	Case, Biomek 70 µL Tip Box, Empty, 10 Racks	10 Racks/Box
C70665	Biomek Seal Plate, 24 well	20/Box

Part Number	Description
C81659	Biomek NGenius Instrument 1 Year Service Agreement
C81657	Biomek NGenius Instrument IQ Service Agreement
C81658	Biomek NGenius Instrument OQ Service Agreement
	Getting Started with Your Biomek NGenius System This training is for administrators to be introduced to the hardware and consumables as well as understand instrument activation and account management. This training should take place prior to instrument installation if an existing administrator is not already trained and available.
C89885	Learning to Use Your Biomek NGenius System This training is for the administrator to better understand how App Setup and testing can be performed. It also demonstrates how Batches, Work Aids, and Batch Reports are used within the Biomek NGenius Customer Portal.
C89886	Using Your Biomek NGenius System - for Administrators This training is for operators to be introduced to the hardware and consumables used on the system as well as understanding how Batches, Work Aids, and Batch Reports are used within the Biomek NGenius Customer Portal.

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The app templates have been demonstrated for use on the Biomek NGenius system for the chemistry kit version and the release date shown at the time when the app is selected and created, but has not been validated by Beckman Coulter for use in the diagnosis of disease or other clinical conditions.

Biomek NGenius Next Generation Library Prep Systems and demonstrated applications are not intended or validated for use in the diagnosis of disease or other conditions.