User Manual

Biomek 4000

Laboratory Automation Workstation
Enclosure System

PN B28615AB
May 2013

Manufactured for
Beckman Coulter, Inc.
250 S. Kraemer Blvd.
Brea, CA 92821 U.S.A.

BECKMAN COULTER

Biomek 4000 Enclosure System User Manual
PN B28615AB (May, 2013)

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Revision History

For labeling updates, go to www.beckmancoulter.com and download the latest version of the manual.

03/13, Initial Issue (AA)

05/2013 (AB)
Added a *Troubleshooting* section.

Safety Notice

Overview

Read all product manuals and consult with Beckman Coulter-trained personnel before attempting to operate the instrument. Do not attempt to perform any procedure before carefully reading all instructions. Always follow product labeling and manufacturer's recommendations. If in doubt as to how to proceed in any situation, contact your Beckman Coulter Representative.

Beckman Coulter, Inc. urges its customers and employees to comply with all national health and safety standards such as the use of barrier protection. This may include, but is not limited to, protective eyewear, gloves, and suitable laboratory attire when operating or maintaining this or any other automated laboratory instrumentation.

⚠ WARNING

If the equipment is used in a manner not specified by Beckman Coulter, Inc., the protection provided by the equipment may be impaired.

Alerts for Warning, Caution, Important, and Note

All Warnings and Cautions in this document include an exclamation point, framed within a triangle.

The exclamation point symbol is an international symbol which serves as a reminder that all safety instructions should be read and understood before installation, use, maintenance, and servicing are attempted.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT IMPORTANT is used for comments that add value to the step or procedure being performed. Following the advice in the Important adds benefit to the performance of a piece of equipment or to a process.

NOTE NOTE is used to call attention to notable information that should be followed during installation, use, or servicing of this equipment.

Instrument Safety Precautions

⚠ WARNING

Risk of operator injury if:

- **All doors, covers and panels are not closed and secured in place prior to and during instrument operation.**
- **The integrity of safety interlocks and sensors is compromised.**
- **You contact moving parts.**
- **You mishandle broken parts.**
- **Doors, covers and panels are not opened, closed, removed and/or replaced with care.**
- **Improper tools are used for troubleshooting.**

To avoid injury:

- **Keep doors, covers and panels closed and secured in place while the instrument is in use.**
- **Take full advantage of the safety features of the instrument. Do not defeat safety interlocks and sensors.**
- **Acknowledge and act upon instrument alarms and error messages.**
- **Keep away from moving parts.**
- **Report any broken parts to your Beckman Coulter Representative.**
- **Use the proper tools when troubleshooting.**

⚠ CAUTION

System integrity could be compromised and operational failures could occur if:

- **This equipment is used in a manner other than specified. Operate the instrument as instructed in the Product Manuals.**
- **You introduce software that is not authorized by Beckman Coulter into your computer. Only operate your system's computer with software authorized by Beckman Coulter.**
- **You install software that is not an original copyrighted version. Only use software that is an original copyrighted version to prevent virus contamination.**

⚠ CAUTION

If you purchased this product from anyone other than Beckman Coulter or an authorized Beckman Coulter distributor, and, if it is not presently under a Beckman Coulter Service Maintenance Agreement, Beckman Coulter cannot guarantee that the product is fitted with the most current mandatory engineering revisions or that you will receive the most current information bulletins concerning the product. If you purchased this product from a third party and would like further information concerning this topic, contact your Beckman Coulter Representative.

Electrical Safety

To prevent electrically related injuries and property damage, properly inspect all electrical equipment prior to use and immediately report any electrical deficiencies. Contact a Beckman Coulter Representative for any servicing of equipment requiring the removal of covers or panels.

High Voltage

This symbol indicates the potential of an electrical shock hazard existing from a high-voltage source and that all safety instructions should be read and understood before proceeding with the installation, maintenance, and servicing of all modules.

Do not remove system covers. To avoid electrical shock, use supplied power cords only and connect to properly grounded (three-holed) outlets.

Laser Light

This symbol indicates that a potential hazard to personal safety exists from a laser source. When this symbol is displayed in this manual, pay special attention to the specific safety information associated with the symbol.

Laser Specifications

- **Laser Type:** Class II Laser Diode
- **Maximum Output:** 11 mW
- **Wavelength:** 670 nm

Disposal of Electronic Equipment

It is important to understand and follow all laws regarding the safe and proper disposal of electrical instrumentation.

The symbol of a crossed-out wheeled bin on the product is required in accordance with the Waste Electrical and Electronic Equipment (WEEE) Directive of the European Union. The presence of this marking on the product indicates:

- That the device was put on the European Market after August 13, 2005 and
- That the device is not to be disposed via the municipal waste collection system of any member state of the European Union.

For products under the requirement of WEEE directive, please contact your dealer or local Beckman Coulter office for the proper decontamination information and take back program which will facilitate the proper collection, treatment, recovery, recycling, and safe disposal of device.

Chemical and Biological Safety

If a hazardous substance such as blood is spilled onto the instrument, ALPs, or accessories, clean up the spill by using a 10% bleach solution, or use your laboratory decontamination solution. Then follow your laboratory procedure for disposal of hazardous materials. If the instrument, ALPs, or accessories need to be decontaminated, contact your Beckman Coulter Representative.

⚠ WARNING

Risk of chemical injury. To avoid contact with the bleach, ethanol, or formaldehyde, use barrier protection, including protective eyewear, gloves, and suitable laboratory attire. Refer to the Safety Data Sheet for details about chemical exposure before using the chemical.

⚠ WARNING

Before running with chemistry or any biological samples, new labware types will require testing to determine if labware offsets are necessary to move to or from the Peltier ALP, or to access the labware during pipetting operations while on the Peltier ALP. If you do not do the required testing, the labware could crash and the contents could spill if the offset is incorrect.

Normal operation of the instrument may involve the use of materials that are toxic, flammable, or otherwise biologically harmful. When using such materials, observe the following precautions:

- **Handle infectious samples according to good laboratory procedures and methods to prevent the spread of disease.**
- **Observe all cautionary information printed on the original solutions' containers prior to their use.**
- **Dispose of all waste solutions according to your facility's waste disposal procedures.**
- **Operate the instrument in accordance with the instructions outlined in this manual and take all the necessary precautions when using pathological, toxic, or radioactive materials.**
- **Splashing of liquids may occur; therefore, take appropriate safety precautions, such as using safety glasses and wearing protective clothing, when working with potentially hazardous liquids.**
- **Use an appropriately-contained environment when using hazardous materials.**
- **Observe the appropriate cautionary procedures as defined by your safety officer when using flammable solvents in or near a powered-up instrument.**
- **Observe the appropriate cautionary procedures as defined by your safety officer when using toxic, pathological, or radioactive materials.**

NOTE Observe all warnings and cautions listed for any external devices attached or used during operation of the instrument. Refer to applicable external device user's manuals for operating procedures of that device.

NOTE For Safety Data Sheets (SDS/MSDS) information, go to the Beckman Coulter website at **www.beckmancoulter.com**.

Moving Parts

⚠ WARNING

Risk of personal injury. To avoid injury due to moving parts, observe the following:

- **Never attempt to exchange labware, reagents, or tools while the instrument is operating.**
- **Never attempt to physically restrict any of the moving components of the instrument.**
- **Keep the instrument work area clear to prevent obstruction of the movement.**

Cleaning

Observe the cleaning procedures outlined in this user's manual for the instrument. Prior to cleaning equipment that has been exposed to hazardous material:

- Contact the appropriate Chemical and Biological Safety personnel.
- Review the Chemical and Biological Safety information in the user's manual.

Maintenance

Perform only the maintenance described in this manual. Maintenance other than that specified in this manual should be performed only by service engineers.

IMPORTANT It is your responsibility to decontaminate components of the instrument before requesting service by a Beckman Coulter Representative or returning parts to Beckman Coulter for repair. Beckman Coulter will NOT accept any items which have not been decontaminated where it is appropriate to do so. If any parts are returned, they must be enclosed in a sealed plastic bag stating that the contents are safe to handle and are not contaminated.

RoHS Notice

These labels and materials declaration table (the Table of Hazardous Substance's Name and Concentration) are to meet People's Republic of China Electronic Industry Standard SJ/T11364-2006 "Marking for Control of Pollution Caused by Electronic Information Products" requirements.

China RoHS Caution Label

This label indicates that the electronic information product contains certain toxic or hazardous substances. The center number indicates the number of calendar years the product can be in operation. Upon the expiration of its Environmentally Friendly Useful Period (EFUP) date, the product must be immediately recycled. The circling arrows indicate the product is recyclable. The date code on the label or product indicates the date of manufacture.

China RoHS Environmental Label

This label indicates that the electronic information product does not contain any toxic or hazardous substances. The center 'e' indicates the product is Environmentally safe and does not have an Environmentally Friendly Useful Period (EFUP) date, therefore, can safely be in use indefinitely. The circling arrows indicate the product is recyclable. The date code on the label or product indicates the date of manufacture.

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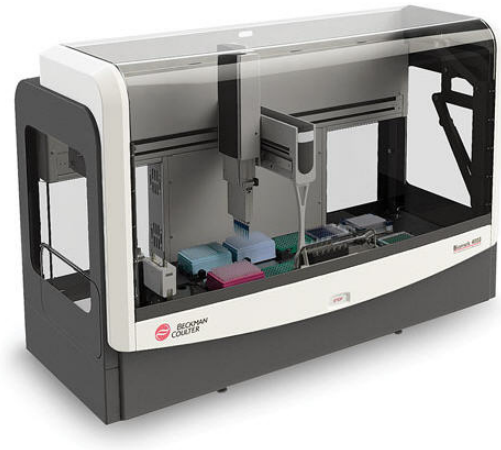


This guide provides an overview of using your Biomek 4000 Laboratory Automation Workstation Enclosure System. Specifically, topics in this manual include the following:

- *Safety Considerations*
- *Best Practices When Automating With the Enclosure*
- *Weight and Space Requirements*
- *Powering On/Off the Instrument*
- *Using the Main Door and Access Panels*
- *Maintenance*
- *Troubleshooting*

Purpose

The Enclosure System is an optional accessory designed specifically for the Biomek 4000 Laboratory Automation Workstation. The main purpose of the enclosure is to serve as a barrier, helping to protect your samples from airborne particles while you run your assays.

Configuration and Installation

The Enclosure System can either be installed on the base Biomek 4000 instrument, or on the base instrument ***and*** optional Integration Deck. The Enclosure System can be purchased with the initial system purchase or at a later date and must be installed by a Beckman Coulter Representative.

Accessory Integration

Standard Biomek 4000 ALPs and accessories can be used with the Enclosure System. These accessories are integrated and connected through access panels located on the back and the side of the Enclosure System.

Features

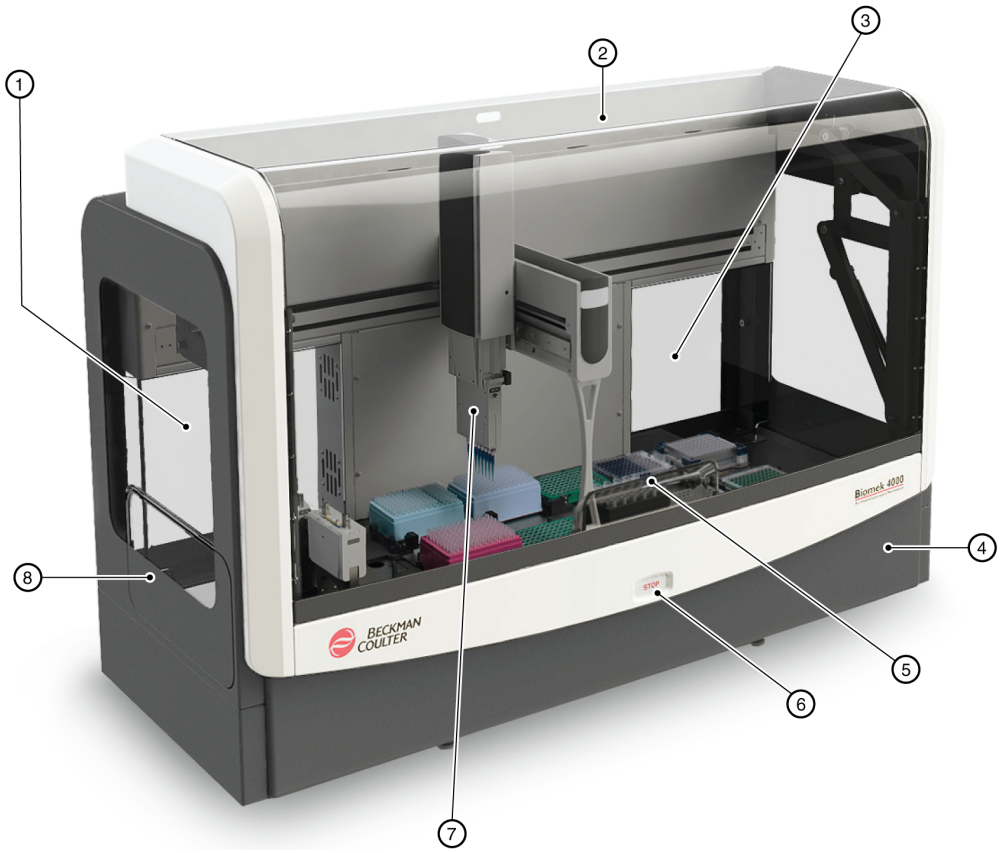
The Enclosure System features the following main components:

- **Main Door**, which is designed to be opened with one hand, allowing the operator to use the other hand to make quick changes on the deck.
- Removable panels, including:
  - **Side Access Panel** (left side only), which allows access to accessories, such as the conveyor or the Disposal Accessory.
  - **Back Access Panels** (left and right), which allows access to the power switch and ALPs and accessories, including, but not limited to, the Static Peltier ALP, Shaking Peltier ALP, Liquid Waste System, Orbital Shaker ALP, and the AccuFrame device.

The Enclosure System, main door, and all panels are constructed from translucent polymer, allowing you to easily view the progress of your assay.

Figure 1 depicts the main features of the Enclosure System, as well as some of the main features of the Biomek 4000 Laboratory Automation Workstation.

Figure 1 Main Components of the Biomek 4000 Enclosure System and Instrument



1. **Left Back Access Panel**
2. **Main Door**
3. **Right Back Access Panel**
4. **Integration Deck Access Door**
5. **Deck**
6. **Instrument STOP Button**
7. **Pipetting Tool**
8. **Side Access Panel**

Safety Considerations

In addition to the general Biomek 4000 Laboratory Automation Workstation safety information (see *Safety Notice*), the sections below provide additional safety instructions when using your instrument with the Enclosure System.

Improper Use of the Enclosure System

⚠ WARNING

Risk of personal injury or contamination. Do not store items such as reagents, biohazardous material, or chemicals on top of the enclosure, as this could result in a hazardous substance spill. Store all substances in proper locations.

Exposure to Heat/Flame

⚠ WARNING

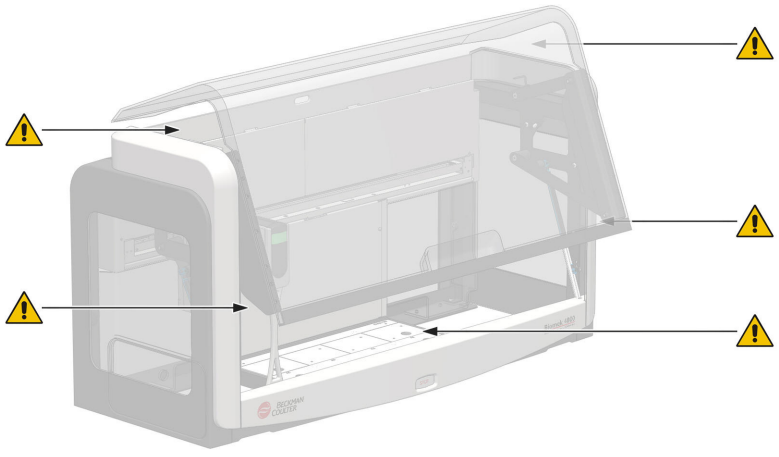
This Enclosure System, although constructed using metallic or flame-rated material, is NOT intended to act as an enclosure that can contain or limit the spread of fire. Observe the appropriate cautionary procedures as defined by your safety officer when using flammable solvents in or near a powered-up instrument.

Potential Pinch Points

⚠ CAUTION

Risk of bodily harm. Fingers or hands could become pinched in the Enclosure System. Keep fingers and hands clear of the potential pinch points shown in Figure 2 when opening and closing the door.

Figure 2 Potential Pinch Points



Lifting the Instrument

When preparing to move the instrument, consider the following:

- If the instrument is equipped with the Enclosure System only (i.e., an Integration Deck is ***not*** installed), follow the instructions in *Lifting the Instrument/Enclosure System*.
- If the instrument is equipped with both the Enclosure System ***and*** the Integration Deck, it is too heavy to move as a unit. See *Lifting the Instrument/Enclosure System/Integration Deck* for details.

Lifting the Instrument/Enclosure System

⚠ CAUTION

Four people are needed to lift the Biomek 4000 Laboratory Automation Workstation when equipped with an Enclosure System. Failure to use four people could result in bodily injury and/or damage to the workstation. The workstation should always be lifted by grasping below the front rails and bottom of the rear supports.

Four people are needed to lift and move the instrument and Enclosure System, as the total weight is 70.8 kg (156.0 lbs) without the deck plate or any accessories. Figure 3 and Figure 4 show the lifting points for the four representatives required to lift the instrument.

Figure 3 Lifting Points—Front Rail View

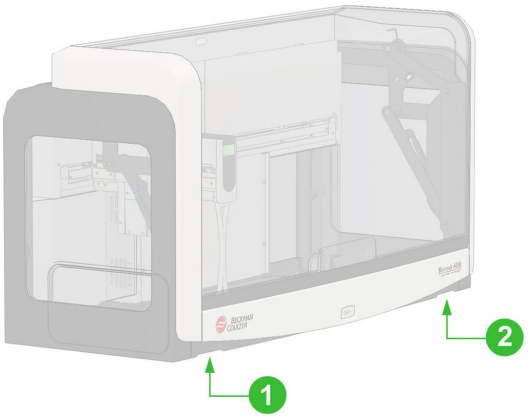
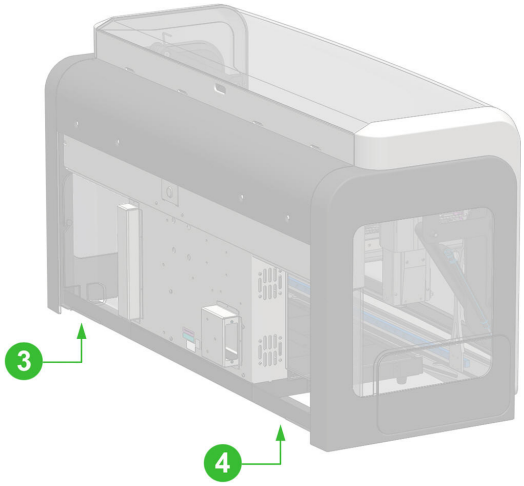


Figure 4 Lifting Points—Rear Support View



1. First Representative **Right-Hand** Lifting Point
2. Second Representative **Left-Hand** Lifting Point
3. Third Representative **Right-Hand** Lifting Point
4. Fourth Representative **Left-Hand** Lifting Point

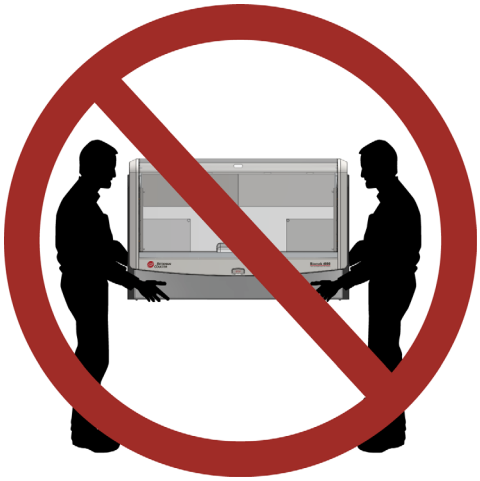
Lifting the Instrument/Enclosure System/Integration Deck

⚠ CAUTION

Four people are needed to lift the Biomek 4000 Laboratory Automation Workstation when equipped with an Enclosure System. Failure to use four people could result in bodily injury and/or damage to the workstation. The workstation should always be lifted by grasping below the front rails and bottom of the rear supports.

⚠ CAUTION

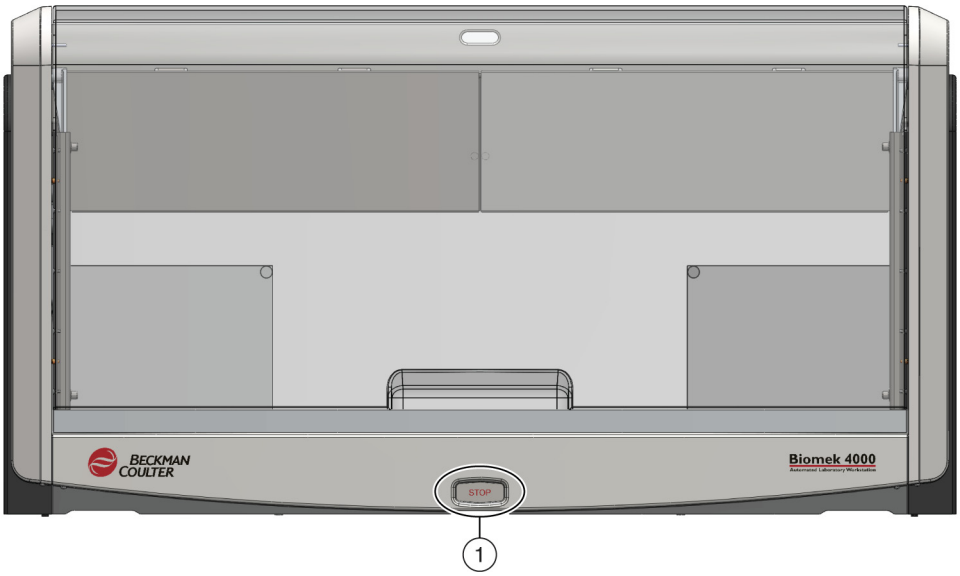
Do not attempt to lift the Biomek 4000 Laboratory Automation Workstation with both the Enclosure System and Integration Deck attached, as this configuration is too heavy and unstable to move safely, and attempting to do so could result in bodily injury and/or damage to the workstation. The Integration Deck must be removed by your Beckman Coulter Representative prior to moving the instrument.



Stopping the Instrument

Press the instrument STOP button on the front rail of the Biomek 4000 instrument to stop movement of the bridge, pod, and tools.

Figure 5 Instrument STOP Button



1. Instrument STOP Button

Best Practices When Automating With the Enclosure

Be aware of the following when using the Enclosure System with your Biomek 4000 Laboratory Automation Workstation:

⚠ CAUTION

Risk of assay failure. When used with heat-generating ALPs and/or accessories, a closed Enclosure System can cause the ambient temperature to exceed limits required by temperature-sensitive assays. Regularly monitor the temperature.

⚠ WARNING

Risk of personal injury. The instrument remains in operation when the Enclosure System door is opened. Use the instrument STOP button (Figure 5) to halt the instrument and ALPs.

- Rubber feet and the Back Access Panels (see *Back Access Panels* for location of these panels) need to be removed before attempting to install the side modules.
- When framing the deck, open the main door to prevent an obstructed view during the process.
- Ensure the tip disposal bag is unencumbered and flat, allowing the bag to capture as many used tips as possible.

Weight and Space Requirements

A minimum of 30.5 cm (1 ft) of additional space should be available to the left, right, and above the instrument (see Table 1 for details). Table 2 provides the actual dimensions for the Biomek 4000 Laboratory Automation Workstation Enclosure System.

Table 1 Space Required

Component	Dimensional Footprint width x depth x height	
	cm	in.
Minimum Bench Necessary	132.0 cm (w) x 56.0 cm (d)	52.0 in. (w) x 22.0 (d)
Base Instrument + Enclosure System	191.0 (w) x 101.8 (d) x 100.5 (h)	75.2 (w) x 40.1 (d) x 39.6 (h)
Base Instrument + Enclosure System + Integration Deck	191.0 (w) x 101.8 (d) x 117.7 (h)	75.2 (w) x 40.1 (d) x 46.3 (h)
Rear access clearance*	30.5 (d)	12.0 (d)
Side access clearance**	30.5 (w)	12.0 (w)
Front access clearance***	17.8 (w)	7.0 (w)
Top access clearance****	30.5 (d)	12.0 (d)

NOTE The dimensions for the lab bench in does not include space for the automation controller or for additional accessories (accessory dimensions can be found in the *Biomek 4000 Preinstallation Manual*). A lab bench with shelving for accessories underneath the instrument is desirable.

*Rear access clearance means the distance between the rear of the instrument and the wall or any other permanent structure.

NOTE The power plug serves as the Disconnecting Device and must remain easily accessible.

**Side access clearance means the distance between the side of the instrument and the wall or any other permanent structure.

***Front access clearance means the distance required in front of the instrument with the Integration Deck door fully extended. (Front access clearance is only applicable to workstations with the optional Integration Deck.)

****Top access clearance means the distance required above the instrument.

Table 2 Actual Dimensions

Component	Actual Dimensions width x depth x height	
	cm	in.
Base Instrument + ***Closed*** Enclosure System (see Figure 6)	130.0 (w) x 53.5 (d) x 70.0 (h)	51.2 (w) x 21.1 (d) x 27.6 (h)
Base Instrument + ***Open*** Enclosure System (see Figure 7)	130.0 (w) x 78.7 (d) x 94.4 (h)	51.2 (w) x 31.0 (d) x 37.2 (h)
Base Instrument + ***Closed*** Enclosure System + ***Closed*** Integration Deck (see Figure 8)	130.0 (w) x 53.5 (d) x 87.2 (h)	51.2 (w) x 21.1 (d) x 34.3 (h)
Base Instrument + ***Open*** Enclosure System + Integration Deck (see Figure 9)	130.0 (w) x 78.7 (d) x 111.7 (h)	51.2 (w) x 31.0 (d) x 44.0 (h)

Figure 6 Dimensions (Front View)—Enclosure System, Without Integration Deck Installed

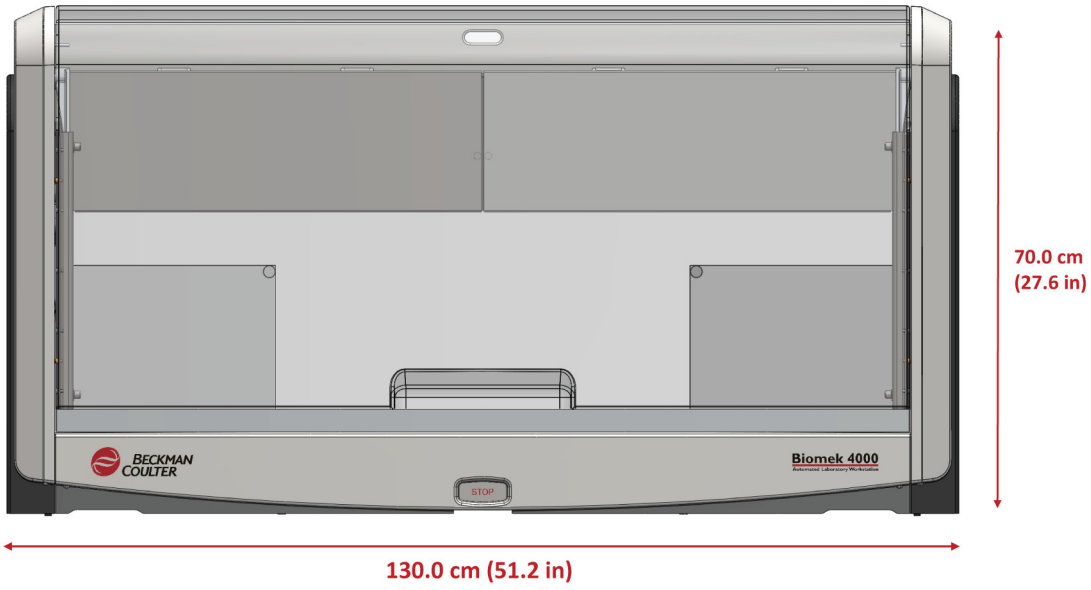


Figure 7 Dimensions (Side View)—Biomek 4000 Instrument With Enclosure System Only

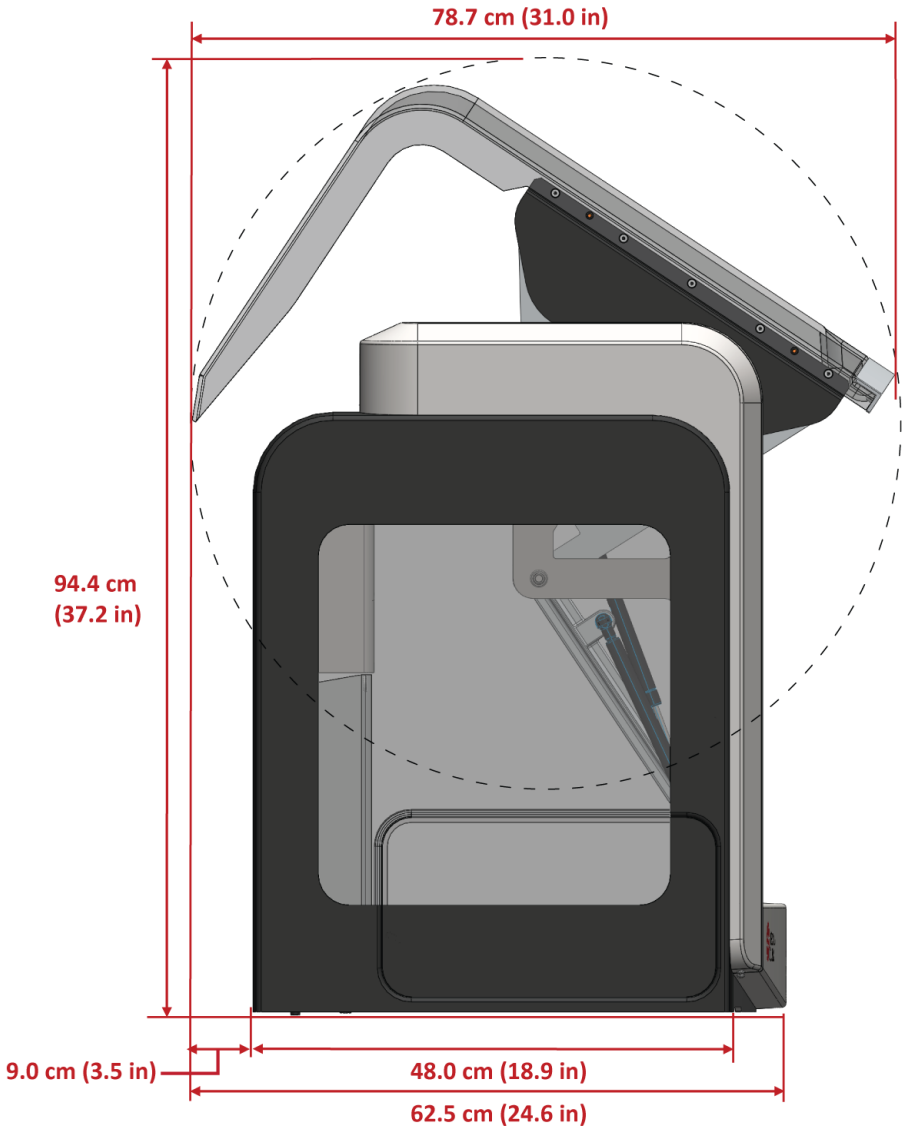


Figure 8 Dimensions (Front View)—Enclosure System, With Integration Deck Installed

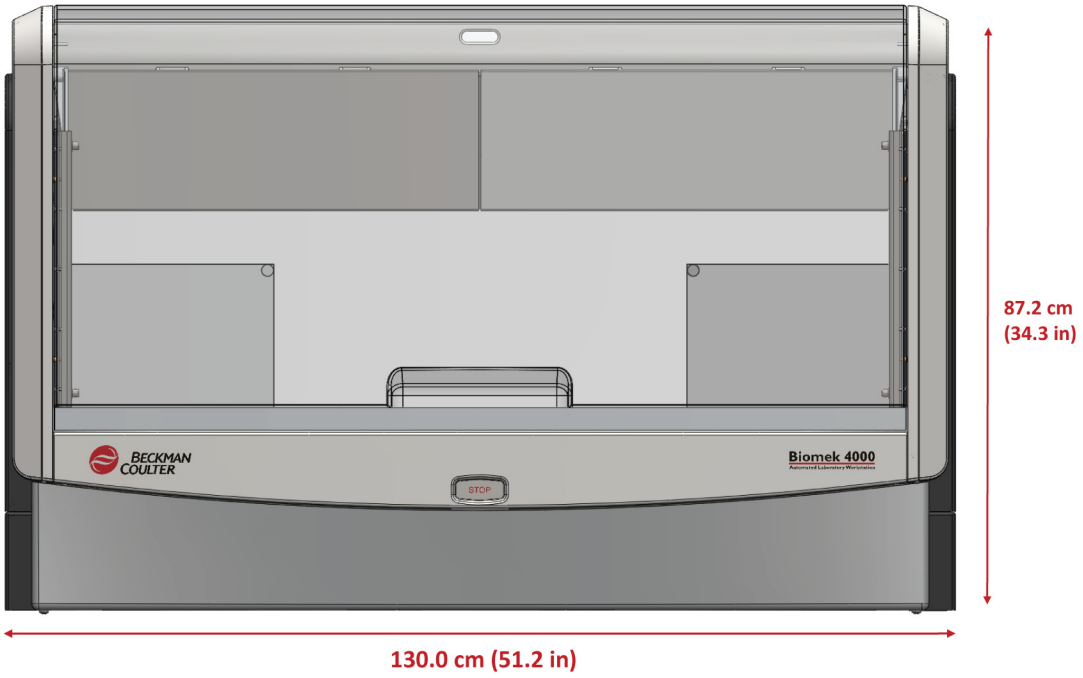
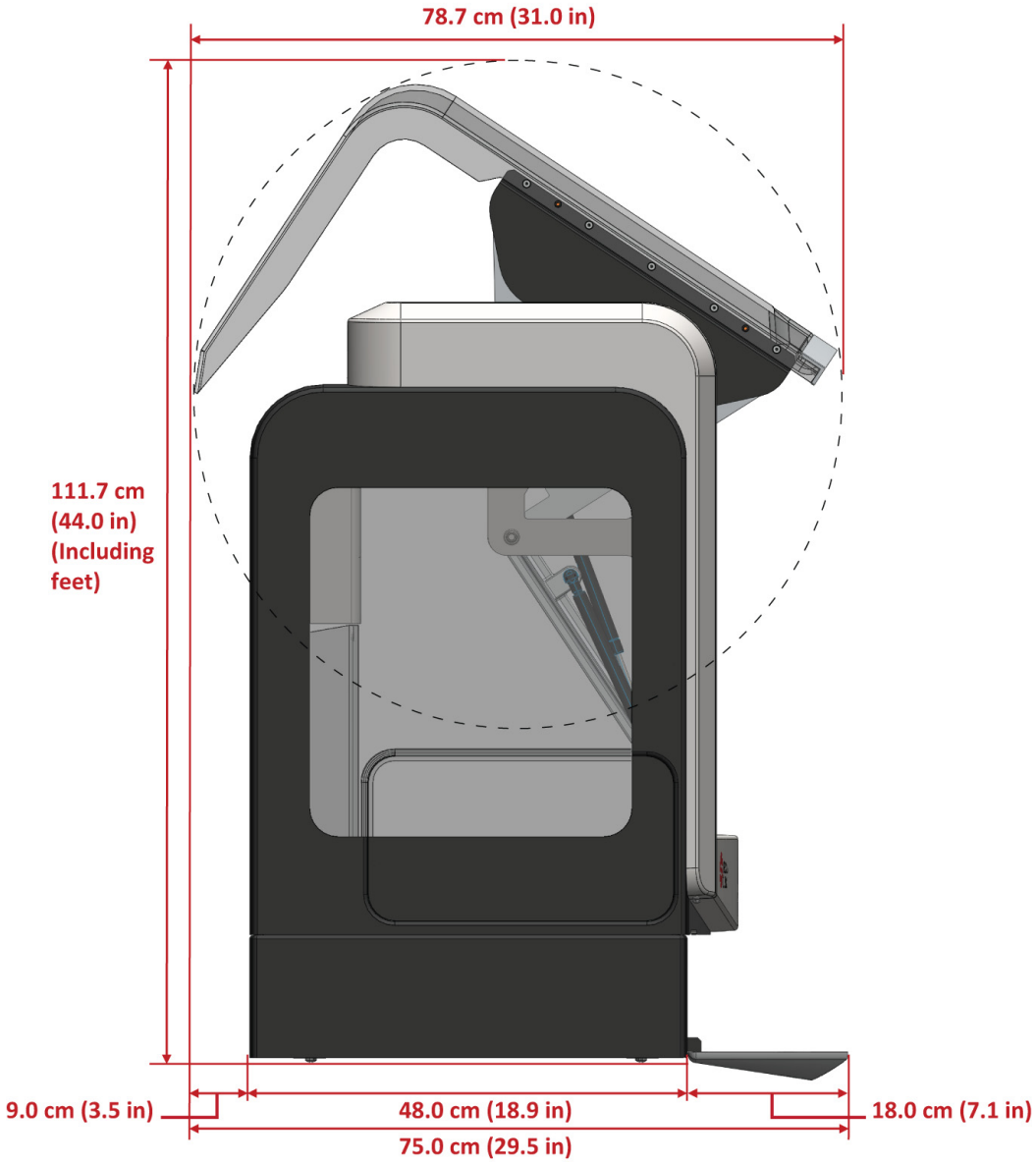


Figure 9 Dimensions (Side View)—Biomek 4000 Instrument With Enclosure System and Integration Deck



The Biomek 4000 Laboratory Automation Workstation, Enclosure System, and all ALPs and accessories must be installed on a level and stable working surface capable of supporting the weight of your specific setup (see Table 3 for details) without bowing by more than 6.35 mm (1/8 in.).

Table 3 Weight Specifications

Component	Weight	
	kg	lbs
Base Instrument +	40.8	90.0
Enclosure System	30.0	66.0
Total Weight	**70.8**	**156.0**
Base Instrument +	40.8	90.0
Enclosure System[1] +	31.7	70.0
Integration Deck	15.0	33.0
Total Weight	**87.5**	**193.0**

1. Includes additional hardware required for installing the Enclosure System with the Integration Deck.

Temperature and humidity restrictions are listed in Table 4.

Table 4 Environmental Specifications

Item	Specification
Operating Temperature	5-30°C (41-86°F)
Operating Humidity	<85% (non-condensing at 30°C (86°F))

Powering On/Off the Instrument

To turn the instrument on or off when standing in front of the instrument:

- Remove the left Back Access Panel (see *Removing the Back Access Panels*); this allows access to the On/Off switch from the front of the instrument.

NOTE If you are standing behind the instrument, it is not necessary to remove the left Back Access Panel.

NOTE The power plug serves as the Disconnecting Device and must remain easily accessible.

Using the Main Door and Access Panels

The Enclosure System contains three main components, the main door, the left and right Back Access Panels, and the Side Access Panel, which is located on the left side of the instrument. Refer to the following sections for complete instructions:

- *Main Door*
- *Back Access Panels*
- *Side Access Panel*

Main Door

The main door allows access to the Biomek 4000 instrument deck and instrument components. Operating the main door is simple. Details are available in the following sections:

- *Opening the Main Door*
- *Closing the Main Door*

Opening the Main Door

⚠ WARNING

Risk of personal injury. The instrument remains in operation when the Enclosure System door is opened. Use the instrument STOP button (Figure 5) to halt the instrument, ALPs, and accessories.

⚠ CAUTION

Risk of equipment damage. Opening or closing the main door from the left or the right of the center handle could damage the Enclosure System. When maneuvering the main door, pull from the center handle only.

⚠ CAUTION

Risk of personal injury. When opening or closing the main door, do not release the door until it is fully open or fully closed. A partially open door could slam shut, causing injury.

To open the Biomek 4000 Enclosure System main door:

- With your palm facing down, pull the handle out and up (Figure 10), and then gently push the door back in one smooth motion (Figure 11).

Figure 10 Main Door—Handle

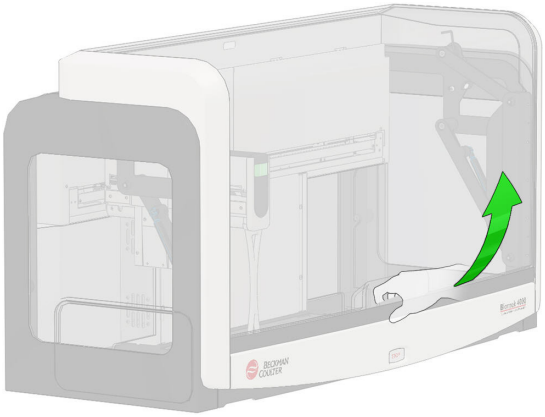
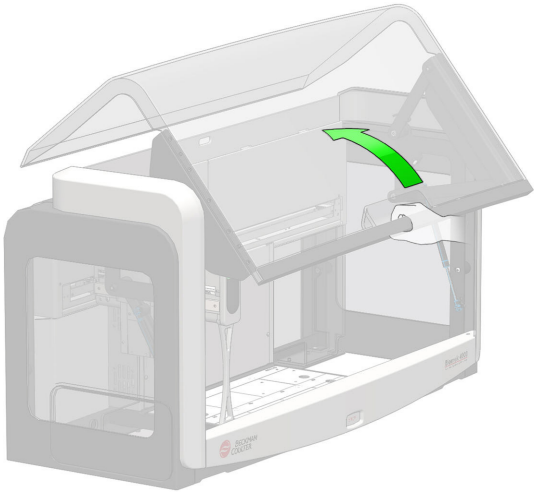


Figure 11 Main Door—Opening



Closing the Main Door

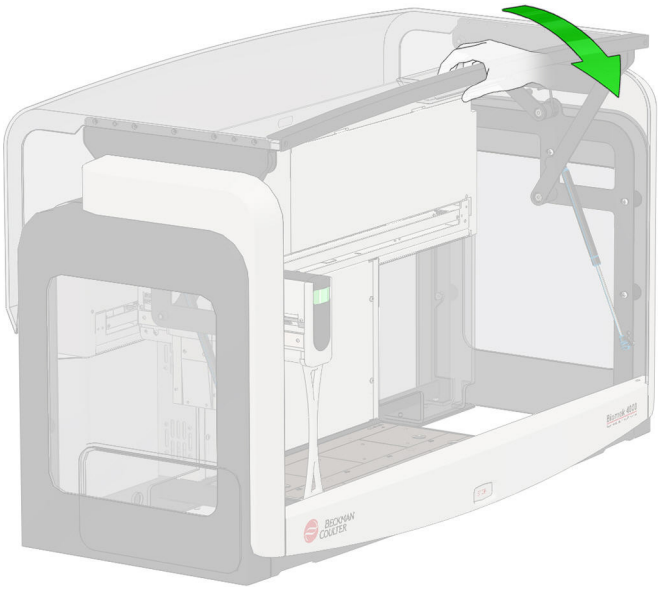
⚠ CAUTION

Risk of equipment damage. Opening or closing the main door from the left or the right of the center handle could damage the Enclosure System. When maneuvering the main door, pull from the center handle only.

To close the Biomek 4000 Enclosure System main door:

- With your palm facing down, pull the handle forward (Figure 12), and then gently push the door down in one smooth motion.

Figure 12 Main Door—Closing



Back Access Panels

There are two Back Access Panels, one is located on the left side of the instrument, and the other on the right. These panels provide access to the instrument communication ports and tubing egress to allow easy integration with Biomek 4000 ALPs and accessories, including, but not limited to, the following:

- AccuFrame
- Liquid Waste Station
- Orbital Shaker
- Shaking Peltier
- Static Peltier
- Wash System

Connecting and accessing the tubing and cabling required for using most Biomek 4000 ALPs and accessories is achieved through the right Back Access Panel. Refer to *Connections and Tubing* for details.

For a complete list of accessories, refer to the *Biomek 4000 ALPs and Accessories Manual*, *Biomek 4000 Hardware Manual*, *Shaking Peltier ALP Instruction Manual for Biomek 4000 Instruments*, or the *Static Peltier ALP Instruction Manual for Biomek 4000 Instruments*.

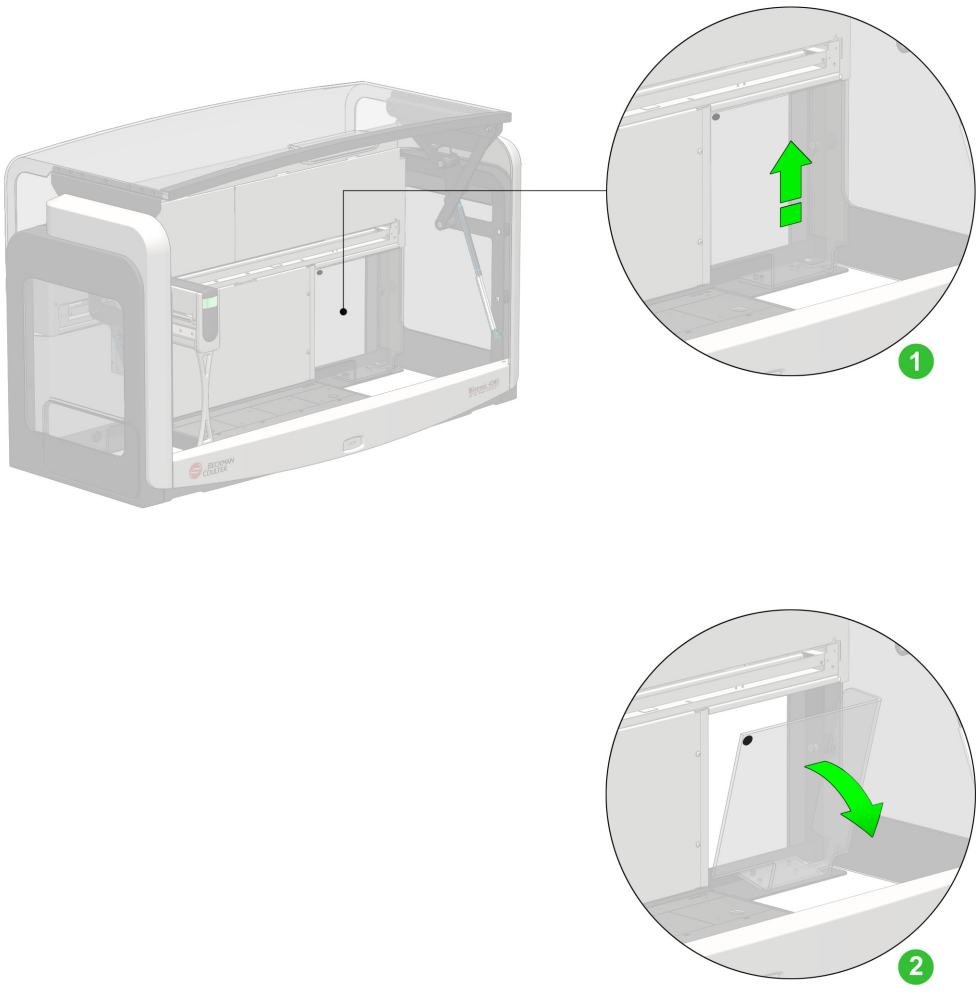
Removing the Back Access Panels

IMPORTANT If the Biomek 4000 Bridge and Pod are positioned in front of a Back Access Panel, move them to another location before attempting to remove the panel.

- Lift **(1)** and tip forward **(2)** the Back Access Panel to remove from instrument, as shown in Figure 13.

  NOTE This procedure is the same for both the left and right Back Access Panels.

Figure 13 Back Access Panel Removal



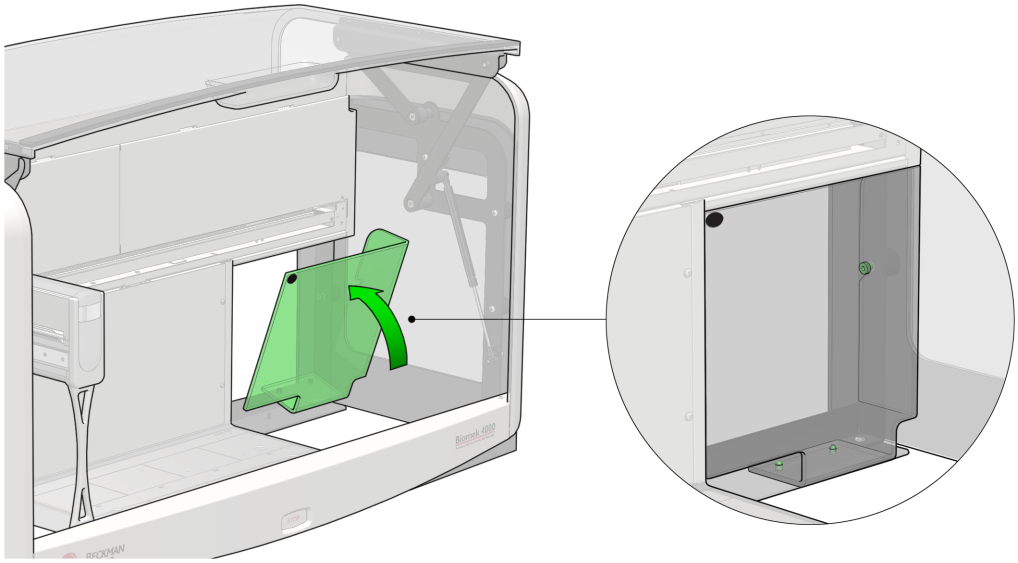
Installing the Back Access Panels

IMPORTANT If the Biomek 4000 Bridge and Pod are positioned in front of a Back Access Panel opening, move them to another location before attempting to install the panel.

1. Align the holes with the location pins on the back frame.
2. Push the panel toward the back of the instrument to engage the shoulder screw on the side and secure it into place against the magnet, as shown in Figure 14.

   NOTE This procedure is the same for both the left and right Back Access Panels.

Figure 14 Back Access Panel Installation



Connections and Tubing

This section specifies the panels that need to be accessed for connecting ALPs and accessories to your Biomek 4000 instrument. For complete instructions on using Biomek 4000 ALPs and accessories, refer to the *Biomek 4000 ALPs and Accessories Manual*, *Biomek 4000 Hardware Manual*, *Shaking Peltier ALP Instruction Manual for Biomek 4000 Instruments*, or the *Static Peltier ALP Instruction Manual for Biomek 4000 Instruments*.

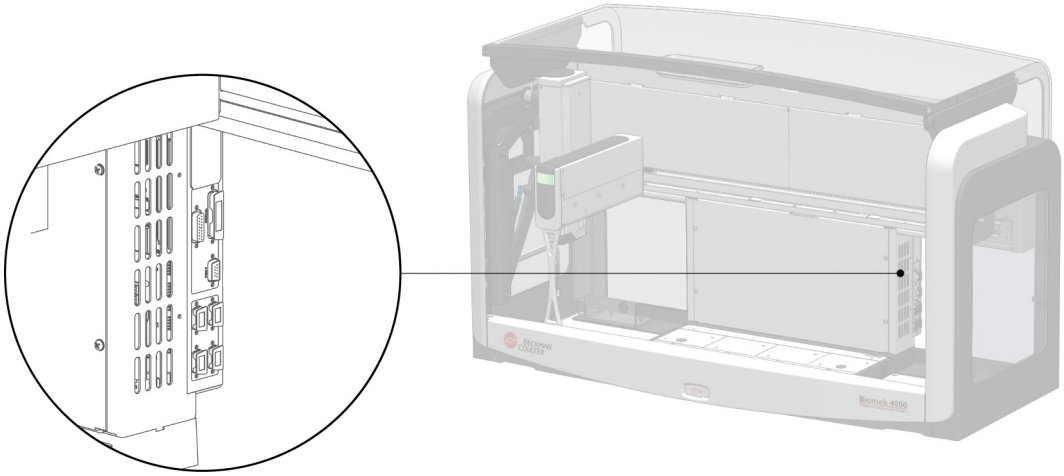
Accessing the Connection Ports

Connection ports can be accessed from the front once the right Back Access Panel is removed (see Figure 15).

⚠ WARNING

Risk of personal injury or equipment damage. Turn off power to the Biomek 4000 Laboratory Automation Workstation before attaching or removing ALPs or accessories. Failure to do so can cause electrical shock or equipment damage.

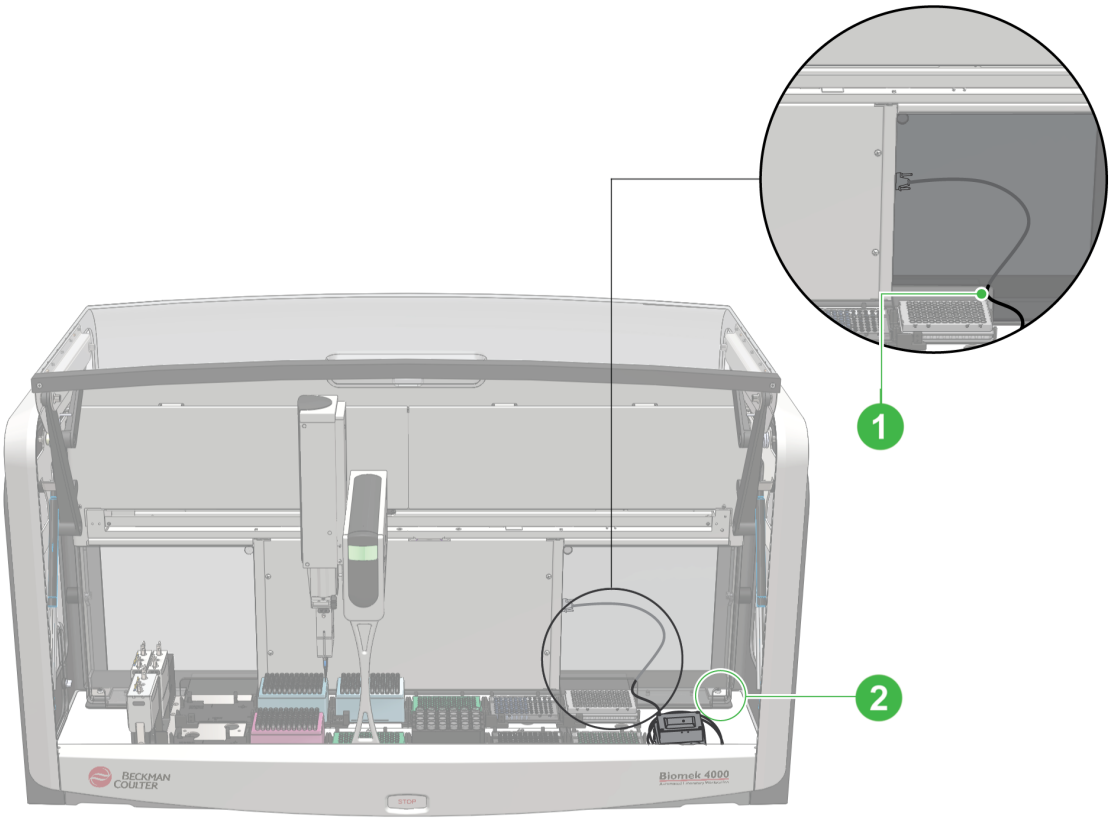
Figure 15 Accessing Connections



Connecting Cables

Refer to Figure 16 for the location of the right Back Access Panel pass-through to allow appropriately connecting ALPs and accessory cables.

Figure 16 Cable Connections

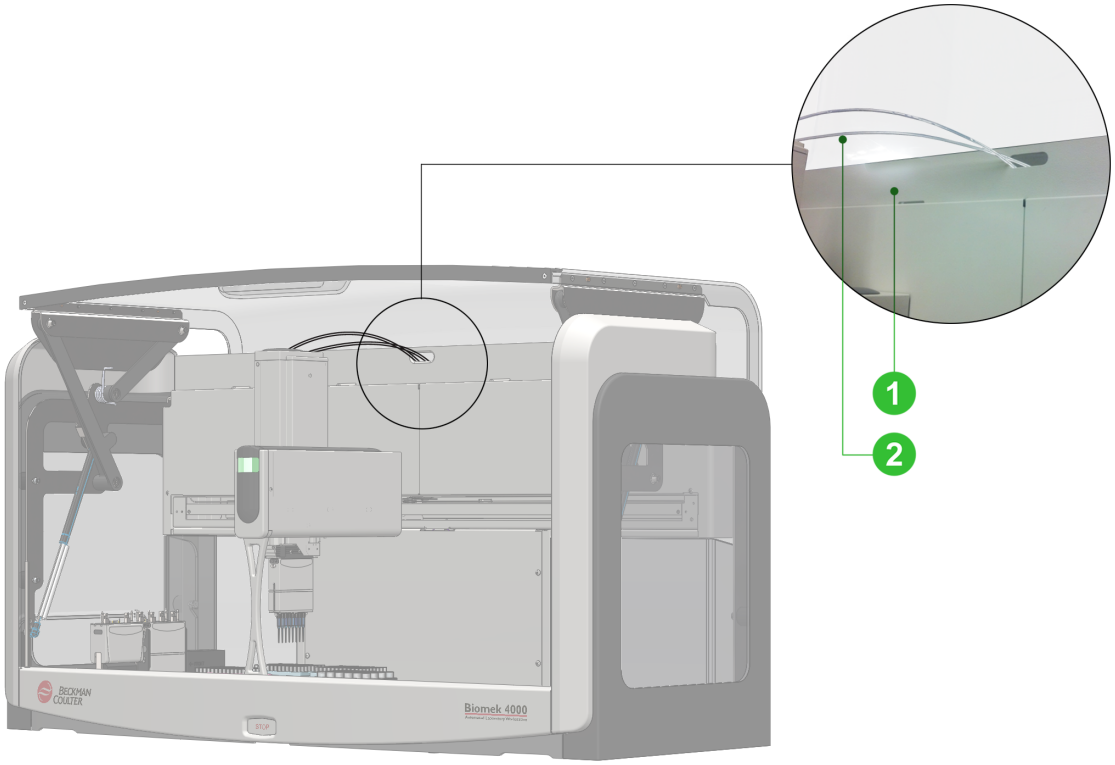


1. Opening on the right Back Access Panel for cable connections.
2. Cables can also be routed through the opening in this location.

Routing Wash System Tubing

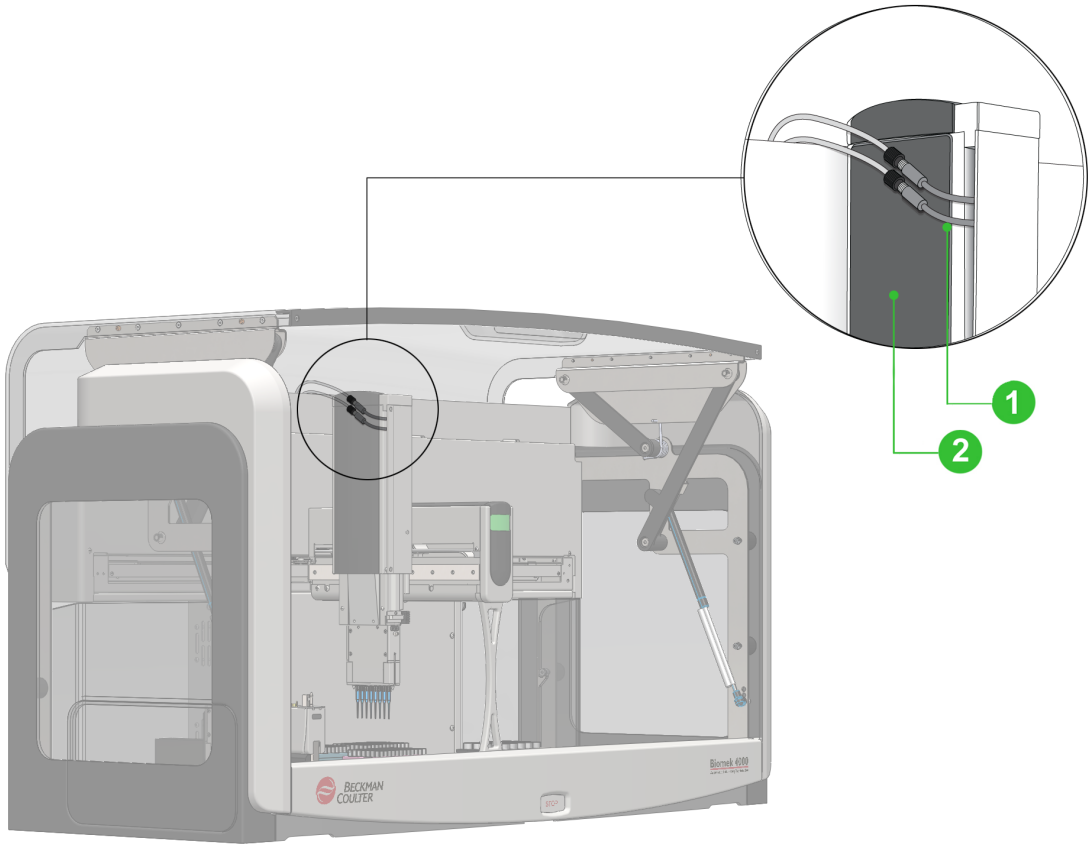
Figure 17 and Figure 18 show the appropriate method for connecting wash system tubing.

Figure 17 Wash System Tubing—Rear Panel



1. Top Rear Panel
2. Wash Tubing

Figure 18 Wash System Tubing—Wash Tool Tube Assembly

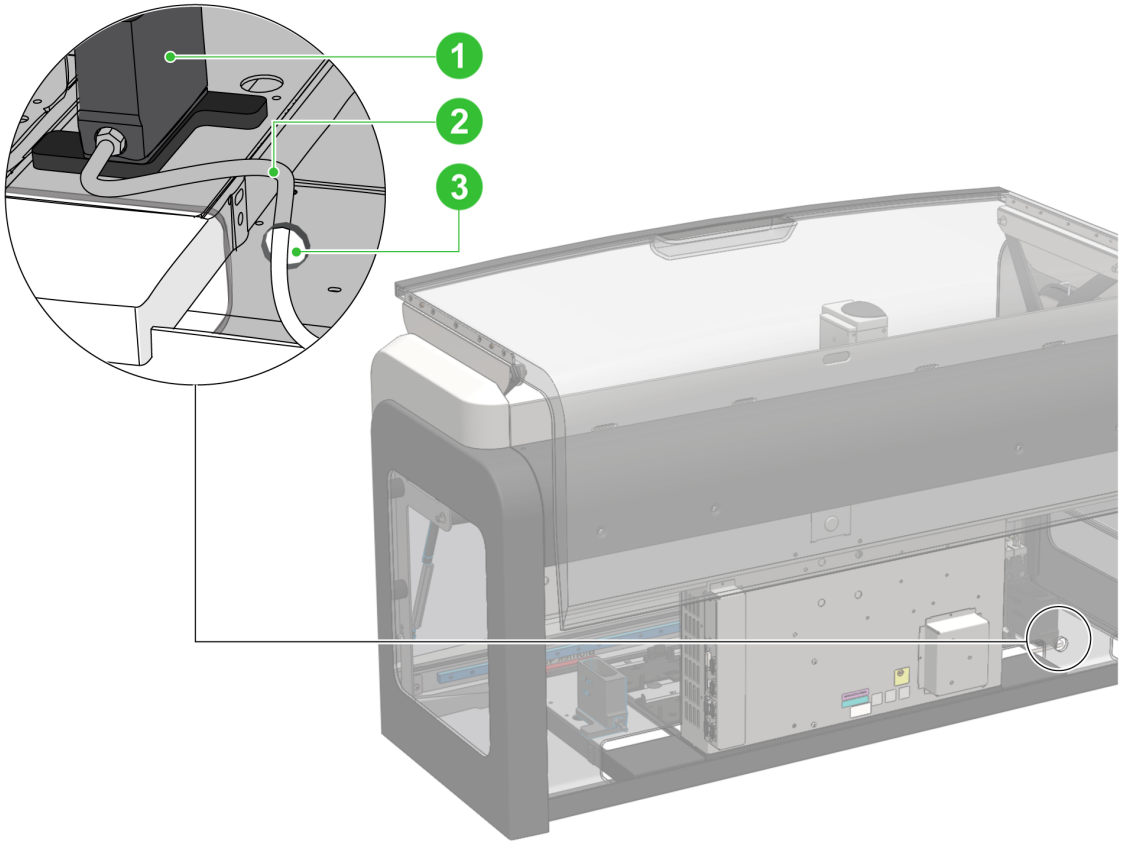


1. Wash Tool Tubing Assembly
2. Pod Assembly

Routing Liquid Waste Tubing

Refer to Figure 19 for the location of the left Back Access Panel pass-through to allow appropriately connecting the Liquid Waste tubing.

Figure 19 Liquid Waste Tubing



1. Liquid Waste Station
2. Liquid Waste Tubing
3. Opening for Tubing Connection

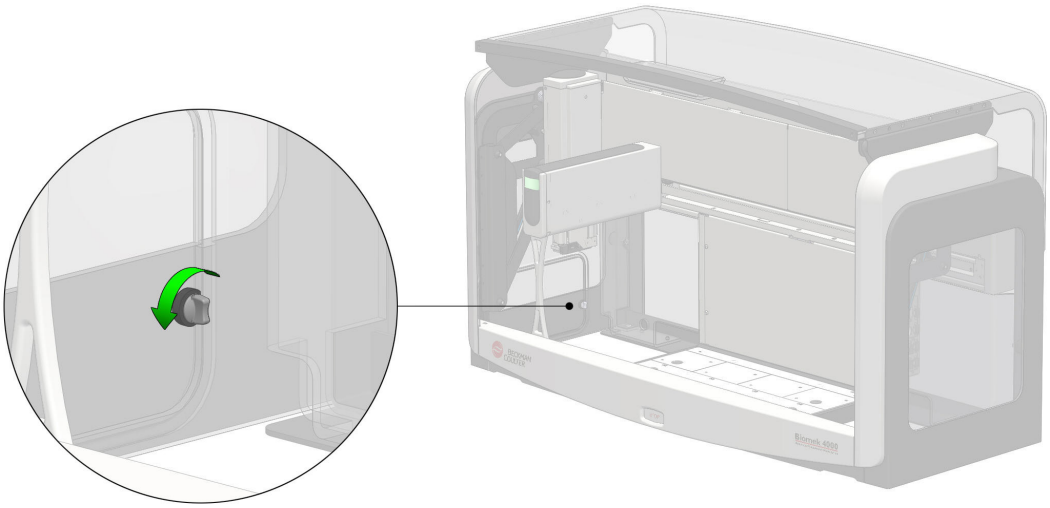
Side Access Panel

The Side Access Panel is typically used to access Disposal Accessory bags (see *Accessing Disposal Accessory Bags*), as well as to integrate devices, such as a conveyor. For a complete list of accessories, refer to the *Biomek 4000 ALPs and Accessories Manual*, *Biomek 4000 Hardware Manual*, *Shaking Peltier ALP Instruction Manual for Biomek 4000 Instruments*, or the *Static Peltier ALP Instruction Manual for Biomek 4000 Instruments*.

Removing the Side Access Panel

- Unscrew the knob to remove the Side Access Panel, as shown in Figure 20.

Figure 20 Access Panel—Side Removal



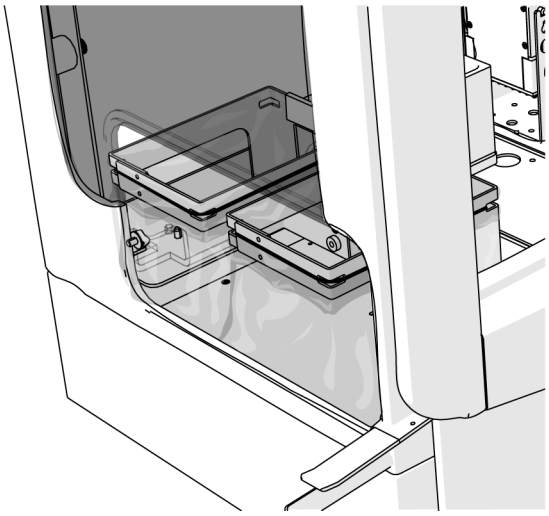
Installing the Side Access Panel

- Tighten the Side Access Panel knob, turning it in the opposite direction indicated in Figure 20.

Accessing Disposal Accessory Bags

- Disposal Accessory bags are accessed through the Side Access Panel (see Figure 21 for details).

Figure 21 Accessing Disposal Accessory Bags



Integration Deck Door

To open the Integration Deck door:

- Pull on one side of the door to disengage the magnetic latches, and gently push the door down, as shown in Figure 22.

Figure 22 Integration Deck Door—Opening

Maintenance

Other than routine cleaning (see *Cleaning the Enclosure System*), consult your Beckman Coulter Service Representative to complete any necessary maintenance activities.

Cleaning the Enclosure System

To clean your Enclosure System, it is recommended that you use one of the solutions listed below:

IMPORTANT Cleaning solutions should not remain in contact with the Enclosure System for more than **30 minutes**.

- 10% Bleach
- 70% Ethanol
- 8% Formaldehyde

Troubleshooting

If you are having trouble with your Biomek 4000 Enclosure System, consult Table 5 for common issues along with their resolutions.

IMPORTANT If an issue lists multiple remedies, start with Step 1. If the problem is not resolved, continue progressing through the steps until the problem is corrected, or until you are prompted to contact a Beckman Coulter Representative.

Table 5 Biomek 4000 Enclosure System Troubleshooting

Issue	Remedy
The Side Module cannot be installed onto the deck.	**1.** Ensure you are using a Biomek 3000/4000 Side Module. **2.** Remove the rubber feet from the Side Module. **3.** Remove the Back Access Panel. **4.** If Steps 1 through 3 did not resolve the installation problems for the Side Module, contact a Beckman Coulter Representative.
You are having trouble framing.	**1.** Open the main door, as it could be slightly obstructing the view of the deck. **2.** Refer to the *Biomek 4000 Hardware Manual*, Chapter 7, *Framing*, for additional information on framing the deck.
Tips are not being discarded into the tip disposal bag.	**1.** Ensure the tip disposal bag is unencumbered and flat. **2.** Refer to the *Biomek 4000 ALPs and Accessories Manual*, Chapter 8, *Disposal Accessory*, for additional information on using the disposal accessory.
The temperature within the enclosure is too high, causing your assay to fail.	Monitor the temperature inside the enclosure when using heat-generating ALPs. **OR**, contact a Beckman Coulter Representative for alternatives.

Table 5 Biomek 4000 Enclosure System Troubleshooting

Issue	Remedy
You are having trouble installing cables, ALP tubing, or accessories.	Remove the Back Access Panel.
The main door seems too heavy to lift.	1. Check for obstructions. 2. Contact a Beckman Coulter Representative, as the main door might need to be adjusted.
The main door falls shut.	Contact a Beckman Coulter Representative, as the main door might need to be adjusted.
The main door slams open at the top of its travel.	Contact a Beckman Coulter Representative, as the main door might need to be adjusted.
The main enclosure door rubs on the side cover.	Contact a Beckman Coulter Representative, as the main door might need to be adjusted.

Beckman Coulter, Inc.
Warranty and Returned Goods Requirements

All standard Beckman Coulter, Inc. policies governing returned goods apply to this product. Subject to the exceptions and upon the conditions stated below, the Company warrants that the products sold under this sales agreement shall be free from defects in workmanship and materials for one year after delivery of the products to the original Purchaser by the Company, and if any such product should prove to be defective within such one year period, the Company agrees, at its option, either (1) to correct by repair or at the Company's election by replacement, any such defective product provided that investigation and factory inspection discloses that such defect developed under normal and proper use, or (2) to refund the purchase price. The exceptions and conditions mentioned above are as follows:

1. Components or accessories manufactured by the Company which by their nature are not intended to and will not function for one year are warranted only to reasonable service for a reasonable time. What constitutes a reasonable time and a reasonable service shall be determined solely by the Company. A complete list of such components and accessories is maintained at the factory.
2. The Company makes no warranty with respect to components or accessories not manufactured by it. In the event of defect in any such component or accessory, the Company will give reasonable assistance to Purchaser in obtaining the manufacturer's own warranty.
3. Any product claimed to be defective must, if required by the Company, be returned to the factory, properly decontaminated of any chemical, biological, or radioactive hazardous material, transportation charges prepaid, and will be returned to the Purchaser with transportation charges collect unless the product is found to be defective.
4. The Company shall be released from all obligations under all warranties, either expressed or implied, if any product covered hereby is repaired or modified by persons other than its own authorized service personnel, unless such repair by others is made with the written consent of the Company.
5. If the product is a reagent or the like, it is warranted only to conform to the quantity and content and for the period (but not in excess of one year) stated on the label at the time of delivery.

It is expressly agreed that the above warranty shall be in lieu of all warranties of fitness and of the warranty of merchantability, and that the company shall have no liability for special or consequential damages of any kind or from any cause whatsoever arising out of the manufacture, use, sale, handling, repair, maintenance, or replacement of any of the products sold under the sales agreement.

Representatives and warranties made by any person, including dealers and representatives of the Company, which are consistent or in conflict with the terms of this warranty, shall not be binding upon the Company unless reduced in writing and approved by an expressly authorized officer of the Company.

Parts replaced during the warranty period are warranted to the end of the instrument warranty.

NOTE
Performance characteristics and specifications are only warranted when Beckman Coulter replacement parts are used.

Except as provided in writing signed by an officer to Beckman Coulter, Inc., this system and any related documentation are provided “as is” without warranty of any kind, expressed or implied, including that the system is “error free.” This information is presented in good faith, but Beckman Coulter does not warrant, guarantee, or make any representations regarding the use or the results of the use of this system and related documentation in terms of correctness, accuracy, reliability, currentness, omissions, or otherwise. The entire risk as to the use, results, and performance of this system and related documentation is assumed by the user.

Related Documents

Biomek 4000 Hardware Manual
PN A99498
- Moving and Installing the Biomek 4000 Workstation
- Setting Up the Worksurface
- Pipetting Tools
- Gripper Tool
- Hardware Setup
- Framing
- Controlling the Workstation

Biomek 4000 Preinstallation Manual
PN A99499
- Preinstallation Requirements

Biomek 4000 ALPs and Accessories Manual
PN A99501
- 1x1 Standard ALP
- Auto-Latching Tip Rack Holders
- Bar Code Reader
- Bar Code Reader Hand-Held
- Circulating Reservoir
- Filtration System
- Liquid Waste Station
- Off-Deck Platform
- Orbital Shaker
- Test Tube Racks
- Thermal Exchange Unit
- Wash Unit

Biomek 4000 Software Tutorial
PN A99502
- Getting Started with Biomek Software
- Using More Steps in a Method
- Using Worklists and Conditions
- Using Files to Direct Transfers

Biomek 4000 Customer Start-Up Guide
PN A99598
- Biomek 4000 Laboratory Automation Workstation
- Preparing to Run
- Creating a Simple Method
- Advanced Features
- Best Practices

Biomek 4000 Software Manual
PN B08852
- Using Accounts and Permissions
- Using Password Protection
- Using Instrument Files and Settings
- Configuring Hardware Setup
- Preparing and Managing the Deck
- Understanding and Using Project Files
- Creating and Modifying Tip and Labware Types
- Understanding and Creating Liquid Types
- Understanding and Creating Techniques
- Using the Pipetting Template Editor
- Creating Well Patterns
- Creating and Using Methods
- Using Variables and Expressions in a Method
- Using Sample Tracking and Data Sets in a Method
- Using the Basic Step Palette
- Using the Intermediate Step Palette
- Using the Advanced Step Palette
- Using the Span-8 Step Palette
- Using the Biomek Instrument Step Palette
- Using the Specialty Step Palette
- Using the Devices Step Palette
- Using the Wash Tool Step Palette
- Using the DataSets Step Palette
- Handling and Preventing Errors
- Generating and Using Log Data
- Using Manual Control
- Scripting
- Changing Window Appearance

Biomek 4000 Migration Guide for Biomek 3000 Methods
PN B08853
- Migrating Methods
- Biomek 4000 System Updates
- Continued Features
- Discontinued Features

Shaking Peltier ALP Instruction Manual for Biomek 4000 Instruments
PN B20570
- Overview of Shaking Peltier ALP
- Hardware Installation
- Software Installation
- Software Setup
- Framing Using AccuFrame
- Installing Adapter Plates and Creating Labware Offsets
- Operations

Static Peltier ALP Instruction Manual for Biomek 4000 Instruments
PN B20569
- Overview of Static Peltier ALP
- Hardware Installation
- Software Installation
- Software Setup
- Framing Using AccuFrame
- Installing Adapter Plates and Creating Labware Offsets
- Operations

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