



Instruction For Use

Biomek i-Series HEPA Filter Kit

C16028AB
November 2017



Beckman Coulter, Inc.
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Biomek i-Series HEPA Filter Kit
Instructions For Use
PN C16028AB (November 2017)

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Contact Us

If you have any questions, contact our Customer Support Center.

- Worldwide, find us via our website at www.beckmancoulter.com/customersupport/support
- In the USA and Canada, call us at 1-800-369-0333.
- Outside of the USA and Canada, contact your local Beckman Coulter Representative.



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Original Instructions

Revision History

For updates, go to www.beckmancoulter.com and download the latest version of the manual or system help for your instrument.

Initial Issue C16028AA, 08/2017

Issue Version AB, 11/2017

Changes or additions were made to: [Maintenance and Cleaning Procedure](#).

Note: Changes that are part of the most recent revision are indicated in text by a bar in the margin of the amended page.

Safety Notice

Read all product manuals and consult with Beckman Coulter-trained personnel before attempting to use this equipment. Do not attempt to perform any procedure before carefully reading all instructions. Always follow product labeling and manufacturer's recommendations. For additional support, [contact us](#).

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.

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 us](#).

Alerts for Danger, 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.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

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



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.

California Prop 65 Warning

This product can expose you to chemicals including phthalates, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Labels

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.

CE



A “CE” mark indicates that a product has been assessed before being placed on the market, and has been found to meet European Union safety, health, and/or environmental protection requirements. It is a mandatory marking for various product categories that are placed into service within the European Economic area.

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HEPA Filter Kit

Introduction

The HEPA Filter Kit is an optional accessory designed for the Biomek i-Series Automated Workstation. The HEPA Filter Kit provides a positive pressure environment with HEPA filtered air inside the Biomek.

Configuration and Installation

Several different HEPA Filter Kits are available. Select the correct kit based on the model of your Biomek i-Series instrument and the electric voltage in your lab. Please note that the pod configuration (e.g. multichannel or Span-8) of the Biomek i-Series instrument does not affect the HEPA Filter Kit.

The HEPA Filter Kit is only available for Biomek i-Series enclosed models (see [Table 1](#)).

Table 1 Biomek i-Series Enclosed Models and HEPA Filter Kit Numbers

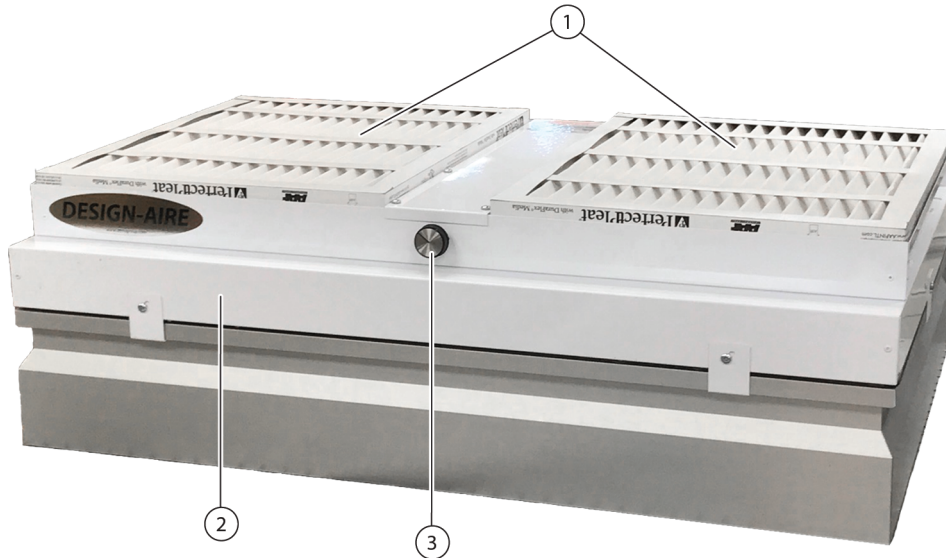
Biomek i-Series		HEPA Filter Kit Part Number	
Part Number	Description	115V	230V
B87585	Biomek i7 Hybrid (Multichannel & Span-8) with Enclosure	B98219	C07610
B87586	Biomek i7 Dual-Multichannel with Enclosure		
B87587	Biomek i7 Multichannel with Enclosure		
B87588	Biomek i7 Span-8 with Enclosure		
B87583	Biomek i5 Multichannel with Enclosure	B98217	C07609
B87584	Biomek i5 Span-8 with Enclosure		

Accessory Integration

Standard Biomek i-Series ALPs and accessories can be used with the HEPA Filter Kit. See [Related Documents](#).

Features

Figure 1 HEPA Filter Kit front (Biomek i-7 filter unit shown)



1. Pre-filters
2. Frame
3. On/off variable speed controller

The HEPA Filter Kit features the following main components:

- **Fan Filter Unit:** The Fan Filter Unit is designed to provide continuous air flow and filtration to the Biomek workspace. The filter is HEPA rated with a minimum of 99.99% efficiency at 0.3 microns*. The fan has a variable speed controller, with control from 195-442 cfm for the Biomek i5 filter kit, and 240-730 cfm for the Biomek i7 filter kit.
- **Fan Filter Unit Mounting:** the painted aluminum mounting attaches to the top halo of the Biomek i-Series instrument, and clear acrylic panels provide complete coverage of the top of the instrument.
- **Power Outlet Strip:** The outlet strip is designed to mount to the rear of the Biomek i-Series instruments. It provides on/off control of the fan filter unit.

* See the manufacturer's website at <http://www.dfmzgroup.com/products.php?catID=1&productID=6>

- The HEPA unit comes with a 2.44 m (8 ft.) three wire electrical cord (attachable to the power connector at the rear of the instrument) and plug to connect the HEPA Filter unit to earth-ground.

Figure 2 AC Power Connector



Operating the HEPA Fan Filter Unit

The variable speed controller with on/off switch for the Biomek HEPA Filter Kit is located on the front of the unit. Turn the power switch on to begin air filtration. Use the variable speed controller knob to change the airflow speed.

Airflow Testing

The Filter is HEPA rated with a minimum of 99.99% efficiency at 0.3 microns*. Run the filter for approximately ten minutes to clear the air prior to running the Biomek i-Series instrument.

NOTE No claim is established for particulate matter inside the Biomek workspace. If a specific particulate level is required, Beckman Coulter recommends using a certification provider to determine and execute the necessary testing.

* See the manufacturer's website at <http://www.dfmzgroup.com/products.php?catID=1&productID=6>

Maintenance and Cleaning Procedure

The HEPA Filter Kit was designed to allow for simple filter changes and cleaning. Advanced maintenance tasks should be performed by a Beckman Coulter Service representative. For additional support, [contact us](#).

WARNING

Risk of operator injury if:

- All covers and panels are not closed and/or 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.
- Covers and panels are not opened, closed, removed and/or replaced with care.
- Improper tools are used for troubleshooting.

To avoid injury:

- Keep covers and panels closed and/or 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.

WARNING

Risk of personal injury, contamination, and property damage. Always observe appropriate cautionary procedures as defined by your safety officer when using flammable solvents or toxic, pathological, radioactive, and biological materials.

Always use appropriate Personal Protective Equipment (PPE) when handling hazardous materials.

Cleaning

Mild, non-abrasive and non-solvent based cleaners can be used to gently wipe down the painted aluminum and acrylic parts. A slightly damp microfiber cloth with warm water is recommended to preserve part finish.

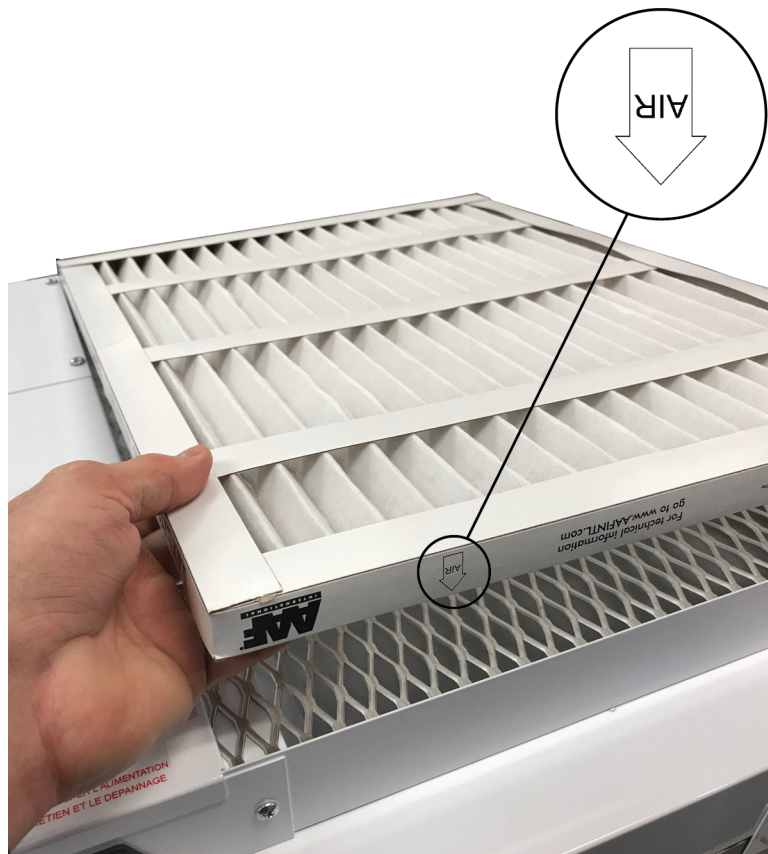
Filter Replacement

The HEPA filter should be changed regularly as part of a preventive maintenance schedule. [Contact us](#) to complete any necessary maintenance activities.

Change pre-filters on a schedule determined by your need and the ambient air quality. It is recommended that the pre-filter on the unit be changed every 2-3 months for the first year. Each time the pre-filter is changed, its condition should be inspected to identify any changes in coloration or buildup of dirt. If you determine that there is no notable change in coloration or dirt buildup on the pre-filter, the time between changing the pre-filter can be extended to every 6 months.

To replace the pre-filter, simply lift it off the HEPA fan unit. Replace it with a new filter with the airflow indicator pointing down ([Figure 3](#)).

Figure 3 Replace pre-filter



Specifications

Table 2 Specifications

Item	2' x 2' (i-5)	2' x 3' (i-7)
Speed control full with no pre-filter	442 cfm	730 cfm
Dimensions Width x Depth x Height	60 cm x 60 cm x 28.6 cm 23.62" x 23.62 in x 11.25 in	60 cm x 90.5 cm x 28.6 cm 23.62 in x 35.6 in x 11.25 in
Housing	.040 Aluminum	.040 Aluminum
Weight	13.2 kg (29 lbs)	18.2 kg (40 lbs)
Electrical	115V, 1.08A, 50/60Hz 230V, 0.55A, 50/60Hz	115V, 2.16A, 50/60Hz 230V, 1.10A, 50/60Hz
Power Strip	10 amps	10 amps
Pre-filter	(1) Disposable MERV 7 rated pleated pre-filter, 40.6 cm x 50.8 cm x 2.5 cm (16 in. x 20 in. x 1 in.)	(2) Disposable MERV 7 rated pleated pre-filter, 40.6 cm x 50.8 cm x 2.5 cm (16 in. x 20 in. x 1 in.)
HEPA Filter Rating ^a	99.99% efficient at 0.3 microns	99.99% efficient at 0.3 microns
Airflow Speed Control Low with 1" Pre-filter Speed Control Full with 1" Pre-filter	195 cfm 410 cfm	240 cfm 689 cfm
Noise Level (91.4 cm (36 in.) from filter face)	51-57 dBA	55-60 dBA

a. See manufacturer's website at <http://www.dfmzgroup.com/products.php?catID=1&productID=6>

Troubleshooting

Table 3 Solutions to common problems

Problem	Cause	Solution
Fan filter unit does not start.	Electric power cord may not be plugged in or connection may be loose.	Make sure plug fits tightly into outlet.
	Fuse blown, circuit breaker tripped, power outage has occurred.	Reset breaker or replace fuse. Do not increase fuse capacity. If circuit is overloaded, contact us . Call local electric company for power outage.
	Motor is over heated.	Motor will automatically restart after cool down period.
	Variable speed controller is in off position.	Turn variable speed controller on.
Low airflow from downstream side of HEPA Filter.	Pre-filters are dirty.	Change pre-filters and re-test airflows.
	HEPA Filter is loaded.	Contact us .
	Variable speed controller is turned down.	Adjust variable speed controller to increase airflow output. Retest airflow.
	Power Supply is not sufficient.	Have qualified electrician determine proper voltage input at source.
High airflow from downstream side of HEPA Filter.	One of the motors on the twin fan units has stopped working.	Contact us .
	Variable speed controller is set too high.	Adjust variable speed controller to decrease airflow output. Retest airflow.

Replacement Parts

To order replacement HEPA Filter Kit Pre-filters (PN C15950), [contact us](#). Store unused pre-filters in a clean, dry environment.

Beckman Coulter, Inc.

Customer End User License Agreement

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, Inc. 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.

Except as expressly provided herein, Beckman Coulter, Inc. makes no other warranty, whether oral or written, expressed or implied, as to any matter whatsoever, including but not limited to those concerning merchantability and fitness for a particular purpose, nor is freedom from any patent owned by Beckman Coulter, Inc. or by others to be inferred.

LIMITATIONS OF LIABILITY

Beckman Coulter, Inc. shall not be liable, to any extent whatsoever, for any damages resulting from or arising out of the use or performance of this system and related documentation or the procedures specified in this manual, regardless of foreseeability or the form of action, whether in contract, tort (including negligence), breach of warranty, strict liability or otherwise, and including but not limited to damages resulting from loss of data, loss of anticipated profits, or any special, indirect, incidental or consequential damages. In no event shall Beckman Coulter, Inc.’s liability to the user exceed the amount paid by the user to Beckman Coulter, Inc. hereunder. The user assumes full responsibility for the results obtained from the use of this system and related documentation and for application of such results.

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 two years after delivery of the products to the original Purchaser by the Company, and if any such product should prove to be defective within such two years 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:

- a. 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.
- b. 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 from the manufacturer’s own warranty.

- c. Any product claimed to be defective must, if required by the Company, be returned to the factory, transportation charges prepaid, and will be returned to Purchaser with transportation charges collect unless the product is found to be defective, in which case the product must be properly decontaminated of any chemical, biological, or radioactive hazardous material.
- d. 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.
- e. 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 inconsistent 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, Inc. replacement parts are used.

Related Documents

Biomek i-Series Automated Workstation Pre-installation Manual

PN B54472

Biomek i-Series Automated Workstation Hardware Reference Manual

PN B54474

Biomek i-Series Software Reference Manual

PN B56358

Biomek i-Series Tutorials

PN B54475

Automated Labware Positioners (ALPs) Instructions For Use

PN 987836

Biomek i-Series Automated Labware Positioners, Accessories, & Devices Instructions for Use

PN B54477

Static Peltier ALP Integration Manual for Biomek FX/FX^P, NX/NX^P, and i-Series Instruments

PN A93392, Rev. AC and up

Shaking Peltier ALP Integration Manual for Biomek FX/FX^P, NX/NX^P, and i-Series Instruments

PN A93393, Rev. AC and up

Biomek i-Series Cytomat ALP and Devices User's Manual

PN B91265

SAMI EX Software for Biomek i-Series Automated Workstations Instructions for Use

PN B58997

SAMI EX Software for Biomek i-Series Automated Workstations Reference Manual

PN B59001

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