

# BD Rhapsody™ Express Single-Cell Analysis System Installation and Maintenance Guide

For the BD Rhapsody™ Express instrument

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## Regulatory information

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

## Patents

The BD Rhapsody™ Targeted mRNA and AbSeq Reagent Kit is covered by one or more of the following U.S. patents: 8835358, 9315857, 9290808, 9290809, 9567646, and 9598736.

## Revision history

Revision	Date	Change made
Doc ID: 76955 Rev. 1.0	02/2018	Initial release
Doc ID: 76955 Rev. 2.0	08/2018	—Changed the name of “BD Rhapsody™ Sample Loading Station” to “BD Rhapsody™ Express instrument.” —Updated cross-references to “ <i>BD Rhapsody™ Express Single-Cell Analysis System Instrument User Guide</i> (Doc ID: 214063).”

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# 1

## Introduction

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## About this guide

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**Introduction** This guide provides instructions on installing and maintaining the BD Rhapsody™ Express instrument.

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**Intended use** This guide is intended for users of the BD Rhapsody Express instrument. Read this guide prior to installing and maintaining the instruments.

For intended use of the BD Rhapsody™ Single-Cell Analysis system, see the *BD Rhapsody™ Express Single-Cell Analysis System Instrument User Guide* (Doc ID: 214063).

For detailed site requirements and technical specifications, see the *BD Rhapsody™ Express Single-Cell Analysis System Site Preparation Guide* (Doc ID: 75750).

Genomics technical publications are available for download from the BD Genomics Resource Library at [bd.com/genomics-resources](https://bd.com/genomics-resources).

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## Safety symbols

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**Introduction** This topic describes the safety symbols used in this guide.

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**Safety symbols** The following table lists the safety symbols used in this guide to alert you to potential hazards.

Symbol	Meaning
	Caution. Indicates the need for the user to consult the instructions for use for important cautionary information, such as warnings and precautions that cannot, for a variety of reasons, be presented on the device itself.
	Biological hazard. All surfaces that come in contact with biological specimens can transmit potentially fatal disease. Use universal precautions when cleaning surfaces. Wear suitable protective clothing, eyewear, and gloves.
	Lifting hazard

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## Safety data sheets

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**Introduction** This topic describes how to obtain safety data sheets (SDSs).

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**Obtaining SDSs** Before handling chemicals, read and understand the SDSs. To obtain SDSs for chemicals ordered from BD Biosciences, contact BD Biosciences technical support at [researchapplications@bd.com](mailto:researchapplications@bd.com).

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## Instrument technical support

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**Introduction** This topic describes how to get technical support for the BD Rhapsody Express instrument.

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**Contacting technical support** If technical assistance is required, contact [researchapplications@bd.com](mailto:researchapplications@bd.com) or 1.877.232.8995, prompt 2, 2 or +353.61.307734. You can contact technical support in Europe at [help.biosciences@europe.bd.com](mailto:help.biosciences@europe.bd.com) or at these telephone numbers:

Location	Telephone number	Location	Telephone number
Worldwide	+32 2 40 09 895	—	
Austria	01 92 80 465	Netherlands	010 71 14 800
Belgium	02 40 17 093	Norway	800 18 530
Denmark	80 88 21 93	Portugal	800 86 01 76
Finland	800 11 63 17	South Africa	0800 98 10 08
France	01 70 70 81 93	Spain	91 41 46 250



<b>Location (continued)</b>	<b>Telephone number</b>	<b>Location</b>	<b>Telephone number</b>
Germany	069 22 22 25 60	Sweden	08 50 69 21 54
Greece	00800 12 75 06	Switzerland	044 58 04 373
Italy	02 36 00 36 85	United Kingdom	0207 07 53 226

Before contacting BD Biosciences, have the following information available:

- Product name, model number, and serial number on the rear of the instrument.
  - Details of recent system performance
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# 2

## Installation

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## BD Rhapsody™ Express instrument installation

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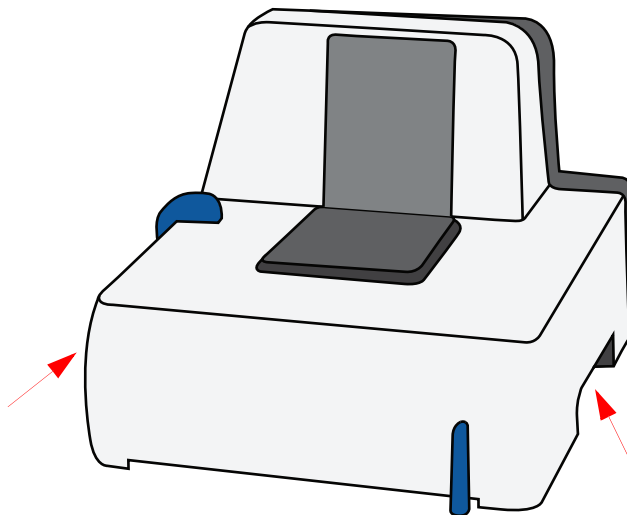
**Preparing the site** Prepare the site for the Express instrument. See the *BD Rhapsody™ Express Single-Cell Analysis System Site Preparation Guide* (Doc ID: 75750).

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**Installation** Contact BD Biosciences technical support at [researchapplications@bd.com](mailto:researchapplications@bd.com).

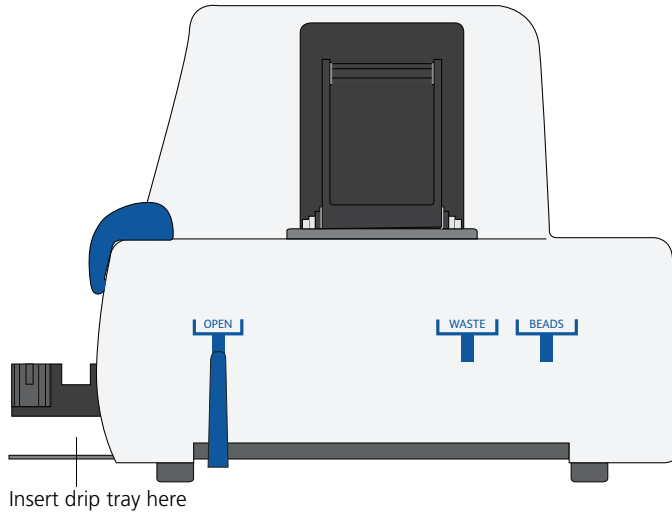
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**Lifting the BD Rhapsody Express instrument** Lift the BD Rhapsody Express instrument by firmly grasping the cutout on each side of the instrument:

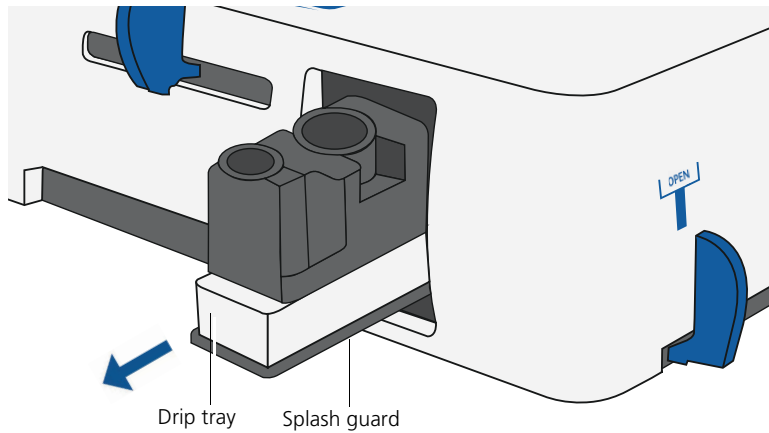


## Installing the drip tray and splash shield

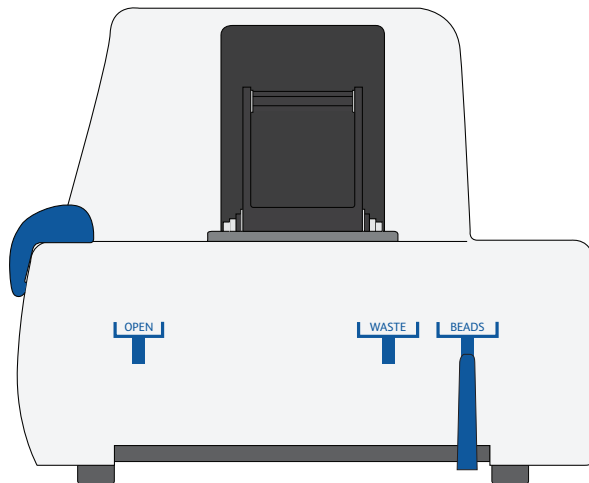
1. Move the front slider to **OPEN**:



2. Review the location of parts:



3. Orient the white drip tray so that its larger compartment faces upwards and is positioned towards the interior of the instrument. The compartments of the drip tray correspond to the tube sizes above it.
4. Insert the drip tray fully until it stops.
5. Move front slider to **BEADS**:



6. Slide the splash shield fully, underneath the drip tray, until it stops.
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# 3

## Maintenance

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# Maintaining the BD Rhapsody™ Express instrument

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## Introduction

This section describes how to maintain and decontaminate the BD Rhapsody Express instrument.

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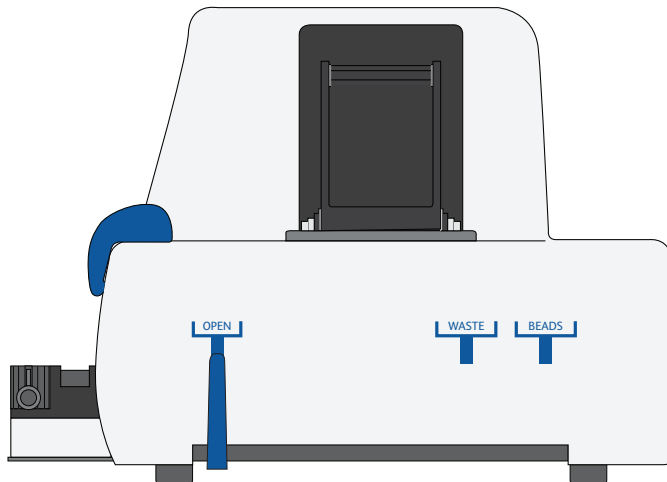
## General maintenance guidelines

Use 10% (v/v) bleach, 70% (v/v) ethyl alcohol, or 70% (v/v) isopropyl alcohol to clean the BD Rhapsody Express instrument.

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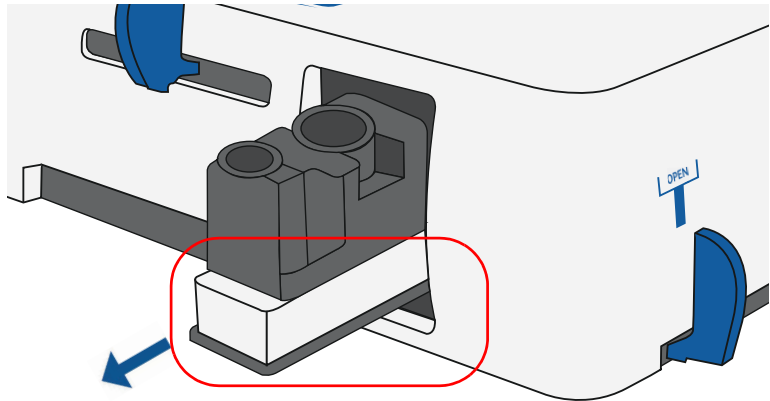
## Cleaning the drip tray and tube receptacles

1. During cleaning, wear suitable protective clothing, eyewear, and gloves.
2. After each use, move the front slider to **OPEN**:





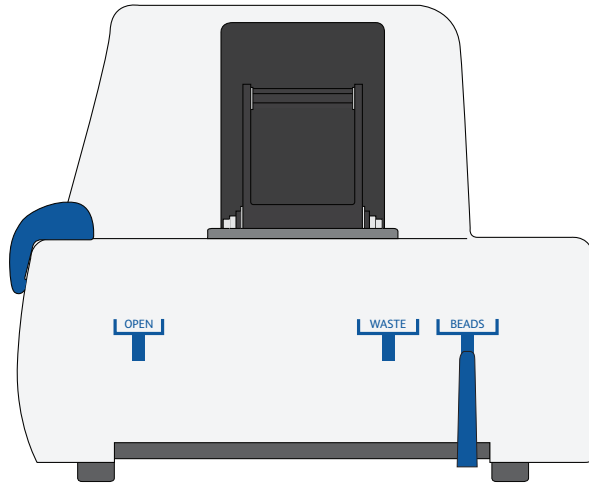
3. Remove the white drip tray (red oval) by lifting it slightly and pulling it out:



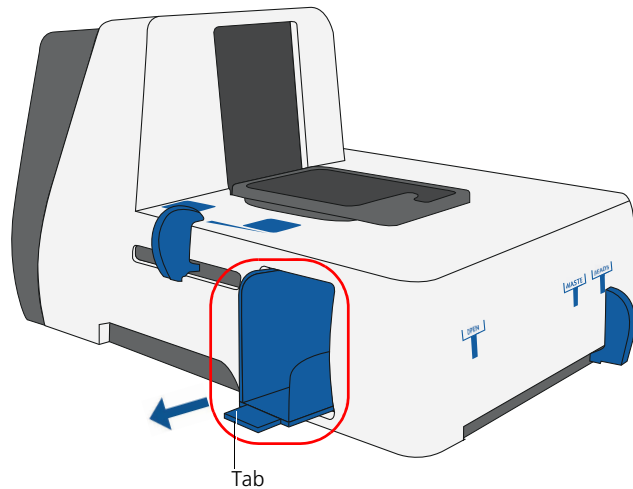
4. If necessary, appropriately dispose of the liquids in the drip tray.
5. Use pre-moistened cleaning wipes with 10% bleach or 70% ethyl alcohol to wipe the sides, top, and bottom of the drip tray and the tube receptacles for the Waste Collection Container (Cat. No. 650000090) and Bead Retrieval Tube (5 mL LoBind Tube).
6. Use a dry lint-free wiper to dry the components.
7. Orient the white drip tray so that its larger compartment faces upwards and is positioned towards the interior of the instrument, and then reinsert the drip tray fully until it stops. The compartments of the drip tray correspond to the tube sizes above it.
8. Move the front slider with the correct collection tubes to the appropriate position to **BEADS** or **WASTE**.
9. Dispose of the used cleaning materials in the biohazard containers.

**Cleaning the splash shield**

1. Move the front slider to **BEADS** for access to the splash shield tab:



2. On the left side of the BD Rhapsody Express instrument, grasp the bottom tab, and pull out the splash shield (red oval). To avoid spills, do not tilt the tray:



3. Appropriately dispose of liquid in the splash shield.
4. Wash the splash shield with 10% bleach or 70% ethyl alcohol.
5. Use a dry lint-free wiper to dry the splash shield.
6. Slide the splash shield fully into the left opening of the instrument until it stops.
7. Dispose of the used cleaning materials in biohazard containers.

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### **Cleaning the cartridge tray**

1. Remove the BD Rhapsody™ Cartridge, if present.
  2. Use a dry lint-free wiper to dry the cartridge tray, and then use a lint-free wiper moistened with 10% bleach or 70% ethyl alcohol to clean the tray.
  3. Dispose of the used cleaning materials in biohazard containers.
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## Returning the BD Rhapsody Express instrument for service

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1. Before returning the BD Rhapsody Express instrument to BD Biosciences, follow the cleaning protocol. See [Maintaining the BD Rhapsody™ Express instrument \(page 16\)](#).
  2. Complete the decontamination label provided by BD Biosciences.
  3. Contact BD Biosciences at [researchapplications@bd.com](mailto:researchapplications@bd.com) for return authorization.
  4. Complete the return shipping label.
  5. Ship the BD Rhapsody Express instrument to BD Biosciences according to shipping instructions on the label.
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## Maintaining the BD Rhapsody™ P1200M and P5000M pipettes

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### Introduction

This section describes how to maintain and decontaminate the BD Rhapsody P1200M and P5000M pipettes.

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### General maintenance guidelines

- Wipe the pipettes with pre-moistened cleaning wipes containing 70% (v/v) ethyl alcohol or 70% (v/v) isopropyl alcohol.
  - Charge the pipettes between experiments.
-

## Returning the BD Rhapsody P1200M and P5000M pipettes for service

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### Introduction

This section describes how to calibrate and service the BD Rhapsody P1200M and P5000M pipettes. Calibrate the pipettes every 12 months to ensure accurate sample volume transfer at each step.

### Procedure

1. Before shipping the pipettes for calibration, follow the cleaning protocol. See [Maintaining the BD Rhapsody™ P1200M and P5000M pipettes \(page 20\)](#).
2. Complete the decontamination label provided by BD Biosciences.
3. Obtain the purchase order number required to pay for calibration by the Gilson Service Center. In the purchase order, for either pipette, include one of these part numbers:
  - LVL3SBD: Non-ISO 17025 calibration
  - LVL3SISOBD: ISO 17025 calibration

**Note:** Each purchase order number is automatically recognized by the service center as a service part number that is unique to BD-customized pipettes.

## 4. Ship the pipettes to the appropriate Gilson Service Center:

Location	Shipping address
USA	Gilson Service Center 3101 Laura Lane, STE 100 Middleton, WI 53562 USA
Europe	Gilson International - France SAS Attention: OEM Department 19 Avenue des Entrepreneurs CS 55501 95400 VILLIERS-LE-BEL FRANCE

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## Troubleshooting

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# BD Rhapsody™ Express instrument troubleshooting

## Introduction



This topic describes possible problems and recommended solutions for installing and maintaining the BD Rhapsody Express instrument.

## Difficulty removing the cartridge from the BD Rhapsody Express instrument

Possible causes	Recommended solutions
<p>Cartridge remains clipped at the rear of the tray</p>	<p>Push the cartridge on the tray toward the back of the BD Rhapsody Express instrument to compress the metal clip, and then lift the cartridge to remove it:</p> <div data-bbox="659 756 1130 943" style="text-align: center;"> </div> <p>If the cartridge does not detach from the instrument, contact BD Biosciences technical support at <a href="mailto:researchapplications@bd.com">researchapplications@bd.com</a>.</p>



### Left slider is not engaging the retrieval magnet

Possible causes	Recommended solutions
Various	<p>Move the left slider to the middle (0) position. If the Retrieval (top) magnet is not away from the cartridge tray, lift and push the Retrieval magnet away from the cartridge tray:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Push magnet away from tray</p> </div> <div style="text-align: center;">  <p>Magnet away from tray</p> </div> </div>

### Front slider is stuck or not moving smoothly

Possible causes	Recommended solutions
Various	<p>Clean the splash shield. See <a href="#">Cleaning the splash shield (page 18)</a>, and reinstall it. See <a href="#">Installing the drip tray and splash shield (page 13)</a>. Ensure you install the splash shield fully, underneath the drip tray, until it stops.</p>

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# A

## Safety

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## General safety and limitations

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For complete safety information, see the *BD Rhapsody™ Express Instrument Safety and Limitations Guide* (Doc ID: 76918) and the *BD Rhapsody™ Express Single-Cell Analysis System Instrument User Guide* (Doc ID: 214063).

Genomics technical publications are available for download from the BD Genomics Resource Library at [bd.com/genomics-resources](https://bd.com/genomics-resources).

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## Chemical safety

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**Waste disposal**      Dispose of waste using proper precautions and in accordance with local regulations.

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## Waste disposal

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**Disposal of the instrument**      Contact BD Biosciences technical support at [researchapplications@bd.com](mailto:researchapplications@bd.com) before disposing of the BD Rhapsody™ Express instrument. For more information, see [Instrument technical support \(page 8\)](#).

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# Glossary

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## B

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**BD Rhapsody™ Express instrument** Mechanical instrument used for loading the Cell Capture Beads and cells into the BD Rhapsody™ Cartridge.

**BD Rhapsody™ Express Single-Cell Analysis system** The system includes:

- BD Rhapsody Express instrument
  - BD Rhapsody™ P1200M pipette
  - BD Rhapsody™ P5000M pipette
  - Bioinformatics software and sequencing analysis
-