

BD LSRFortessa™ X-30\X-50 BD FACSymphony™ A3\A5 Cell Analyzer Site Preparation Guide

For Research Use Only

bdbiosciences.com
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Regulatory information

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

Class 1 Laser Product.

FCC information

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTICE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense. Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits. This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

History

Revision	Date	Change made
23-17990-00	9/2015	Initial release
23-17990-01	6/2016	Added BD FACSymphony A3\A5 product names

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About this guide

This chapter covers the following topics:

- [About this guide \(page 6\)](#)
- [Physical characteristics \(page 6\)](#)
- [Equipment moving policy \(page 7\)](#)

About this guide

Introduction	This topic describes the purpose of this guide.
Purpose	This guide is intended for BD Biosciences service personnel and BD Biosciences customers. Read this guide several weeks before installation of the instrument. This guide contains information on: • Dimensions and handling of instruments • Preparing the site • Site preparation checklist

Physical characteristics

Introduction	This topic describes the physical dimensions and weight of the special order BD LSRFortessa X-30\X-50, and BD FACSymphony™ A3\A5 cell analyzer and its accessories (with the option of mounting a BD™ High Throughput Sampler (HTS), a printer, and a BD FACSTFlow™ supply system).
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Dimensions and weight

Item	Format	Dimensions: Height x Width x Depth	Weight
Instrument	Boxed	119.4 x 116.8 x 101.6 cm (47 x 46 x 40 in.)	216 kg (476 lb)
	Unboxed	76.2 x 73.7 x 76.2 cm (30 x 29 x 30 in.)	159 kg (350 lb)
HTS option	Boxed	68.6 x 121.9 x 78.7 cm (27 x 48 x 31 in.)	53.5 kg (118 lb)
	Unboxed	20.3 x 24.1 x 44.5 cm (8 x 9.5 x 17.5 in.)	10.4 kg (23 lb)

Item	Format	Dimensions: Height x Width x Depth	Weight
Power conditioner	Unboxed	20.3 x 40.6 x 17.8 cm (8 x 16 x 7 in.)	25.4 kg (56 lb) (120V) 32.2 kg (71 lb) (220V)
Workstation	Unboxed	50.8 x 20.3 x 48.3 cm (20 x 8 x 19 in.)	9.1 kg (20 lb) 19.1 kg (42 lb) with printer
BD FACSTFlow supply system option	Unboxed	57 x 62 x 73 cm (22.4 x 24.4 x 28.7 in.)	20 kg (44.1 lb)

Equipment moving policy

Introduction

This topic describes the BD Biosciences policy for lifting and moving the cell analyzer and any enclosures or accessories.

General policy

Contact BD Biosciences to arrange installations, relocations, and removal of instruments. Do not move or relocate the instruments. Do not open instruments. Contact BD Biosciences before opening any options for the instrument.

Contact information

To contact your representative:

1. Go to bdbiosciences.com.
 2. Click **Contact Us**.
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Preparing the site

This chapter covers the following topics:

- [Space and clearance requirements \(page 10\)](#)
- [Structural requirements \(page 16\)](#)
- [Environmental requirements \(page 17\)](#)
- [Power requirements \(page 18\)](#)

Space and clearance requirements

Introduction This topic describes the laboratory space needed for the cytometer.

Required workspace clearances You need to provide enough work space for the special order BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer and the accessories. The following table lists the dimensions of the instrument.

BD LSRFortessa X-30 and BD FACSymphony A3

Item	Height	Width	Depth
Instrument only	76.2 cm (30 in.)	76.5cm (29 in.)	76.2 cm (30 in.)
With clearance	107.7 cm (40 in.) for top cover	106.6 cm (42 in.) including 30.5 cm (12 in.) clearance on left side for PMT drawer; add an additional 30.5 cm (12 in.) on right side for side-mounted HTS (optional)	76.2 cm (30 in.) or 106.7 cm (42 in.) for front-mounted HTS (optional)
With workstation	101.6 cm (40 in.)	254 cm (100 in.); includes 30.5 cm (12 in.) on right side for side-mounted HTS (optional), 66 cm (26 in.) for the computer and 53.3 cm (21 in.) for the printer (width may vary with models)	76.2 cm (30 in.) or 106.7 cm (42 in.) for front-mounted HTS (optional)

BD LSRFortessa X-50 and BD FACSymphony A5

Item	Height	Width	Depth
Instrument only	116.68 cm (45.9 in.)	91.44 cm (36 in.)	90 cm (35.4 in.)
With clearance	107.7 cm (40 in.) for top cove	106.6 cm (42 in.)	90 cm (35.4 in.)
With workstation	101.6 cm (40 in.)	300 cm (118.1 in.); includes 30.5 cm (12 in.) on right side for side-mounted HTS (optional), 66 cm (26 in.) for the computer and 53.3 cm (21 in.) for the printer (width may vary with models)	90 cm (35.4 in.)

Required support

The special order BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer requires a stable and level work table or counter space capable of supporting its total weight. The following table lists the weight of the BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer and accessories.

BD LSRFortessa X-30 and BD FACSymphony A3

Item	Weight
BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer with one computer	167.8 kg (370 lb)
Printer	10 kg (22 lb) (weight may vary with model)

BD LSRFortessa X-50 and BD FACSymphony A5	
Item	Weight
BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer with one computer	215 kg (474 lb)
Printer	10 kg (22 lb) (weight may vary with model)

Floor space

There should be sufficient open floor space to accommodate a power conditioner, a sheath tank, and a waste tank.

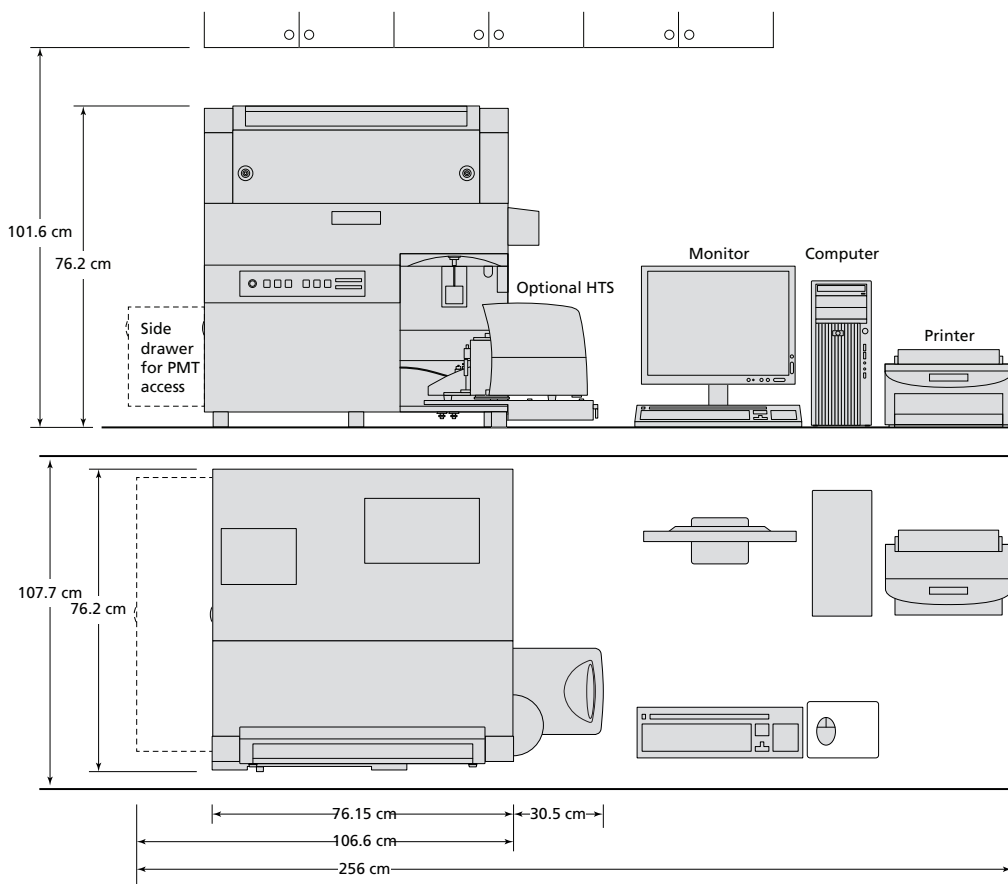
Item	Height	Width	Depth
Power conditioner	20.3 cm (8 in.)	40.6 cm (16 in.)	17.8 cm (7 in.)

Item	Diameter
Sheath tank	22.9 cm (9 in.)
Waste tank	22.9 cm (9 in.)

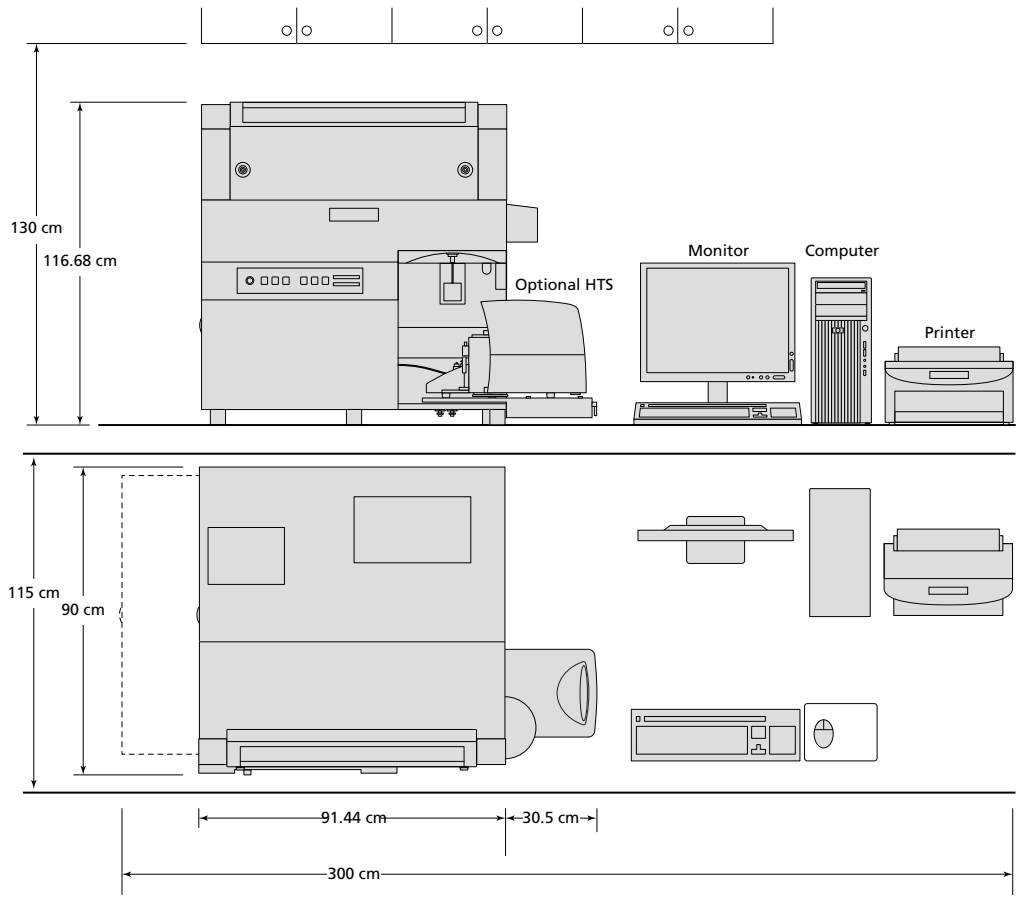
The following figures show a typical BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer countertop layout with sufficient space around and above the cytometer for ventilation and service access.

Note: The BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer needs no clearance at the back and can fit flush against the wall.

BD LSRFortessa X-30 and BD FACSymphony A3



BD LSRFortessa X-50 and BD FACSymphony A5



HTS option

You can mount the HTS support plate on the front or on the side of the BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer. The mount allows the HTS option to slide in and out, and extends about 30.5 cm (12 in.) to the front of the instrument or to the side. We recommend that you have 30.5 cm (12 in.) of table space in front or to the side of the instrument.

**BD FACSTFlow
supply system
option**

The BD FACSTFlow supply system option requires open floor space that can be under or at the side of the work table.

Height	Width	Depth
57 cm (22.4 in.)	62 cm (24.4 in.)	73 cm (28.7 in.)

Structural requirements

Introduction	This topic describes the specific structural features that must be present at the site.
Structure	The passageways of the proposed laboratory should be at least 92 cm (36 in.) wide. We highly recommend the presence of a sink inside the laboratory.
Lighting	The BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 optics and detectors are shielded from room lighting and have no specific requirements.
Communications	We recommend that you have a telephone in proximity to the cytometer to communicate with BD Biosciences and the BD Customer Support Center regarding instrument operation and function.
Internet access	The computer that is supplied with the instrument does not require internet access.

Environmental requirements

Introduction This topic describes the environmental conditions necessary for the cytometer to operate optimally.

Temperature The special order BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer is designed to operate in a normally filtered, air conditioned environment with the ambient temperature and humidity set as follows.

Environmental conditions	Min	Max
Temperature	19°C (66°F)	26°C (79°F)
Humidity (non-condensing)	10%	90%

For optimum performance of the cytometer, avoid:

- Dust particles and smoke
 - Environments with excessive mechanical vibrations
 - Selecting sites near heavy-duty mechanical equipment, because floor vibration can impact the performance of the instrument
-

Heat dissipation The heat load generated by the BD LSRFortessa X-30 and BD FACSymphony A3 cell analyzer and computers is approximately 2,701 BTU/h.

The heat load generated by the BD LSRFortessa X-50 and BD FACSymphony A5 cell analyzer and computers is approximately 3,250 BTU/h.

Power requirements

Introduction This topic describes the power requirements necessary for the cytometer to operate uninterrupted in any location worldwide.

Power BD requires one dedicated circuit for the cytometer and the computer system (including printer), with a dedicated AC source not shared with any other equipment.

An external power conditioner is included with each BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 cell analyzer and needs to be set to the local voltage to provide the correct power. The system does not plug directly into the wall outlet. The system plugs into the external power conditioners.

Region(s)	VAC	Hz	A
United States	120 ±10%	50/60	15
Europe	230 ±10%	50/60	10
Japan	100 ±10%	50/60	15
Taiwan, Korea, China, Africa, Middle East	110 ±10% 230 ±10%	50/60 50/60	15 10
Australia, New Zealand, India, Southeast Asia, Hong Kong	230 ±10%	50/60	10

Note: Electrical outlets must be located to allow immediate and unrestricted removal of the power connector plugs if necessary. The system requires a minimum of four (4) outlets.

**Additional
requirements for
options**

The BD HTS option does not require an additional power outlet because the HTS power supply plugs into the BD LSRFortessa X-30\X-50, and BD FACSymphony A3\A5 internal power strip. The HTS requires an additional 1.2 A (maximum) of power.

The BD FACSTFlow supply system option requires an additional 2 A of power and one outlet for each supply system.

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Checklist

Use this checklist to confirm that the site meets the necessary requirements.

Checklist

Checklist items	Acceptable (Y, N, N/A)
Passageways at least 92 cm (36 in.) wide	
Sink inside the laboratory	
Telephone in proximity to the cytometer	
Temperature between 19°C (66°F) and 26°C (79°F)	
Humidity between 10% and 90%	
No excessive dust and smoke levels	
No excessive vibration levels	
Power lines: 120 ±10% VAC, 50/60 Hz, 15A 110 ±10% VAC, 50/60 Hz, 15A 230 ±10% VAC, 50/60 Hz, 10A 100 ±10% VAC, 50/60 Hz, 15A	
Bench space (H x D x W): 107 x 110 x 267 cm (42 x 43 x 105 in.)	
(Optional) Space for cytometer bench	
Space for power conditioner	
Space for sheath tank	
Space for waste tank	
Space for BD FACSTFlow supply system option	
HTS, front- or side-mounted	