



# BD FACS Sample Prep Assistant III

## Technical Specifications

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The BD FACS™ Sample Prep Assistant (SPA) III automates flow cytometry sample preparation for clinical and research labs using the BD FACSCanto™ II or BD FACS Calibur™ flow cytometers. The SPA III maximizes lab work flow efficiency by automating sample preparation steps and improving processing time up to 30% over the SPA II. The SPA III also allows for flexibility in automating predefined BD panels or user-defined custom assays. The SPA III now supports a wider variety of blood collection sample tubes, including several configurations of BD Vacutainer®, Streck Cyto-chex® and Sarstedt products to accommodate a range of incoming sample tube types.

## Instrument

### Dimensions

Height: 76.2 cm (30 in.)

Height (with safety cover open): 94 cm (37 in.)

Width: 63.5 cm (25 in.)

Width (with fluidics tower): 87.6 cm (34.5 in.)

Width (with fluidics tower and computer workstation): 144.8 cm (57 in.)

Depth: 66 cm (26 in.)

### Weight

64 kg (140 lb)—instrument only, excluding computer

### Power requirements

100–240 VAC (50–60 Hz)

### Power consumption

150 W

### Fuses (2)

Type T 5.0 Amp (250 V)

## Environment

### Storage temperature

–20°C to 50°C

### Operating temperature

18°C to 28°C (64 to 82°F)

### Operating relative humidity

15% to 80% (noncondensing)

### Noise level

≤60 dBA, idle mode

≤75 dBA, run mode

### Facilities

No special room requirements

## System Performance

### Carryover

Primary blood sample: ≤0.2%

12 x 75-mm tube: ≤0.2%

Monoclonal reagent: ≤0.01%

## BD Multitest/BD Tritest/ Absolute Count Panels

### Accuracy

Sample: 50 µL ±3% by volume

Reagent: 20 µL ±7% by volume

Lyse: 450 µL ±3% by volume

### Precision

Sample: 50 µL CV ≤3% by volume

Reagent: 20 µL CV ≤5% by volume

Lyse: 450 µL CV ≤3% by volume

### Throughput

Typically <71 min<sup>a</sup> per carousel rack (40 tubes)

<sup>a</sup>Includes 15-minute stain incubation and 15-minute lyse incubation; results are based on BD Multitest™ two-tube TBNK panel

## Other Panels

### Accuracy

Sample: 20–45 µL ±10% by volume  
50–100 µL ±5% by volume

Reagent: 5–15 µL ±20% by volume  
20–100 µL ±7% by volume

Lyse: 450–2000 µL ±3% by volume

### Precision

Sample: 20–100 µL CV ≤5% by volume

Reagent: 20–100 µL CV ≤5% by volume  
5–15 µL CV ≤15% by volume

Lyse: 450–2000 µL CV ≤3% by volume

### Throughput

Variable depending on assay

## Preprogrammed (Default) Dispense Volumes

### Sample

50 µL

### Reagent

20 µL

### Lyse

450 µL

### BD Trucount™ control beads

50 µL

## Preprogrammed (Default) Incubation times

### Incubation times

15 minutes

### Lyse Incubation times

15 minutes

## User-Definable Ranges

BD Multitest/BD Tritest™/Absolute Count Panels

### Sample

0 or 50 µL

### Antibody reagent

0, 5 µL, 10 µL, or 20 µL

### BD Trucount™ controls

0 or 50 µL

### Open tube port

Not available

### BD FACS™ lysing solution

0–450 µL, 25-µL increments

### Incubation times

Reagent: 0–60 min, 5-min increments

Lyse: 0–60 min, 5-min increments

### Number of reagents

Up to two per tube

### Maximum volume per tube

590 µL

### Maintenance protocols

Instrument priming, rinsing, and cleaning procedures are preprogrammed

## Other Panels

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### Sample

0–100 µL, 5-µL increments

### Antibody reagent

0–400 µL, 5-µL increments

### BD Trucount controls

Not available

### Open tube port

1–3 open tubes

### BD FACS lysing solution

0–2000<sup>b</sup> µL, 25-µL increments

<sup>b</sup> Lyse dispense for accuracy and precision has been validated for volumes of 0, 450, 1,000, and 2,000 µL only. Validate other lab dispense volumes in your laboratory.

### Incubation times

Reagent: 0–60 min, 5-min increments

Lyse: 0–60 min, 5-min increments

### Number of reagents

Up to nine per tube

### Maximum volume per tube

3000 µL

### Maintenance protocols

Instrument priming, rinsing, and cleaning procedures are preprogrammed

## Sample Loading

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### Primary tube racks

(1) 13-mm primary tube rack

(1) 16-mm primary tube rack with tube adapters

## Tube compatibility

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### Primary tube rack

Accommodates up to 40 BD Vacutainer® tubes in the following sizes:

13 x 75 mm

13 x 100 mm

16 x 75 mm

16 x 100 mm

Use BD Hemogard™ closures or standard rubber stoppers

### Sarstedt tubes

2.6 mL EDTA, 13 x 65 mm

2.7 mL EDTA, 11 x 66 mm

3.4 mL EDTA, 13 x 65 mm

4.0 mL EDTA, 15 x 75 mm

4.9 mL EDTA, 13 x 90 mm

5.5 mL LiHep, 15 x 75 mm

### Streck Cyto-Chex BCT

5.0 mL, 13 x 75 mm

### Carousel rack

Accommodates up to 40 uncapped 12 x 75-mm tubes

BD Trucount™ tubes

BD Falcon™ polystyrene tubes

### Reagent rack

Accommodates up to:

- 360 (24/rack) standard BD Biosciences reagent vials, uncapped (diameter 22.9 mm)
- Three BD Trucount control vials, uncapped (diameter 38.9 mm)
- One 60-mL vial (BD™ FACS Clean solution or BD Leucocount™ reagent), uncapped (diameter 38.9 mm)

### Tube adapters

Allows use of 13-mm and 11-mm primary sample tubes in 16-mm primary tube rack

### Open tube port

Allows the use of uncapped 15-mL BD Falcon conical, 13-mm and 16-mm primary sample tubes. Holds three tubes.

### Labels

≤5 mil (127 mm) thick

## Fluidics Tower

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### Dimensions

Height: 25.4 cm (10 in.)

Width: 24.1 cm (9.5 in.)

Depth: 29.2 cm (11.5 in.)

### Tank capacities

Flow tank: 20 L

DI water tank: 1 L

Lyse tank: 1 L

DI water tank: 1 L

Waste tank: 10 L

### Reagents

BD FACSTFlow™ sheath fluid, 20 L

BD FACS lysing solution, 100 mL

BD FACSClean solution, 5 L

## Barcode Reader

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Reads ISBT 128 standard barcode labels

## Computer

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Core2 Duo, 3.0 GHz

1 GB RAM

80-GB HD currently

17-inch flat panel, resolution 1280 x 1024

Keyboard, mouse

Microsoft® Windows® XP Pro SP3

For In Vitro Diagnostic Use.

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