



BD FACS Sample Prep Assistant III

Technical Specifications

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^a per carousel rack (40 tubes)

^aIncludes 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

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^b µL, 25-µL increments

^b 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

Primary tube racks

(1) 13-mm primary tube rack

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

Tube compatibility

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

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

Reads ISBT 128 standard barcode labels

Computer

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

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