The BD FACSTM 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.
**BD FACS Sample Prep Assistant III Technical Specifications**

**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**
- –20ºC to 50ºC

**Operating temperature**
- 18ºC to 28ºC (64 to 82ºF)

**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/B TD 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* per carousel rack (40 tubes)
- 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
- Reagent: 5–15 µL ±20% by volume
- 20–100 µL CV ≤7% by volume
- Lyse: 450–2000 µL CV ≤3% by volume

**Precision**
- Sample: 20–100 µL CV ≤5% by volume
- Reagent: 5–15 µL CV ≤15% by volume
- Lyse: 450–2000 µL CV ≤3% by volume

**Throughput**
- Variable depending on assay

**Preprogrammed (Default) Dispense Volumes**

<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>50 µL</td>
</tr>
<tr>
<td>Reagent</td>
<td>20 µL</td>
</tr>
<tr>
<td>Lyse</td>
<td>450 µL</td>
</tr>
</tbody>
</table>

**Preprogrammed (Default) Incubation times**

<table>
<thead>
<tr>
<th>Component</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incubation</td>
<td>15 min</td>
</tr>
<tr>
<td>Lyse Incubation</td>
<td>15 min</td>
</tr>
</tbody>
</table>

**User-Definable Ranges**

<table>
<thead>
<tr>
<th>BD Multitest/B TD Tritest/Absolute Count Panels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
</tr>
<tr>
<td>Antibody reagent</td>
</tr>
<tr>
<td>BD Trucount™ controls</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open tube port</td>
<td>Not available</td>
</tr>
<tr>
<td>BD FACS™ lysing solution</td>
<td>0–450 µL, 25-µL increments</td>
</tr>
</tbody>
</table>

**Incubation times**
- Reagent: 0–60 min, 5-min increments
- Lyse: 0–60 min, 5-min increments

<table>
<thead>
<tr>
<th>Component</th>
<th>Number</th>
<th>Volume per tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of reagents</td>
<td>Up to two per tube</td>
<td></td>
</tr>
<tr>
<td>Maximum volume per tube</td>
<td>590 µL</td>
<td></td>
</tr>
</tbody>
</table>

**Maintenance protocols**
- Instrument priming, rinsing, and cleaning procedures are preprogrammed

For In Vitro Diagnostic Use.
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 FACSFlow™ 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

For In Vitro Diagnostic Use.