

BD FACSDuet™ sample preparation system

The **BD FACSDuet™** is an automated sample preparation system designed to prepare human biological specimens for acquisition on the BD FACSLyric™ flow cytometer.

When the BD FACSDuet is physically integrated with the BD FACSLyric via the BD FACSLyric Universal Loader, the system provides ready-to-acquire samples to the flow cytometer, delivering a complete walkaway sample-to-answer solution.

BD FACSLyric to BD FACSDuet bidirectional data integration is provided by BD FACSLink™ software ensuring patient data integrity and security.

The BD FACSDuet system provides pre-analytical standardisation with complete traceability of specimens, reagents and samples throughout the entire workflow and across platforms through extensive use of barcodes.



At the same time, the system delivers high flexibility:

- Supporting a wide variety of blood collection tubes, both in size (7 different sizes) and from multiple manufacturers (BD Vacutainer®, Sarstedt, Greiner and Streck) for a total of 22 different tube types.
- Accommodating 12 different specimen types including whole blood, bone marrow, cerebral spinal fluid (CSF), fine needle aspirates (FNA), BD Trucount™ controls, CD Chex™ controls, BD Multicheck™ controls.

- Allowing the use of multiple size reagent vials : up to 23 reagent vials/ rack for a total of 46 reagent vials in 2 racks.
- Supporting the use of BD IVD assays as well as a variety of laboratory developed test (LDT) protocols that can be designed and stored in the BD FACSDuet software to guarantee standardization of processes across users and labs.

The system's modular design enables increasing functionality to cater to the evolving needs of the labs, like making reagent cocktails.



Technical Specifications

Instrument

Dimensions

Height: 83.8 cm (33.0 in.)

Width: 106.2 cm (41.8 in.)

Width (with touchscreen extended): 153.19 cm (60.3 in.)

Depth: 74.4 cm (29.3 in.)

Weight (with rack loaded, monitor and ready to use): 174 kg (383.6 lb)

Power requirements

100–240 V / 6–2.5 A / 50–60 Hz

Power consumption

mean 420W-peak consumption 600W

Fuses

2 A (150 V)

Environment

Storage temperature

5°C to 45°C

Operating temperature

15°C (59°F) to 30°C (86°F)

Operating relative humidity

20% to 80% (non-condensing)

Operating barometric pressure

≥0.8 atm (approximately 2000 meters)

Heat dissipation

<500 BTU/hr

Noise level

≤57 dBA, under normal operating conditions

Facility requirements

Please refer to the BD FACSDuet Site Preparation Guide for details

BD FACSDuet table

Recommended when BD FACSLyric and BD FACSDuet are physically integrated

Height: 86.35 cm (33.99 in.)

Length: 200.0 cm (78.74 in.)

Depth: 97.0 cm (38.19 in.)

Preprogrammed settings (default for IVD multitest assays/panels/absolute count)

Dispense volume

Sample: 50 µL

Reagent: 20 µL

Lyse: 450 µL

Preprogrammed incubation times (default for IVD multitest assays/panels/absolute count)

Incubation time

Reagent: 15 - 30 minutes (min-max)

Lyse: 15 - 30 minutes (min-max)

System performance (for IVD multitest assays/panels/absolute count)

Specimen dispense volume: 50 µL

A&P for specimen

Accuracy: ±3.0% by volume

Precision: CV = 3.0%

Reagent dispense volume: 20 µL

A&P for reagents (in single- and multi-dispense mode)

Accuracy: ±20.0% by volume

Precision: CV = 10.0%

Lyse dispense volume: 450 µL

A&P for lyse (in single- and multi-dispense mode)

Accuracy: ±5.0% by volume

Precision: CV = 5.0%

Carryover performance

Specimen to specimen: ≤0.2%

Reagent to reagent: ≤0.01%

Non-dispensed volume

Specimen: 250 µL (for 13 x 75 mm tubes)

Reagents: 130 µL (in single- and multi-dispense mode)

Lyse: 170 mL

User-definable ranges

Dispense volumes

Sample

5-500 µL (in increments of 1 µL)

Reagents

5-1000 µL (in increments of 1 µL)

BD Trucount™ controls

5-50 µL (in increments of 1 µL)

BD FACS™ lysing solution

0-450 µL (in increments of 25 µL)

Incubation times

Reagent

0-60 minutes (in 1 minute increments)

Lyse

0-60 minutes (in 1 minute increments)

Number of reagents per tube: 10

Maximum volume per tube: 3 mL

Maintenance protocol

Instrument priming, rinsing, and cleaning procedures as well as probe alignment are pre-programmed

System performance (for user-definable ranges)

Accuracy

Specimens:

- i. 5-10 µL ±1µL
- ii. >10-49 µL ±10.0%
- iii. >50-400 µL ±5.0%

Reagents:

- iv. 5 µL ±20.0%
- v. >5-19 µL ±20.0%
- vi. >20-99 µL ±6.0%
- vii. >99-500 µL ±5.0%
- viii. 1000 µL (for lysing solution) ±5.0%

Precision

Specimens:

- i. 5-10 µL ≤20.0%
- ii. > 10-49 µL ≤10.0%
- iii. > 50-400 µL ≤3.0%

Reagents:

- iv. 5 µL ≤20.0%
- v. >5-19 µL ≤20.0%
- vi. >20-99 µL ≤10.0%
- vii. >99-500 µL ≤10.0%
- viii. 1000 µL (for lysing solution) ≤5.0%

Sample loading

Primary tube racks

Up to 4 primary tube racks with tube adaptors

Up to 10 tubes/rack for a total of 40 primary tubes at any given time from multiple providers

Primary specimen tube compatibility

BD Vacutainer®

13 x 75 mm - 2.0, 3.0 and 4.0 mL

13 x 100 mm - 6.0 and 7.0 mL

16 x 100 mm - 9.5 and 10.0 mL

Use BD Hemogard™ or Conventional Cap (standard rubber stoppers)

Greiner

13 x 75 mm - 2.0 and 3.0 mL*

13 x 100 mm - 6.0 and 7.0 mL*

16 x 100 mm - 9.0 and 10.0 mL

Use Premium* or Non-ridged Pull Cap

Sarstedt S-Monovette®

13 x 65 mm - 2.6 mL

11 x 66 mm - 2.7 mL

13 x 65 mm - 2.6 and 3.4 mL

15 x 75 mm - 4.0 mL

13 x 90 mm - 4.9 mL

Streck Cyto-Chex® BCT™

13 x 75 mm - 5.0 mL

2mL flat

Specimen tube adapter sizing chart

Compatible specimen tubes

D13 x L65	Sarstedt 2.6mL and 3.4mL
D11 x L66	Sarstedt 2.7mL
D13 x L75	BD Vacutainer 2.0mL, 3.0mL and 4.0mL, Streck 5mL and Greiner 2.0mL and 3.0mL
D15 x L75	Sarstedt 4.0mL
D13 x L90	Sarstedt 4.9mL
D13 x L100	BD Vacutainer and Greiner 6.0mL and 7.0mL

D16x L100	BD Vacutainer 9.5mL and 10mL and Greiner 9.0mL and 10.0mL
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Carrier compatibility

BD FACSLytic™ 30 tube rack

BD FACSLytic™ 40 tube rack

Use with 12x75mm BD Trucount™ tubes and 5mL K-Resin or Polystyrene or Polypropylene tubes

Cocktailing functionality

Up to 45 unique reagents within each given cocktail.

Indefinite number of cocktail recipes archivable in the software

Up to a maximum of 4.5 mL of cocktail reagent in one 5mL Amber Vial

2 Reports generated for each cocktail preparation: worklist and preparation reports

Import and export of cocktail recipes

Fluidic

Dimensions 10L tanks

Height: 25.4 cm (10 in.)

Width: 24.1 cm (9.5 in.)

Depth: 29.2 cm (11.5 in.)

Tank capacities

Saline tank: 10 L

DI water tank: 10 L

Waste tank: 10 L

Lyse tank: 1 L

Barcode reader

The following barcodes are supported

ISBT 128

Code 128

Code 39

Codabar

interleave 2 of 5 standard barcode

DataMatrix (reagent scanning only)

Computer

Operating System: Microsoft Win 10

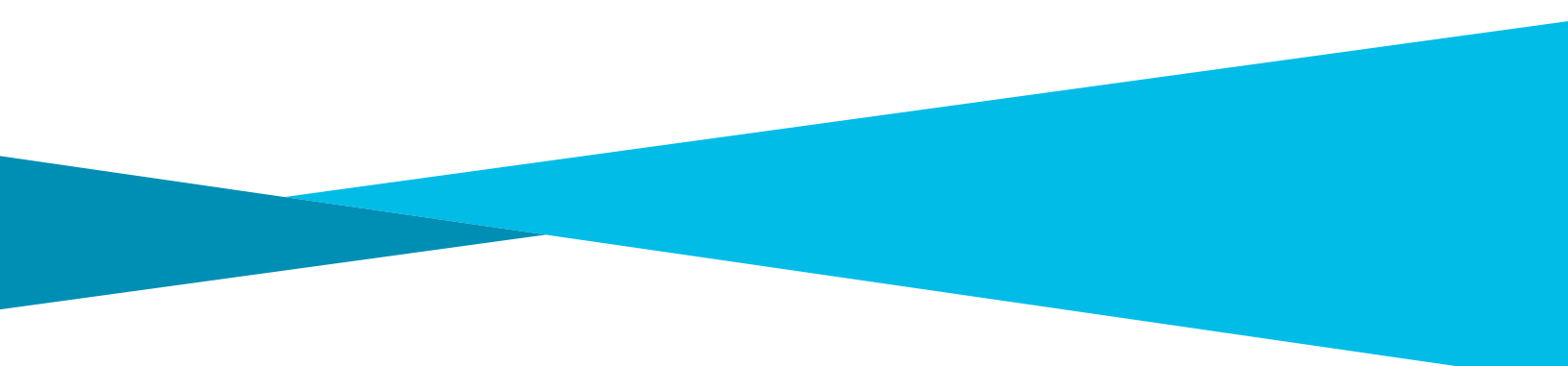
Processor: Intel® BayTrail J1900

64-Bit EMB English

Touch screen

Data management options

BD FACSLink hardware and software for LIS connectivity



BD FACSDuet™ is for In Vitro Diagnostic Use. CE marked in compliance with the European In Vitro Diagnostic Medical Device Directive 98/79/EC

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Sample preparation for user defined protocols and cocktail functions have not been validated for IVD use, and require validation by the user

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