

# BD FACSDiscover™ A7 Cell Analyser with BD SpectralFX™ Technology

Coming soon

## Pre-launch product information\*

### BD SpectralFX™ Technology

This technology combines full spectrum optics, next-gen QC, and system-aware spectral unmixing that manages spread by adapting to instrument performance and sample conditions in real-time.



## Technical specifications\*

### Optics

#### Excitation optics

Excitation optics:

349 nm – nominal 30 mW

405 nm – nominal 100 mW

488 nm – nominal 100 mW

561 nm – nominal 100 mW

637 nm – nominal 100 mW

#### Optical platform

Fixed optical assembly configured up to 5 lasers. No operator alignment required.

#### Flow cell

The quartz cuvette flow cell is coupled to the fluorescence objective lens by a refractive index-matching gel for optimal light collection.

#### Beam geometry

Flat top laser beam profile.

### Emission optics

#### Optical coupling

Emitted light from the gel-coupled cuvette is delivered by fiber optics to the detector arrays. The optical pathways use signal reflection to maximise signal detection. Cuvette coupled to lens with high numerical aperture (NA).

#### Scatter detectors

Blue laser: Forward scatter (FSC) / Side scatter (SSC-blue).

Violet laser: Side scatter (SSC-violet).

### Fluorescence detectors for spectral flow cytometry

Spectral arrays – 78 APD detectors paired with algorithmically optimised filter bandwidths covering full spectrum:

UV 349 nm laser – 22 UV detectors, covering 365 nm – 860 nm

Violet 405 nm laser – 20 Violet detectors, covering 410 nm – 860 nm

Blue 488 nm laser – 16 Blue detectors, covering 495 nm – 860 nm

Y/G 561 nm laser – 12 Yellow-green detectors, covering 570 nm – 860 nm

Red 637 nm laser – 8 Red detectors, covering 645 nm – 860 nm

### Common QC

Automated daily single tube QC with BD FACSDiscover™ Setup Beads.

### Installation requirements

#### Dimensions (W x D x H)

91.4 x 63.5 x 66 cm

36 in W x 25 in D x 26 in H

#### Weight

<90 kg

#### Power

Total power: 1000 W

VAC-Hz: 100 – 240 VAC (50/60 Hz)

Circuit breaker: 10 A

#### Operating temperature range

Between 17.5°C (63.5°F) and 27.5°C (81.5°F) +/-2.5°C variation in the same day.

#### Operating humidity

40–60% relative humidity (non-condensing)

## Audible noise

<65dB

## System

### Operating system

Microsoft® Windows® 10 IoT Enterprise LTSC (Long-term Servicing Channel) Version 21H2

### Monitor

32-in with 3840 x 2160 resolution (4K UHD)

### Memory

64 GB RAM

### Storage

OS SSD Drive: 1 TB - 2nd Drive: 1 TB

## Fluidics

### Flow cell

Quartz cuvette.

### Sample acquisition rate<sup>#</sup>

Up to 35K events/sec.

### Sample injection tube (SIT) flush

Each SIT flush cleans both the inside and outside of the sample line tip and sends flushed fluids to waste. This process occurs by default after a tube is removed from the manual port and following each sample acquisition via the integrated autoloader.

Customisation:

Manual port: additional SIT flushes through the FACSCorus™ Software UI.

Loader: option to choose between 0–6 SIT flushes to be performed automatically.

### Sample input

Manual port or auto-loader.

### Carryover<sup>#</sup>

<0.1%

### Dead volume<sup>#</sup>

Less than 1 µL for 96-well, round-bottom, standard and deep well plates and 12x75mm Falcon® Tubes.

Less than 5 µL for 2 mL polypropylene, 96-well, round-bottom, deep well plates.

## Flow sensor

In sample line path; detects sample flow rate up to 120 uL/min.

## Flow rate

Low sample flow rate: 12 +/- 4 uL/min

Medium sample flow rate: 50µl/min ± 10ul/min

High sample flow rate: 100 +/- 10 uL/min

## Aerosol containment

No aerosols or hazardous material exits the system during normal operation, as tested using established protocols.

## Fluidic reservoirs

One sheath tank (10L) that contains sheath fluid (distilled water).

One waste tank (10L) that collects waste from the cytometer.

## Auto-loader

Sample carrier: Standard 96-well plates, deep well 96-well plates, standard 384-well plate, 40-tube rack (12x75mm Falcon® Tubes).

Thermally conductive custom 40-tube rack.

Sample agitation: Orbital mixing (up to 3000 rpm).

Sample temperature control: 4°C, 20°C, 37°C, room temperature.

## Software/Support

### Software

BD FACSCorus™ software.

Software guides researchers throughout the entire cell analysis process.

Software tools that support 21 CFR Part 11 compliance.

### Exported file types

FCS 3.2; CSV, CVW

### Offline data analysis

Supported by FlowJo™ Software, with seamless data integration from FACSCorus™ Software.



<sup>#</sup>Based on characterisation testing data, pending formal verification testing.

BD flow cytometers are Class 1 Laser Products. For Research Use Only. Not for use in diagnostic or therapeutic procedures.  
\*BD FACSDiscover™ A7 Cell Analyser | Valid December 2025 – April 2026  
Any pre-launch specifications are subject to change

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