Cytometer Specifications

Dimensions	Height: 64 cm (25.2 in.) Width: 91 cm (35.7 in.) Depth: 61 cm (24 in.)
Workspace dimensions	Height (with flow cell access door open): 85 cm (33.5 in.) Unit designed to fit lab bench 55.9 cm (22 in.) depth.
Operational clearances, cytometer	Left side: 30 cm (11.8 in.) between unit and other objects or wall to permit proper air flow and access to the main power button and circuit breaker Right side: 30 cm (11.8 in.) between unit and other objects or wall to permit proper air flow Top: 22.5 cm (8.9 in.) between unit and other objects or wall to permit opening of flow cell access door
Weight	≤146 kg (320 lb)—cytometer only, excluding Loader and computer Maximum 168 kg (370 lb)—including Loader
Power requirements	100/115/230 VAC (50–60 Hz) Current: 5A at 115 VAC 2.5A at 230 VAC
Power consumption	500 W

Environment

Storage temperature	5–40°C (41–104°F)
Operating temperature	16–31°C (59–86°F)
Operating relative humidity	20–80% (noncondensing)
Noise level	≤62 dBA
Facilities	No special room requirements

Performance

Fluorescence threshold sensitivities	FITC <100 MESF PE <50 MESF
Forward and side scatter sensitivity	Platelets can be resolved from noise
Forward scatter sensitivity	1 micron
Side scatter sensitivity	0.5 micron

Optics

Laser Specifications

The following Class 3B lasers are mounted on the BD FACSCanto II instrument.

Manufacturer	Model	Wavelength (nm)	Power (mW)
Coherent	Sapphire 488-20	488	20
JDS Uniphase	1144-P	633	17
Point Source (optional)	iFLEX2000-P-1-405-0.65-30-NP	405	30

These lasers are contained within the instrument, therefore the BD FACSCanto II flow cytometer is a Class I (1) laser product.

Excitation Optics

Optical platform	Fixed optical assembly
Beam geometry (all lasers)	9 µm x 65 µm elliptical beam

Emission Optics

Collection lens	Optical gel–coupled to flow cell Numerical aperture (NA) = 1.2
Fluorescence detection	6 to 8 photomultiplier tube detectors: Wavelength ranges detected from 488-nm laser: • 750–810 nm (PE-Cy7) • 670–735 nm (PerCP-Cy5.5) • 610–637 nm (PE-Texas Red®, optional) • 564–606 nm (PE) • 515–545 nm (FITC) Wavelength ranges detected from 633-nm laser: • 750–810 nm (APC-Cy7) • 701–723 nm (Alexa Fluor® 700, optional) • 650–670 nm (APC) Wavelength ranges detected from 405-nm laser: • 502–535 nm (AmCyan) • 425–475 nm (Pacific Blue™)
Forward scatter detection	Photodiode with 488/10 bandpass filter
Side scatter detection	PMT with 488/10 bandpass filter

Fluidics

General operation	Integrated fluidics cart with automated startup, shutdown, and cleaning cycles
Sheath consumption	1.1 L/hr, normal operation <1.0 mL/hr, standby
Sample flow rates	Assay dependent, controlled automatically by BD FACSCanto clinical software. Nominal rates: Low = 10 µL/min Medium = 60 µL/min High = 120 µL/min
Sample acquisition rate	10,000 events/sec with <10% abort rate (8 parameters)
Recommended maximum particle size	50 µm

Signal Processing

Workstation resolution	262,144-channel resolution
Data acquisition channels	8 to 10 parameters: 6 to 8 fluorescent and 2 scatter parameters
Fluorescence compensation	No limit to inter- and intra-beam compensation
Pulse processing	Height, area, and width measurements available for any parameter (BD FACSDiva software)
Time	Can be correlated to any parameter
Channel threshold	Available for any parameter from all lasers

Fluidics Cart Specifications

Dimensions	Height: 64 cm (25.2 in.) Width: 79 cm (31.1 in.) Depth: 61 cm (24 in.)
Operational clearances	Fluidics cart, side air vent: 20 cm (7.9 in.) between air vent and other objects or wall to permit proper air flow Fluidics cart, door air vent: 20 cm (7.9 in.) between door and other objects or wall to permit proper air flow
Weight	≤51 kg (112 lb)—fluidics cart only, excluding tanks ≤82 kg (180 lb)—with tanks full
Facilities	No air supply or vacuum required

Capacity

BD FACSFlow cubitainer	20 L
BD FACSClean solution cubitainer	5 L
BD FACS shutdown solution cubitainer	5 L
Waste tank	10 L

BD FACS Loader Specifications

Carousel compatibility	Loader carousels, numbers 1–16
Tube compatibility	
• Carousel	Accommodates up to 40 uncapped 12 x 75-mm tubes • BD Falcon polystyrene test tubes • BD Trucount tubes • BD FACS 7-color setup bead tubes
• Thickness of accumulated labels	≤0.125 mm (5 mils) no more than 3 labels thick
Tube sample volume (maximum)	≤1.07 mL