Built on more than 25 years of BD experience and leadership in flow cytometry and multicolor analysis, the BD FACSCanto™ II system is an easy-to-use benchtop analyzer that delivers proven performance, accuracy, and high-quality results. The BD FACSCanto II can be configured with two or three lasers to detect up to eight colors. It features many innovations, including a true fixed alignment flow cell to minimize startup time and improve reproducibility. The optical system maximizes signal detection and increases sensitivity and resolution for each color in a multicolor assay. These and other capabilities make the BD FACSCanto II ideal for today’s busy clinical lab, providing a high degree of automation and quality control. With optimal reproducibility, the BD FACSCanto II system reduces hands-on technician time and costs associated with repeat testing.
**Optics**

**Lasers**
Air-cooled:
- 488-nm solid state, 20-mW laser output
- 633-nm HeNe, 17-mW laser output

**Laser Configuration**
Spatially separated beams with 9 x 65-μm elliptical spots

**Optical Alignment Procedure**
Fixed, no operator alignment required

**Flow Cell**
180 x 430-μm rectangular quartz flow cell

**Collection Optics**
Optical-gel coupled 1.2 NA lens

**FSC Resolution**
1.0 μm

**SSC Resolution**
0.5 μm

**Fluorescence Detector Design**
Reflective optics with single transmission filter in front of each PMT

**FSC Detector**
Photodiode with 488/10 BP

**SSC Detector**
PMT with 488/10 BP

**Fluorescence Detectors**
6 PMTs in 4-2 standard configuration

**Blue Laser Dyes**
FITC, PE, PerCP or PerCP-Cy™5.5, PE-Cy™7 (525, 575, 678 or 695, 785 nm)

**Red Laser Dyes**
APC, APC-Cy7 (660, 785 nm)

**Detector Bands**
Blue Laser:
- 530/30; 585/42; >670; 780/60 nm

Red Laser:
- 660/20; 780/60 nm

**Fluorescence Threshold Sensitivities**
FITC <100 MESF; PE <50 MESF

**Fluidics**

**General Operation**
Integrated fluidics cart and compressor with onboard housekeeping solutions for automated startup, shutdown, and cleaning cycles

**Sheath Consumption**
- 1.10 L/h normal operation; <1 mL/h standby

**Housekeeping Solution Capacities**
- BD FACSFlow™ sheath solution 20 L
- BD™ FACSclean solution 5 L
- BD FACS™ shutdown solution 5 L
- Waste tank 10 L

**Carryover**
≤0.1%

**Sample Injection**
Direct into flow cell

**Max Particle Size**
50 μm

**Sample Flow Rate, Min**
10 μL/min

**Sample Flow Rate, Max**
120 μL/min

**Sample Acquisition Rate**
10,000 events/second, 6 compensated fluorescence parameters and 2 scatter parameters

**Sample Dead Volume**
30 μL (BD Falcon™ tubes 12 x 75-mm)

**System Cleaning**
Daily: Automated startup and shutdown procedures
Monthly: Run long clean

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For In Vitro Diagnostic Use.
**Data Management System**

**Parameters**
Area (A), Width (W), Height (H) for all channels with up to 2 ratios, and Time (T)

**Signal Processing**
18-bit dynamic range with IEEE 32-bit floating-point resolution

**Threshold**
Single parameter (any channel) or logical combinations of multiple parameters (any or all channels)

**Compensation**
Full inter-beam matrix, during or post acquisition

**Maximum Logical Gate Regions**
Limited only by system memory (2 GB RAM)

**CPU/Monitors**
HP Xw4600, with either 19" or 24" flat screen monitors

**Software**
BD FACSDiva™ v6.1.3, BD FACSCanto™ clinical v2.2 or 2.4

**Operating System**
Microsoft® Windows® XP Pro

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**Cytometer Options**

**8-Color Option with 3 Lasers**

**Lasers**
Air-cooled:
- 405-nm solid state diode, 30-mW fiber power output
- 488-nm solid state, 20-mW laser output
- 633-nm HeNe, 17-mW laser output

**Fluorescence Detectors**
8 PMTs in 4-2-2 configuration

**Laser Dyes**
Violet:
- Pacific Blue™, AmCyan (455, 488 nm)
- Blue:
  - FITC, PE, PerCP or PerCP-Cy5.5, PE-Cy7 (525, 575, 678 or 695, 785 nm)
  - Red:
    - APC, APC-Cy7 (660, 785 nm)

**Detector Bands**
8-Color Option with 2 Lasers

**Lasers**
Air-cooled:
- 488-nm solid state, 20-mW output
- 633-nm HeNe, 17-mW output

**Fluorescence Detectors**
8 PMTs in 5-3 configuration

**Laser Dyes**
Blue:
- FITC, PE-Texas Red®, PerCP or PerCP-Cy5.5, PE-Cy7 (525, 575, 615, 678 or 695, 785 nm)
- Red:
  - APC, Alexa Fluor® 700, APC-Cy7 (660, 720, 785 nm)

**Sample Input with BD FACSDiva Loader Option**

**Loading**
- 40-tube carousel
- Indexed carousel, with carousel ID barcode reader
- Worklist importable from BD FACSDiva Sample Prep Assistant (SPA) III

**Throughput**
- 56 min/carousel with BD™ Multi-check high controls,
- 66 min/carousel with BD Multi-check low controls using BD Multitest™ 6-color TBNK application

**Miscellaneous**
Multiple clinical applications can be run on the same Loader carousel.

**Sample Input with BD High Throughput Sampler Option**

**Loading**
- 96- and 384-well microtiter plates
- <15 min/96-well plate in high-throughput mode with 2-second acquisition

**Barcode Reader with Stand**

**Use with**
BD FACSCanto clinical software

**2D Reader**
Streamlined input of BD FACSDiva 7-color setup bead target values, input of patient information

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* 7 and 8 color applications using violet laser are for Research Use Only
** For Research Use Only

For In Vitro Diagnostic Use.
Specifications

Installation Requirements

Size (D x W x H)
Cytometer: 24 x 36 x 25 in. (61 x 91 x 64 cm)
Fluidics cart: 24 x 31 x 25 in. (61 x 79 x 64 cm)
The cytometer depth increases to 30 in. (76 cm) with the BD FACS Loader and HTS option installed.

Weight
Cytometer: 320 lb (145 kg)
Fluidics cart: 112 lb (51 kg)

Power
100/115/230 VAC, 50–60Hz

Operating Environment
16–30°C, 20–80% noncondensing relative humidity

Heat Dissipation with BD FACS Loader Installed
1,843 BTU/h

Class I (1) laser product.  
For In Vitro Diagnostic Use.  
CE marked according to the In Vitro Diagnostic Medical Device Directive 98/79/EC. Seven and eight-color assays on this device require validation by the user for in vitro diagnostic use.  
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