BD FACSVia™ System

Technical specifications

Easy to use, simple to maintain

BD FACSVia™ clinical software contains assay-specific templates providing clinical menus that include:

- BD Leucocount™ kit, designed for counting residual white blood cells (rWBCs) in leucoreduced blood products
- BD™ Plasma Count kit, intended for in vitro diagnostic use to identify and enumerate residual white blood cells (rWBCs), red blood cells (rRBCs), and platelets (rPLTs) in fresh human plasma
- BD Multitest™ CD3/CD8/CD45/CD4 with or without BD Trucount™ tubes, BD Multitest™ CD3/CD16+CD56/CD45/CD19 with or without BD Trucount tubes, and BD Multitest™ IMK Kit with or without BD Trucount tubes are for use on the BD FACSVia system for immunophenotyping human peripheral whole blood
- BD Tritest™ CD4/CD8/CD3 with BD Trucount tubes and BD Tritest™ CD3/CD4/CD45 with or without BD Trucount tubes are for use on the BD FACSVia system for immunophenotyping human peripheral whole blood
- BD™ HLA-B27 system is a qualitative two-color direct immunofluorescence method for use with the BD FACSVia system for the rapid detection of HLA-B27 antigen expression in erythrocyte-lysed whole blood (LWB)

The BD FACSVia™ flow cytometer is small and lightweight, and can easily fit on any benchtop in the clinical laboratory, making the most of limited space.

The system is equipped with a blue laser, a red laser, two light scatter detectors, and four fluorescence detectors. A compact optical design, fixed alignment, pre-optimized detector settings, and automated adjustment of fluorescence spillover (color compensation) work together to simplify workflow.

A unique low-pressure pumping system drives the fluidics. A sheath-focused core enables event rates of up to 10,000 events per second and a sample concentration over 5 x 10^6 cells per µL.

The optional BD FACSVia™ Loader accessory streamlines sample processing with reliable and easy-to-use automation.

The optional BD FACSVia™ research software has an intuitive user interface designed with flexibility in mind for user defined protocols. The tabbed interface provides quick access to the collection, analysis, and statistics functions. Analysis can be performed on the BD FACSVia itself or exported, if required.
**Optics**

**Laser excitation**
488 nm, 640 nm

**Laser profile**
9 μm x 94 μm blue laser beam size
11 μm x 104 μm red laser beam size

**Light scatter detection**
Forward (photodiode with 488/10 BP)
Side (photodiode with 488/10 BP)

**Emission detection**
Standard set optical filters installed:
- FL1 533/30 nm
- FL2 585/40 nm
- FL3 >670 nm
- FL4 675/25 nm

**Optical alignment**
Fixed alignment

**Performance**

**Fluorescence sensitivity, MESF***
FITC <150; PE <100

**Scatter resolution**
Resolves human peripheral blood lymphocytes, monocytes, and granulocytes

**Fluorescence linearity**
2 ±0.05% for chicken erythrocyte nuclei (CEN)

**Fluorescence precision**
<3% CV for CEN

**Data acquisition rate**
Up to 10,000 events/second

**Signal processing**
24-bit data path

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**Fluidics**

**Flow cell**
200-μm ID quartz capillary
Minimum detectable particle size 0.5 μm

**Minimum acquisition sample volume**
Standard 12 x 75-mm tubes: 50 μL
BD Trucount™ tubes: 150 μL
Loader with standard 12 x 75-mm tubes: 100 μL

**Recommended sheath fluid**
0.2-μm filtered DI water with BD™ Sheath Additive

**Maximum events per sample**
1 million

**Data management**

**Workstation specifications (minimum required)**
3.4 GHz, 8 GB RAM

**Hard drive and data storage**
- 256-GB SATA 1st Solid State Drive
- 16X DVD-ROM SATA 1st ODD

**Operating system**
Microsoft® Windows® 7 Professional 64-bit OS
DVD + Driver DVD

**Peripheral sevices**
- 2 USB ports
- HP USB Keyboard US
- HP USB Optical Mouse

**Recommended monitor**
LCD flat panel, 23 in.

**Data management options**
BD FACSLink™ software
BD Assurity Linc™ software

**Networking**
Ethernet LAN 10/100/1,000

**BD FACSVia clinical software**
User name, password access
Single-tube QC with BD™ CS&T beads
QC Module with Levey-Jennings plots
Laboratory and physician reports (.pdf)
Pre-set templates for:
- BD Leucocount
- BD Plasma Count
- BD Tritest and Multitest
- BD HLA-B27

**BD FACSVia research software**
Support for user defined assays

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**For Research Use Only. Not for use in diagnostic or therapeutic procedures.**
Installation requirements

Power requirements
100–240 VAC, 50/60 Hz

Typical power consumption
154 VA

Heat output
240 BTU/hour maximum output

Operating ranges
15°C–30°C; <80% relative humidity

Instrument size
(H x W x D)
11 x 14.75 x 16.5 in.
(27.9 x 37.5 x 41.9 cm)

Footprint with fluid bottles
(H x W x D)
11 x 21.5 x 16.5 in.
(27.9 x 54.6 x 41.9 cm)

Weight
30 lb (13.6 kg)

Fluid bottle capacity
2 L sheath fluid
2 L waste
250 mL BD™ Detergent Solution Concentrate
250 mL BD™ FACSClean solution

Noise under normal operating conditions
<60 dBA

Options

BD FACSVia™ Loader
Power requirements
No additional power necessary

Tube compatibility
(BD FACSVia clinical software)
BD Trucount tubes and 12 x 75-mm tubes accommodated using the supplied 24-tube rack

With BD FACSVia™ research software
Standard 96-well (flat, round, and v-bottom) plates in addition to tube types

Space requirements
Minimum bench depth 28 in. (71 cm)
Minimum width (with Loader) 19.5 in. (49.5 cm)

Weight
7 lb (3.2 kg)

Barcode reader with stand
Hand-held barcode reader (ISBT 128 supported)

Minimum requirements
4 GB RAM
5 GB of free hard disk space

Minimum screen resolution
1,280 x 1,024 pixels

Operating system
Microsoft Windows 7 Professional 64-bit