The BD FACSLyric™ flow cytometer is a flexible, high-performance instrument in a compact footprint. The system is available in 4, 6, 8, 10 or 12 colors and equipped with a blue, red and violet laser depending on the configuration. The built-in capability to automatically check and correct laser alignment allows for optimal optical alignment at all times.

The combination of vacuum-driven fluidics, a unique sample injection tube (SIT) and a new cuvette design enhances system reliability and signal resolution.

BD FACSuite™ Clinical software contains clinical assay templates providing clinical menus that include:
- BD Multitest™ CD3/CD8/CD45/CD4 kit
- BD Multitest™ CD3/CD16+CD56/CD45/CD19 kit
- BD Multitest™ IMK kit
- BD Multitest™ 6-color TBNK kit

All of the above are also available with absolute counting when using BD Trucount™ Tubes.

BD FACSuite™ software supports the creation of user-defined assays for clinical research, and tools that facilitate instrument-to-instrument and site-to-site standardization.

The fluidics design enables a large selection of sample input devices. For manual acquisition, choose from 12 x 75-mm tubes, microcentrifuge tubes (~500-μL) or large (up to 50-mL) conical tubes for continuous sample acquisition. For automated acquisition, the optional BD FACS™ Universal Loader provides walkaway operation with samples loaded in either microtiter plates or 12 x 75-mm tube racks.
Optics
Available system configurations
4-color: 2-laser (blue, red) (3-1)
6-color: 2-laser (blue, red) (4-2)
8-color: 3-laser (blue, red, violet) (4-2-2)
10-color: 3-laser (blue, red, violet) (4-3-3)
12-color: 3-laser (blue, red, violet) (4-3-5)

Solid-state laser specifications
Blue laser: 488 nm, 20 mw
Red laser: 640 nm, 40 mw
Violet laser: 405 nm, 40 mw

Beam spot size (all lasers)
9 μm x 63 μm

Optical alignment
Auto alignment on demand

Flow-cell lens
1.2 NA

FSC detector
Photodiode

SSC and FL detectors
PMT
See filter guide for optical configurations.

Fluidics
Flow cell
Stainless steel with low coefficient of thermal expansion for predictable, stable performance

Cuvette internal cross-section
430 μm x 180 μm

Sample flow rates
Low: 12 μL/min
Medium: 60 μL/min
High: 120 μL/min
High sensitivity: 50 μL/min

Fluid capacity
Standard 5-L tanks
Optional 10-L tanks
Adapter available for 20-L BD FACSFlow™ cubitainer

Sheath core stream fluid velocity
Normal: 5.4 m/s
High sensitivity: 2.7 m/s

Software
BD FACSuite™ Clinical software
• Preconfigured workflows for IVD-cleared assays
• Integrated bi-directional LIS interface using BD FACSLink™ software
• Support for 21 CFR Part 11 workflow with audit trail and e-signature
• Universal setup for fast and convenient instrument setup and standardization
• Single-tube QC with BD™ CS&T beads
• QC module with Levey-Jennings plots
• Laboratory, physician and supplemental report (.pdf) in 24 languages

Pre-set templates for the following IVD assays
• BD Multitest™ 4-Color
• BD Multitest™ 6-Color TBNK

BD FACSuite™ software
Support for:
• User-defined assays
• User-defined plots
• User-defined worksheets and reports
• User-defined tube/reference settings
• Expression editing

QC
Automated single-tube QC with BD™ CS&T beads
**Performance**

**Acquisition rate**
Up to 35,000 events per second. No limit on number of events acquired in a single FCS file.

**Carryover**
<0.10% with default SIT flush
<0.05% with 3 or more SIT flushes

**Sensitivity**
FITC: <85 MESF
PE: <20 MESF

**Channel Qr (x1,000)**
- FITC: 20
- PE: 133
- PerCP-Cy™5.5: 13
- PE-Cy™7: 17
- APC: 10
- BD Horizon™ APC-R700: 8
- APC-Cy™7: 7
- BD Horizon™ V450: 47
- BD Horizon™ V500: 17
- BD Horizon™ BV605: 133
- BD Horizon™ BV711: 43
- BD Horizon™ BV786: 16

**Fluorescence precision**
<3% CV for chicken erythrocyte nuclei (CEN)

**Fluorescence linearity**
2 ±0.05% for CEN

**Data resolution**
Uncompensated data has a range of 0–262,143.

**SSC and FSC resolution**
Enables separation of 0.2-µm beads from noise

**System throughput**
≤50 minutes for a 40-tube rack with a standard BD Tristest assay stopping rule on samples with normal CD4 counts (approximately 1190 cells/µl).
≤40 minutes for a 96-well plate, using default mix settings, a two-second acquisition, and a SIT flush in between each well and no preview before acquiring or report review delay.

**Parameters**
Area (A), Width (W), Height (H) for all channels and Time (T). Total of 37 parameters available.

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

**Threshold**
Any single parameter or logical combination of multiple parameters

**Data management**

**Workstation specifications (minimum required)**
- Clock speed of at least 3.4 GHz
- 8 GB RAM
- Hard drive and data storage: 2 x 500 GB - RAID 1 Mirrored Array
- Configuration: 16X DVD-ROM

**Operating system**
Microsoft® Windows® 10 64-bit OS
DVD + Driver DVD

**Peripheral devices**
At least 3 USB ports
HP USB Keyboard US
HP USB Optical Mouse

**Networking**
Ethernet LAN 10/100/1000

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

**Monitor**
LCD flat panel, 23 in.
LCD flat panel, 29 in. (recommended)

**Installation requirements**

**Operating temperature**
15°C (59°F) to 30°C (86°F)

**Humidity**
15% to 85% relative humidity (noncondensing)

**Dimensions (W x D x H)**
- **Cytometer**: 63.2 x 57.9 x 57.9 cm
  24.9 x 22.8 x 22.8 in.
- With standard tanks: 85.2 x 57.9 x 57.9 cm
  33.5 x 22.8 x 22.8 in.
- With standard tanks and loader: 107.2 x 57.9 x 57.9 cm
  42.2 x 22.8 x 22.8 in.
**Weight**
- Cytometer: 56.0 kg (123.5 lb)
- Loader: 13.2 kg (29 lb)

**Power specifications**
- Voltage: 100–240 ±10% VAC
- Frequency: 50–60 ±10% Hz
- Current: 2 A
- Power: 150 W

**Operational heat dissipation**
≤488 BTU/hour at ambient temperature

**Noise under normal operating conditions**
≤55 dBA over 8 hours under normal operating conditions

**Altitude**
≥0.8 atm (approximately 2,000 meters)
System options

**BD FACS™ Universal Loader**
Compatible with 30 (barcoded) or 40 (non-barcoded) tubes (12 x 75 mm).
Equipped with an orbital shaker for in-place mixing and resuspension of cells.
Optimized for all supported plate and tube formats. Includes internal barcode reader for positive sample identification.

- Supported barcode formats
  - Codabar
  - Code 128
  - Code 3 of 9
  - Interleaved 2 of 5

**Handheld barcode scanner**
Handheld barcode scanner with stand supporting common 1-D and 2-D formats

**Extended-use fluidics**
Optional tanks and connectors to allow for use with 10-L waste tanks and BD FACSFlow™ cubitainers

Class 1 Laser Product.

The BD FACSlyric™ flow cytometer is for In Vitro Diagnostic Use with BD FACSuite™ Clinical software for up to 6 colors.

The BD FACSlyric™ flow cytometer is for Research Use Only with BD FACSuite™ software for up to 12 colors.

BD FACSuite Clinical software is for In Vitro Diagnostic Use. BD FACSuite software is for Research Use Only.

User-defined assays are not for In Vitro Diagnostic Use.

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