



DxFLEX Flow Cytometer

Instrument Characteristics and Specifications

OPTICS

Lasers

Spatially Separated Laser Options (Beam Spot Size: 5 µm x 80 µm)

Laser	Wavelength	Power
Violet	405 nm	80 mW
Blue	488 nm	50 mW
Red	638 nm	50 mW

Optical Filters

Includes 13 repositionable filters

450/45	660/10 (2)
525/40 (2)	690/50
585/42	712/25
610/20 (2)	780/60 (3)

Flow Cell

Patent-pending alignment-free integrated optics quartz flow cell design with > 1.3 NA

Flow Cell dimensions: 430 µm x 180 µm internal diameter

FLUIDICS

Pump Type

Ultra-low pressure peristaltic sheath and sample delivery system

Low maintenance system

Sheath Fluid Filter and Sample Pump Tubing can be replaced by the user, no service visit required

Automated Maintenance Cycles: Startup (initialize), sample mix, backflush, prime, shutdown (daily clean), deep clean

Fluid Capacity

Standard 4 L tanks

Optional 10 L cubitainers

Sample Inputs

5 mL (12 x 75 mm) polystyrene and polypropylene

1.5 mL and 2 mL microcentrifuge (only available for single tube loader)

Autoloader with Plate Adapter: 96-well Standard Flat, U- and V-bottom plates

Sample Flow Rates

Fixed Flow Rates: 10, 30 and 60 µL/min

Custom Flow Rate Control mode from 10 to 240 µL/min in 1 µL increments



Optional Autoloader

	32-tube Carousel	Plate Loader Adapter
Dead Volume	25 µL	20 µL
Mixing Mode	Single tube agitation	Plate shaking
Barcode Reading	Tube Barcode Reader (Code 128, Code 39, Codabar, Interleaved 2-of-5)	N/A

ELECTRONICS

Detectors

Forward Scatter: Proprietary Homodyne FSC sensor system using silicon photodiodes with built in 488/8 µm band pass filter.

Fluorescence and Side Scatter: Fluorescence and side scatter light delivered by fiber optics to Avalanche Photo Diode detector arrays.

Proprietary design ensures high performance, high efficiency, low-noise signal detection

Emission profiles are collected using reflective optics and single transmission band pass filters

Signal

Pulse area, height for every channel, width for one selectable channel

Signal Processing

Fully digital system with 7-decade data display

SOFTWARE

Select Functions

CytExpert for DxFLEX Software, fully featured proprietary application with exportable file formats for offline analysis, if desired

Compensation: Automatic and Manual full matrix compensation; Absolute linear gain amplification, enabling the use of compensation settings between experiments and sample types

Compensation Library for storage of spillover values of dyes to easily determine the correct compensation matrix with new gain settings

Ability to import/export compensation values between experiments

Quality Control: Auto daily QC routine with Levey-Jennings tracking and logging

Standardization: Customized target values to calibrate the gain setting for experiments

Panel Experiment: Multiple tubes for one sample allowed; tubes from one sample can have individual worksheet or share a sheet

Report Sheet: More sample information can be added; reference ranges can be added; out of range results can be flagged

File Formats

FCS 3.0

Operating System

Windows 7 Professional 64-bit

Windows 10 Professional 64-bit

Language

English and Chinese

Minimum Computer Specifications

CPU: Intel® i3 @ 2.9 GHz	1 Gigabit Ethernet port
RAM: 4 GB	2 USB 3.0 ports
Storage: 256 GB	4 USB 2.0 ports

Analytical Characteristics and Specifications

Sample Throughput

Carousel: 23 minutes per 32 tubes (20 second acquisition, with 3 second backflushing and 3 second mixing)

Plate Loader: 35 minutes per plate (10 second acquisition, without mixing or backflushing); 42 minutes per plate (10 second acquisition, with 3 second mixing per 5 minutes and 3 second backflushing)

Carryover

≤ 0.5%

Scatter Resolution

Blue (488 nm) Side Scatter Resolution: <300 nm

Fluorescence Sensitivity

FITC: ≤ 30 molecules of equivalent soluble fluorochrome (MESF-FITC) from the 488 nm laser

PE: ≤ 10 molecules of equivalent soluble fluorochrome (MESF-PE) from the 488 nm laser

Acquisition Rate

30,000 events per second with 15 parameters

Installation Requirements

Dimensions (W x D x H)

Cytometer	Cytometer w/Autoloader	Tanks and Holder
42.5 cm x 42.5 cm x 34 cm	72.5 cm x 43.5 cm x 34 cm	14 cm x 35.6 cm x 43.4 cm
16.7 in x 16.7 in x 13.4 in	28.5 in x 17.1 in x 13.4 in	5.5 in x 14.0 in x 17.1 in

Weight

23.4 kg

35.8 kg (with DxFLEX AutoLoader)

37 kg (with plate adapter)

Power Specifications

Voltage: AC 100 V - 240 V ± 10%, 50 Hz/60 Hz ± 1 Hz

Operating Condition

Temperature: 15-30 °C

Humidity: 15% RH-80% RH, Non-Condensing

Regulatory

DxFLEX is an IVD instrument that is available only in countries where the regulatory approval is obtained from the local regulatory agencies. Please check with your local sales representatives before placing your orders.



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