Gallios™* A New Frontier in Flow Cytometry

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Genomics
Proteomics
Cell Analysis
Particle Characterization
Centrifugation
Lab Automation
Bioseparation
Lab Tools

Remote diagnostics

Total automation solution

Powerful, easy-to-use software

Enhanced scatter detection

Fast, accurate, efficient digital electronics

Extraordinary sensitivity and resolution

Fixed, spatial solid state lasers

Up to 10-color analysis

Flexibility, accuracy and quality

DS-12471B

Gallios™ Flow Cytometer Specifications and Performance Characteristics

Optics

Lasers

Lasers/Power output

- Blue Solid State Diode, 488nm, 22mW laser output
- Red Solid State Diode, 638nm, 25mW laser output
- Violet Solid State Diode, 405nm, 40mW laser output**

Configuration

125 µm spatially separated beam spots

Minimum laser power at flow cell

Blue >20mW
Red >20mW
Violet >30mW**

Flow Cell

150 x 460 micron rectangular quartz

Collection Optics

Gel coupled 1.2 NA lens

Optical filters

Easy interchangeable optical filters
Optimal 18 degree reflective optics for minimal light loss

Detector filters

Forward scatter: 488/10

Blue laser: 525/40, 575/30, 620/30, 675/20***, 695/30, 755LP
Dyes: FITC, PE, ECD, PC5 or PEC5.5, PECy7

Red laser: 660/20, 725/20**, 755 LP**
Dyes: APC or Alexa647, APCAlexa700, APCCy7, APCAlexa750

Violet laser**: 450/40, 550/40
Dyes: Pacific Blue, Pacific Orange

Detectors

Forward Scatter Detector

Fourier design providing up to 3 measurements of forward angle

Side Scatter Detector

Independently focused high performance photodiode with electronic attenuation

Fluorescence Detectors

FL1 – FL10 Fluorescent Detectors (7-10 optional**)

Sample Processing

Flow Rates

Continuous pressure is applied to the sample tube based on user selected flow rates.
Low, Medium and High

Sheath consumption

Acquisition: 780mL / hour

Carryover

<0.1%

Compatibility

12 x 75mm tubes

Acquisition Modes

32 tube Multi Carousel Loader (MCL)
Single tube sampling mode
Automated worklist acquisition
Manual worklist mode

Mixing

The MCL patented design vortexes each tube individually before sample acquisition

Barcode reading

Carousel number, tube location and tube barcode

Biosafety

Biohazard contained wash station thoroughly rinses sample probe

Fluidics

10L IsoFlow external sheath tank
20L Waste tank
1.5L FlowClean cleaning fluid
1.5L Internal sheath tank

Signal Processing

Dynamic range	20-bit data acquisition
Workstation resolution	1,048,576 channels
Digital Sampling rate	40Mhz
Digital Accuracy	<5% error

Parameters

- 5 different signals available from each detector: Integral linear and logarithmic, Peak linear and logarithmic and True Time of Flight linear.
- Time, Ratio
- Selection of upto 62 parameters

Performance Characteristics†

Throughput

Throughput of 10k normal lymphocytes is 80 tubes/hour
Up to 88 tubes an hour at 10,000 events per second

Scatter Resolution

Resolves 0.404µm diameter particles from background noise using forward scatter, with maximum detection up to 40µm diameter particles

Fluorescence Sensitivity Threshold Levels

FITC	112 MESF	PE	78 MESF
PECy5	15 MESF	APC	75 MESF

Acquisition Rate	25,000 events per second

Remote Diagnostics

ProService compatible; high speed internet connectivity with optional hardware for remote system monitoring, diagnostics and repair

Workstation (minimum specification)

Operating System	Windows Vista Business
RAM size	4 GB
Processor frequency	Pentium Core™ 2 Duo 2.13GHz
Hard drive	160 GB
Removable media support	DVD 18X, CD 40X
Network ports	3, 2 available for networking
Video card	PCI express x16, 256MB DDR2 64 bit on board memory
	Support for 1680 x 1050 resolution dual monitors
USB ports	8
RoHS	Compliant
Monitor	22 inch flat panel LCD monitor

Installation Requirements

Power	Universal power supply (100-240 VAC, 50-60Hz)
Operating Temperature	15.5– 32°C (60-90°F)
Noise	Less than or equal 60 db
Physical Dimensions	

Cytometer

	kg	lbs
Weight	104	230
	cm	in
Width	95	38
Height	61	24
Depth	70	28

Supply Cart

	kg	lbs
Weight	32	70
	cm	in
Depth	71	28
Width	46	18
Height	58	23

Ordering Information

Part Number/Description		
775014	6 colors, 2 lasers	(5+1 configuration)
775015	8 colors, 2 lasers	(5+3 configuration)
775016	10 color, 3 lasers	(5+3+2 configuration)

* For Research Use Only. Not for use in diagnostic procedures.

** Optionally available depending on upgraded system configuration

*** Optional filter included

† These characteristics can be influenced by a number of factors relating to instrument setup, sample type, number of parameters selected, protocol definition and number of events acquired.
Refer to Instrument Instructions for User for more information on Analytical Characteristics

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