

Gallios Specifications & Performance Characteristics

OPTICS

Lasers

LASER/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*
- Yellow Solid State Diode: 561nm, 21.5mW laser output*

CONFIGURATION

- 125µm spatially separated beam spots

MINIMUM LASER POWER AT FLOW CELL

- Blue: >20mW
- Red: >20mW
- Violet: >30mW**
- Yellow: >17mW**

Flow Cell

150 x 460µm 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 – Standard Configuration

Forward Scatter: 488/10
Blue Laser: 525/40, 575/30, 620/30, 675/20**, 695/30, 755LP
Dyes: FITC, PE, ECD, PC5 or PC5.5, PE-Cy7
Red Laser: 660/20, 725/20*, 755LP*
Dyes: APC or Alexa Fluor 647, APC-Alexa Fluor 700, APC-Cy7, APC-Alexa Fluor 750
Violet Laser:* 450/40, 550/40 525/40**
Dyes: Pacific Blue, Pacific Orange, Krome Orange

Detector Filters – Optional 561nm Configuration

Forward Scatter: 488/10
Blue Laser:* 525/40, 575/30, 620/30, 675/20**, 695/30, 755LP
Dyes: FITC, PE, ECD, PC5 or PC5.5, PE-Cy7
Co-linear Yellow Laser:* 525/40, 582/15, 620/30, 695/30, 755LP
Dyes: DsRed, mCherry, mStrawberry, mBanana, mOrange, mPlum, mRaspberry, mTangerine, RFP, PE-Cy5, PE-Cy5.5, Alexa Fluor 546, Alexa Fluor 568, Alexa Fluor 594, Alexa Fluor 610
Red Laser: 660/20, 725/20*, 755LP*
Dyes: APC or Alexa Fluor 647, APC-Alexa Fluor 700, APC-Cy7, APC-Alexa Fluor 750
Violet Laser:* 450/40, 550/40 525/40**
Dyes: Pacific Blue, Pacific Orange, Krome 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
Sheath stream stops automatically after acquiring sample

Acquisition Modes

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

Mixing

The MCL patented design vortexes each tube individually before sample acquisition

Biosafety

Biohazard contained wash station thoroughly rinses sample probe

Fluidics

10L IsoFlow External Sheath Container
20L Waste Container
1.5L FlowClean Cleaning Fluid Tank
1.5L Internal Sheath Tank

SIGNAL PROCESSING

Flow Rates

Dynamic Range: 20-bit data acquisition
Workstation Resolution: 1,048,576 channels
Digital Sampling Rate: 40MHz
Digital Accuracy: < 5% error
Parameters:
Five different signals available from each detector:
Integral linear and logarithmic, Peak linear and logarithmic and True Time of Flight linear Time, Ratio
Selection of up to 62 parameters

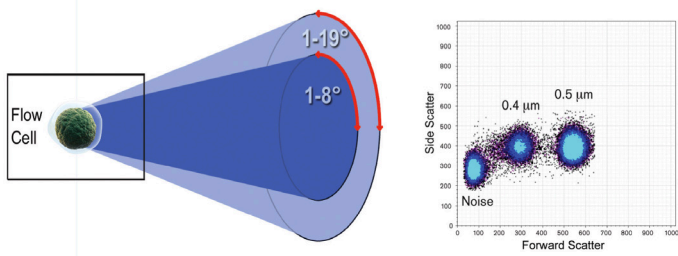
PERFORMANCE CHARACTERISTICS†

Throughput

Throughput of 10k normal Whole Blood Lymphocytes is 80 tubes/hour
Up to 88 tubes an hour at 10,000 events per second of concentrated beads

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
PE-Cy5	15 MESF	APC	75 MESF

Acquisition Rate

Greater than 90% yield at 25,000 events per second

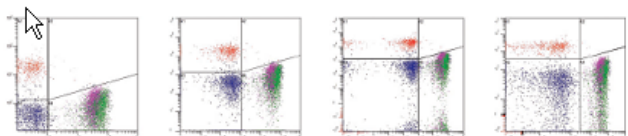
GALLIOS SOFTWARE

Acquisition

Unlimited histogram displays per sample
256 regions are available per protocol with up to 32 available Boolean gates
Autogating and Flex quadrant with dual parameter histograms

Settings & Compensation

Manual or automatic voltage adjustment (using Flow-Set Pro Fluorospheres)
Manual or automatic color compensation settings
Real time and listmode of inter and intra beam compensation
Offline compensation matrix generation
Customizable display of six positive decades and negative scale



Data & User Management

Administrator control of password security and user access privileges
Fully compatible with Microsoft Office including automated Excel export functionality
Customizable FlowPage for reporting with automated pdf or printer output
Database for storing results and connectivity with LIS and middleware

File Format

FCS 3.0 compatible
Storage of both compensated and un-compensated data
Storage of embedded protocol for rapid replay

REMOTE DIAGNOSTICS

PROService

PROService compatible; high-speed Internet connectivity with optional hardware for remote system monitoring, diagnostics and repair

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WORKSTATION (MINIMUM SPECIFICATIONS)

Operating System: Windows 7 Professional
RAM: 4GB
Processor Frequency: Intel® Core™ i7 3.7GHz processor
Hard Drive: Two (2) 500 GB in a Parallel, RAID 1 System
Removable Media Support: DVD 18X, CD 40X
Network Ports: 3, 2 available for networking
Video Card: PCI express 1GB DDR3
Support for 1080p resolution dual monitors
USB Ports: 8
RoHS Compliant
Monitor: 22-inch Flat Panel LCD Monitor

INSTALLATION REQUIREMENTS

Power: Universal Power Supply (100-240VAC, 50-60Hz)
Operating Temperature: 15.5-32°C (60-90°F)
Noise: < 60db

PHYSICAL DIMENSIONS

Cytometer			Supply Cart			561nm Laser System		
Weight	104kg	230lbs	Weight	30kg	67lbs	Weight	4.08kg	9lbs
Width	95cm	38in	Width	72.4cm	28.5in	Width	33.02cm	13in
Height	61cm	24in	Height	29.8cm	11.75in	Height	8.61cm	3.38in
Depth	70cm	28in	Depth	49.5cm	19.5in	Depth	23.11cm	9.01in

ORDERING INFORMATION

Part Number/Description

GALLIOS

B47900 6 Colors, 2 Lasers (488nm Blue & 638nm Red) (5 + 1 configuration)
B47901 8 Colors, 2 Lasers (488nm & 638nm Red) (5 + 3 configuration)
B47902 10 Colors, 3 Lasers (488nm Blue, 638nm Red & 405nm Violet) (5 + 3 + 2 configuration)
B01751 Optional Gallios 561nm DPSS Yellow Laser System

KALUZA ANALYSIS SOFTWARE (Optional)

EDUCATIONAL LICENSES (For Degree Granting Institutions)
B16406 SWRE Kit Kaluza, Single User Educational License
B16407 SWRE Kit Kaluza, 1 Year Single User Educational License
B16408 SWRE Kit Kaluza, 5 User Network Educational License
B16409 SWRE Kit Kaluza, 10 User Network Educational License

STANDARD LICENSES

A82959 SWRE Kit Kaluza, Single User License, Perpetual
A82960 SWRE Kit Kaluza, 5 User Bundle License
A82961 SWRE Kit Kaluza, 10 User Network License
A84174 SWRE Kit Kaluza, 1 Year Single User, Renewable
A84175 SWRE Kit Kaluza, 5 User Network License
A85788 SWRE Kit Kaluza, 3 User Bundle License

For more information about the Gallios Flow Cytometer, contact your local Beckman Coulter office.

Gallios is for research use only. Not for use in diagnostics procedures.

* Optionally available depending on upgraded system configuration.

** Optional filter included.

CLASS 1 LASER PRODUCT.

