Navios EX
Specification & Performance Characteristics

OPTICS

LASERS

Lasers/Power Output

Blue Solid State: 488 nm, 55 mW, Software Controlled

Red Solid State Diode: 638 nm, 50 mW, Software Controlled

Violet Solid State: 405 nm, 80 mW, Software Controlled**

Configuration

Nominal 90 μm spatially separated beam spots

FLOW CELL

430 μm x 180 μm rectangular channel

COLLECTION OPTICS

Fixed integrated optics and quartz flow cell design with a numerical aperture of > 1.2

OPTICAL FILTERS

Easily interchangeable optical filters

DETECTOR FILTERS

Forward Scatter: 488/20

Blue Laser: 525/40, 575/30, 614/20 , 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 Alexa Fluor[†] 647, APC-Alexa Fluor 700, APC-Cy7, APC-Alexa Fluor 750

Violet Laser:** 450/50, 550/40

Dyes: Pacific Blue[†], Krome Orange

DETECTORS

Forward Scatter Detector

Fourier design providing up to 3 measurements of forward angle

Side Scatter Detector

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

PERFORMANCE

Carryover: < 0.1%

Dead volume as low as 2 μL when using Beckman Coulter 12 x 75 mm polypropylene tube and adjustable probe

ACQUISITION MODES

32 tube Multi Carousel Loader (MCL)

Single tube sampling mode

Automated work list acquisition

Manual work list mode

MIXING

The MCL vortexes each tube individually before sample acquisition

BARCODE READING

Carousel number, tube location, and tube barcode verified to worklist

BIOSAFETY

Biohazard contained wash station thoroughly rinses sample probe

BECKMAN COULTER

Life Sciences

FLUIDICS

Diluent usage (typical): 825 mL/ hour

10 L IsoFlow External Sheath Container

10 L or 20 L Waste Container

800 mL FlowClean Cleaning Fluid Tank

Internal 800 mL Sheath Fluid Container and External 10 L
Sheath Fluid Container

SIGNAL PROCESSING

FLOW RATES

Dynamic Range: 20-bit data acquisition

Workstation Resolution: 1,048,576 channels

Digital Sampling Rate: 40 MHz

Digital Accuracy: < 5% error

Parameters:

- Five different signals available from each detector: Integral linear and logarithmic, Peak linear and logarithmic and Time of Flight linear

- Time, Ratio

- Selection of up to 62 parameters

PERFORMANCE CHARACTERISTICS ‡

THROUGHPUT

Throughput of 10,000 normal leukocytes is 82 tubes/ hour

Throughput with a concentrated sample of 89 tubes/ hour was obtained at 10,000 events per second with stop count at 100,000 gated events

SCATTER RESOLUTION

Resolves 0.4 micron particles from background noise using Forward Scatter

Maximum detection of up to 40 microns

FLUORESCENCE SENSITIVITY CHARACTERISTICS

FITC < 107 MESF

PE < 64 MESF

PC5 < 13 MESF

ACQUISITION RATE

25,000 events per second, 90% yield

REMOTE DIAGNOSTICS

PROService

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

WORKSTATION (MINIMUM SPECIFICATIONS)

Operating System: Windows 7 Professional

RAM: 4 GB

Processor Frequency: Intel Core †† i7 3.4 GHz

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: PCB 2 GB DDR3 PCI-E 2.0 X 16

Support for 1080p resolution dual monitors

USB Ports: 8

RoHS Compliant

Monitor: 22-inch Flat Panel LCD Monitor

INSTALLATION REQUIREMENTS

Power: Universal Power Supply (100-240 VAC, 50-60Hz)

Operating Temperature: 16 – 32˚C (60-90˚F)

Noise: ≤ 60 db

PHYSICAL DIMENSIONS

	Cytometer			Supply Cart	
Weight	104 kg	230 lbs	Weight	30 kg	67 lbs
Width	95 cm	38 in	Width	72.4 cm	28.5 in
Height	61 cm	24 in	Height	29.8 cm	11.75 in
Depth	73 cm	29 in	Depth	49.5 cm	19.5 in

ORDERING INFORMATION

PART NUMBER/DESCRIPTION

B86735	6 colors, 2 lasers (5+1 configuration) consisting of B80912 NAVIOS EX 6 colors / 2 lasers, Acquisition Software Kit and Workstation
B86672	8 colors, 2 lasers (5+3 configuration) consisting of B80911 NAVIOS EX 8 colors / 2 lasers, Acquisition Software Kit and Workstation
B83535	10 colors, 3 lasers (5+3+2 configuration) consisting of B80910 NAVIOS EX 10 colors / 3 lasers, Acquisition Software Kit and Workstation

** Optionally available depending on upgraded system configuration
*** Optional filter included
† Alexa Fluor, Pacific Blue, and Pacific Orange are registered trademarks of Molecular Probes, Inc.
†† Intel and Intel Core are trademarks of Intel Corporation in the U.S. and/or other countries.
‡ 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 Performance Characteristics.

For more information about the Navios EX Flow Cytometer, contact your local Beckman Coulter office or visit
http://www.beckman.com/coulter-flow-cytometry/instruments/flow-cytometers/navios-ex

For Beckman Coulter's worldwide office locations and phone numbers, please visit "Contact Us" at **beckman.com**

FLOW-2791SPEC07.17 CPDM PN B96601 AD | CLASS 1 LASER PRODUCT

BECKMAN COULTER
Life Sciences