ANEXA nr.1

Analizator Flow-Citometru			Analizator Flow-Citometru BC Navious EX
Specificatia ceruta			Specificatia propusa
Descriere		Analizator Flow-Citometru destinat pentru identificarea numărului celulelor și subseturilor lor prin citometria de flux în aplicațiile clinice în laborator.	Se ofera analizor automat de citometrie in flux cu IVD conform 98/79 EC, Navios EX (PN B80910 este inclus in PN B83535) producator Beckman Coulter SUA, dedicat pentru identificarea numarului celulelor si subseturilor limfocitare prin tehnica citometriei in flux, pentru aplicatii clinice in laborator. Ref 1, Pag 2 Brosura Navios EX Specifications & Performance Characteristics
Lazere de examinare, tip LED, minim 3 unități		lazer albastru ≥ 488nm, cuputerea de ieșire ≥ 50 mW	**Superior, laser albastru Solid state** 488nm, 55mW. Controlate software Ref 2 Pag 1 Brosura Navios EX Specifications & Performance Characteristics
		lazer roșu ≥ 635nm cuputerea de ieșire ≥ 25 mW	**Superior, laser rosu Solid state** 638nm, 50mW. Controlate software Ref 2 Pag 1 Brosura Navios EX Specifications & Performance Characteristics
		lazer violet ≥ 405nm cuputerea de ieșire ≥ 40 mW	**Superior, laser violet Solid state** 405nm, 80mW. Controlate software Ref 2 Pag 1 Brosura Navios EX Specifications & Performance Characteristics
Celula de flux	cuvetă	din inox, și alte dimensiuni ale cuvetei ce nu influențează performanța de detectare a echipamentului.	**Superior, cuveta din quartz 430x180 um**. Canal cu forma rectangulara Ref 3 Pag 1 Brosura Navios EX Specifications & Performance Characteristics
Detector	Dimensiunea minimă a celulei	≤ 0.5 μm	0.4 μm Ref 4, Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Dimensiunea maximă a celulei	≥ 40 μm	40 μm Ref 4 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Rata maximă de analiză	≥ 10 000 celule / sec	25000 celule/sec Ref 8 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Interval	400 - 800 nm	**Superior 200-800 nm** Ref 4 Pag 3 Brosura Navios EX Specifications & Performance Characteristics
	Sensivitatea	FITC <107 MESF	FITC <107 MESF Ref 5 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
		PE <64 MESF	PE <64 MESF Ref 5 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
Detector de fluorescenţă		≥ 8	10 detectori de fluorescenta (5+3+2) Ref 1, 6 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
Rata fluxului	Ajustabil în trepte	da, mic, mediu, mare	Da, debitul poate fi ajustat in trepte Low (10 μL/min), Medium (30 μL/min) si High (70 μL/min). Cu aplicarea constanta a presiunii functie de viteza de debitului selectat Ref 7 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Rata dinamică	≥ 18 bit	**20 bit** Ref 9 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Rata de eșantionare digitală	≥ 30 Mhz	40MHz Ref 10 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Acuratețea digitală	≤ 5%	≤ 5% Pag 2 Brosura Navios EX Specifications & Performance Characteristics
Eprubetă pentru probă	Tip tub	12 x 75 mm	Da: 12 x 75 mm Ref 12 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Viteza de analiză	≥ 40 eprubete/oră	**82 eprubete/ora** Ref 13 Pag 2 Brosura Navios EX Specifications & Performance Characteristics

Posibilitatea de a utiliza paneluri create de producător, precum și cele create individual formate din 1 sau mai mulți anticorpi monoclonali		da	da Flowcitometrul Navios EX lucreaza atat paneluri create de producator cat si cele create individual formate din 1 sau orice combinatie de anticorpi monoclonali marcati cu fluorocromii explicati in brosura: Ref 15 Pag 7 Brosura Navios EX Clinical Flow Cytometer, Pag 4 Brosura Navios EX Specifications & Performance Characteristics
Curățare Automat, încorporat		da	da
Stația de lucru (PC)	Monitor LCD LED inclus, min o unitate	≥ 19 inch	22 inch Ref 14 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Sistem de operare cu licență inclusă	Windows 7/8/10 Professional	Windows 7 Professional Ref 14 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Procesor	≥ Intel Pentium, 3 GHz Dual Core	Intel i7 3.4 GHz Ref 14 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Placă video	≥ 1 Gb	PCB 2 GB DDR3 PCI-E 2.0 X 16 Ref 14 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Memorie RAM	≥ 2 Gb	4 Gb Ref 14 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	HDD	≥ 250 Gb	500 Gb Ref 14 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	DVD-RW	da	da
	USB port	≥ 3 buc.	8 porturi USB. Ref 14 Pag 2 Brosura Navios EX Specifications & Performance Characteristics
	Ethernet port	da	da
	Claviatură	da	da
	Maus	da	da
Software de analiză și interpretarea datelor cu toate licențile necesare incluse, cu posibilitate de upgrade		da, cu termen nelimitat	da, Se livreaza o statie de lucru dedicata si soft control, analiza si innterpretarea datelor cu licenta pe termen nelimitat Ref 1 Pag 2, 5 Brosura Navios EX Specifications & Performance Characteristics
Imprimantă color		da	da
UPS cu stabilizator integrat		autonomie minim 20 min.	autonomie minim 20 min.
	Panel - Screening Leucemie Acuta (IVD)	100 teste	DuraClone IM Phenotyping BASIC Tube, 25 teste, PN B53309, It contains 3 Compensation Kits, each kit containing eight tubes, each of a single color:- Fenotipul: (CD4-FITC; CD4-PE; CD19-ECD; CD14-PC7; CD4-APC; CD8-A700; CD3-APC-A750; CD8-Krome Orange). All tandem dye-labeled antibodies are lot-matched (vezi datasheet)-4 bucati
	Panel – Leucemia acuta varianta limfoblastica Precursori B celulari (IVD)	60 teste	ClearLLab 10C B Cell Tube, 25 teste, PN B96805 (Kappa-FITC/Lambda-PE/CD10-ECD/CD5-PC5.5/CD200-PC7/CD34-APC/CD38-AA700/CD20-AA750/CD19-PB/CD45-KrO) (vezi datasheet)- 3bucati
	Panel – Leucemia acuta varianta limfoblastica Precursori T celulari (IVD)	40 teste	ClearLLab 10C T Cell Tube, 25 teste, PN B96806 - Fenotipul:(TCRγδ-FITC/CD4-PE/CD2-ECD/CD56-PC5.5/CD5-PC7/CD34-APC/CD7-AA700/CD8-AA750/CD3-PB/CD45-KrO) (vezi datasheet)-2 bucati
	Panel - Leucemii acute nelimfoblastice (IVD)	10 teste	ClearLLab 10C M1 Cell Tube, 25 teste, PN B96807 -Fenotipul:(CD16-FITC/CD7-PE/CD10-ECD/CD13-PC5.5/CD64-PC7/CD34-APC/CD14-AA700/HLA-DR-AA750/CD11b-PB/CD45-KrO) (vezi datasheet)-1 bucata
	Panel - Mielom multiplu (IVD)	50 teste	ClearLLab 10C B Cell Tube, 25 teste, PN B96805 - Fenotipul:(Kappa-FITC/Lambda-PE/CD10-ECD/CD5-PC5.5/CD200-PC7/CD34-APC/CD38-AA700/CD20-AA750/CD19-PB/CD45-KrO) (vezi datasheet)-2 bucati

Reagenți incluși	**Panel - Limfoame (IVD)**	50 teste	ClearLLab 10C B Cell Tube, 25 teste, PN B96805 (Kappa-FITC/Lambda-PE/CD10-ECD/CD5-PC5.5/CD200-PC7/CD34-APC/CD38-AA700/CD20-AA750/CD19-PB/CD45-KrO) (vezi datasheet)- 2 bucati
	Panel MRD (boala minim reziduala) pentru Leucemia acuta varianta limfoblastica Precursori B celulari (IVD)	50 teste	DuraClone RE ALB, 25 teste, PN C00163 It contains 3 Compensation Kits, each kit containing seven tubes, each of a single color: -Fenotipul:CD4-FITC; CD34-ECD; CD10-PC5.5; CD19-PC7; CD38-APC-A700; CD20-APC-A750; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched (vezi datasheet)-2 bucati
	Panel MRD (boala minim reziduala) pentru Leucemia acuta varianta limfoblastica Precursori T celulari (IVD)	50 teste	ClearLLab 10C T Cell Tube, 25 teste, PN B96806 - Fenotipul: (TCRγδ-FITC/CD4-PE/CD2-ECD/CD56-PC5.5/CD5-PC7/CD34-APC/CD7-AA700/CD8-AA750/CD3-PB/CD45-KrO) (vezi datasheet)- 2 bucati
	Panel MRD (boala minim reziduala) pentru Leucemii acute nelimfoblastice (IVD)	50 teste	ClearLLab 10C M1 Cell Tube, 25 teste,PN B96807 - Fenotipul:(CD16-FITC/CD7-PE/CD10-ECD/CD13-PC5.5/CD64-PC7/CD34-APC/CD14-AA700/HLA-DR-AA750/CD11b-PB/CD45-KrO) (vezi datasheet) -2 bucati
	Panel MRD (boala minim reziduala) pentru Mielom multiplu (IVD)	50 teste	ClearLLab 10C B Cell Tube, 25 teste, PN B96805 (Kappa-FITC/Lambda-PE/CD10-ECD/CD5-PC5.5/CD200-PC7/CD34-APC/CD38-AA700/CD20-AA750/CD19-PB/CD45-KrO) (vezi datasheet)-2 bucati
	Panel MRD (boala minim reziduala) pentru Limfoame (IVD)	50 teste	ClearLLab 10C B Cell Tube, 25 teste, PN B96805 - Fenotipul: (Kappa-FITC/Lambda-PE/CD10-ECD/CD5-PC5.5/CD200-PC7/CD34-APC/CD38-AA700/CD20-AA750/CD19-PB/CD45-KrO) (vezi datasheet)-2 bucati
	CD 20	500 teste	CD20-ECD, 100 teste, PN B92433-5 bucati
	CD3, CD5, CD8, CD10, CD11c, CD14, CD15, CD16, CD19, CD22, CD25, CD23, CD28, CD33, CD34, CD38, CD138, HLA-DR, CD56, CD55, CD59	câte 50 teste de fiecare parametru	CD3-PB, 50 teste, IVD, PN B49204 CD5-PC5.5, 50 teste, IVD, PN B49191 CD8-ECD, 50 teste, IVD, PN 737659 CD10-APC-A700, 50 teste, IVD, PN B49223 CD11c-PC7, 100 teste, IVD, PN B96763 CD14-APC-A750, 50 teste, IVD, PN B92421 CD15-FITC, 100 teste, IVD, PN B36298 CD16-PB, 50 teste, IVD, PN B36292 CD19-ECD, 100 teste, IVD, PN A07770 CD22-APC, 50 teste, IVD, PN B96777 CD23-FITC, 100 teste, IVD, PN IM0529 CD25-PC5, 100 teste, IVD, PN IM2646 CD28-ECD, 100 teste, PN 6607111 CD33-PC5.5, 50 teste, IVD, PN B36289 CD34-PE, 100 teste, IVD, PN B49202 CD38-APC-A750, 50 teste, IVD, PN B49200 CD138-APC, 50 teste, IVD, PN B49219 HLA-DR-FITC, 100 teste, IVD, PN B96758 CD55-PE, 100 teste, IVD, PN B49190 CD56-APC-A700, 100 teste, IVD, PN B92446 CD59-FITC, 100 teste, IVD, PN B49187 Cate 1 bucata din fiecare
	Soluție de liză	Pentru liza eritrocitelor	VersaLyse, 100 teste, IVD, PN A09777- 1 bucata
	Alte soluții și consumabile necesare pentru buna funcționare a dispozitivului	da, în cantitate necesară pentru utilizarea testelor solicitate mai sus	Flow Check Pro Fluorospheres, 3x10 mL, IVD, PN A63493 Flow Set Pro Fluorospheres, 3x10 mL, IVD, PN A63492 IsoFlow Sheath Fluid, 10L/bidon, IVD, PN 8546859

Livrarea reagentilor	Graficul de livrare a reagentilor si cantitatile lor sa fie strict coordonate cu institutia	da	da, livrarea se face pe baza comenzii ferme din partea utilizatorilor.
Temperatura mediului ambiant		16 - 30 ℃	Superior, 16-32 ℃
Nivelul de zgomot produs de întreg sistem		≤ 62 dB	60dB
Alimentarea		220 V, 50 Hz	220 V, 50 Hz
Traning	pentru utilizarea dispozitivului medical, minim 2 persoane	da	da
	pentru interpretarea rezultatelor, minim 2 persoane	da	da
	pentru mentenanta dispozitivului medical	da	da
Manual	de utilizare in limba de stat	da	da
	de service in limba de stat	da	da
Garantie	cu piese, accesorii si consumabile incluse pentru minim 24 luni	da	da

Navios EX
Specification & Performance Characteristics

OPTICS

LASERS

Lasers/Power Output   Ref 2

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   Ref 3

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**)   Ref 6

SAMPLE PROCESSING

FLOW RATES

Continuous pressure is applied to the sample tube based on user selected flow rates: Low, Medium and High   Ref 7

PERFORMANCE

Carryover: < 0.1%

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

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

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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   Ref 9

Workstation Resolution: 1,048,576 channels

Digital Sampling Rate: 40 MHz   Ref 10

Digital Accuracy: < 5% error   Ref 11

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   Ref 13

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   Ref 4

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   Ref 5

PC5 < 13 MESF

ACQUISITION RATE

25,000 events per second, 90% yield   Ref 8

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   Ref 14

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

Ref 1

** 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

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Violet Laser Beam Spot Size

An elliptical spot 6 μm high by 150 μm wide.

Laser Beam Separation

The laser beams are 90 μm (±4.5 μm) apart.

Optical Filters

The filters used in the Navios EX system are dependent upon your system configuration. See Figure 3.3, Figure 3.4 and Figure 3.5.

Sensors

Ref 4

- The FS sensor and the SS sensor are photodiodes.
- The FL sensors are photo-multiplier tubes (PMTs) that have a 200-nm to 800-nm spectral range.

Signal Processing

- High voltage amplification, minimum 250 up to 1,000, in increments of 1, for FL1-FL10.
- Vernier gain (fine amplification), up to 1,000 (labeled volts), in increments of 1, for FS and SS. A change of 1 to 750 represents a 1-to-4 change in gain:
- Linear amplification (gain) by 1.0, 2.0, 5.0, 7.5, 10, 20, 50, 75, 100, 200, 500 or 750 for FS and SS.
- Linear amplification (gain) by 1.0 or 2.0 for FL1-FL10.
- Four-decade digital logarithmic transformation of FS, SS and FL1-FL10.

NOTE A scale of 0.1 to 1,000 is displayed on the plot axis for logarithmic parameters, but the default statistics are based on an actual scale of 0.1024 to 1024. The displayed scale can be changed to 1 to 10,000.

- Six decade with True View enabled. Data is transformed in a 'log' style at high values, but 'linearly' near the axis. Up to 2 negative decades of data may be displayed. Transform 'reflects' around origin and becomes Logarithmic at high negative values.
- Fluorescence color compensation is available in 0.1 increments, from 0 to 100%, for FL1-FL10.
- A discriminator (maximum value of 1,000) is available for any one of the signals. Only one discriminator can be specified for any one sample acquisition.

Dynamic Range

20-bit data acquisition

Workstation Resolution

1,048,576 channels

Fluorescent Light

Band pass and dichroic filters are used to transmit color bands. The color bands are designed to measure fluorescence light from the fluorochromes such as FITC, PE, ECD, PC5, PC5.5, PC7, APC, APC AlexaFluor700, APC AlexaFluor750, Pacific Blue and Krome Orange (with PMT and violet laser upgrades installed) that are excited by the lasers. Dichroic (shortpass, SP) filters are used to reflect fluorescence longer than the stated wavelengths. Positions of the dichroic filters have been efficiently designed to reduce the number of optical surfaces fluorescence light must pass to reach the photo sensors. Their locations relative to the optical axis have also been optimized for light to pass symmetrically through each filter. You can individually interchange the optical filters. There is no need to realign the optical system when the filters are changed.

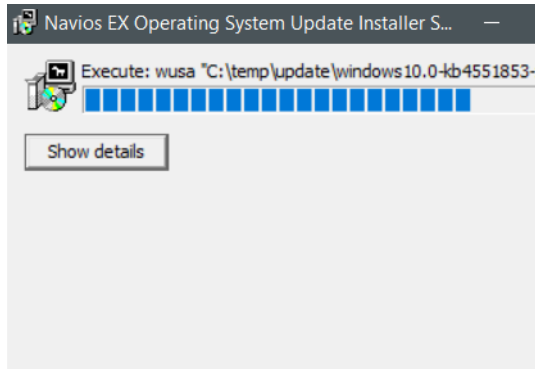**Figure 3.3** Two Laser, 6 Color Filter Block Configuration
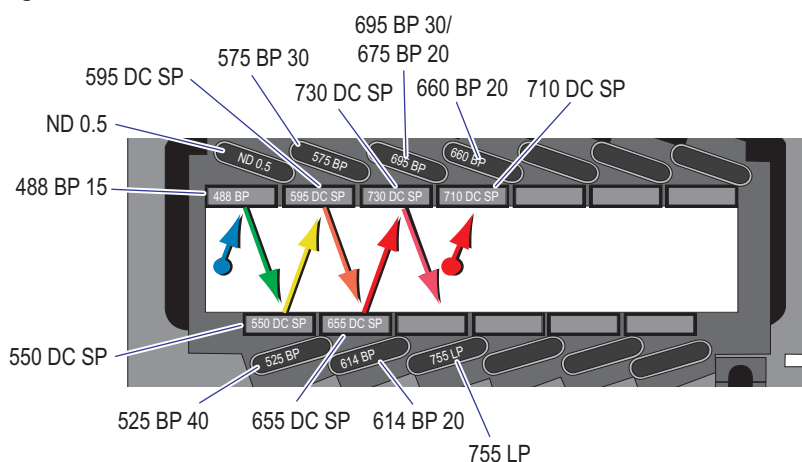
Figure 3.4 Two Laser 8 Color Filter Block Configuration

Ref 1
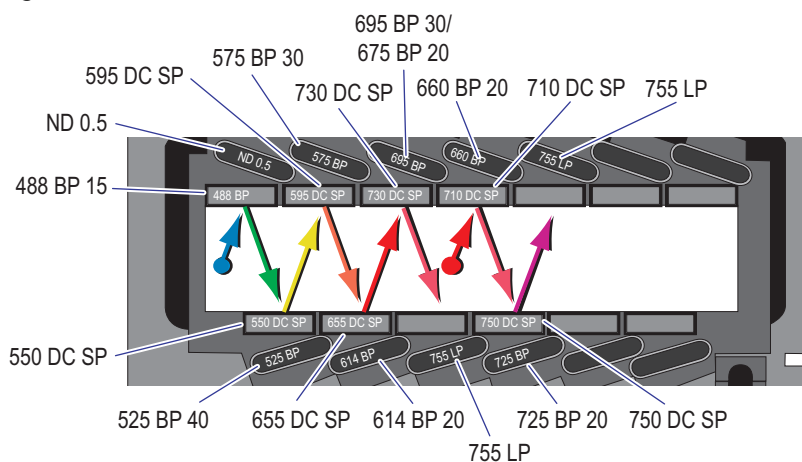
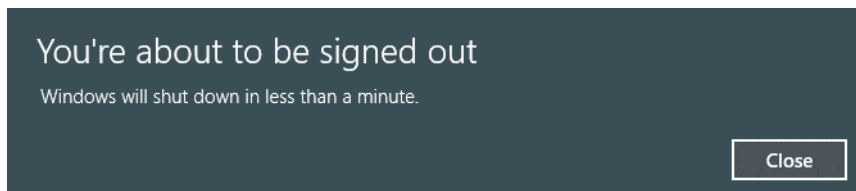**Figure C.50** Operating System Update Setup Installation

NOTE The operating system update installer will automatically detect and install only the necessary updates.

6 Once the operating system update setup has completed, select **OK** to restart the system and complete the update process. See Figure C.51 and Figure C.52.

Figure C.51 Operating System Update Setup Successfully Installed
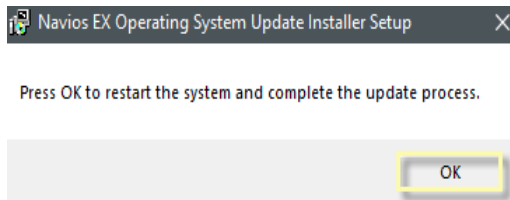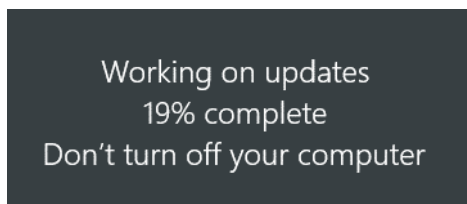

Figure C.52 Windows Shutdown

7 Wait while the system completes the installation of the operating system updates. This process may take several minutes and will return you to the Windows login screen. See Figure C.53.

Figure C.53 Working on Completing Operating System Updates

NAVIOS EX
CLINICAL FLOW CYTOMETER

RELIABLE, ACCURATE, EFFICIENT

EMPOWER
life-changing decisions.

BECKMAN COULTER
Life Sciences

BECAUSE EVERY EVENT MATTERS

The Navios EX flow cytometer offers a solution for advanced cytometry applications with workflows for high throughput laboratories. Navios EX delivers more of what matters to your lab—up to 12 parameters for high complexity assays*; sensitivity and resolution; and quality, reproducible results. Robust performance means peace of mind, because when analyzing important samples, every event matters.

With the 10 color capabilities of the Navios EX flow cytometer you can collect additional data points from each sample. This reduces the number of samples to prepare along with the possible errors that go with them.

NAVIOS EX FLOW CYTOMETER

The Navios EX offers up to three high powered solid state, independently-focused diode lasers with an innovative integrated optics flow cell design. Navios EX is equipped with electronics that provide accurate and efficient digital signal processing at high event rates over a wide dynamic range of fluorescence intensities. These benefits are packaged in a compact analyzer that delivers stable performance over long periods of time and across a wide range of operating temperatures.

- Efficient workflow through automated data management from sample identification through to data reporting

- Up to 12 parameters for identification of populations in complex advanced applications*

- Innovative scatter detection technology provides flexibility for microparticle and dim fluorescent population analysis

PART NUMBER	488 nm EXCITATION					638 nm EXCITATION			405 nm EXCITATION	
	FITC	PE	ECD	PC5.5	PC7	APC	APC-A700[1]	APC A750[2]	PB[3]	KrO[4]
B47905[5]	•	•	•	•	•	•	•	•	•	•
B47904[6]	•	•	•	•	•	•	•	•		
B47903[7]	•	•	•	•	•	•				

1. APC Alexa Fluor 700   2. APC Alexa Fluor 750   3. Pacific Blue   4. Krome Orange
5. Consisting of A52103 Navios EX 10 colors / 3 lasers, Acquisition Software Kit and Workstation
6. Consisting of A52102 Navios EX 8 colors / 2 lasers, Acquisition Software Kit and Workstation
7. Consisting of A52101 Navios EX 6 colors / 2 lasers, Acquisition Software Kit and Workstation

WORKFLOW EFFICIENCY FOR CLINICAL LABORATORIES

Startup

The Navios EX task scheduler warms up the system at a predetermined time so that it is ready to start when you are. The scheduler can also be used to shut down the instrument when a work list has finished for truly walk-away data acquisition.

Sample Tracking

The Navios EX incorporates four-way on-board barcode identification (Carousel ID, Position ID, Primary Sample ID, and Daughter Tube ID). With the Navios EX Platform it's easy to track and maintain sample identification from order entry to report generation, and to trace sample status in real time. With its single tube vortex capability, sample integrity is maintained throughout the run.

System Stability

The Navios EX's thermoregulation system maintains the optical area at a consistent temperature, assuring reliable data while minimizing laser downtime and maintaining compensation settings.

Features

Instrument reliability

Mean time between failure (MTBF) of 200 days, less than 1 unplanned service call per year

Constant environmental control of temperature and humidity

Data consistency

Constant sheath pressure for consistent acquisition rate

Individual sample vortexing

4-way Sample identification

Built-in bar code scanner allows for identification of Carousel number, tube location, and tube barcode verified to worklist

Reporting functions

Patient data reporting: Panel report (add patient database), Flowpage, LIS connectivity

QC Monitoring: create custom QC products and track; alignment bead and an assay specific bead product (FlowSet)

LIS & Middleware Connectivity

The Navios EX is network ready and can be bi-directionally interfaced with Laboratory Information Systems. Bi-directional interface enables you to manage test orders, create work lists automatically, minimize manual data entry, track samples throughout the testing process, and eliminate transcription errors in the reporting process. The system automatically sends test requests and demographic information to the Navios EX, and transmits test results. Additionally, with the ability to map several Navios EX result databases to a networked review station in a centralized database, the system facilitates maximizing instrument usage, allowing review and release of test data offline to the LIS or other middleware solution.[1]

Patient Data Security

The Navios EX software runs on a Microsoft Windows 10 workstation. Several security features have been included to protect patient data such as use of an encrypted patient database, installation of malware protection, availability of hard drive encryption, and periodic availability ofBeckman Coulter validated Microsoft Windows 10 operating system security updates.

Increase Uptime with BeckmanConnect

The optional BeckmanConnect software permits remote diagnostic capability. This customer installable option will allow support associates to remotely view and control the instrument computer after the lab user provides a one-time use password. To enroll or learn more about BeckmanConnect visit www.beckman.com/BeckmanConnect

The Navios EX platform is the culmination of 20 years of flow cytometry developments in standardization presented in a 10-color system. The result is a system that automates the standardization workflow using target channels to enable consistent results over time as well as across sites using shared targets.

The current state of the art provides:

- Multi-site comparable results
- Assay Quality Assurance
- Day-to-day stability
- Minimized user variability
- Minimized user interactions

1. Beckman Coulter recommends that all results be reviewed prior to release.

MORE COLORS, MORE INFORMATION

With the 10-color capability of the Navios flow cytometer you can collect additional information from your assays. When using a 10-color solution, sample preparation is reduced along with possible errors that go with it.

488 nm EXCITATION			638 nm EXCITATION
FITC	PE	ECD	APC

4 tubes using 4 colors with 3 redundant backbone markers.

Easily transition to a single 10-color tube using less reagents.

488 nm EXCITATION					638 nm EXCITATION			405 nm EXCITATION	
FITC	PE	ECD	PC5.5	PC7	APC	APC-A700	APC A750	PB	KrO

Complex mixtures of populations can be clearly resolved using 10 colors reducing reagent redundancy across tubes.

ABOVE: Apparent healthy donor blood was prepared using Immuno-Prep Lyse less than 8 hours post collection and stained with the indicated specificities.

RESOLUTION THROUGH INNOVATION

NAVIOS TETRA SYSTEM

Get the fast answers you need for timely, confident treatment decisions with the proven reliability and precision of Beckman Coulter's Navios tetra system for simultaneous identification and enumeration of T, B and NK lymphocytes in whole blood, available for the Navios EX flow cytometers.

Navios tetra system delivers an easy-to-use solution for multicolor flow cytometric analysis of lymphocyte subsets as well as CD4+ and CD8+ T cell subsets ratios. Navios tetra system's fully automated instrument set-up, easy sample preparation, innovative cluster tracking, and single platform standardization help streamline your workflow. At the same time, the absolute count robustness and on-board quality control tracking helps you make confident treatment decisions. Fully automated instrument set-up using our Flow Check Pro and Flow Set Pro Fluorospheres provides fast automated instrument set up. Reduce sample processing time with ready-to-use pre-optimized reagents that make sample preparation easy and reduce sample handling with no wash protocol and improve laboratory safety.

ClearLLab 10C System

A Powerful Solution for Optimizing Your Lab's L&L* Workflow

The IVD ClearLLab 10C System is the only FDA cleared and CE marked integrated L&L* immunophenotyping solution which offers all components needed from quality controls, sample preparation, antibody panels to analysis software and training material. The ClearLLab 10C dry pre-mixed antibody panels use the DURA Innovations technology, eliminating the need to pipette antibodies, improving efficiency while reducing potential for human error.

• Four premixed, dry ClearLLab 10-color panels: Lymphoid (B-cells, T-cells), Myeloid (M1, M2)

• Fluorescence standardization and color compensation setup kits

• ClearLLab Control Cells are the first application specific normal and abnormal IVD controls cells as a liquid preparation of stabilized human erythrocytes and leukocytes

• Validated for the use on the Navios EX flow cytometers

• Kaluza C analysis software for data analysis and reporting

Powered By
DURA Innovations
Dry Unitized Reagent Assays

* For Non-Hodgkin's lymphoma only

Beckman Coulter Offer

Part Number	Description
8547008	IsoFlow™ Sheath Fluid (4 x 1.8 L)
A63493	Flow-Check Pro Fluorospheres
A63492	Flow-Set Pro Fluorospheres
A64669	FlowClean Cleaning Agent

Choose Beckman Coulter for Benchmark Expertise and Innovation

For over 80 years Beckman Coulter has driven innovation. We remain committed to shaping flow cytometry technology to fit seamlessly into your lab's workflow and to provide an optimal user experience. When you choose a Beckman Coulter solution you receive the a high level of expertise, innovation, and quality assurance.

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