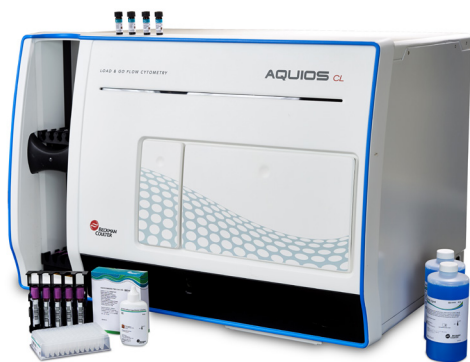




# AQUIOS CL

LOAD & GO – AND MAKE FLOW CYTOMETRY SIMPLICITY ITSELF



**VISUALIZE**  
*the possibilities.*

 **BECKMAN  
COULTER**  
*Life Sciences*

# FOCUS ON YOUR PATIENT. NOT ON SAMPLE PREPARATION

Sample preparation and data management usually are the major bottlenecks in routine flow cytometry. Even with a semi-automated process, you and your team may spend hundreds of hours per year for tasks that don't add to your laboratory's productivity.

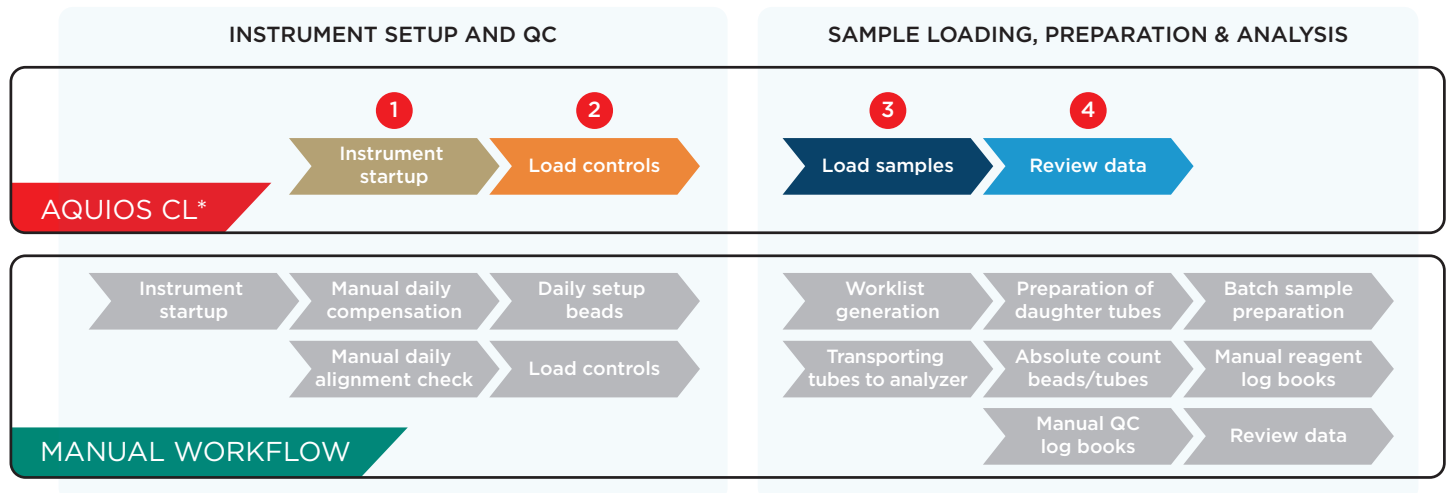
The AQUIOS CL Flow Cytometry System streamlines operations by incorporating automated loading, sample preparation, reagent management, and barcode scanning as well as data analysis and bidirectional LIS connectivity in one compact platform - This is what we call, **Load & Go Flow Cytometry**.



Contact your local representative for detailed customer workflow studies comparing AQUIOS CL with other methods.

## Eliminate Steps With Every Sample

Modular flow cytometry systems might be effective for higher complexity applications, but aren't the best option for efficiently managing a high volume of routine applications. With AQUIOS CL, you can automate your most routine, repetitive tasks.



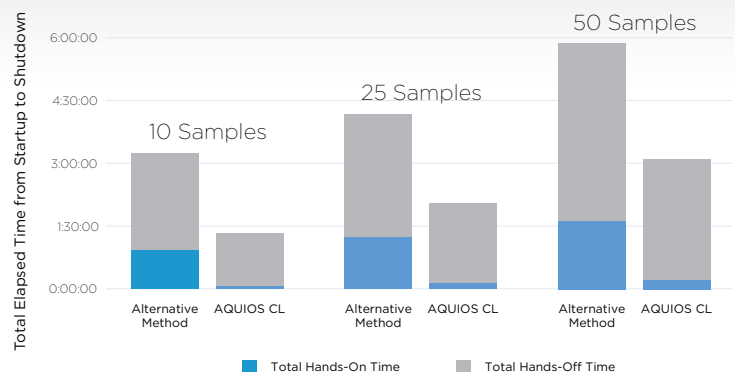
\*Only steps that require manual intervention are shown

Total elapsed time from instrument startup to shutdown was analyzed for 10, 25, and 50 lymphocyte subset samples on AQUIOS CL vs. the alternative method (FC500 with TQ-Prep). AQUIOS CL reduced actual hands-on time by up to 92%.

Reagents and sample material used: AQUIOS Tetra-1 with AQUIOS IMMUNO-TROL and AQUIOS IMMUNO-TROL Low cells (AQUIOS CL); CYTO-STAT tetraCHROME CD45/CD4/CD8/CD3 with IMMUNO-TROL and IMMUNO-TROL Low cells (FC500 with TQ-Prep).

Data: The London Health Sciences Centre (Ontario, Canada). The full study is available online on [AQUIOSCL.com](http://AQUIOSCL.com)

### AQUIOS CL Reduces Hands-On Time



## Load and Go Simplicity

**AQUIOS CL in your lab means you can...**

**Provide a 24/7 flow cytometry service** as the AQUIOS CL can be run safely by less experienced operators.

**Increase productivity** with high-throughput performance that eliminates many of the least efficient features of existing systems.

**Minimize the potential for user error** inherent in existing systems that require numerous manual steps to set up and run.

**Allocate staff resources for maximum productivity**, putting your skilled operators where you need them most.

**Minimize exposure to potentially biohazardous material** such as open blood tubes.

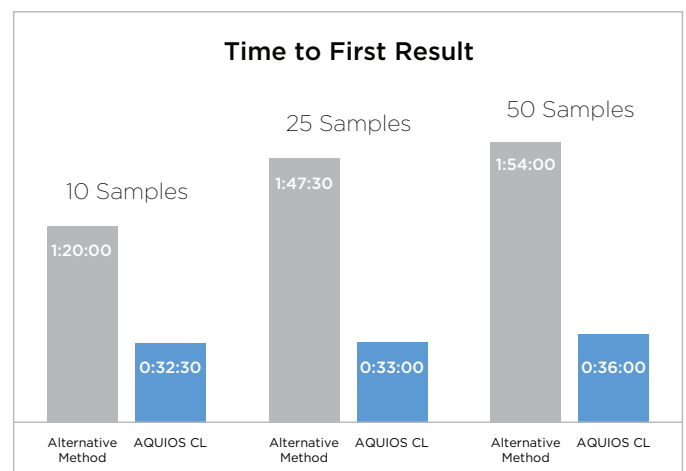
Reagents and sample material used: BD MultiTest CD3/CD8/CD45/CD4 with BD Multi-Check and BD Multi-Check Low Control cells (FACSCalibur plus SPA II); AQUIOS Tetra-1 with AQUIOS IMMUNO-TROL and AQUIOS IMMUNO-TROL Low cells (AQUIOS CL).

Data: University of Texas Medical Branch (UTMB), Galveston, Texas. The full study is available online on [AquiosCL.com](http://AquiosCL.com)

“It’s truly a Load & Go System. For us to be able to just load the system and have the samples upfront for routine analysis which for our uses was T cells, B cells and NK cells, was extremely useful. My overall level of satisfaction is that this is an excellent system.”

Philip Ruiz, MD, PhD, Director, Transplantation Laboratories and Immunopathology, University of Miami

Time to first result (sum of cytometer startup & cleaning, quality control, and sample preparation time including time for analysis of the first sample) was analyzed for 10, 25, and 50 lymphocyte subset samples on AQUIOS CL vs. the alternative method (BD FACSCalibur plus SPA II system).



“Since it is so simple and intuitive, training my techs was a breeze. You could train them in less than an hour. So we were able to cross-train most of the techs in the area in very short time. That makes everything efficient in the laboratory.”

Alexandra Amador, MT (ASCP), CHT (ABHI), Manager Histocompatibility Lab, University of Miami.



Watch the videos on how AQUIOS CL works on [AquiosCL.com](http://AquiosCL.com)

# FAST, EFFICIENT, HIGH THROUGHPUT FLOW CYTOMETRY

In today's competitive lab environment, efficiency is the key to success. Within its compact footprint, AQUIOS CL has several features that deliver powerful performance – and true Load & Go ease, efficiency, and savings.

## LYMPHOCYTE SUBSET ANALYSIS

In the clinical management of immune deficiency diseases, accurately counting the absolute cell numbers of leukocyte subsets and measuring the percentage of individual subtypes in blood is critical. The AQUIOS CL flow cytometer provides a Single Platform Technology (SPT) for lymphocyte subset analysis and enumeration without the need for counting beads.

### AQUIOS TETRA TESTS.

Beckman Coulter's AQUIOS Tetra system tests for simultaneous identification and enumeration of T, B, and NK lymphocytes in whole blood are proven for reliability and precision and ideally complement the AQUIOS CL system.

	FITC	PE	ECD	PC5
AQUIOS Tetra-1	CD45	CD4	CD8	CD3
AQUIOS Tetra-2+	CD45	CD56+16	CD19	CD3

### ADVANCED GATING ALGORITHM.

To increase the accuracy of the lymphocyte gate, Beckman Coulter employs a parameter called Electronic Volume (EV) as a measure of relative cell volume. The AQUIOS CL flow cytometer incorporates this parameter to gate lymphocytes using Electronic Volume versus Side Scatter in a dual parameter gate. This additional gating element, added to the repertoire of lymphocyte subset analysis gating strategy, improves the purity and recovery of total lymphocytes in a way that balances purity and accuracy with speed.



AQUIOS Tetra-1 and AQUIOS Tetra-2+ are for In Vitro Diagnostic Use. AQUIOS CL with Tetra-1 has been accepted for the World Health Organization list of prequalified in vitro diagnostic products



See how Beckman Coulter joins the fight against HIV/AIDS and related co-infections on [beckman.com/CARES](http://beckman.com/CARES)

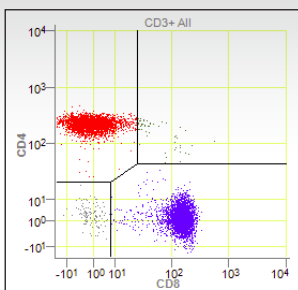


Figure 1: CD4 vs. CD8

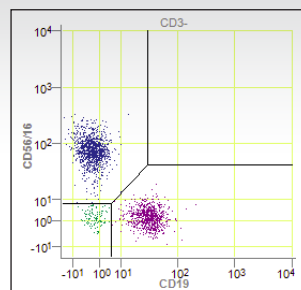


Figure 2: CD19 vs. CD56+16

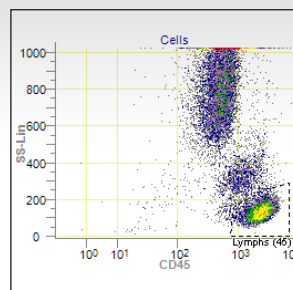


Figure 3: CD45 vs. SSC

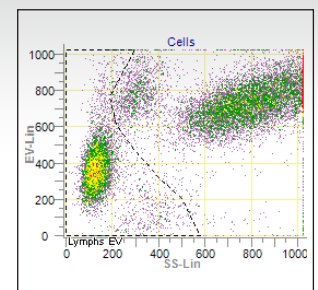


Figure 4: SSC vs. EV

### BARCODED REAGENTS.

The AQUIOS reagents use a unique barcode identity for tracking reagent type, lot number, container number, expiration dates, and remaining reagent levels. The reagent consumption is monitored by the system as the samples are processed.

### AUTOMATED SAMPLE PREPARATION.

Samples are stained, incubated and lysed onboard in 96-well microplates. For catalog applications, the AQUIOS software automatically matches the sample identification code with the test request and launches the applicable testing protocol. An intuitive software interface indicates where each sample is in the process and how much time until results are available.

### PIPELINE SAMPLE PROCESSING.

This patent pending technology uses two multitasking probes and eliminates slow, inefficient batch processing of samples. Get the first sample result in approx. 20 min of loading (measured with Tetra-1 or Tetra-2+), and subsequent sample results at a rate of approx. 25 samples per hour for up to a full 96-well plate for each test of Tetra Combo.

### CASSETTE AUTOLOADER.

The autoloader accommodates a variety of tube sizes and is capable of loading up to 40 specimens at a time, with continuous random loading and unloading functionality. The system uses an internal barcode scanner for positive sample tracking of autoloader samples. The sample ID is matched to the request and the patient information is readily accessible throughout the sample process. For STAT samples, open vial samples or irregular tube sizes, a separate single-tube loader is available.

“The machine is able to analyze leukocytes in a sample of whole blood in only 20 minutes. In addition, the obtained data can be exported directly to the electronic hospital file system. This allows cellular diagnostics in a 24/7 context with a high reproducibility.”

Leo Koenderman, PhD, University Medical Center Utrecht

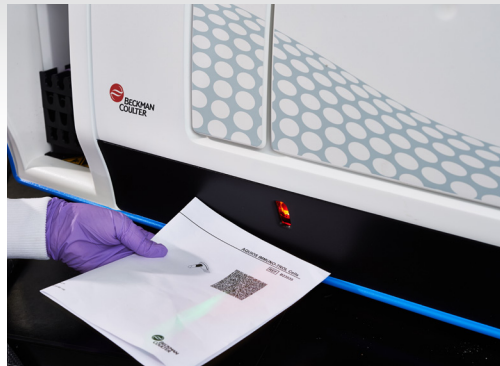


### MINIMIZE EXPOSURE TO POTENTIALLY BIOHAZARDOUS MATERIAL.

The Aquios CL uses cap piercing technology so that you will never have to deal with open blood tubes again.

### COMPREHENSIVE QUALITY CONTROL.

Barcode tracking eliminates the need for manual QC or reagent logs and generates a full, easily reviewable audit trail. Should QC fail, operator is alerted via text message or email.



### Smart Track reagent monitoring:

On-board reagents and QC materials are barcoded for easy loading/unloading and continuous tracking.

# FAST, EFFICIENT, HIGH THROUGHPUT FLOW CYTOMETRY

## FULL BIDIRECTIONAL LIS CONNECTIVITY.

AQUIOS CL can be connected to your Laboratory Information System without the need for additional workstations or middleware. Automatic retrieval of test requests and transmission of test results eliminates the need to create or download worklists manually.\*

## PRO SERVICE REMOTE DIAGNOSTICS.

The AQUIOS CL can be connected to Pro Service, Beckman Coulter's remote diagnostics tool that identifies, trends, and resolves problems online. Pro Service minimizes downtime and is our commitment to your lab's productivity.



*For many labs, routine flow cytometry is a significant part of the overall laboratory testing menu, and can contribute substantially to the profit when set up right. A system that reduces turnaround time and increases quality at the same time is a unique chance to improve laboratory efficiency and associated income.*

*Let us show you how AQUIOS can change YOUR lab for the better. We have a toolset in place that allows us to perform a detailed workflow analysis of your processes.*

PART NUMBER	ITEM DESCRIPTION
B39101	AQUIOS CL System with Uninterruptible Power Manager (100-120 V)
B39102	AQUIOS CL System with Uninterruptible Power Manager (220-240 V)
B23533	AQUIOS Tetra-1 Panel, 50 Tests
B23534	AQUIOS Tetra-2+ Panel, 50 Tests
B23535	AQUIOS IMMUNO-TROL Cells (2 x 3.0mL)
B25700	AQUIOS IMMUNO-TROL Low Cells (2 x 3.0mL)
B25697	AQUIOS Sheath Solution, 10L
B25698	AQUIOS Cleaning Agent, 500mL
B23536	AQUIOS Sodium Hypochlorite Solution (4 x 50mL)
B23538	AQUIOS Lysing Reagent Kit, 100 Tests
B23502	AQUIOS Deep Well Plate (case of 50)

## AQUIOS CLINICAL PRODUCTS.

Additional applications and reagents for clinical use do exist in many high burden HIV countries. Please contact your local Beckman Coulter representative or visit [AquiosCL.com](http://AquiosCL.com)

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

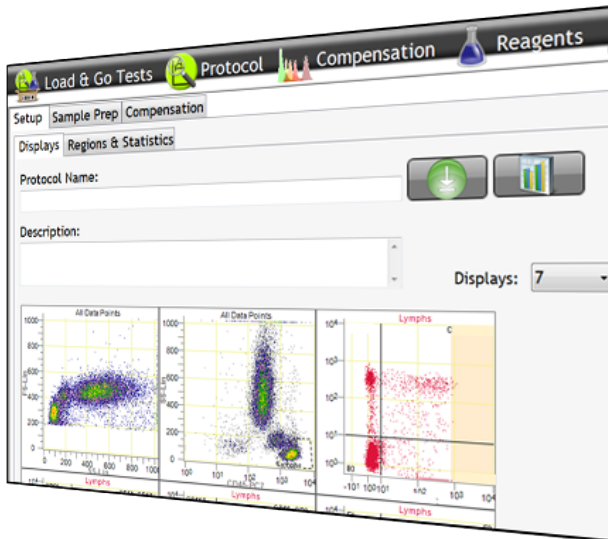
# HOW DO YOU AUTOMATE YOUR USER-DEFINED ASSAYS?

## ADDED FLEXIBILITY: AQUIOS DESIGNER SOFTWARE

Many laboratories create their own reagent cocktails for routine applications in order to accommodate the marker combinations they need. With the optional AQUIOS Designer Software, these user-defined assays now can be combined with the Load & Go automation features of the AQUIOS CL flow cytometer.

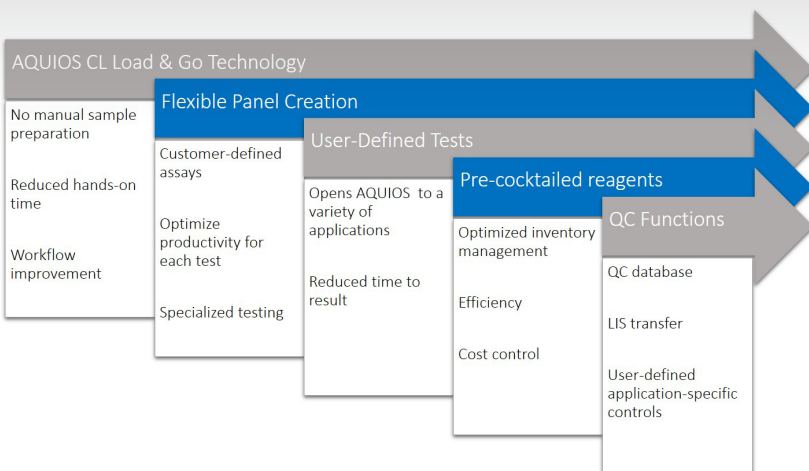
### SOFTWARE FEATURES.

The AQUIOS Designer Software allows customers to create user defined protocols, compensation matrix, sample preparation steps, and QC features on the AQUIOS CL flow cytometer. This lets you run the applications you want to run, while enjoying the automation benefits that AQUIOS can provide.



### USER-DEFINED REAGENTS.

In order to take advantage of the automation features of the AQUIOS CL system, Beckman Coulter provides the reagents for your user-defined assays either through our Contract Manufacturing (GMP) or Custom Design\* Services of user defined reagents. Your reagents will be provided in barcoded and cap-pierceable vials that can be run on the AQUIOS CL instrument with automated tracking of all QC functionalities, including (but not limited to) reagent type, container ID, and lot number.



### COMBINE FLEXIBILITY WITH LOAD AND GO TECHNOLOGY.

In order to finally treat all those basic tests that substantially contribute to your overall profit from an economy of scale perspective, like you do with hematology testing.

**AQUIOS Designer Software is not available in all countries. Please consult your local Beckman Coulter representative for details.**

\* Custom Design Services products are For Research Use Only. Not for use in diagnostic procedures.



## 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.

Contact your local Beckman Coulter sales representative.

[beckman.com](http://beckman.com)



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