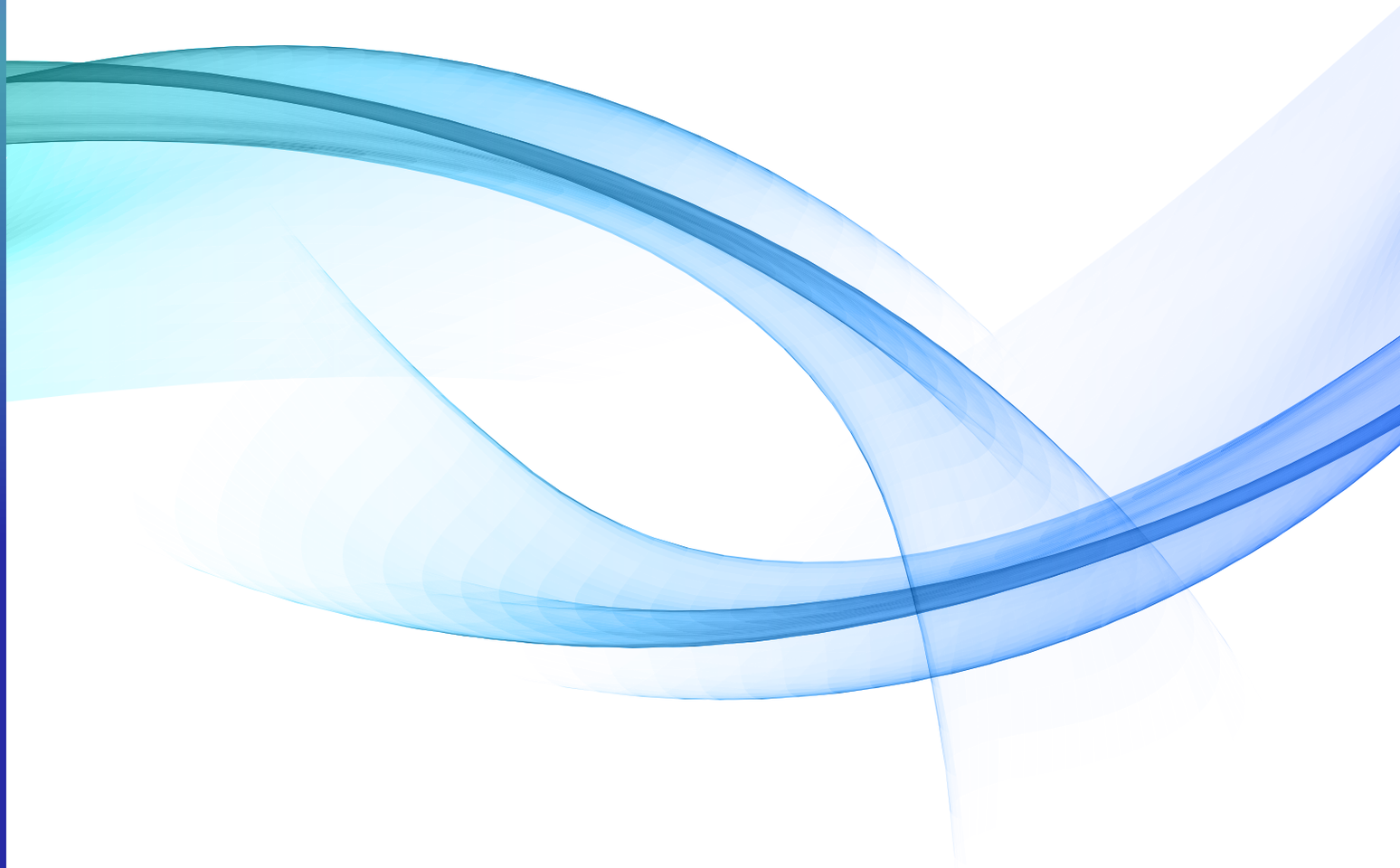
CURIOX
BIOLOGY AT ITS BEST

LAMINAR WASH™ AUTO 1000 SYSTEM

Next Generation Sample Preparation with WALKAWAY Automation



THINK Differently
DISCOVER Accurately
AUTOMATE Confidently

Laminar Wash™
AUTO 1000 System

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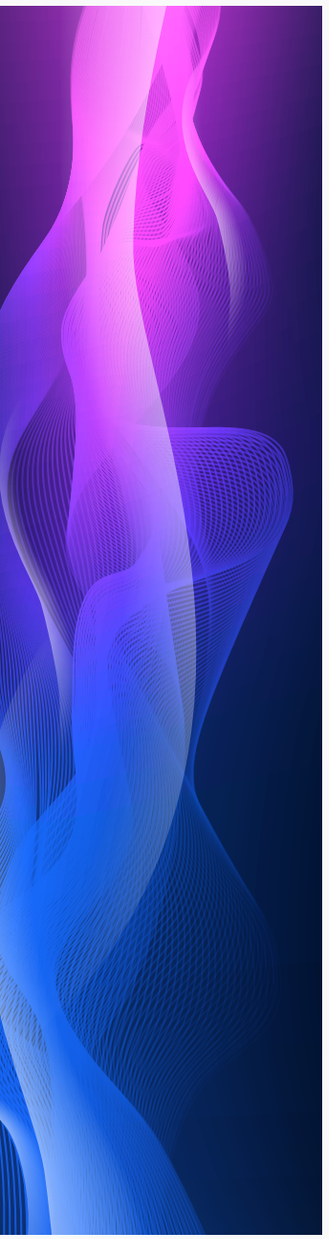


ABOUT US

Enabling accurate biological analysis through automation

Next-generation therapies deserve next-generation sample prep solutions. Curiox Biosystems has brought together surface chemistry and instrumentation expertise to overcome critical challenges slowing the pace of life-science research. By focusing on common assay steps and workflows where miniaturization and automation are currently underutilized, our company has developed innovative technologies that simultaneously improve both productivity and data quality, accelerating the pace of therapeutic development.

What we do

Curiox Biosystems is committed to enabling accurate biological analysis through automation. Next-generation methods and applications deserve a next-generation approach to preparing samples for analysis. That's why Curiox invented the Laminar Wash technology, the first and only fully automated sample preparation method that eliminates centrifugation and the challenges it introduces. The methodology keeps cells in their native state, improves cell retention and viability, and enhances reproducibility, workflow efficiency & automation, ultimately leading to reduced costs and workflow standardization.

Why we do it

ALWAYS INTUITIVE AND INCREDIBLY SIMPLE. SUPERIOR RESULTS.

Easily automate your entire sample preparation workflow with the Laminar Wash™ AUTO 1000 to enhance efficiency and drive consistency in the lab

The AUTO 1000 Laminar Wash™ is a fully automated suspension sample preparation work station created by our teams of scientists and engineers who recognized the challenges of the traditional sample preparation method with centrifugation as well as the value of each lab personnel's time and capacity. Therefore, the AUTO 1000 is designed to enable staining and washing of suspension cells at a fraction of the hands-on time while yielding consistently higher cell retention and viability.

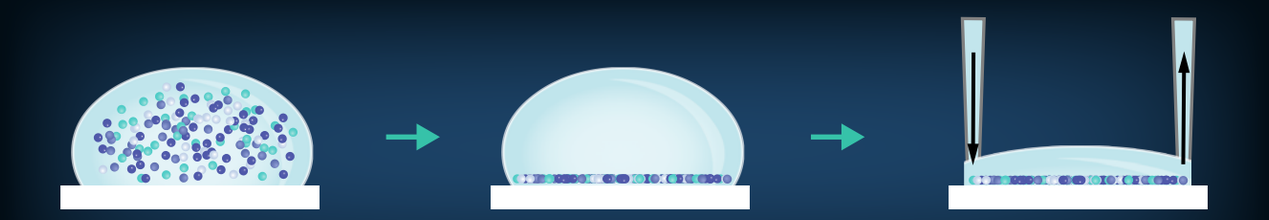
- The First and Only Curiox Laminar Wash™ Technology is integrated with the fully automated Hamilton Nimbus liquid handler to dispense, fix/ permeabilize, stain, wash, and transfer samples for downstream analysis
- The system's intuitive and easy-to-use software interface comes pre-programed with modifiable protocols, automation novices and experts alike can easily customize workflows using the intuitive user interface
- All-in-one system integrates seamlessly into your laboratory workflow providing standardization and versatility to meet your needs

A true WALK-AWAY automation system

AN INNOVATIVE AND GENTLE APPROACH. TECHNOLOGY THAT MAKES A DIFFERENCE.

Laminar Wash AUTO 1000 technology's novel and gentle approach increases retention and viability regardless of sample complexity

Fully automated cell washing step and/or the staining steps with gentle and reproducible workflows, drastically reducing human intervention, variability, and stress on cells.



Cells suspended in starting solution

Cells settle by gravity

Cycles of aspirating and dispensing initiate laminar flow across well

By isolating the samples in each well, cells on the surface of the plate are maintained at a negligible loss and antigen-antibody surface and cytoplasmic interactions are undisturbed.

This key feature **preserves cells in their native state, increasing viability and reducing cellular stress, as well as removing debris and unbound antibodies for cell washing and multi-omics purposes.**

Watch Video

To learn more about how the Laminar Wash works

OUTDATED APPROACHES. LIMITED CAPABILITIES.

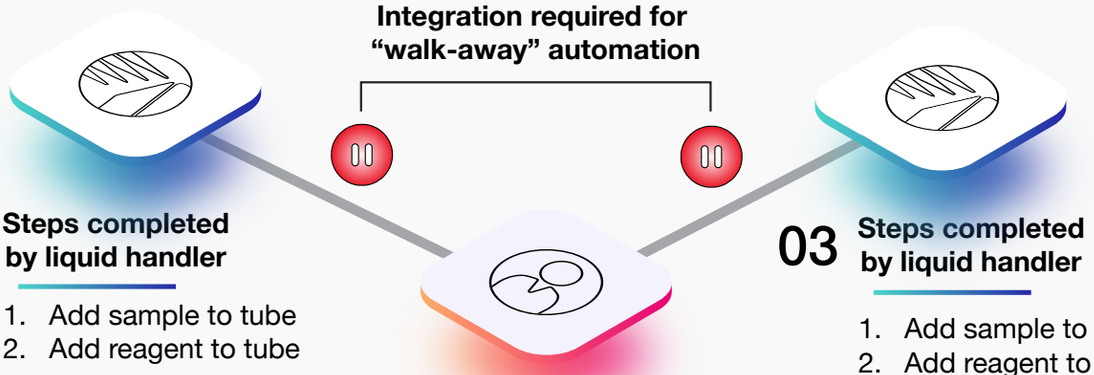
Limitations of manual sample preparation and peaked capabilities of centrifugation

- Pellets debris along with cells
- Requires several manual steps prone to variation due to human error
- Requires flicking or aspirating of supernatants
- Mechanical stress reduces cell retention and viability

Standard choices of integrating a centrifuge-based workflow

SEMI-AUTOMATED: Standalone Centrifuge and Automated Liquid Handlers

Centrifugation steps often represent breaks in the automation liquid handling workflow



01 Steps completed by liquid handler

1. Add sample to tube
2. Add reagent to tube

02 User touchpoint to spin tubes and reload liquid handler

1. Spin 10min at 2500rpm

03 Steps completed by liquid handler

1. Add sample to tube
2. Add reagent to tube

FULLY INTEGRATED: Add-on Centrifuge to an Existing Liquid Handling System

While it is possible to integrate centrifugation in an automation platform, there are several factors that make it **difficult, time consuming, and costly**

Integration of multiple components

- Deck space consumption
- Off-deck integration
- Vibration from centrifuge
- Size

Reliability and maintenance

- Alignment with a centrifuge bucket
- Higher probability of error due to many movements

Removal of a liquid from the pellet

- Cell loss and inconsistent results

Speed of a process

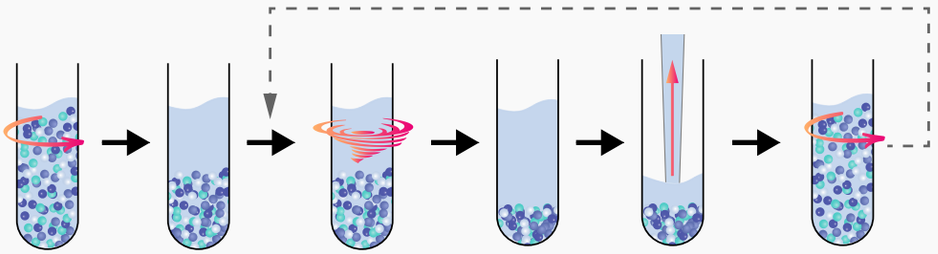
- More manual check in points which increases user error

IT IS TIME TO THINK DIFFERENTLY

PRECISION PERFORMANCE. ACCURATE DISCOVERIES.

The Laminar Wash AUTO 1000 delivers a unique combination of innovative technology and gentle laminar flow-based washing that takes sample preparation to a new level of accuracy and consistency

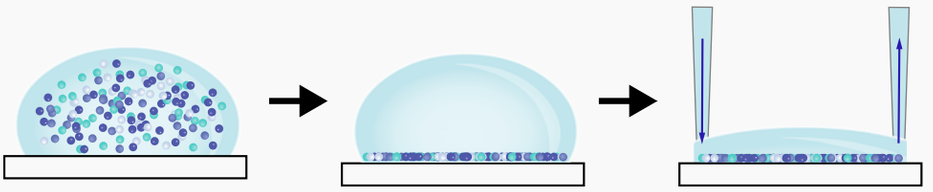
Centrifuge-based



Cells suspended in starting solution | Cell pelleting by centrifugation | Aspirate supernatant | Turbulent resuspension

19 *manual steps*

Laminar Wash



Cells suspended in starting solution | Cells settle by gravity | Cycles of aspirating and dispensing initiate laminar flow across well

1 *automated step*

The Laminar Wash technology uses preprogrammed methods reducing human intervention and significantly decreases wash time to ensure the sample is processed efficiently for any downstream applications.

A sample preparation system that is designed to be efficient so you can make a difference.

- Maximize resources
- Drive Standardization
- Free-up personnel
- Shorten turnaround times
- Improve reproducibility

SIMPLIFIED WORKFLOWS. CONSISTENT AND RELIABLE RESULTS

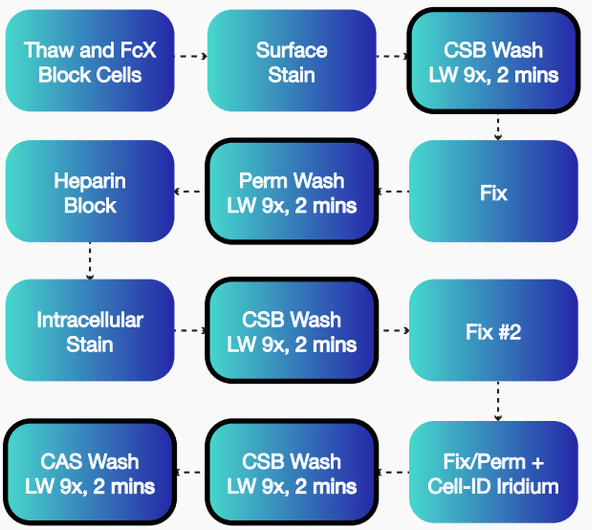
The Laminar Wash AUTO 1000 system standardizes and streamlines your daily sample preparation workflow, improving efficiency and productivity.

To demonstrate, here is an IC/EC Prep Process Flow Chart Mapping comparison of a centrifuge-based and the Laminar Wash AUTO 1000.

Centrifuge-based

Total Centrifuge Wash Time:	1.6 hours (100 mins)
Total Manual Intervention Time:	5 hours
Total Process Time:	6.6 hours
Total No. of Wash Cycles Completed:	10 washes in 100 mins

Laminar Wash AUTO 1000



Total Laminar Wash Time:	0.17 hours (10 mins)
Total Manual Intervention Time:	0 hours
Total Process Time:	0.17 hours
Total No. of Wash Cycles Completed:	45 washes in 10 mins

GET RESULTS FASTER, WITH FEWER TOUCHPOINTS

97%
Reduction of total process time on each run

Zero
Human intervention needed

90%
Reduction of wash time on each run

35
More stringent wash cycles completed in 1/10 of the time

96
Samples can be labeled on a single plate

MULTIPLE BENEFITS. LIMITLESS POTENTIAL.

Fully Automated

An all-in-one system with an intuitive user interface for protocol design and traceability results in decrease cost, labor, and space requirements

Workflow Optimization

Walkaway pipetting and plate handling of the entire sample prep method with rapid processing time

Phase Appropriate Throughput

Faster application of cell and gene therapy product characterization can be cost-effectively scaled up between preliminary-volumes to multiple plate runs on the same instrument

Closed System

Efficient debris and unbound reagent removal in a closed system with decrease user intervention and contamination and liquid waste and plastic ware are properly disposed into respective containers

Reproducibility & Traceability

Reliable results across different users and facilities with the user independent system that records and saves all instrument actions to deliver significant batch-to-batch consistency

Easy to Use

Low demand for experience and minimal training required. Ready for immediate use yet adaptable and simple to configure to your needs later

ONE SYSTEM. TONS OF FEATURES.

Laminar Wash technology

Gentle washing in a 96-well format

Unique Wall-Less Sample Plate

Hydrophilic surface accomodates liquid and cells. Hydrophobic surface separates wells and enables droplet formation. Wells accomodate ≤ 80µL (more with Large Volume Adaptor).

Gentle Wash Double Nozzles

The double nozzles initiate laminar flow within the droplet which gently removes the debris from the top while the settled cells at the bottom are left undisturbed.

Precision Pipetting

Fully automated robotic arms create precise tip alignment to eliminate tip distortion and ensure the highest accuracy during liquid handling steps.

Laminar Wash AUTO Software

The user-friendly software interface allows sample-specific modifications and comes with pre-programmed protocols to ensure user consistency. Intuitive GUI means no scripting, easy training, select parameters and **GO!**

Curiox Laminar Wash™ Technology Integrated with the Fully Automated Hamilton Nimbus Robotics

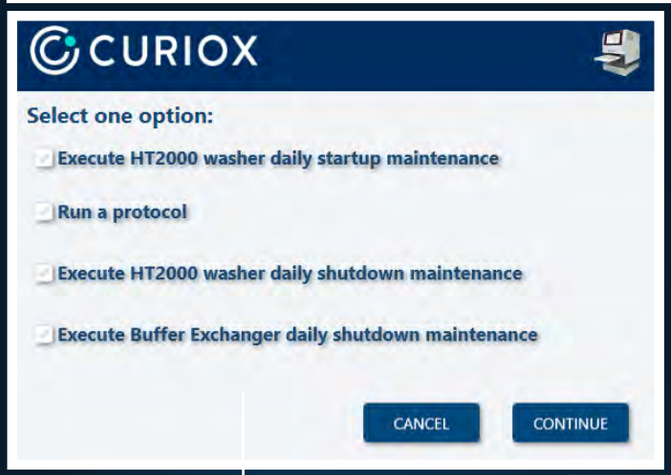
Optimized Deck Layout

A completely contained system for washer maintenance plates, washer load tray, heater/shaker, cooling device, reagent/buffer plates, input/output stacks and tips.

EASY-TO-USE SOFTWARE. BUILT-IN FLEXIBILITY.

AUTO 1000 software features an intuitive user interface that enables any user to initiate programmed protocols or input custom protocols with full traceability and walkaway capability, ensuring consistency and reproducibility

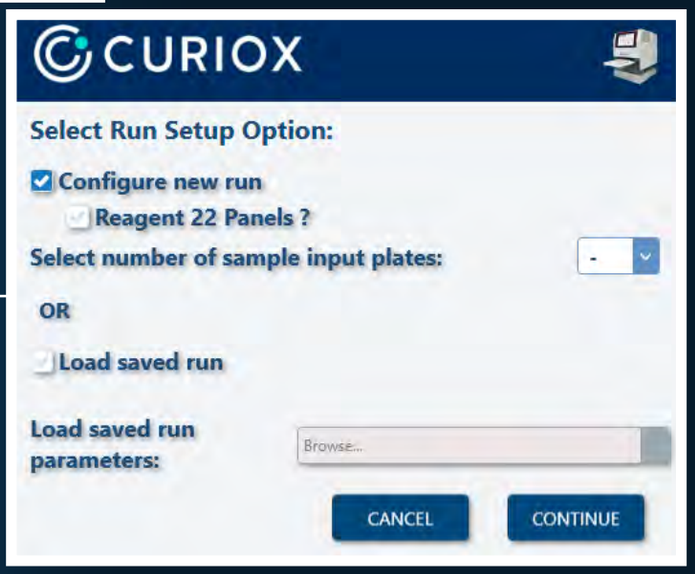
RUNNING PROTOCOLS



Minimal Training Required

Easily access steps for daily operations

- Daily startup maintenance
- Daily shut down maintenance
- Assay Run



User-defined Protocols

1. Build a New Protocol Watch Video

Straightforward assay building

- Build customized assay(s) in less than 12 minutes

OR

2. Run a Pre-saved Protocol

Continue to the next page

User-defined Protocols

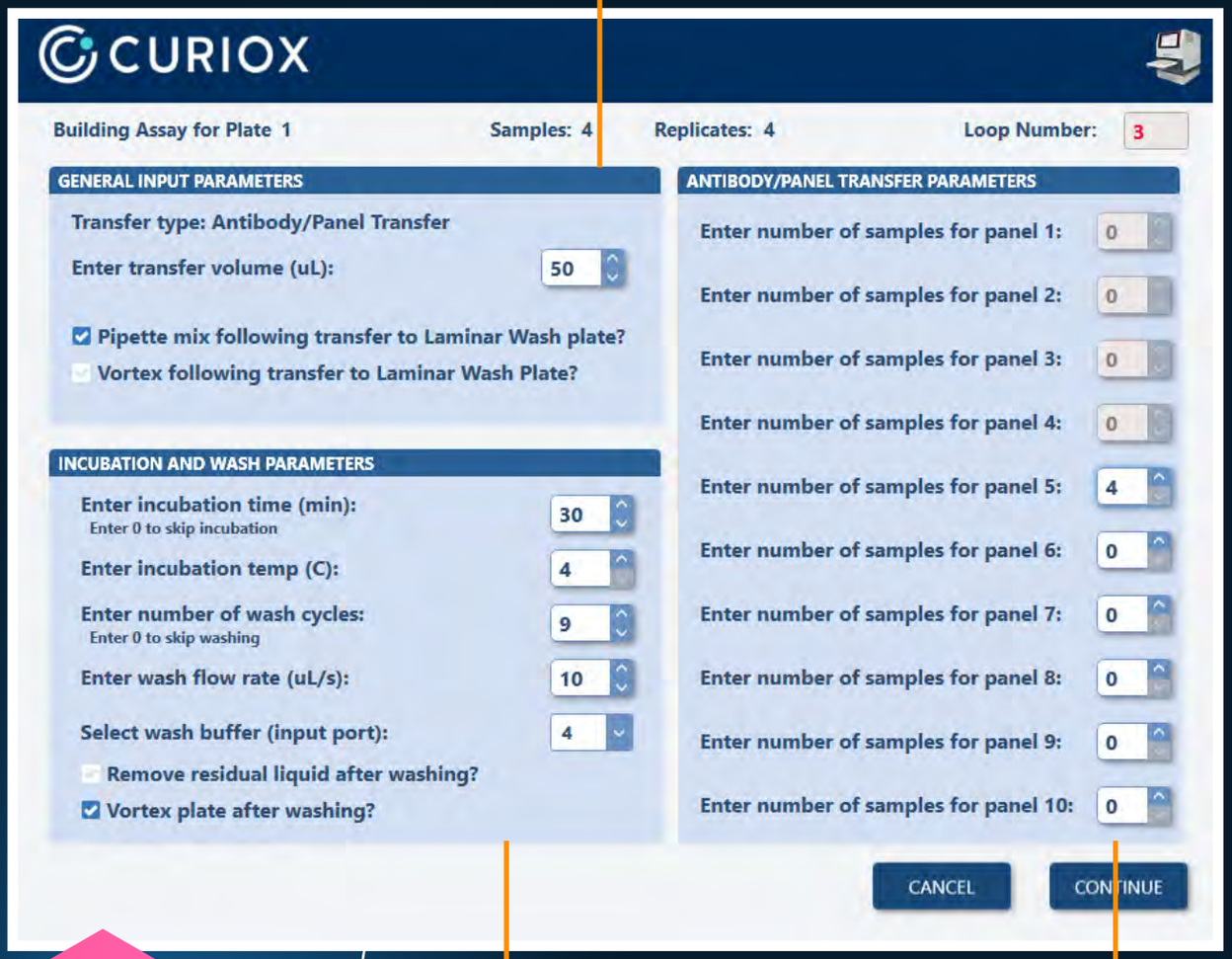
Running a Pre-saved Protocol

Assay design with customizable parameters

Watch Video

Sample transfer

1. Number of samples, replicates and volumes



Sample transfer

2. Incubation time & temperature
3. Wash protocol using multiple buffers

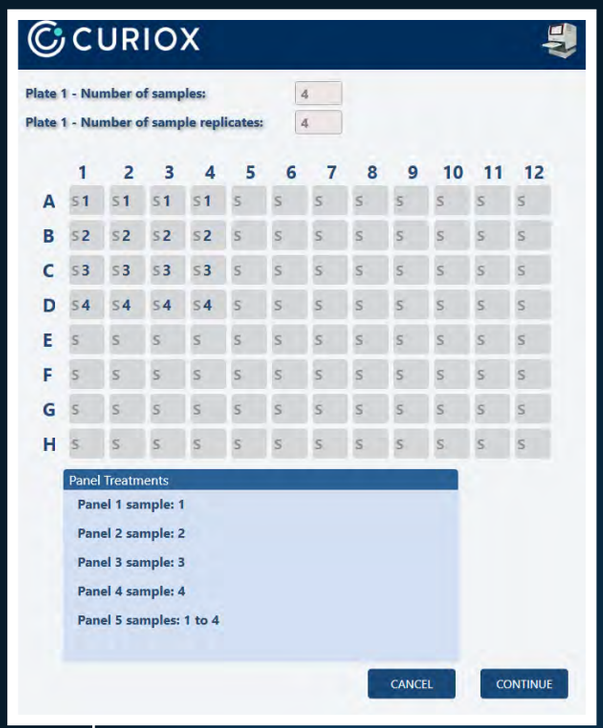
Multiple Antibody Panel Transfer

1. Specify which panels are transferred to which samples

Visual Guide

Checklist to ensure assay is designed as specified

- Number of samples & replicates
- Location of each sample
- Panel applied to each sample



Loading the Deck and Checklist

Review and ensure all components are loaded correctly prior to each run for increased accuracy every time

Protocol files

- Saved protocols
- Easily share protocol file(s) with other locations or users

Mapping files

- Log of liquid transfer steps
- Useful for calculating reagent plate volumes
- Identify by date and time stamp

At the end of each run, the Laminar Wash AUTO 1000 system generates 4 essential files that document and record all instrument actions for every run to ensure

TRACEABILITY and REPRODUCIBILITY

Trace files

- Automatically generated every run
- Detailed log of every movement
- Identify by method name and time stamp

Comlink files

- Automatically generated every day
- Log off instrument communications
- Identify by date and time stamp

CUSTOMIZABLE AUTOMATION. CONFIDENT APPLICATIONS.

The Laminar Wash AUTO 1000 can be customized to meet ALL sample preparation workflow requirements so you have the flexibility to tailor your workflow to meet ANY individual needs.

Ready-to-Use AUTO 1000

Ready for use right out of the box walk-away automated workstation covering the entire sample prep workflow

Customized AUTO 1000

Built to order customizable workstations offering maximum flexibility as needed by the end user

- Flexible configuration
- Easy expansion in the future

Choose from the ready-to-use system or create your own custom automation system with the guidance of our team of expert scientists

METHODS

- Flow Cytometry
- Single-Cell Sequencing
- Mass Cytometry
- Multiplex Immunoassays
- Automated Workflows

APPLICATIONS

- Cell & Gene Therapy
- HLA Typing
- Vaccine Development
- Tumor Environment
- Infectious Diseases

PEACE OF MIND.
SUPPORT WHEN NEEDED.

World class support at every step of your sample preparation workflow

Curiox Biosystems is committed to supporting your scientific discoveries by providing you with the highest level of support and expertise. Our global team of experts are available to address your questions and/or concerns, provide on-site and/or virtual training and recommendations that optimize your workflow, and offer application support. On-site demos and installations carried out by our skilled Field Application Specialist ensure fast installation and optimal performance of the system.

2-Weeks Installation & Setup

We Promise Fast and Easy Installation
The Laminar Wash AUTO 1000 can be installed in your lab right out of the box. Our team of experts will install and ensure successful set up of the AUTO 1000 System in as little as two weeks including a 1-day ONLY onsite training for you and your team, support for assay design and product advice, custom automations and workflow optimization.

24/7 Tech Support

Support at Your Fingertips

Our expert technical support, including dedicated Field Application Scientists and Customer Service teams respond quickly and are available for you when you need them.

How to reach us
Find your local support or technical support at
www.curiox.com/contact-us-2/

TAKE YOUR LAB TO THE NEXT LEVEL

Request a Demo

LAMINAR WASH™ AUTO 1000 SPECIFICATIONS

Physical	
Dimensions	Length: 1359 mm (53.5 in.) Width: 709 mm (27.9 in.) Height (door closed): 889 mm (35.0 in.) Height (door open): 1300 mm (51.2 in.)
Weight	112 kg (250 lbs)
Electrical	
Input Power (Primary) Universal Supply	Universal Supply: 100 - 240 VAC, 50 - 60 Hz, 5A
Output Power (Secondary)	Power: +42 VDC +/-5% Wattage: 600 Watts maximum
Environmental	
Operating	Temperature: 15°C - 35°C (59° - 95°F) Relative Humidity: 30% to 85% R.H. non-condensing Altitude: 0 - 2000 m above sea level
Storage	Temperature: -20°C - 70°C Relative Humidity: 10% to 90% R.H. non-condensing
Operation	
Plate Type	Laminar Wash Plate in 96-well format
Deck Capacity	8 - 12 SBS positions
Liquid Level Detection Independent Channels	Capacitive liquid level detection (cLLD)
Communication Type	Ethernet
Laminar Wash HT2000 Performance	
Flow Rate at Nozzle	5 - 20 µL/s
Volume Capacity	80 µL per nozzle
Wash Sequence	96 wells simultaneous washing
Dilution Factor per Cycle	Approx. 3.5 times
Bulk Flow for Priming	Approx. 300 mL/min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