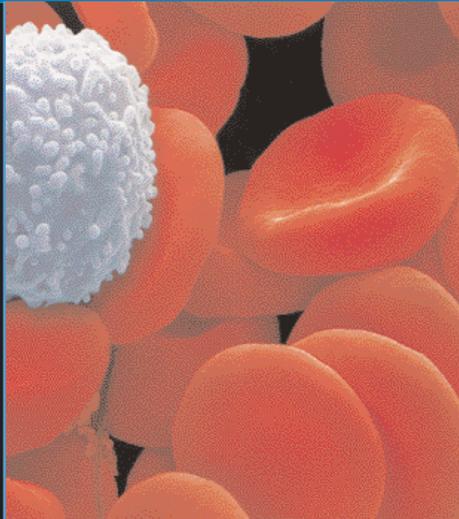


**SORVALL® CW2 Plus  
Blood Cell Washing System**



**Precise, Automated Performance  
for Blood Cell Washing**

Analyze • Detect • Measure • Control™

**Thermo**  
ELECTRON CORPORATION

**DJB Labcare - The UK's Leading Centrifuge Specialist**  
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## Precise, Automated Performance for Blood Cell Washing

The SORVALL CW2 Plus cell washing system from Thermo Electron is designed to be used in accordance with The American Association of Blood Banks' guidelines as defined in the most recent edition of the AABB Technical Manual.

This advanced, easy-to-use instrument simplifies work and saves time in washing blood cells for antiglobulin reagent tests such as ABO compatibility, Rh testing, cross matching and the Coombs procedure.

### Compliance Assured

The CW2 Plus is the reliable choice for procedures outlined in the AABB Technical Manual, 14th edition. The cell washing system ensures that your protocols are fully compliant with the standards as outlined in "Performance Testing of Automatic Cell Washers".

CW2 Plus Procedure	Meets AABB Standard
Tube tests for determination of ABO type of red cells and serum	✓
Direct antiglobulin tests	✓
Indirect antiglobulin test for the detection of antibodies to red cell antigens	✓
Saline indirect antiglobulin test	✓
LISS indirect antiglobulin test	✓
PEG indirect antiglobulin test	✓

### Fully Automated for Reproducible Results

The CW2 Plus is fully automated. Standardized, consistent procedures eliminate the variations that result from manual protocols, so reliable, reproducible results are a matter of routine. Automatic alerts indicate if the saline level is low, and when a run is complete.

### Easy, Reliable Operation

The CW2 Plus offers a time-saving wash cycle, easy-to-read digital displays, easy-to-use touchpad controls and standardized, reproducible procedures. Simply insert the sample tubes, select the test parameters, and benefit from reliable results in minutes, time after time.

### Compact and Durable

With its small footprint, the CW2 Plus fits neatly on any laboratory bench. Its low-maintenance design ensures years of trouble-free use: bearings have sealed-in lubrication, the pump tubing is easily changed, the motor is brushless, and the entire housing is made from high-impact, corrosion-free plastic.



The CW2 Plus automated cell washing system saves time and ensures precise cell washing in compliance with AABB guidelines.

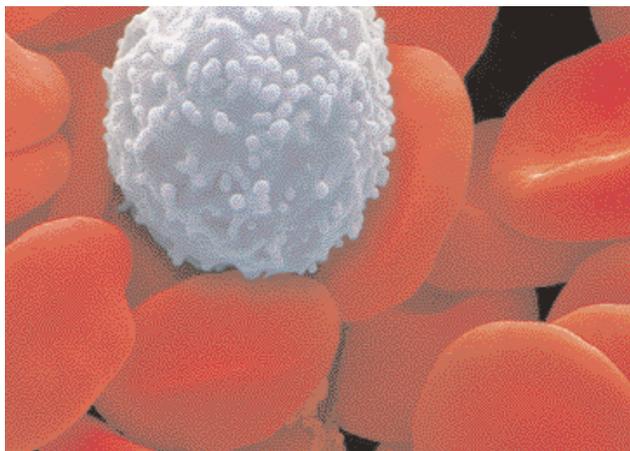
### Key Features

- Automatic operation
- Single distributor for standard 10 mm x 75 mm or 12 mm x 75 mm tubes
- Saline level detection/alarm system
- Microprocessor control and digital display of time and wash cycles
- System steps easily verified
- Fast, automatic wash cycle
- Fast acceleration and deceleration
- Agitates automatically after each wash cycle (is also manually operable)
- Flexible, single-speed manual mode for general pelleting applications
- Rotor also functions as incubator rack
- Compact and lightweight
- Quiet, maintenance-free brushless drive
- Lifetime lubrication of all moving parts
- Easy-to-clean, high-impact, corrosion-resistant housing

# Simplifying Every Step in Blood Cell Washing

## Flexible Modes to Meet Your Needs

The SORVALL CW2 Plus can be operated either automatically or manually. In *automatic mode*, simply load the rotor with tubes and select up to four wash cycles. The microprocessor-controlled CW2 Plus automatically does the rest, accurately and reliably. In *manual mode*, the CW2 Plus can also be used as an ordinary centrifuge, set to spin for any time up to 999 seconds. Using the agitate button, samples can be agitated for five seconds.



### Maximize Antiglobulin Reagent Reactivity

An automatic decanting cycle, with its reproducible speed and angle, consistently removes more saline than even the most skillful hand decanting, leaving a dry cell button. For washing, the rotor allows tubes to swing at a fixed positive angle to sediment cells rapidly at the bottom of the tube. For decanting, the rotor holds tubes at a slightly negative angle and the saline is decanted centrifugally. There is virtually no dilution of the Coombs serum, since red cells form a very high percentage of the final tube volume after saline washing.

### Complete Automation for Increased Productivity

The fully automated four-wash cycle takes care of all the necessary steps for precise, thorough cell washing. After the cells are washed, simply add the antiglobulin reagent, centrifuge the samples, and read the results.

### Eliminate Cross-Contamination

Nothing but fresh saline enters the tubes. The distributor is mounted directly on top of the rotor, ensuring that all saline dispensed enters the tubes. The unique decanting system removes all wash fluid centrifugally, and the deflector and catch basin prevents saline splash back, minimizing potential aerosol and corrosion problems. This also eliminates the possibility of salt build-up, as the rotor chamber remains dry at all times.

### Use Standard Tubes

One distributor handles both 12 mm x 75 mm or 10 mm x 75 mm tubes. The integral rotor carries 12 tubes, but can operate with any balanced load of fewer tubes. The rotor also functions as an incubator rack, so if two or more rotors are used, several test lots can be processed at the same time.

### Low Saline Detection

The CW2 Plus sounds an alarm during the filling step in the wash cycle if the saline supply is low or disrupted, and the system automatically shuts down.

### Agitate Cycle

To ensure proper re-suspension of red cell buttons in each tube, the CW2 Plus automatically agitates the tubes after each wash cycle. The agitate cycle can also be used manually to improve mixing of red cells with the antiglobulin reagent.

### Easily Check System Steps

The CW2 Plus is designed to allow interruption of the cycle at any time, so you can check that the system is functioning properly. You can check the fill level and look for good re-suspension, check the packing consistency of cell buttons, and check after the decant step that cells are retained and buttons are dry.

### Easy to Clean

After daily use, the catch basin can be easily removed and the rotor and rotating bowl lifted out, allowing easy access to clean the top half of the instrument.

The CW2 Plus features a touchpad control panel and easy-to-read digital displays for simple, user-friendly operation.



**Cycle**  
Shows number of wash cycles selected

**Saline level**  
Indicator lights and alarm beeps when level is low

**Time**  
Shows time selected in automatic or manual mode

**Alarm**  
Indicator lights at end of run

**Lid latch**  
LED display lights at end of run

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## SORVALL CW2 Plus Blood Cell Washing System

Specifications	
<b>Maximum speed (rpm)</b>	3,550 at 60 Hz
<b>Fill/decant speed (rpm)</b>	700 at 60 Hz (580 at 50 Hz)
<b>Maximum RCF (x g)</b>	1,200
<b>Decant RCF (x g)</b>	40
<b>Maximum capacity</b>	(12) 12 mm x 75 mm or 10 mm x 75 mm tubes
<b>Operating modes</b>	
Automatic	80 second wash cycle
Manual	High speed for time selected
Check	Stops at end of each step in cycle to enable procedure verification
<b>Controls</b>	
Mode	Select operating mode (auto or manual)
Cycle	Select 1, 2, 3 or 4 wash cycles in automatic mode
Time	Select centrifugation time in manual mode (999 seconds)
Command	Select operating function: start, stop, check, manual, agitate, alarm on/off, low saline
<b>Drive</b>	
2-speed brushless induction motor; dynamic braking in automatic mode	
<b>Construction</b>	
Rotor	Polypropylene with replaceable tube holders
Collection bowl	Polypropylene
<b>Certification</b>	
CSA NRTL, CSA and CE certified	
<b>Safety and effectiveness</b>	
510(k) number BK820020	
<b>Dimensions (H x D x W) mm (inches)</b>	
627 x 434 x 320 (24.7 x 17.1 x 12.6) lid open	
386 x 434 x 320 (15.2 x 17.1 x 12.6) lid closed	
<b>Weight kg (lb)</b>	
17.8 (39.3) crated	
15.4 (34) uncrated	

Ordering Information	
<b>Catalog Numbers</b>	
CW2 Plus (120/240V 50/60 Hz)	04531
Rotor assembly for CW2 Plus	4770
Replacement tubing kit	50019
Spare parts kit (includes replacement tubing kit)	50008

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