

Instrument Specifications

SORVALL® CW-2/CW-2L		
Maximum speed	rpm	3,600 at 60 Hz (3,000 at 50 Hz)
Low speed	rpm	1,200 at 60 Hz (1,500 at 50 Hz)
Decant speed	rpm	600
Maximum RCF	x g	1,200 at 60 Hz (832 at 50 Hz)
Low RCF	x g	130 at 60 Hz (203 at 50 Hz)
Decant RCF	x g	20
Maximum capacity	(12) 12 mm x 75 mm or 10 mm x 75 mm tubes	
Operating modes		
Automatic	high speed only for CW-2, 80 s wash cycle; CW-2L, 180 s wash cycle	
Manual	high or low speeds for time selected	
Check	stops at end of each step in cycle to enable procedure verification	
Controls		
Mode	selects operating mode	
Cycle	selects 1, 2, 3 or 4 wash cycles in automatic mode	
Time	selects centrifugation time in manual mode	
Command	selects operating function: start, stop, prime, agitate, clear, alarm on/off, step, hold	
Drive	3-speed brushless induction motor; dynamic braking in automatic mode	
Dimensions (H x D x W)	mm (inches)	572 x 356 x 318 (22.5 x 14.0 x 12.5), lid open
		368 x 356 x 318 (14.5 x 14.0 x 12.5), lid closed
Weight	kg (lb)	16.4 (36.0), uncrated
		25.1 (55.0), crated

Ordering Information

	Catalog Number
CW-2 (115 V, 60 Hz, 2 A, single phase)	04500
CW-2 (220V, 50 Hz, 1 A, single phase)	04501
CW-2L (115 V, 60 Hz, 5 A, single phase)	04903
DA-12 dual-angle rotor (12 place stainless steel for 12 mm x 75 mm or 10 mm x 75 mm* tubes, supplied with instrument)	04285
Distributor assembly (supplied with instrument)	43260
Adapter clips (set of 12 for 10 mm x 75 mm tubes, supplied with instrument)	04330

\* Adapter clips required.



Kendro Laboratory Products manufactures a wide range of **SORVALL®** and **Heraeus®** brand equipment, including floor model and tabletop centrifuges, safety cabinets and automated incubators. For more information, contact your local Sales Representative.

For Ordering or Technical Information

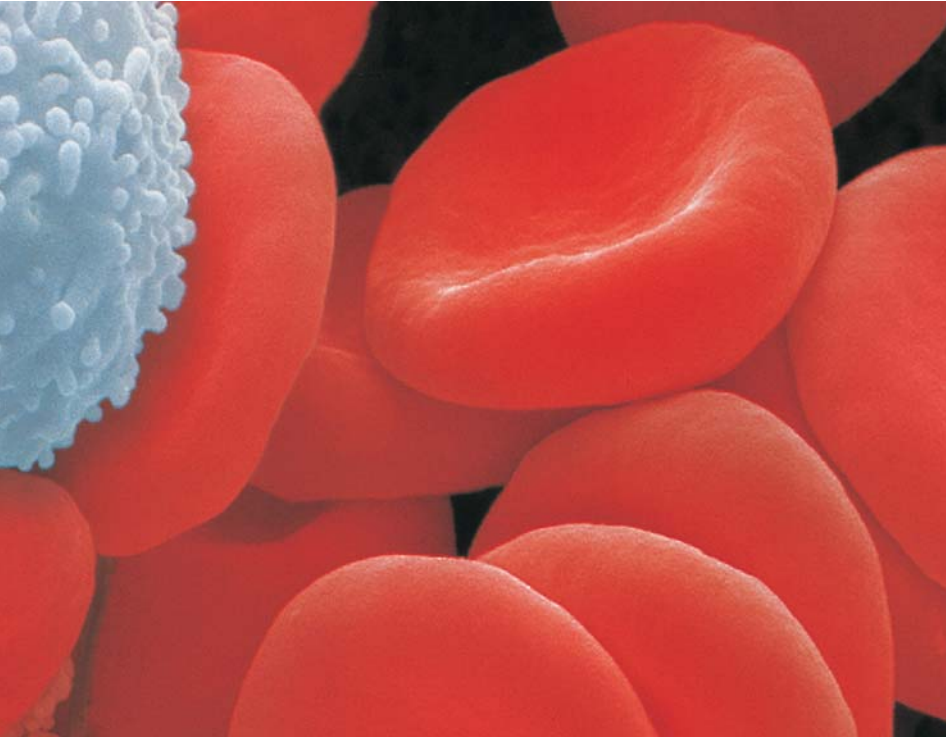
Asia Pacific	Kendro Laboratory Products International Sales · Asheville, NC · USA · Tel. +1 828-658 2711 · Fax +1 828-645 9466 · info@kendro.spx.com
Europe, Middle East, Africa	Kendro Laboratory Products International Sales · Langenselbold · Germany · Tel. +49 (0) 6184-90 6940 · Fax +49 (0) 6184-90 7474 · info.de@kendro.spx.com
Latin America	Kendro Laboratory Products International Sales · Asheville, NC · USA · Tel. +1 828-658 2711 · Fax +1 828-645 9466 · info@kendro.spx.com
North America	Kendro Laboratory Products · Asheville, NC · USA · Tel. +1 800-522 7746 · Fax +1 828-645 3368 · info@kendro.spx.com
Internet	http://www.kendro.com



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Blood  
Cell  
Washing  
Systems.

Easy, Automatic,  
Standardized Blood  
Cell Washing



SORVALL®



# Automate and Standardize Blood Cell Washing Procedures

The SORVALL® CW-2 Cell Washing System is designed to be used in accordance with The American Association of Blood Banks' guidelines defined in the most recent edition of the *AABB Technical Manual* and is the reliable choice for simplifying work and saving time in washing blood cells for antiglobulin reagent tests such as ABO compatibility, Rh testing, cross matching and the Coombs procedure.

The SORVALL CW-2L Cell Washing System is designed to concentrate and wash lymphocytes from whole blood. Intended for use in the preparation of lymphocyte samples for cytofluorometric analysis, and replacing commonly used manual methods, the CW-2L provides rapid and reproducible washing, decanting and pelleting of cells.

## Easy, Reliable Operation

SORVALL Cell Washing Systems offer 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.

## Fully Automated

Cellwasher Systems are fully automated. Automatic alerts indicate if the saline level is low, and when a run is complete. They eliminate the inevitable variations of manual procedures, and ensure reliable, reproducible operation, helping prevent costly mistakes.

## Compact, Durable Design

Compact, portable and easy to use, SORVALL Cell Washing Systems fit neatly on any laboratory bench. Low maintenance design ensures years of rugged 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-proof plastic.

- Saline level detection/alarm system (CW-2 only)
- System steps easily verified
- Fast, automatic wash cycle (CW-2: 80 s; CW-2L: 180 s)
- Agitates automatically after each decant (cycle is also manually operable)
- Single distributor for standard 10 mm x 75 mm or 12 mm x 75 mm tubes

# Increased Productivity, Proven Reliability.



## CW-2 and CW-2L Displays and Indicators

<b>Cycle:</b>	<i>Shows number of wash cycles selected</i>
<b>Time:</b>	<i>Shows time selected in automatic or manual mode</i>
<b>Saline level:</b>	<i>Enunciator lights and alarm beeps when level is low in CW-2</i>
<b>Lid latch:</b>	<i>LED display lights at end of run</i>
<b>Alarm:</b>	<i>Enunciator lights at end of run</i>

- Microprocessor control and digital display of time and wash cycles
- Automatic or manual operation
- Fast acceleration and deceleration
- Flexible, dual-speed manual mode for general pelleting applications
- Rotor also functions as incubator rack
- Quiet, maintenance-free brushless drive
- Lifetime lubrication of all moving parts
- Easy-to-clean, high-impact, corrosion-resistant housing
- Compact and lightweight

## Simple Operation

SORVALL CW-2 and CW-2L Cellwashers can be run either automatically or manually.

- In **automatic mode**, simply load the rotor with tubes and select up to four wash cycles. The microprocessor-controlled Cellwasher automatically does the rest, accurately and reliably.
- In **manual mode**, a Cellwasher 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.

Cellwashers feature a touchpad control panel and digital displays for simple, easy operation. A covered access port in the lid allows independent speed verification with a phototachometer.

## Reproducible Results

SORVALL Cellwashers are fully automatic, and eliminate the variations that result from manual procedures. Reproducibility is a matter of routine.

## Maximize Antiglobulin Reagent Reactivity

The 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.

## Increase Productivity

The maximum four-wash cycle provides extra time for completing essential paperwork or other tasks. 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 SORVALL 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 CW-2 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 Cellwasher 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

A Cellwasher 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 Cleaning

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 Cellwasher.