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Thermo Scientific Sorvall® WX Ultra Centrifuge Series

The New Era of Ultracentrifugation

Powerful Separation Technology in a Quiet, Compact, Energy-Efficient Design



Featuring the Advanced UltraSecur™ System for Maximum Safety and Efficiency

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Thermo Scientific Sorvall WX Ultra Centrifuge Series –

Introducing the New Era of Ultracentrifugation

Ultracentrifugation is an essential technique in many fields of scientific discovery. But for many years, ultracentrifuges have remained large, complex laboratory instruments. With so many recent advances in research technology, isn't it time to expect more from your ultracentrifuge?

The new Thermo Scientific Sorvall WX Ultra Series is a next-generation instrument that will completely change your expectations of ultracentrifuges.

Combining outstanding speed with unparalleled safety and superior ergonomics, the Sorvall WX Ultra Series brings the ultracentrifuge to a whole new level of convenience and ease of use.

Fast, High Productivity Separations

- Available in 80,000, 90,000 and 100,000 rpm models offering g forces of up to 802,000 x g, the Sorvall WX Ultras Series delivers the processing power to meet your high throughput processing needs.
- Samples experience optimal RCFs in the shortest possible time, saving precious research hours.

The Smallest, Quietest and Most Energy Efficient Ultracentrifuge Available

With its compact footprint, low noise level (< 53 dBA) and exceptional energy efficiency, the Sorvall WX Ultra Series sets a new standard of excellence for operator comfort and space efficiency.

- **Low deck height (85 cm) and whisper-quiet operation** make working with the Sorvall WX Ultra Series easy and comfortable for virtually any user.
- **Energy-saving design** reduces power consumption by up to 15% compared with other ultracentrifuges.
- **Heat output is minimized** to help ensure a more comfortable working environment.



The small footprint of the Sorvall WX Ultra Series makes it ideal for labs where space is limited. The low deck height makes rotor loading and unloading easier, while the whisper-quiet operation means that users can work right next to the unit without distraction.



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Outstanding Control with UltraSecur
Our Sorvall WX Ultra Series features the unique UltraSecur system – a set of embedded software features that enable better control of multi-user access to the centrifuge, greater convenience and improved safety:

- **User lockout feature** prevents unauthorized access to the instrument.
- **Run scheduler** allows you to schedule runs at your convenience.
- **Rotor life management** tracks rotor usage and alerts you when rotors need to be serviced or replaced.

Intuitive Color Touch Screen Interface
An intuitive, color touch-screen interface makes protocol set-up and storage on the Sorvall WX Ultra Series straightforward, even for inexperienced users.

- The large LCD screen clearly displays set and run conditions for easy, at-a-glance monitoring.
- The keypad is used to enter the operator's ID code and specific run parameters, including speed, time and temperature.

Unprecedented Applications Versatility
Our Sorvall ultracentrifuge rotors and tube systems accommodate a wide range of sample types for unprecedented applications versatility:

- High-performance vertical/zonal, swinging-bucket and fixed-angle rotors
- Continuous-flow rotor for biotechnology and pharmaceutical scale-up processes
- Full compatibility with ultra rotors from other manufacturers, including Beckman Coulter and Kontron

This diverse rotor offering allows you to leverage your existing rotor assets and add new rotors to meet any new application requirements.

Easier Sample Loading for Safer Separations
Our ultracentrifuge rotors are designed to provide easier, more secure sample loading for safer, worry-free separations.

- Unique StepSaver™ rotors use cartridges to streamline sample loading and unloading steps, minimizing opportunities for sample loss.
- SureSpin™ rotors prevent swinging buckets from being loaded improperly, thereby avoiding problems such as sample loss, run shut-downs, and rotor failures.

High-performance vertical, swinging-bucket and fixed-angle rotors provide versatility for wide range of applications.





Our Sorvall ultracentrifuge rotors ensure easier and more secure sample loading for fast, efficient, worry-free separations.

The intuitive user interface consists of an interactive color touch-screen and a positive-feedback keypad.



Key Applications

- Biochemistry
- Cell biology
- Lysate clarification
- Molecular biology
- Nanomaterial separations
- Nucleic acid purification
- Proteomics
- Virus concentration

The Sorvall WX Ultra Series is engineered to provide the same outstanding reliability that's been synonymous with the Sorvall name for nearly 60 years. Time-tested Sorvall reliability assures you of consistent results and year after year of dependable performance.

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Powerful Functionality for Demanding Research Needs

The Sorvall WX Ultra Series can perform a wide range of separations, offering comprehensive control and set-up options to meet your precise application needs. The innovative UltraSecur technology significantly improves safety and efficiency, while stand-alone run simulation software minimizes the time you spend developing new protocols.



Unique UltraSecur System Maximizes Safety and Convenience

Restrict Access
The user lockout feature restricts access to authorized users in a multi-user environment. An ID code is required before the centrifuge will operate.

Schedule Runs
Run scheduling prevents conflicts by allowing you to reserve the centrifuge for use at a future date and time.

Program Start and Stop Times
The real-time control mode lets you set up a delayed start/stop run. Schedule runs so that your samples are ready when needed.

Manage Rotor Life
The rotor life management system allows you to log and control individual rotor usage by tracking the number of rotor runs and total spin hours.

Flexible Control, Set-up and Run Options for Greater Productivity

Control Runs by Speed or g Force
In automatic RCF/RPM mode, you can set runs to a maximum speed or to a desired 'g' force. No protocol conversion is necessary.

Set-Up and Recall Runs
Save time and steps by creating and storing up to 20 programs into memory in RPM or RCF mode, along with user ID and comments.

Perform Step-Runs
The step-run function provides greater applications flexibility and delivers better separations.

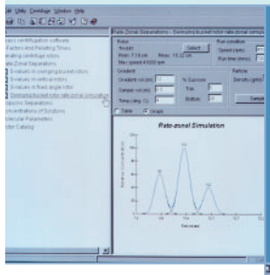
Check Rotor Specifications
Key specifications for Sorvall, Beckman and Kontron rotors are stored in memory, and you can conveniently recall and view them on the color display screen.

Simulate New Protocols and Ensure Regulatory Compliance

Compass® Run Simulation Software
Advanced Windows®-based Compass run simulation software lets you develop new separation protocols on your laptop or PC, and then export them to run on your WX Ultra Series. The software provides comprehensive help and troubleshooting support for faster and easier development of more efficient centrifugation methods.

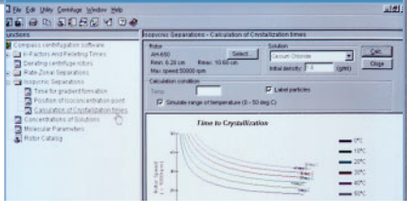
- Set run parameters and convert run values
- Calculate k-factors, pelleting times, de-rating speeds, molecular masses, s-value conversions and crystallization times
- Simulate particle sedimentation and diffusion for complex rate-zonal separations

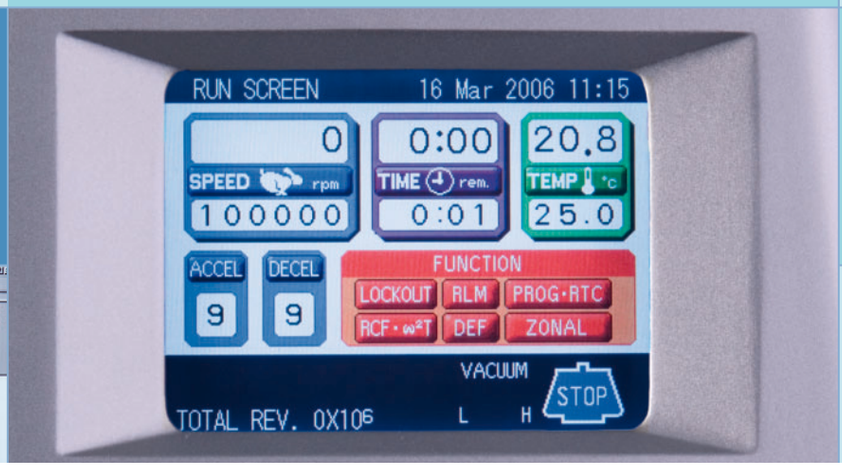
GMP Support
Connection to a printer via an RS-232 interface allows tracking of runs, users and faults to show alignment with GMP.



Intuitive controls make the Sorvall WX Ultra Series easy to use, even for inexperienced researchers. You can quickly select a desired run function simply by touching the large, interactive color LCD panel.

Compass run simulation software helps you develop new protocols without time-consuming reference to tables and manuals.





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Thermo Scientific Sorvall WX Ultra Series – Unparalleled power, safety and convenience

With its ergonomic design, low noise level and embedded UltraSecur technology, the Sorvall WX Ultra Series gives you the speed, power, safety and ease of use you need for efficient, high-throughput ultracentrifugation.



User-Friendly Controls
The interactive color LCD touch panel makes set-up and operation straightforward, even for novice users. Set and run conditions can be monitored easily, even from across the room.

Compact, Ergonomic Design
The small footprint of the Sorvall WX Ultra Series (100H x 79W x 69D, cm) makes it ideal for labs where space is limited. A low deck height (85 cm) makes rotor loading and unloading easy, while the chamber door glides open smoothly with just a push.

Whisper-Quiet Operation
A noise level of just 53 dBA means that users can work right next to the unit without distraction.

Energy-Efficient Performance
The energy-saving design reduces power consumption by up to 15% compared to other ultracentrifuges, with a significant reduction in heat output for a more comfortable working environment.

Visual Tube Balancing
Automatic balance compensation accelerates sample preparation by allowing visual sample balancing.

Easier, Safer Separations
Our Sorvall ultracentrifuge rotors enable easier and more secure sample loading, saving time and delivering efficient, worry-free separations.

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Versatile Rotors and Accessory Systems – Process samples faster, more easily and more securely

Our Sorvall ultracentrifuge rotors and accessory systems are designed to maximize productivity and keep your samples safe.

StepSaver Vertical Rotors
Our unique StepSaver rotors streamline sample loading and unloading, there by minimizing opportunities for sample loss. Filled sample tubes are securely contained inside proprietary cartridges that slide into the rotor body, eliminating the need for rotor caps and time-consuming torque wrench procedures.

- Load sample tubes in half the steps required for conventional vertical rotors, saving time and reducing the risk of errors.
- Quickly load and unload cartridges with the rotor conveniently in place inside the centrifuge.



SureSpin Swinging Bucket Rotors
Our SureSpin rotors offer the convenience and security of buckets that are loaded and unloaded through the top of the rotor body. This innovative, time-saving design keeps samples secure by preventing cross-hanging of buckets and consequent run shut-downs.

- Achieve faster, error-free sample loading and unloading with the rotor in place inside the centrifuge chamber.
- Minimize sample disturbance during bucket loading and unloading.



"OPEN SYSTEM" OPTIMIZES YOUR EXISTING ROTOR INVENTORY

Our Sorvall WX Ultra Series accepts ultra rotors from most major manufacturers. Ask your Thermo Scientific representative for details.





TCF-32 Continuous-Flow Rotor
The TCF-32 continuous-flow rotor system is ideal for multi-liter processing applications that require high RCFs, including viral separations, particle isolations and vaccine production.

- Scale up standard ultracentrifuge techniques to process development quantities.
- System capabilities include concentration of samples on a cushion eluent, density gradient separations and routine pelleting.



UltraCrimp™ Tube Sealing System
Our easy-to-use UltraCrimp tube sealing system employs reliable crimping technology to contain samples safely inside tubes. Mechanical tube sealing requires fewer steps and involves fewer components than complex, heat-based methods, significantly reducing opportunities for error.

- Dependable seal assures safe sample containment and minimizes risk of leakage during a run.
- ClearCrimp tubes improve visibility of density gradient bands.



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Thermo Scientific Sorvall WX Ultra Centrifuge Series Rotor Selection Guide



Thermo Scientific Sorvall WX Ultra Series Rotor Selection Guide						
Rotor	Capacity (place x ml)	Max.Speed (rpm)	Max. RCF (x g)	k factor	Tube Angle (°)	Cat. No.
Fixed Angle Rotors						
T-8100	8 x 6.5	100,000	802,010	17.7	26	45621
T-890	8 x 12.5	90,000	692,150	25.1	25	11690
TFT 80.4	10 x 4.4	80,000	468,250	25.8	25	54356
TFT 80.2	12 x 2.0	80,000	429,640	22.6	25	54456
T-1270	12 x 12.5	70,000	448,810	36.3	24	08259
T-865	8 x 36	65,000	429,460	51.7	23.5	51411
T-1250	12 x 36	50,000	301,030	68.7	24	11713
T-647.5	6 x 100	47,500	250,260	121.0	22.5	08322
TFT 45.6	40 x 6.0	45,000	(outer) 238,860	41.1	20	11637
			(inner) 204,250	49.6		
A-621	6 x 250	21,000	66,990	751.0	23	11876
Swinging Bucket Rotors						
TH-660	6 x 4.4	60,000	488,580	44.4	90	10502
AH-650	6 x 5	50,000	296,010	53.0	90	54294
TH-641	6 x 13.2	41,000	287,660	114.0	90	54295
SureSpin™ 630/36	6 x 36	30,000	166,880	219.0	90	79368
SureSpin 630/17	6 x 17	30,000	166,880	268.0	90	79363
AH-629 (36 ml buckets)	6 x 36	29,000	151,240	242.0	90	54284
AH-629 (17 ml buckets)	6 x 17	29,000	155,850	284.0	90	54285
Vertical/Zonal Rotors						
StepSaver™ 70 V6	8 x 6	70,000	467,420	8.7	0	79240
StepSaver 70 V6	8 x 2 x 2	70,000	467,420	8.7	0	79274
StepSaver 70 V6	8 x 5.1 QS*	70,000	467,420	8.7	0	79280
StepSaver 65 V13	8 x 13.5	65,000	400,670	12.9	0	79243
StepSaver 65 V13	8 x 6	65,000	393,110	10.3	0	79290
StepSaver 65 V13	8 x 13.5 QS*	65,000	400,670	12.9	0	79285
StepSaver 50 V39	8 x 39	50,000	241,830	35.8	0	79245
StepSaver 50 V39	8 x 13.5	50,000	228,700	22.6	0	79277
TV-1665	16 x 6	65,000	414,360	9.8	0	11672
TV-860	8 x 35	60,000	340,600	25.2	0	53289
TZ-28	1,350 ml	28,000	83,440	312.0	n/a	52358 + 12271
Continuous Flow Rotors						
TCF-32	430 ml	32,000	102,000	35	n/a	45820 + 45835
Accessory core	940 ml			106		45830

*Quick-Seal® is a registered trademark of Beckman Coulter®, Inc.

A History of Performance and Reliability

For nearly 60 years, our Thermo Scientific Sorvall centrifuges have stood for outstanding performance and reliability in the lab. That tradition continues today.

From basic benchtop instruments to advanced floor models, we take pride in manufacturing centrifuges that deliver reliable performance and consistent results year after year.



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Thermo Scientific Sorvall WX Ultra Centrifuge Series Specifications and Ordering Information



Technical Specifications

Model	WX100	WX90	WX80
Maximum speed (rpm)	100,000	90,000	80,000
Maximum RCF (x g)	802,000	692,000	602,000
Maximum capacity (mL)	6 x 250	6 x 250	6 x 250
Drive	Imbalance tolerant direct drive		
Accel/decel profiles	10/11		
Speed range (rpm)	1,000 to maximum speed in 100 rpm increments		
Speed control accuracy (rpm)	±10		
Temperature set range (°C)	0 to +40		
Temperature accuracy (°C)	±0.5		
Ambient temperature range (°C)	+10 to +35		
Temperature control system	Solid-state thermoelectric refrigeration (CFC-free)		
Vacuum system	Oil-rotary vacuum pump with moisture removal function and oil diffusion pump; vacuum of 0.13 Pa		
Dimensions (H x W x D) mm (inches)	1000 x 790 x 690 (39.4 x 31.1 x 27.2)		
	850 (33.4) height to top of deck		
Weight kg (lb)	400 (881.8)		
Control	Microprocessor		
Programmability	20 programs; Step-Run		
Heat output (kW/hr)	< 1		
Operational noise (dBA)	53, measured 1 m in front of instrument		
Functions	Automatic RCF; ω^2dt Integrator; Real Time Control; Controlled Access; Rotor Life Management		
Electrical V (Hz)	208/220/230/240 (50/60), 16/20 A, single phase		
Certification	CE and cCSAus certified		

Ordering Information

Model	Electrical Configurations	Plug	Cat. No.
Sorvall WX100 Ultracentrifuge	208-240V, Single Phase, 50/60 Hz CSA/CE	NEMA plug 6-30P and IEC60309 CEE plug 32A-6h 2P+PE included	46902
Sorvall WX90 Ultracentrifuge	208-240V, Single Phase, 50/60 Hz CSA/CE	NEMA plug 6-30P and IEC60309 CEE plug 32A-6h 2P+PE included	46901
Sorvall WX80 Ultracentrifuge	208-240V, Single Phase, 50/60 Hz CSA/CE	NEMA plug 6-30P and IEC60309 CEE plug 32A-6h 2P+PE included	46900

Accessories

Description	Cat. No.	Description	Cat. No.
Compass Software	45910	User Lockout Feature	45911
Printer (115/120V)	45933	HEPA Filter Kit	46121
Printer (220V/240V)	45934	Log Manager for WX Centrifuges	46943



Comprehensive Centrifuge Solutions

We offer a wide range of Sorvall high-performance superspeed and ultraspeed centrifuges for the pursuit of scientific discoveries. Models include the Sorvall Evolution RC and Sorvall RC 6™ Plus superspeed centrifuges for fast, high-volume processing, and the Sorvall Discovery SE Series for sample processing at speeds up to 150,000 rpm.

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