

thermo scientific



Thermo Scientific Sorvall WX+ Ultracentrifuge Series

Performance simplified at every turn

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part of Thermo Fisher Scientific

Ultracentrifugation simplified at every turn

Multiple users. A variety of processing requirements. A range of user experience. To overcome these everyday challenges of a shared laboratory setting, choose the Thermo Scientific™ Sorvall™ WX+ Ultracentrifuge with up to 100,000 rpm performance in a small footprint to maximize space in your lab, lightweight and fatigue-resistant Thermo Scientific™ Fiberlite™ Carbon Fiber Rotors that do not need to be derated over time, accelerated run set-up with an intuitive, easily accessible touch screen interface and automatic tube balancing. The result? Productivity, safety, and reliability simplified.



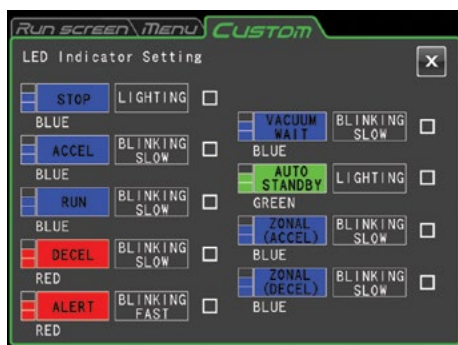
Performance simplified

Fast, high productivity separations

- Available in 80,000, 90,000 and 100,000 rpm models, offering RCF up to 802,000 x g
- Extensive rotor selection supports labware from 1.5 mL microtubes to 250 mL bottles, providing application flexibility as your lab's research focus evolves
- PLUS the flexibility to use most ultra rotors from other major manufacturers¹ with the open rotor system

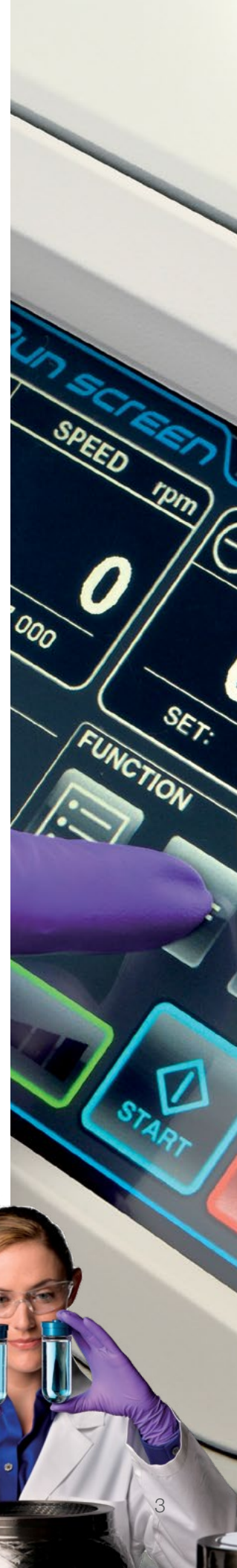
Built-in safety and efficiency

- Small footprint is ideal for labs where space is limited, while a low deck height (86.3 cm/33.9 in) makes rotor loading and unloading easy
- Non-bolt-down design helps simplify installation and flexibility to relocate within a facility
- Quiet performance (<51 dBA) allows you to work right next to the unit with little distraction
- Self-locking rotor system eliminates the need to bolt down the rotor, while providing confidence that the rotor is automatically and securely locked
- Accessible on the front of the unit, the user-friendly touch screen interface puts you in control with set-up and run customization
- Ability to control access in a multi-user environment for security
- Automatic tube balance compensation helps accelerate sample preparation by allowing visual sample balancing up to 5 mm
- Personalize and monitor instrument status from across the lab with Stat Light, our multi-color, programmable 47 cm/18.5 in long LED bar mounted on the front of the instrument for easy visibility



Personalize Stat Light color and intensity for visual indication of instrument status.

¹ Ask your sales representative for details.



Applications simplified

Versatile rotor portfolio addresses your high performance processing applications, accommodating tubes from 0.2 mL to 250 mL—and providing application flexibility as your lab's research focus evolves

Fast pelleting and density gradient separations

Fixed angle rotors, including lightweight and durable **Fiberlite carbon fiber rotors** which help improve ergonomics, backed by a 15-year warranty².

- Fatigue-resistance provides structural integrity, eliminating the need to derate or limit the speed over the rotor lifespan
- Corrosion-resistant design helps protect against damage due to moisture, chemicals, alkaline solutions or other salts in the laboratory
- Lightweight rotors designed to improve ergonomics for a safer work environment and help minimize the risk of damage to centrifuge equipment

Density gradient runs and for locating small pellets at the bottom of a tube

High performance swinging bucket rotors, such as **SureSpin rotors** which offer the convenience and security of loading buckets through the top of the rotor body to help maintain delicate gradients and prevent mishanging of buckets.

Fast lipoprotein and plasmid DNA separations

StepSaver vertical rotors streamline sample loading and unloading. Filled sample tubes can be securely contained inside special cartridges, eliminating the need for inconvenient torque wrench procedures.

Neo Angle rotors provide a very steep angle—much greater than fixed angle rotors—which is optimized for CsCl Plasmid DNA separations.

Biotechnology and pharmaceutical scale-up processes

The **TCF-32 continuous flow rotor** is ideal for multi-liter processing applications requiring high RCFs, including viral separations, particle isolations and vaccine production.

Batch processing gradient applications with zonal rotors

Optimize your existing rotor inventory

The open system on Sorvall WX+ ultracentrifuges accepts most ultra rotors from other major manufacturers. Ask your sales representative for details.

² Subject to Thermo Fisher Scientific's standard limited warranty. See thermofisher.com or your sales representative for details.

Operation simplified

Keep operation and programming simple, with an easy-to-read and navigational full-color graphical display at the front of the centrifuge

Designed to help maximize productivity with flexible control, set-up and run options in either RPM or RCF mode

- Help save time during run set-up for commonly used protocols by creating up to 1000 programs, including step runs, along with user ID and comments
- Recall past operating parameters with recorded histories (up to 5,120 cases)
- Select rotor from on-board catalog, with key rotor specifications stored for convenient recall
- Set the run time to start at the beginning of the run or when the rotor achieves its set speed

Focus on safety and convenience

- Requires an ID code to control user access with the optional lockout feature —ideal for multi-user environments
- Schedule a run to reserve the centrifuge, or delay start and stop times, so samples are ready when needed
- Manage rotor life by tracking the number of rotor runs and total spin hours
- Reduce power usage by up to 50% when in idle mode, compared with previous model



Assists with compliance

Designed to assist with GMP/GLP compliance with optional **Log Manager software**, a Windows™ based monitoring and logging application

- Monitor centrifuge run data, with output of the operation record data as a PDF or CSV-format file, supporting the LAN environment compliant with IEEE 802.3i
 - Electronically record the operational performance of up to 16 ultracentrifuges
 - Monitor digital signatures and centrifuge operating status
- Set limits on available functions and operations according to the user's access level, and record the user's operations as audit trails

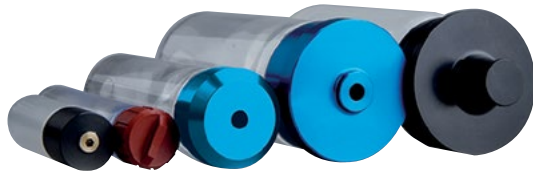
Simulate new protocols

Compass, a Windows™-based run simulation software included with our ultracentrifuges, allows for development of new separation protocols on a laptop or PC for export to a Sorvall WX+ ultracentrifuge. The software provides comprehensive help and troubleshooting support for fast and easy development of more efficient centrifugation methods.

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

Tube selection simplified

The right tube for your application is an important consideration. Choose from a wide selection of tubes to meet your processing requirements:



Tube style	Tube volume (mL)					
	1.5	6.5	13.5	39	100	250
Open-top thin-wall tube		•	•	•		
Open-top thick-wall tube		•				
Ultracrimp tube		•	•	•	•	
Re-seal tube	•	•	•	•		
Oak Ridge tube		•	•	•	•	•
High performance microtubes	•					



Rotor specifications

	Cat. No.	Rotor	Maximum capacity (mL)	Tube dimensions (mm)	Maximum speed (rpm)	Maximum RCF (x g)	K factor	Tube angle (°)
Fiberlite fixed angle rotors	12101610	F65L-6x13.5	6 x 13.5	16 x 76	65,000	324,000	70	30
	12171610	F50L-8x39	8 x 39	25 x 89	50,000	266,000	87	23
	12101630	F50L-24x1.5	24 x 1.5	11 x 40	50,000	280,000	33	45
	15315252	F37L-8x100	8 x 100	38 x 102	37,000	182,460	168	25
Fixed angle rotors	12131670	T-8100	8 x 6.5	13 x 64	100,000	802,006	17.7	26
	12171640	T-890	8 x 12.5	16 x 80	90,000	692,149	25.1	25
	12171690	TFT 80.4	10 x 4.4	11 x 60	80,000	468,246	25.8	25
	12181690	TFT 80.2	12 x 2.0	8 x 51	80,000	429,643	22.6	25
	12171580	T-1270	12 x 12.5	16 x 80	70,000	448,811	36.3	24
	12101690	T-865	8 x 36	25 x 97	65,000	429,459	51.7	23.5
	12181640	T-1250	12 x 36	25 x 97	50,000	301,032	68.7	24
	12191580	T-647.5	6 x 100	39 x 107	47,500	250,259	121	22.5
	12151640	TFT 45.6	40 x 6.0	13 x 66	45,000	238,859 (outer) 204,252 (inner)	41.4 (outer) 49.6 (inner)	20
Swinging bucket rotors	12121650	A-621	6 x 250	61 x 153	21,000	66,993	751	23
	12181630	TH-660	6 x 4.4	11 x 60	60,000	488,576	44.4	90
	12151690	AH-650	6 x 5	13 x 51	50,000	296,005	53	90
	12161690	TH-641	6 x 13.2	14 x 89	41,000	287,660	114	90
	16479639	SureSpin 632 (38.5 mL)	6 x 38.5	25 x 89	32,000	187,295	194	90
	16624884	SureSpin 632 (17 mL)	6 x 17	16 x 102	32,000	191,759	221	90
	12131690	AH-629 (36 mL)	6 x 36	25 x 89	29,000	151,243	242	90
Vertical rotors	12141690	AH-629 (17 mL)	6 x 17	16 x 102	29,000	155,846	284	90
	12191710	StepSaver 70 V6 (8 x 6)	8 x 6	13 x 66	70,000	467,420	8.7	0
	12151720	StepSaver 70 V6 (8 x 2)	8 x 2 x 2	13 x 45	70,000	467,420	8.7	0
	12101730	StepSaver 70 V6 (8 x 5.1 QS)	8 x 5.1 QS	13 x 51	70,000	467,420	8.7	0
	12101720	StepSaver 65 V13 (8 x 13.5)	8 x 13.5	16 x 93	65,000	400,671	12.9	0
	12101730	StepSaver 65 V13 (8 x 6)	8 x 6	16 x 76	65,000	393,120	10.3	0
	12191720	StepSaver 65 V13 (8 x 13.5 QS)	8 x 13.5 QS	13 x 66	65,000	393,120	12.9	0
	12111720	StepSaver 50 V39 (8 x 39)	8 x 39	16 x 93	50,000	241,831	35.8	0
	12161720	StepSaver 50 V39 (8 x 13.5)	8 x 13.5	16 x 93	50,000	228,706	22.6	0
	12161640	TV-1665	16 x 6	13 x 66	65,000	414,357	9.8	0
Neo angle rotors	12121690	TV-860	8 x 35	25 x 97	60,000	340,596	25.2	0
	15382177	TN-890	8 x 5	13 x 53	90,000	645,101	10	10
	15392177	TN-1065	10 x 12	16 x 78	65,000	401,614	23	10
Continuous flow rotor	15302187	TN-1865	18 x 5	13 x 53	65,000	430,874	15	10
	12141670	TCF-32			32,000	102,000		
Zonal rotor	12893412	Accessory core	940 / 430				35/106	
	17875095 + 17885095	TZ-32	1,690		32,000	102,000	363	
	52358 + 12271	TZ-28	1,350		28,000	83,440	312.0	



Ultracentrifuge specifications

Specifications	Sorvall WX 100+ Ultracentrifuge	Sorvall WX 90+ Ultracentrifuge	Sorvall WX 80+ Ultracentrifuge
Maximum speed	100,000 rpm	90,000 rpm	80,000 rpm
Maximum RCF	802,000 x g (with T-8100 rotor)	692,149 x g (with T-890 rotor)	546,883 x g (with T-890 rotor)
Maximum capacity	6 x 250 mL		
Drive system	Imbalance tolerant direct drive; eye balance to within 5 mm		
Control	Microprocessor		
Control panel	Touch screen color LCD panel (6.5 in)		
Control panel languages	English, French, German, Italian, Portuguese, Spanish, Russian, Dutch, Korean, Chinese		
Programmability	1,000 programs with step-runs		
Run log database	Up to 5,120 runs recorded in onboard memory		
Data communication	USB: Host x 1, Device x 1 / LAN x 1		
Accel/decel profiles	10 / 11 (10 and coasting)		
Speed range	1,000 rpm to max. speed in 100 rpm increments		
Speed control accuracy	±2 rpm (from 1,000 rpm to max. speed)		
Timer	1 min to 999 hours 59 min (with 1 min increments) with HOLD function		
Temperature set range	0 to +40 °C		
Temperature accuracy	±0.5 °C		
Ambient temperature range	Ambient temperature for operation : +2 to +40 °C; Ambient temperature for performance guarantee : +10 to +30 °C		
Temperature control system	Solid-state thermoelectric module refrigeration (CFC/HCFC/HFC-free)		
Vacuum system	Oil-rotary vacuum pump with moisture removal function and oil diffusion pump; vacuum of 1.3 Pa		
Functions	Automatic RCF; ω2dt integrator; real time control; controlled user access; rotor life management		
Dimensions (H x W x D)	880 x 790 x 690 mm / 34.6 x 31.1 x 27.2 in; Depth including door cover 890 mm/ 35.0 in		
Work height of top deck	863 mm / 33.9 in		
Weight	390 kg / 859.8 lb		
Heat output	1 kW or below		
Noise	51 dBA (running at set speed, under in-house test condition) measured 1 m in front of instrument		
Certification	CE and cCSAus. Product Safety: EN61010-1 and EN 61010-2-020; Electromagnetic Compatibility: EN 61326-1		
Warranty	1 year Unit, 10 years Drive (Non-prorated)		

Ordering information

Cat. No.	Product	Plug
Ultracentrifuges		
15362177	Sorvall WX 100+ Ultracentrifuge, 208-240 V, 50/60 Hz, 16/20 A, Single-phase	NEMA plug 6-30P and IEC60309 CEE plug
15352177	Sorvall WX 90+ Ultracentrifuge, 208-240 V, 50/60 Hz, 16/20 A, Single-phase	NEMA plug 6-30P and IEC60309 CEE plug
15342177	Sorvall WX 80+ Ultracentrifuge, 208-240 V, 50/60 Hz, 16/20 A, Single-phase	NEMA plug 6-30P and IEC60309 CEE plug
Accessories		
45910	Compass Software (included with centrifuge)	
15493372	HEPA Filter Kit	
15948026	Log Manager for Sorvall WX+ Ultracentrifuges	

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