

thermo scientific



# Thermo Scientific Sorvall WX+ Ultracentrifuge Series

Performance simplified at every turn

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# 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.





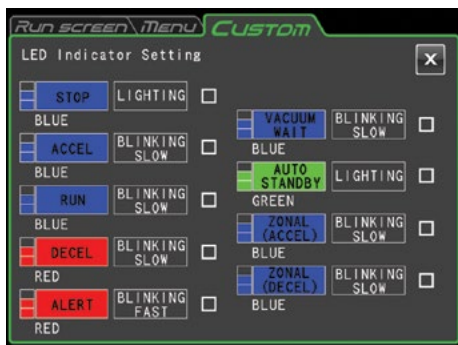
# Performance simplified

## 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 manufacturers' 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.

<sup>†</sup> 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 warranty<sup>2</sup>

- 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.

<sup>2</sup> Subject to Thermo Fisher Scientific's standard limited warranty. See [thermofisher.com](http://thermofisher.com) or your sales representative for details.

# Operation simplified

Keep operation and programming simple, with an easy-to-read and navigate 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

- Require 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.

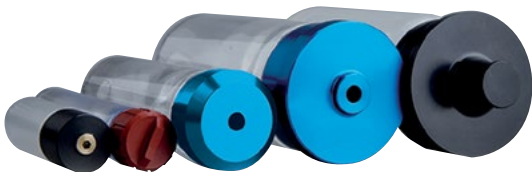
- Set run parameters and convert run values
- Calculate k-factors, pelleting times, derating speeds, molecular masses, s-value conversions and crystallization times
- Simulate particle sedimentation and diffusion for complex rate zonal separations





# 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 Bottle		•	•	•	•	•
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	096-067135	F65L-6x13.5	6 x 13.5	16 x 76	65,000	324,000	70	30
	096-087051	F50L-8x39	8 x 39	25 x 89	50,000	266,000	87	23
	096-247028	F50L-24x1.5	24 x 1.5	11 x 40	50,000	280,000	33	45
	096-087056	F37L-8x100	8 x 100	38 x 102	37,000	182,460	168	25
Fixed angle rotors	45621	T-8100	8 x 6.5	13 x 64	100,000	802,006	17.7	26
	11690	T-890	8 x 12.5	16 x 80	90,000	692,149	25.1	25
	54356	TFT 80.4	10 x 4.4	11 x 60	80,000	468,246	25.8	25
	54456	TFT 80.2	12 x 2.0	8 x 51	80,000	429,643	22.6	25
	08259	T-1270	12 x 12.5	16 x 80	70,000	448,811	36.3	24
	51411	T-865	8 x 36	25 x 97	65,000	429,459	51.7	23.5
	11713	T-1250	12 x 36	25 x 97	50,000	301,032	68.7	24
	08322	T-647.5	6 x 100	39 x 107	47,500	250,259	121	22.5
	11637	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
	11876	A-621	6 x 250	61 x 153	21,000	66,993	751	23
Swinging bucket rotors	10502	TH-660	6 x 4.4	11 x 60	60,000	488,576	44.4	90
	54294	AH-650	6 x 5	13 x 51	50,000	296,005	53	90
	54295	TH-641	6 x 13.2	14 x 89	41,000	287,660	114	90
	75003032	SureSpin 632 (38.5 mL)	6 x 38.5	25 x 89	32,000	187,295	194	90
	75003031	SureSpin 632 (17 mL)	6 x 17	16 x 102	32,000	191,759	221	90
	54284	AH-629 (36 mL)	6 x 36	25 x 89	29,000	151,243	242	90
	54285	AH-629 (17 mL)	6 x 17	16 x 102	29,000	155,846	284	90
Vertical rotors	79240	StepSaver 70 V6 (8 x 6)	8 x 6	13 x 66	70,000	467,420	8.7	0
	79274	StepSaver 70 V6 (8 x 2)	8 x 2 x 2	13 x 45	70,000	467,420	8.7	0
	79280	StepSaver 70 V6 (8 x 5.1 QS)	8 x 5.1 QS	13 x 51	70,000	467,420	8.7	0
	79243	StepSaver 65 V13 (8 x 13.5)	8 x 13.5	16 x 93	65,000	400,671	12.9	0
	79290	StepSaver 65 V13 (8 x 6)	8 x 6	16 x 76	65,000	393,120	10.3	0
	79285	StepSaver 65 V13 (8 x 13.5 QS)	8 x 13.5 QS	13 x 66	65,000	393,120	12.9	0
	79245	StepSaver 50 V39 (8 x 39)	8 x 39	16 x 93	50,000	241,831	35.8	0
	79277	StepSaver 50 V39 (8 x 13.5)	8 x 13.5	16 x 93	50,000	228,706	22.6	0
	11672	TV-1665	16 x 6	13 x 66	65,000	414,357	9.8	0
	53289	TV-860	8 x 35	25 x 97	60,000	340,596	25.2	0
Neo angle rotors	75003033	TN-890	8 x 5	13 x 53	90,000	645,101	10	10
	75003034	TN-1065	10 x 12	16 x 78	65,000	401,614	23	10
	75003035	TN-1865	18 x 5	13 x 53	65,000	430,874	15	10
Continuous flow rotor	45820 + 50149172	TCF-32			32,000	102,000		
	45830 / 45835	Accessory core	940 / 430				35/106	
Zonal rotor	75000008 + 75000013	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
<b>Ultracentrifuges</b>		
75000100	Sorvall WX 100+ Ultracentrifuge, 208-240 V, 50/60 Hz, 16/20 A, Single-phase	NEMA plug 6-30P and IEC60309 CEE plug
75000090	Sorvall WX 90+ Ultracentrifuge, 208-240 V, 50/60 Hz, 16/20 A, Single-phase	NEMA plug 6-30P and IEC60309 CEE plug
75000080	Sorvall WX 80+ Ultracentrifuge, 208-240 V, 50/60 Hz, 16/20 A, Single-phase	NEMA plug 6-30P and IEC60309 CEE plug
<b>Accessories</b>		
45910	Compass Software (included with centrifuge)	
50146146	HEPA Filter Kit	
50149346	Log Manager for Sorvall WX+ Ultracentrifuges	

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Москва  
ул. Магаданская, д. 7, к. 3 ■ тел./факс: (495) 745-0508 ■ sales@dia-m.ru

www.dia-m.ru

**С.-Петербург**  
+7 (812) 372-6040  
spb@dia-m.ru

**Новосибирск**  
+7 (383) 328-0048  
nsk@dia-m.ru

**Воронеж**  
+7 (473) 232-4412  
vrn@dia-m.ru

**Йошкар-Ола**  
+7 (927) 880-3676  
nba@dia-m.ru

**Красноярск**  
+7 (923) 303-0152  
krsk@dia-m.ru

**Казань**  
+7 (843) 210-2080  
kazan@dia-m.ru

**Ростов-на-Дону**  
+7 (863) 303-5500  
rnd@dia-m.ru

**Екатеринбург**  
+7 (912) 658-7606  
ekb@dia-m.ru

**Кемерово**  
+7 (923) 158-6753  
kemerovo@dia-m.ru

**Армения**  
+7 (094) 01-0173  
armenia@dia-m.ru

