



TABLETOP HIGH SPEED CENTRIFUGE (6 X 50 ML)

Tabletop High Speed Centrifuge (6 x 50 mL) - ToronCent™ HS T

ToronCent™ HS T tabletop high speed centrifuge handles 6 x 50 mL tubes and reaches 16,000 rpm and 21,532 x g across its rotor set. Six angle rotors cover 1.5 mL and 2.2 mL microtubes, 5 mL, 10 mL, and 30 mL tubes, and 50 mL conical work. Biology, materials science, and quality control laboratories use it for routine pelleting, protein recovery, and sample clarification. A digital display reads out speed, time, and relative centrifugal force.

Top speed and top g-force come from different rotors. The 12 x 1.5 mL rotor spins at 16,000 rpm and delivers 17,800 x g, while the 24-place microtube rotor gives the highest field of 21,532 x g at 15,000 rpm. The 6 x 50 mL rotor holds the largest volume and runs at 11,000 rpm and 12,840 x g. Matching rotor to tube format therefore sets the g-force a protocol can reach.

The design is a long-established one with a straightforward control set rather than a programmable interface. Speed, time, and RCF appear on the LED readout, and run time is set in whole minutes up to 99. Sound output stays at ≤ 62 dB(A), the quietest figure in the ToronCent™ high speed range. Net weight is 25 kg and power draw peaks at 400 W. The 330 mm wide housing suits a teaching bench or a shared laboratory station.

APPLICATIONS

Tabletop High Speed Centrifuge (6 x 50 mL) - ToronCent™ HS T

Applications

The ToronCent™ HS T fits laboratories that run the same handful of separations every day and want a stable instrument rather than a programmable one.

- **Biology and Life Science Research:** pellets cells, precipitates, and subcellular material in microtubes and conical tubes for routine bench work
- **Materials Science:** separates particle fractions, settles suspensions, and clarifies dispersions during sample preparation
- **Protein and Enzyme Work:** recovers precipitates and clarifies lysates at up to 21,532 x g ahead of assay or electrophoresis
- **Molecular Biology:** spins purification columns and pellets nucleic acid precipitates in 1.5 mL and 2.2 mL microtubes
- **Cell Culture Support:** pellets and washes cells in 10 mL, 30 mL, and 50 mL tubes for small and mid-scale culture work
- **Microbiology:** harvests bacterial cells and separates culture supernatant for downstream plating or assay
- **Clinical and Diagnostic Laboratories:** separates serum and plasma in 5 mL and 10 mL tubes for routine analyte testing
- **Food and Beverage Analysis:** separates solids and aqueous phases in dairy, juice, and extract samples
- **Environmental and Water Testing:** concentrates suspended solids and microbial biomass in 30 mL and 50 mL sample tubes
- **Teaching Laboratories:** gives students a quiet, simply operated platform where a programmable interface would add little



FEATURES

Tabletop High Speed Centrifuge (6 x 50 mL) - ToronCent™ HS T Key Features

The ToronCent™ HS T trades programmable control for a simple digital interface and the lowest sound output in the ToronCent™ high speed range.

- **16,000 rpm Maximum Speed and 21,532 x g:** covers microtube pelleting and precipitate recovery across the full rotor set
- **Six Angle Rotors:** handles 1.5 and 2.2 mL microtubes, 5 mL, 10 mL, and 30 mL tubes, and 6 x 50 mL conical tubes on one drive
- **24-Place Microtube Rotor:** delivers the highest g-force in the set at 21,532 x g while doubling batch size against the 12-place rotor
- **Quietest Unit in the Range at ≤62 dB(A):** runs below the sound level of the other ToronCent™ high speed models, suiting occupied and shared bench space
- **Digital Speed, Time, and RCF Readout:** shows all three values directly, so operators run methods at the g-force a protocol specifies without converting by hand
- **Broad Adapter Set:** fits 0.2, 0.5, 1.5, 5, 10, 15, 20, 25, and 30 mL tubes across the rotor range, covering most common tube formats
- **±30 rpm Speed Accuracy:** holds the set speed closely enough for reproducible separations across repeat runs
- **6 x 50 mL Maximum Capacity:** clears 300 mL per cycle for conical tube work at 12,840 x g
- **Simple Two-Control Operation:** sets speed and time without menu navigation, which shortens training for rotating students and occasional users
- **400 W Power Consumption:** draws modestly for a high speed unit, suiting shared or lightly served laboratory circuits
- **25 kg Net Weight and 330 mm Footprint:** sits stably during high speed runs while occupying limited bench width

THEORY & METHOD

Theory and Method

Relative centrifugal force, not rotational speed, determines what a separation achieves. The relationship is $RCF = 1.118 \times 10^{-5} \times r \times N^2$, where r is rotor radius in millimeters and N is speed in rpm. Radius enters once and speed enters squared, so a narrow rotor spun fast and a wide rotor spun slower can land at similar g-force. That is why the 16,000 rpm microtube rotor produces less field than the 24-place rotor turning at 15,000 rpm.

Sedimentation time depends on more than peak g-force. A particle must travel the distance between the liquid surface and the tube wall, so a rotor with a long sedimentation path takes longer to clear a sample even at the same field. Centrifuge makers express this as a clearing factor, which combines the path length with the square of angular velocity to estimate how long a given particle needs to pellet. Comparing that figure rather than g-force alone gives a better prediction of run time.

Chamber noise comes mainly from air the rotor drags with it. A spinning rotor accelerates the surrounding air, and turbulence at the rotor edge radiates sound that rises steeply with tip speed. Rotor profile, chamber clearance, and housing mass all damp that output, which is how this unit holds ≤ 62 dB(A) at full speed. Sustained exposure at that level sits below the point where laboratory noise becomes a working nuisance, so the instrument can share an occupied bench.

TECHNICAL SPECIFICATIONS

Tabletop High Speed Centrifuge (6 x 50 mL) - ToronCent™ HS T Technical Specifications

Parameter	Specification
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Maximum Speed	16,000 rpm
Maximum RCF	21,532 x g
Maximum Capacity	6 x 50 mL
Speed Accuracy	±30 rpm
Time Setting Range	1 min to 99 min
Display	Digital LED, showing speed, time, and RCF
Noise Level	≤62 dB(A)
Voltage	AC 220 V ±22 V, 50/60 Hz (110V is also available)
Power Consumption	400 W
Dimensions (W x D x H)	330 x 390 x 300 mm
Packing Dimensions (W x D x H)	395 x 650 x 340 mm
Net Weight	25 kg

Angle Rotor Options

Max Capacity	Max Speed	Max RCF	Adapters Available
12 x 1.5 mL	16,000 rpm	17,800 x g	0.2 mL, 0.5 mL
24 x 1.5 / 2.2 mL	15,000 rpm	21,532 x g	0.2 mL, 0.5 mL
6 x 30 mL	13,500 rpm	18,720 x g	5 mL, 10 mL
12 x 5 mL	13,000 rpm	11,903 x g	0.5 mL, 1.5 mL
12 x 10 mL	12,000 rpm	14,800 x g	1.5 mL, 5 mL
6 x 50 mL	11,000 rpm	12,840 x g	1.5, 5, 10, 15, 20, 25, 30 mL



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