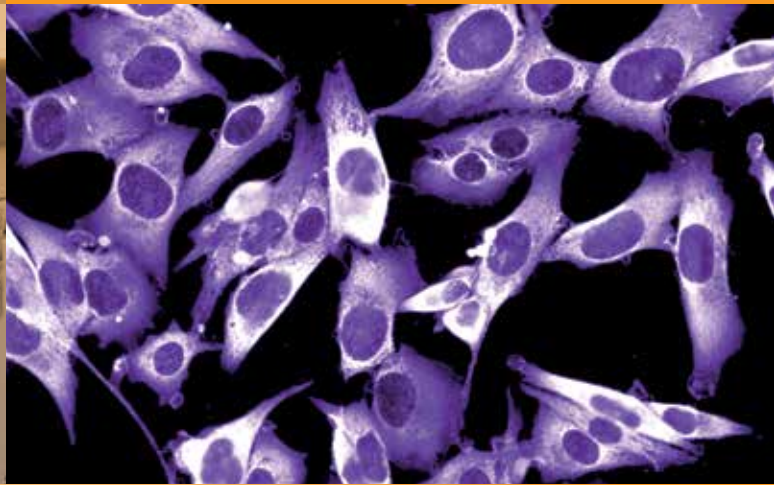




Thermo Scientific Sorvall BIOS 16 Centrifuge



performance simplified
at every turn

Performance simplified at every turn

Introducing the NEW! Thermo Scientific™ Sorvall™ BIOS 16 centrifuge designed for reliable, high-throughput bioprocessing.



Outstanding capacity to maximize productivity

- Unique 8 x 2000 mL (16 L) capacity accommodating innovative wide-mouth bottles or 8 x 1000 mL (8 L) configuration



Enhanced ergonomics with push-button convenience

- Thermo Scientific™ Auto-Door™ automatic centrifuge door opening and closing



Simplified operation and space-saving design

- Thermo Scientific™ Auto-Lid™ instant rotor opening and closing with lid storage
- Glove-friendly Thermo Scientific™ Centri-Touch™ interface



Enhanced corrosion protection

- Nickel-coated rotor buckets available

Designed to support a broad array of bioprocessing applications ranging from R&D scale to large scale production of:

- Biologics
- Vaccines
- Biofuels
- Cell therapies
- Veterinary medicines
- Recombinant proteins
- Raw materials

Some of these applications are performed in clinical areas.

Bioprocessing simplified

High-throughput, flexible sample processing

from 6 x 1 L to 8 x 2 L bioprocessing bottles per run at speeds up to 8,500 x g.

Built-in safety and efficiency

- Compact design, automatic front-to-back centrifuge door opening and closing with Auto-Door and Auto-Lid rotor lid opening and storage optimize everyday centrifuge use
- Standard power supply eliminates the need for expensive hardwiring
- Latest global safety standards including UL and CE and listed with US FDA
- Energy savings with Thermo Scientific™ Eco-Spin™ windshielded rotors
- Nickel-coated rotor buckets are also available, providing protection against corrosion due to moisture, chemicals or alkaline solutions that otherwise can weaken the structural integrity of a metal rotor bucket
- Centri-Touch interface with bright, highly visible and glove-friendly display simplifies run set-up, further enhanced with access controls such as user login with password protection
- Real-time run monitoring and control with Thermo Scientific™ Centri-View™ application
- Designed to assist with GMP/GLP compliance with data logging and easy-to-use Thermo Scientific™ Centri-Log™ Plus data collection software



Sorvall BIOS 16 centrifuges are available with a choice of 4 Thermo Scientific rotors, providing the flexibility to select higher capacity rotors or match existing workflows.

8 x 2000 mL rotor
3,900 rpm
5,374 x g



8 x 1000 mL rotor
4,600 rpm
7,117 x g



6 x 2000 mL rotor
4,700 rpm
7,187 x g



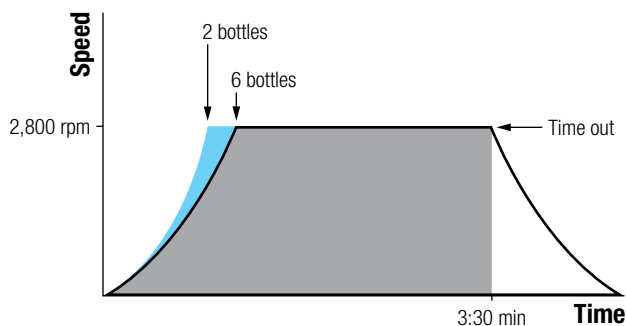
6 x 1000 mL rotor
5,400 rpm
8,500 x g



Ergonomics and safety simplified

- Effortless loading and unloading with optimal working height of 930 mm
- Listed with US FDA and latest global safety standards including UL and CE certifications, without the need to bolt down the instrument to the floor, greatly simplifying installation and flexibility to relocate within a facility
- Designed for run-to-run reproducibility
 - ACE function automatically adjusts the centrifuge run time to compensate for variations in acceleration due to full or partial rotor loading (see Figure 1.)
 - Automatically neutralize up to 125 g loading imbalance with Thermo Scientific™ DuraFlex™ drive technology
 - In slow start/stop mode, select from 11 acceleration and 12 deceleration profiles to customize results for maximum yields with minimum re-suspension
- With the press of a button, Auto-Door automatically and completely opens or closes the centrifuge door, with hands-free Auto-Lid windshilded rotor lid storage on the centrifuge door
- Immediate rotor detection and programming with Thermo Scientific™ Auto-ID instant rotor identification eliminating over-speed risk, reducing error messages and improving centrifuge, sample and operator safety
- Quiet performance (<62 dBA) provides a safe and reduced stress environment
- Eco-Spin provides energy savings up to 64% when compared with non-windshilded rotors¹ (see Figure 2.)

Results Without the ACE Integrator Function



Results With the ACE Integrator Function

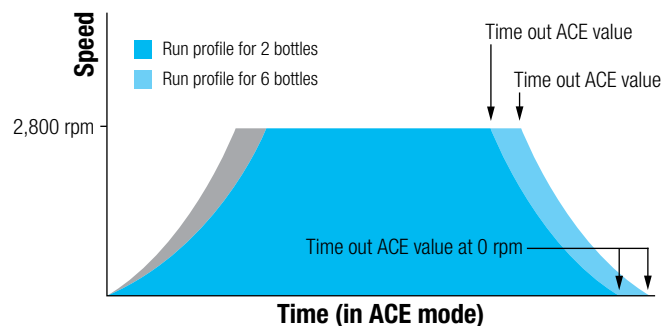


Figure 1. In a typical first centrifugation step, a two-bottle rotor load attains set speed faster than a six-bottle load. Since both loads will time out at the set time of 3:30 minutes, different g-forces are achieved during the run. By using the ACE integrator function, the time for 2 bottles would be changed to 3:00 minutes to obtain the same overall g-force for both loads. With an ACE value and speed set at the start of a run, times were adjusted to achieve the same overall g-force regardless of the rotor load.

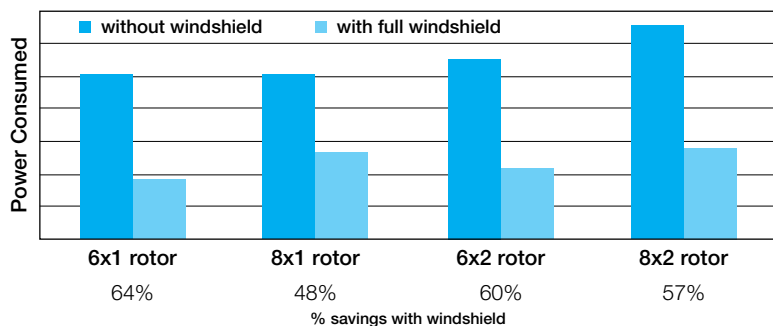


Figure 2. Power consumption of Thermo Scientific windshilded rotors as compared with non-windshilded designs of the same rotor body.

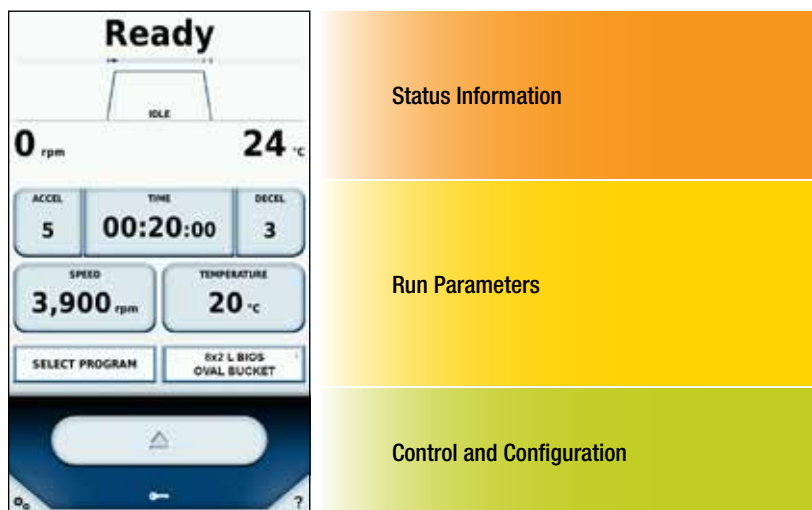
¹ Based on an engineering evaluation of windshilded and non-windshilded designs of the same rotor body.

Operation simplified

Large, bright, interactive Centri-Touch interface for all centrifuge functions and durable for use run after run, year after year.

- Glove- and detergent-friendly
- Simple and quick run set-up with Speed, Time, Temp, plus Pre-Temp, and Accel and Decel ramps
- Convenient virtual touchscreen keyboard for direct input of program parameters
- Highly visible backlit display of set and actual run conditions, including rpm, g-force, and the rotor in operation, enlarged during the run for clear visibility — even from across the lab
- Real-time connection with Centri-Vue application to monitor protocols on your smart device

Simple, quick run set-up and monitoring



Easily set current parameters and monitor centrifuge status

Plus powerful functions are just one touch away:

- Quick recall of up to 120 programs with alpha-numeric naming to minimize time between runs and for quick run start by routine users
- User access control and security with optional password protection, ideal for multi-user environments
- Multilingual instructions on programming, run conditions, alerts and service messages
- Integrated rotor calculator for simplifying protocol modifications and transfers
- Help screens and in-use training with on-board tutorial videos and a quick-start manual
- Thermo Scientific™ Centri-Track™ on-board run logging of user, run conditions and error messages
- Thermo Scientific™ Cycle-Log™ rotor bucket cycle log monitors bucket life for added safety

Connection simplified

Our Centri-View application provides real-time connection with your Sorvall BIOS 16 centrifuges. With your smart device, check your run status or if a centrifuge is available from across the campus, building or lab.

- Determine status at-a-glance of 1 or up to 100 centrifuges
- Monitor your run
 - Replicate instrument main screen on your smart device
 - Know when your run is complete
 - Check for diagnostic errors affecting your run
- Establish secure centrifuge connection for start and stop control



Download Centri-View application for instant remote monitoring and control, available for both iOS™ and Android™, and stay connected.

Additional options available

- Heavy-duty with stainless steel front plate, top plate and side panels, complete with containment skirt

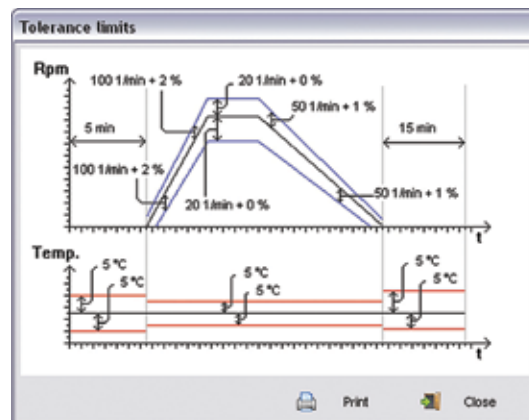
Please contact your sales representative for availability.



Data collection, built around you

Three logging modes and optional external monitoring and control

- On-board Centri-Track run logs, downloadable via USB port or real-time via Ethernet
- Centri-Log Plus data collection software: Protocol tracking solution to enable lifecycle management of processed samples, equipment optimization and compliance with standard operating procedures. Connect and track multiple centrifuges on the same network.
 - Improve traceability with documentation of processes, including continual monitoring of speed, time and temperature with alarm messages in case of protocol deviation
 - Ability to check run parameters against procedures in PC database
 - Connection to central database through customized export file














Ordering Information

| Data Collection Options | Data Transfer via USB | Data Transfer via Ethernet | Device Management via Centri-Log Plus Software |
|------------------------------|---|---|--|
| With Barcode Sample Tracking | Centri-Track via USB ² | Centri-Track via Ethernet ² | Please contact your sales representative for availability. |
| | Sample Tracking Kit ³ Cat. No. 75007740 | Sample Tracking Kit ³ Cat. No. 75007740 | |
| Without Sample Tracking | Run Log | Network Access Kit Cat. No. 75007741 | |

² GMP-mode must be enabled.

³ Sample tracking kit contains barcode scanner, holder and cable.

Rotor Specifications

| Cat. No. | Description | Rotor Capacity (places x volume, mL) | Maximum Speed (rpm) | Maximum RCF (x g) |
|---------------|---|--------------------------------------|---------------------|-------------------|
| Rotors | | | | |
| 75003961 |  6 x 1000 mL Swinging Bucket Rotor, Round Buckets and 1000 mL Bottles (set) | 6 x 1000 mL | 5,400 | 8,500 |
| 75004161 | 6 x 1000 mL Swinging Bucket Rotor, Round Buckets with Dura-Coat and 1000 mL Bottles (set) | 6 x 1000 mL | 5,400 | 8,500 |
| 75003981 |  8 x 1000 mL Swinging Bucket Rotor, Round Buckets and 1000 mL Bottles (set) | 8 x 1000 mL | 4,600 | 7,117 |
| 75004181 | 8 x 1000 mL Swinging Bucket Rotor, Round Buckets with Dura-Coat and 1000 mL Bottles (set) | 8 x 1000 mL | 4,600 | 7,117 |
| 75003963 |  Round Bucket (sets of 2) | | | |
| 75003864 |  Round Bucket with Dura-Coat (sets of 2) | | | |
| 11776 |  Cover for Round Bucket (sets of 2) | | | |
| 12995 | Seal Kit for Cover for Round Bucket (sets of 6) | | | |
| 3120-1000 |  1000 mL Thermo Scientific™ Nalgene™ Bottle, PPCO, 184.5 mm (sets of 2) | | | |
| Rotors | | | | |
| 75003962 |  6 x 2000 mL Swinging Bucket Rotor, Oval Buckets and 2000 mL Bottles (set) | 6 x 2000 mL | 4,700 | 7,187 |
| 75004162 | 6 x 2000 mL Swinging Bucket Rotor, Oval Buckets with Dura-Coat and 2000 mL Bottles (set) | 6 x 2000 mL | 4,700 | 7,187 |
| 75003982 |  8 x 2000 mL Swinging Bucket Rotor, Oval Buckets and 2000 mL Bottles (set) | 8 x 2000 mL | 3,900 | 5,374 |
| 75004182 | 8 x 2000 mL Swinging Bucket Rotor, Oval Buckets with Dura-Coat and 2000 mL Bottles (set) | 8 x 2000 mL | 3,900 | 5,374 |
| 75003964 |  Oval Bucket (sets of 2) | | | |
| 75003965 |  Oval Bucket with Dura-Coat (sets of 2) | | | |
| 75003870 |  2000 mL Oval Bottle (sets of 2) | | | |

Centrifuge Specifications

| Specifications | Sorvall BIOS 16 Centrifuge |
|--|--|
| Maximum Capacity | 8 x 2000 mL |
| Maximum Speed | 5,400 rpm |
| Maximum RCF | 8,500 x g |
| Drive System | DuraFlex high torque brushless drive technology |
| Imbalance Tolerance | 125 g in opposite loads |
| Accumulated Centrifugal Effect (ACE) Integrator | Yes |
| Green Technology | Refrigeration off when door opens; Eco-Spin windshielded rotors |
| Control | Centri-Touch touchscreen interface |
| Accel/Decel Profiles and Existing Protocol Emulation | 11 accel, 12 decel, multiple emulation profiles |
| Modes | At start, at speed, time start |
| Step-Runs | Yes, 30 profile/speed/time triplets, up to 3 steps each |
| Maintenance Tracking Log | Yes |
| Protocol Traceability | Yes, built-in Centri-Track run logging with optional Centri-Log Plus software available |
| Performance Range | Speed 300–5,400 rpm; RCF 29–8,500 x g |
| Run Time | 99 hours 59 min 59 sec (1 second increment) |
| Pre-Cooling Function | Yes |
| Temperature Set Range | –20 to 40 °C, adjustable to 1 °C |
| Other Functions | Multilingual selection, on-board training videos, user logging, user lock-out, automatic door opening, automatic rotor ID, on screen-display for imbalance, over temperature, stainless steel chamber, guidance display for error messages |
| Dimensions (H x W x D) | 1015 x 816 x 900 mm (39.9 x 32.1 x 35.4 in) |
| Weight | 230V: 465 kg / 1025.2 lbs; 400V: 495 kg / 1091.3 lbs |
| Heat Output | < 2 kW |
| Power Consumption | < 5,400 VA |
| Universal Power | 200–240 V, 50/60 Hz or 380V, 400V, 415V, 50 Hz, 3-phase |
| Certifications | UL, CE, FDA listed |
| Standards | EN 61010-1 3rd. Edition, IEC 61010-2-020 2nd ed & CDV 61010-2-020 3rd Edition, EN 61326-1 Class B |
| Warranty | 2 yrs unit, 5 yrs power-train (motor shaft and drive), 5 yrs refrigeration |



Ordering Information

Centrifuges

| Cat. No. | Description |
|----------|---|
| 75007685 | Sorvall BIOS 16 centrifuge, 200, 208, 220, 230, 240 V \pm 10%; 50/60 Hz, Single phase |
| 75007697 | Sorvall BIOS 16 centrifuge, 380, 400, 415 V \pm 10% , 50 Hz, 3-phase |

Power Plugs⁴

| Cat. No. | Description |
|----------|--|
| 20190357 | IEC60309 32A-6h-3-pin blue, 200-250 V |
| 20190358 | NEMA 6-30P 30 A-6h, 200-250 V |
| 20190359 | IEC60309 32A-6h 5-pin red, 230-400 V |
| 20190360 | IEC60309 16A-6h 5 pin red (3P+N+PE), 380/400 V |
| 20190364 | 3x AWG10 NEMA L6-30P / CEE |

Accessories

| Cat. No. | Description |
|----------|-------------------------------|
| 75007730 | Drain Box (600 x 400 x 50 mm) |

⁴ Power plugs must be ordered along with centrifuge, but at no additional cost.



Service simplified

To improve your laboratory's efficiency, you should be free to focus on your work, not burdened with managing instrument service. We provide a complete portfolio of customized, integrated and innovative services and support solutions designed to help you improve productivity, reduce total cost of ownership and ensure compliance throughout your laboratory — from equipment acquisition to disposition.

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