

thermo scientific



# Performance simplified at every turn

Sorvall BIOS Centrifuge Series



**ThermoFisher**  
SCIENTIFIC

# Performance simplified at every turn

## Introducing centrifuges designed for reliable, high-throughput bioprocessing

We've expanded our line of leading large capacity centrifuges designed for high-throughput bioprocessing. Both the Thermo Scientific™ Sorvall™ BIOS 16 and Sorvall™ BIOS A centrifuges include features that not only help enhance reliability, but make them much simpler to use. Whether you require outstanding capacity, or high performance for application flexibility, both designs offer features that will help maximize productivity and when combined with our space-saving footprint, one of these options is sure to be a perfect fit in your bioprocessing facility.



The Thermo Scientific™ Sorvall™ BIOS 16 provides outstanding capacity to maximize productivity



The Thermo Scientific™ Sorvall™ BIOS A offers high performance for application flexibility

### 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 in the **Sorvall BIOS 16** centrifuge



### High performance for application flexibility

- Achieve up to 12,000 x g with the **Sorvall BIOS A** centrifuge and the Thermo Scientific™ Fiberlite™ F6-10x1000 LEX rotor, providing the benefits of carbon fiber design including corrosion- and fatigue-resistance and backed by a 15-year warranty<sup>1</sup>



### 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



<sup>1</sup> Subject to Thermo Fisher Scientific's standard limited warranty. See [thermofisher.com](http://thermofisher.com) or your sales representative for details.

Find out more at [vwr.com](http://vwr.com)

# Bioprocessing simplified

Support your applications, from R&D to large-scale production

## High-throughput, flexible sample processing

- From 6 x 1 L to 8 x 2 L bottles per run at speeds up to 8,500 x g with the Sorvall BIOS 16 centrifuge, or up to 10 x 1 L bottles at performance up to 12,000 x g with the Sorvall BIOS A centrifuge.

## 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 help optimize everyday centrifuge use
- Standard power supply eliminates the need for expensive hardwiring
- Latest global safety standards
- 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

## Designed to support a broad array of bioprocessing applications

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



# Bioprocessing solutions, built around you

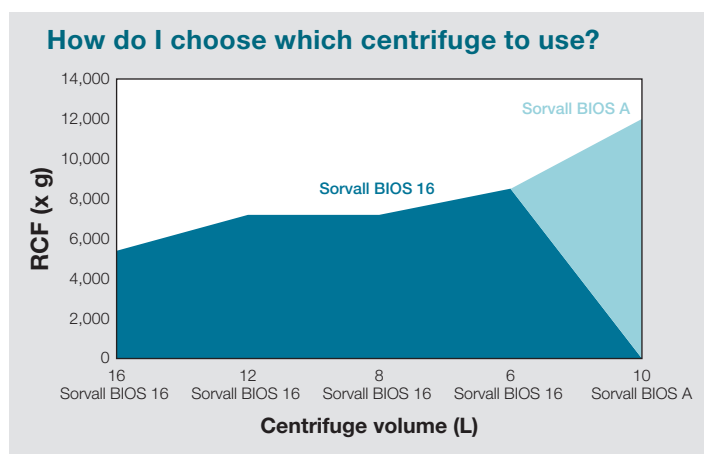
Whether your need is capacity or speed

Sorvall BIOS centrifuges are available in two models, the Sorvall BIOS 16 or the Sorvall BIOS A, offering the flexibility to select higher capacity with lower speed swinging bucket rotors or higher performance up to 12,000 x g in fixed-angle configuration.

## Maximize capacity and flexibility

### Thermo Scientific Sorvall BIOS 16

To support gentle separations with lower RCF requirements, select the Sorvall BIOS 16 centrifuge with a choice of four Thermo Scientific rotors, providing the flexibility for 1 L or 2 L bottle capacity and to match existing workflows.



## Sorvall BIOS 16 swinging bucket rotors


				
<b>Description</b>	8 x 2000 mL rotor	8 x 1000 mL rotor	6 x 2000 mL rotor	6 x 1000 mL rotor
<b>Maximum speed (rpm)</b>	3,900 rpm	4,600 rpm	4,700 rpm	5,400 rpm
<b>Maximum RCF (x g)</b>	5,374 x g	7,117 x g	7,187 x g	8,500 x g

## Enhance performance

### Thermo Scientific Sorvall BIOS A

For higher separation efficiency, choose the Sorvall BIOS A centrifuge with the Fiberlite F6-10x1000 LEX rotor allowing processing of 10 Liters up to 12,000 x g, combined with the benefits of carbon fiber rotors, including corrosion- and fatigue-resistance and backed by a 15-year warranty<sup>2</sup>.

## Sorvall BIOS A fixed angle rotor

	
<b>Description</b>	Fiberlite F6-10x1000 LEX Rotor
<b>Maximum speed (rpm)</b>	6,250 rpm
<b>Maximum RCF (x g)</b>	12,000 x g

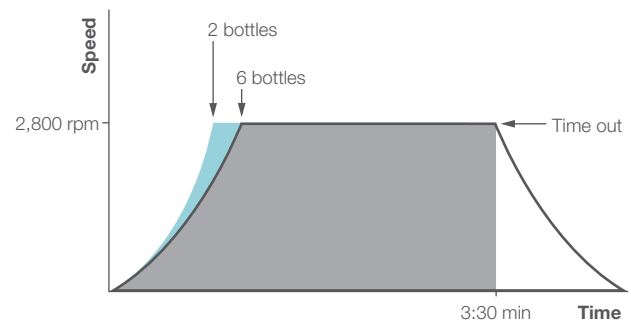
<sup>2</sup> Subject to Thermo Fisher Scientific's standard limited warranty. See thermofisher.com or your sales representative for details.

# Ergonomics and safety simplified

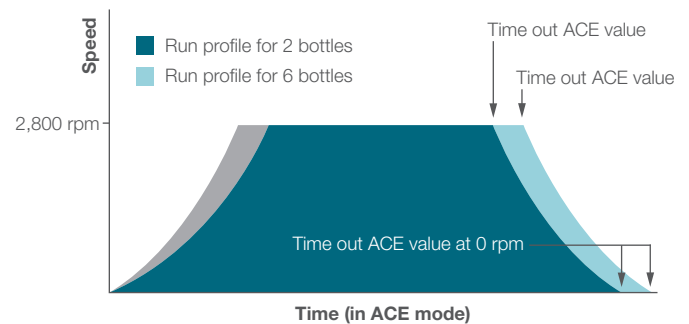
## Designed for the needs of more users

- Effortless loading and unloading with optimal working height of 930 mm
- Listed with the latest global safety standards 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 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 windshielded rotor lid storage on the centrifuge door
- Immediate rotor detection and programming with Thermo Scientific™ Auto-ID instant rotor identification helping eliminate over-speed risk, reduce error messages and improve 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-windshielded rotors<sup>3</sup> (see Figure 2)

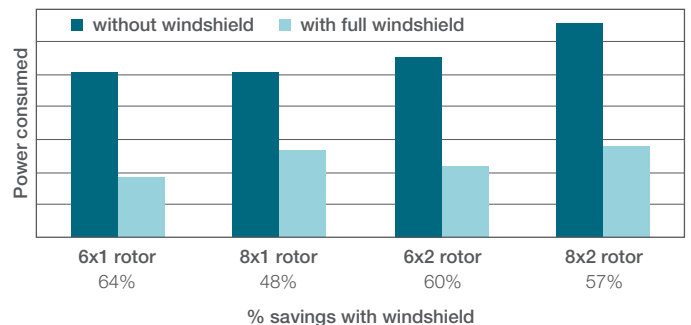
Results without the ACE integrator function



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 windshielded rotors as compared with non-windshielded designs of the same rotor body.

<sup>3</sup> Based on an engineering evaluation of windshielded and non-windshielded designs of the same rotor body.

# Operation simplified

## Intuitive access to powerful functions

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

### 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

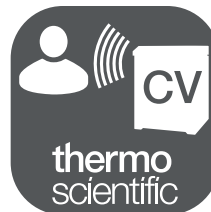
Find out more at [vwr.com](http://vwr.com)

# Connection simplified

## Real-time run status in the palm of your hand

Our Centri-View application provides real-time connection with your Sorvall BIOS 16 and BIOS A 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

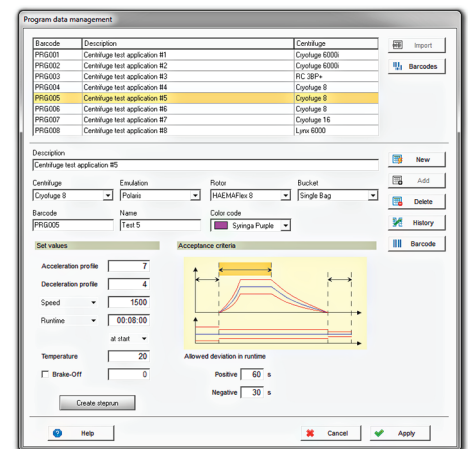
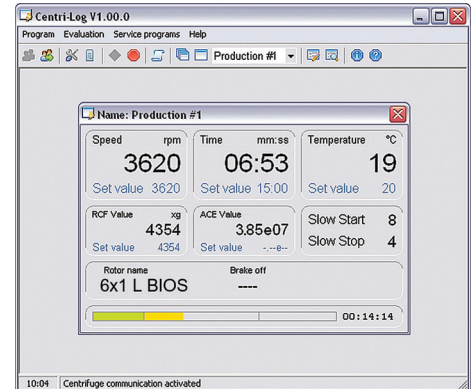


Download Centri-View application for instant remote monitoring and control, available for both iOS™ and Android™, and stay connected.

# Data collection simplified

## Onboard or via your existing network

- 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 <sup>4</sup>	Centri-Track via Ethernet <sup>4</sup>	Centri-Log Plus Software Cat. No. 76302-954
	Sample Tracking Kit <sup>5</sup> Cat. No. 76302-950	Sample Tracking Kit <sup>5</sup> Cat. No. 76302-950	Sample Tracking Kit <sup>5</sup> Cat. No. 76302-950
Without Sample Tracking	Run Log	Network Access Kit Cat. No. 76302-952	Network Access Kit Cat. No. 76302-952
		Network Access Kit Cat. No. 76302-952	Not Available







<sup>4</sup> GMP-mode must be enabled.

<sup>5</sup> Sample tracking kit contains barcode scanner, holder and cable.






Find out more at [vwr.com](http://vwr.com)






## Ordering information

Cat. No.	Description	Rotor capacity (places x volume, mL)	Maximum speed (rpm)	Maximum RCF (x g)
<b>Sorvall BIOS 16 centrifuge rotors</b>				
76302-956	 6 x 1000 mL Swinging Bucket Rotor, Round Buckets and 1000 mL Bottles (set)	6 x 1000 mL	5,400	8,500
76302-958	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
76302-960	 8 x 1000 mL Swinging Bucket Rotor, Round Buckets and 1000 mL Bottles (set)	8 x 1000 mL	4,600	7,117
76302-962	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
<b>Sorvall BIOS 16 centrifuge rotor buckets, bottles and adapters (sets of 2, unless otherwise indicated)</b>				
76302-964	 Round Bucket			
76302-966	 Round Bucket with Dura-Coat			
76302-968	 Cover for Round Bucket			
76302-970	Seal Kit for Cover for Round Bucket (sets of 6)			
21020-061	 1000 mL Thermo Scientific™ Nalgene™ Bottle, PPCO, 184.5 mm			
76302-972 + 76302-974	500 mL Oak Ridge Bottle Adapter	6 or 8 x 500 mL		
76302-976	250 mL Oak Ridge Bottle Adapter	6 or 8 x 250 mL		
76302-978	50 mL Disposable Conical Tube (Unsealed Bucket) Adapter	30 or 40 x 50 mL		
76302-874	50 mL Disposable Conical Tube (Sealed Bucket) Adapter	18 or 24 x 50 mL		
76302-876	15 mL Disposable Conical Tube Adapter	48 or 84 x 15 mL		
76302-878	15 mL Blood Collection Tube Adapter	108 or 144 x 15 mL		
76302-878	10 mL Blood Collection Tube Adapter	108 or 144 x 10 mL		
76302-880	7 mL Blood Collection Tube Adapter	132 or 176 x 7 mL		
76302-882	5 mL Blood Collection Tube Adapter	132 or 176 x 5 mL		
76302-884	Microplate Carrier	6 x 3 Standard or 6 x 1 Deepwell Microplates		

## Ordering information

Cat. No.	Description	Rotor capacity (places x volume, mL)	Maximum speed (rpm)	Maximum RCF (x g)
<b>Sorvall BIOS 16 centrifuge rotors</b>				
76302-886	 6 x 2000 mL Swinging Bucket Rotor, Oval Buckets and 2000 mL Bottles (set)	6 x 2000 mL	4,700	7,187
76302-888	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
76302-890	 8 x 2000 mL Swinging Bucket Rotor, Oval Buckets and 2000 mL Bottles (set)	8 x 2000 mL	3,900	5,374
76302-892	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
<b>Sorvall BIOS 16 centrifuge rotor buckets and bottles (sets of 2, unless otherwise indicated)</b>				
76302-894	 Oval Bucket			
76302-896	 Oval Bucket with Dura-Coat			
76302-898	 2000 mL Oval Bottle			

## Ordering information

Cat. No.	Description	Rotor capacity (places x volume, mL)	Maximum speed (rpm)	Maximum RCF (x g)
<b>Sorvall BIOS A centrifuge rotor</b>				
76302-900	 Fiberlite F6-10x1000 LEX Carbon Fiber Rotor (complete with set of 10 bottles)	10 x 1000 mL	6,250	12,000
<b>Sorvall BIOS A centrifuge rotor bottles (sets of 2)</b>				
76302-902	 1000 mL Fiberlite Superspeed Bottle Assembly, PPCO			
76302-904	 1000 mL Fiberlite Superspeed Bottle Assembly, PC			
76302-980	Rotor Lid Assembly (each)			
76302-982	Rotor Care Kit (each)			





Rotor buckets with Thermo Scientific™ Dura-Coat™ nickel-coating 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.

Find out more at [vwr.com](http://vwr.com)

<b>Centrifuge specifications</b>		
<b>Specifications</b>	<b>Sorvall BIOS 16 Centrifuge</b>	<b>Sorvall BIOS A Centrifuge</b>
Maximum capacity	8 x 2000 mL	10 x 1000 mL
Maximum speed	5,400 rpm	6,250 rpm
Maximum RCF	8,500 x g	12,000 x g
Drive system	DuraFlex high torque brushless drive technology	
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	30 profile/speed/time triplets, up to 3 steps each	
Maintenance tracking log	Yes	
Protocol traceability	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	Speed 300–6,250 rpm; RCF 29–12,000 x g
Run time	99 hours 59 min 59 sec (1 sec increment)	
Pre-cooling function	Yes	
Temperature set range	–20 to 40°C, adjustable to 1°C	–20 to 30°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 990 mm (39.9 x 32.1 x 35.4 in)	
Weight	200, 208, 220, 230, 240 V, 50/60 Hz: 475 kg (1047 lb); 380, 400, 415 V, 50 Hz: 495 kg (1090 lb)	200, 208, 220, 230, 240 V, 50/60 Hz: 481 kg (1060 lb); 380, 400, 415 V, 50 Hz: 466 kg (1027 lb)
Heat output	< 2 kW	2.3 KW/h
Power consumption	< 5,400 VA	< 6,400 VA
Certifications	UL, CE	UL, CE
Standards	EN 61010-1 3rd Edition, IEC 61010-2-020 2nd Edition and IEC 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

Description	Cat. No.
<b>Centrifuges</b>	
Sorvall BIOS 16 centrifuge, 200, 208, 220, 230, 240 V $\pm 10\%$ , 50/60 Hz, Single phase	76302-936
Sorvall BIOS 16 Heavy Duty centrifuge, 200, 208, 220, 230, 240 $\pm 10\%$ ; 50/60 Hz, Single phase	76302-938
Sorvall BIOS A centrifuge (rotor to be ordered separately), 200, 208, 220, 230, 240 V $\pm 10\%$ , 60 Hz, Single phase; 200 V $\pm 10\%$ , 50 Hz Japan only	76302-940
Sorvall BIOS A Heavy Duty centrifuge (rotor to be ordered separately), 200, 208, 220, 230, 240 V $\pm 10\%$ , 60 Hz, Single phase; 200 V $\pm 10\%$ , 50 Hz Japan only	76302-942
<b>Power plugs for Sorvall BIOS 16 centrifuges<sup>6</sup></b>	
NEMA 6-30P 30 A-6h, 200–250 V 	76302-944
3x AWG10 NEMA L6-30P/CEE 	76302-946
<b>Accessories</b>	
Drain Box (600 x 400 x 50 mm)	76302-948


<sup>6</sup>Centrifuges will include power plug most common for country of order. Please indicate alternate power plug requirements at time of order.



**Additional options available. Heavy-duty with stainless steel front plate, top plate and side panels.**

Find out more at [vwr.com](http://vwr.com)

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