



Centrifugation

Cryofuge 8 and 16 Blood Banking Centrifuges

Greener with every spin

Blood banking efficiency

Productivity, convenience and sustainability

Thermo Scientific™ Cryofuge™ 8 and 16 Blood Banking Centrifuges with GreenCool Technology bring outstanding power and enhanced sustainability to blood processing centers. Featuring a natural refrigerant (CO₂) cooling system, these centrifuges exemplify technological leadership and innovation. They offer reduced energy consumption and heat output, have short cool-down times, and maintain excellent temperature stability for precise results. Their lighter weight

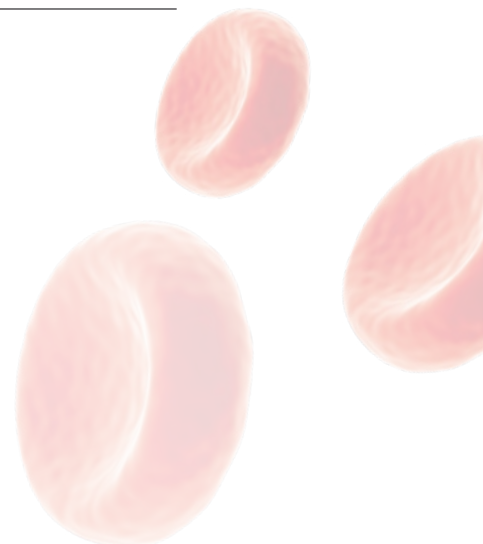
and reduced noise levels help improve the laboratory environment. With a large capacity of up to 16 x 550 mL blood bags and a user-friendly design, the Cryofuge series simplifies handling large volumes while helping ensure compliance with global standards. Enhanced ergonomics and quick setup of traceable runs make these centrifuges excellent for efficient blood processing, leveraging greener technology for top performance.





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Greener by design™

Sustainability aspects



We leverage the power of innovation to positively contribute to a healthier world, which includes reducing the environmental impact of our products and packaging—from design to end of life. By incorporating environmental sustainability principles into each design step, we can better understand and reduce the environmental impact of our products early in the design process, helping to ultimately deliver on our commitment to achieve net-zero emissions by 2050 while helping customers advance their sustainability goals.

Greener by design: We integrate Design for Sustainability into our product development to reduce environmental footprint without compromising quality. Our strategy targets five areas: less hazardous, less waste, more energy efficient, responsibly packaged, and extended life.

Cryofuge large-capacity centrifuges have been updated with a next-generation natural refrigerant (CO₂) cooling system. Carbon dioxide (CO₂) has a lower Global Warming Potential (GWP) than other refrigerants, while not contributing to depletion of the ozone layer and is compliant with EU and US EPA F-gas regulations. Besides being **less hazardous**, the centrifuges are **more energy efficient**. Additionally, they are **manufactured in a certified zero-waste facility***** using **100% renewable energy** in Osterode am Harz, Germany.

**Global
Warming
Potential = 1***

**14% lower
energy
consumption****

**Made in a
certified zero-
waste facility*****

**Up to a
five-year
warranty******



Less hazardous



More energy efficient

* Due to natural refrigerant (CO₂)

** Energy use measured for a 1-hour run at maximum spin speed and compared to previous model. Cryofuge: GC 4600W vs Legacy (previous model) 5400W

*** Zero waste defined as less than 10% of non-hazardous waste sent to landfill, incineration or waste-to-energy

**** 2 year warranty for unit, 5 years for powertrain (motor shaft and drive) and 5 years for refrigeration.

GreenCool Technology

Energy efficiency and convenience

Energy efficiency

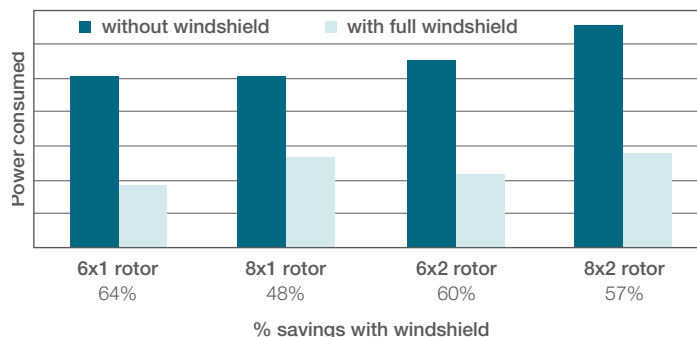
Lower energy consumption of cooling system

Improvement in energy efficiency over previous generation of Thermo Scientific blood banking centrifuges, helping reduce the impact on the environment and the total cost of ownership.

Further energy savings with rotor technology

Thermo Scientific™ HAEMAFlex™ Rotors with Thermo Scientific™ Eco-Spin™ Technology are windshielded rotors that provide energy savings up to 64% when compared with non-windshielded rotors* (see Figure 1).

Figure 1. Power consumption of Thermo Scientific windshielded rotors as compared with non-windshielded designs of the same rotor body.



* Based on an engineering evaluation of windshielded and non-windshielded designs of the same rotor body.

Better for the environment

Lower Global Warming Potential

The refrigeration system operates with carbon dioxide (CO₂), a natural gas with a Global Warming Potential of 1. In addition, CO₂ does not deplete the ozone layer.

Enhanced convenience

Less weight

Due to the GreenCool system, the weight of the centrifuges has been reduced by 60 kg (132 lbs) compared to previous models, making them easier to transport and install in the lab.

Less noise

Cryofuge centrifuges with CO₂ cooling offer enhanced comfort in the lab with a noise level that is 4 dB(A) lower compared to the previous models: the sound level is 50% lower.









Models

Designed for high-throughput blood processing

With a long history of application expertise, we build innovative centrifuges that help improve your productivity

Cryofuge blood banking centrifuges are available in two models, offering the flexibility to select higher-capacity rotors or match existing workflows, with a choice of four HAEMAFlex rotors with Eco-Spin technology.

| Goal: | Expand individual bucket capacity | | Maximize total blood bags per spin | |
|---|--|---|--|---|
| Centrifuge | Cryofuge 8 Centrifuge For regular- to medium-throughput blood processing needs, select the Cryofuge 8 centrifuge, providing up to 6 x 550 mL blood bag capacity that is upgradeable to up to 8 x 550 mL bags utilizing the same bucket system. | | Cryofuge 16 Centrifuge For high-throughput blood processing needs, choose the Cryofuge 16 centrifuge with up to 12 x 550 mL capacity, upgradeable to up to 16 x 550 mL blood bags with the same bucket selections. | |
| |  | |  | |
| |  |  |  |  |
| Rotor | HAEMAFlex 6 rotor | HAEMAFlex 8 rotor | HAEMAFlex 12 rotor | HAEMAFlex 16 rotor |
| Blood bags—maximum rotor capacity (places x volume, mL) | 6 x 550 mL | 8 x 550 mL | 12 x 550 mL | 16 x 550 mL |
| Tubes—maximum rotor capacity (places x volume, mL) | N/A | N/A | 312 x 5/7 mL blood collection tubes | 416 x 5/7 mL blood collection tubes |
| Maximum speed (rpm) | 5,000 | 4,600 | 4,700 | 3,900 |
| Maximum RCF (x g) | 7,295 | 7,144 | 7,187 | 5,374 |



Features and benefits

Auto-Door technology

With a push of a button on the touchscreen interface, the Auto-Door function automatically and completely opens or closes the centrifuge door without the need for manual force. This feature provides enhanced ergonomics for loading and unloading the centrifuge and is especially convenient in production environments, where tasks can be repeated up to 30 times a day.



Auto-Lid technology

The rotor lid of HAEMAflex rotors can be attached to and stored on the centrifuge door, automatically opening and closing in sync with the centrifuge door. During the automated closing of the centrifuge door, the windshield rotor lid is seamlessly restacked.



Centri-Touch interface and Centri-Cross function

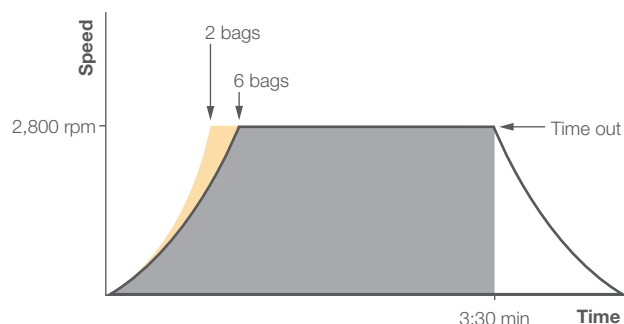
The bright, highly visible and glove-friendly display helps support easy run set-up. It provides enhanced access control, such as user login with password protection. In slow start/stop mode, select from 11 acceleration and 12 deceleration profiles, including profiles loaded from another Thermo Scientific large capacity centrifuge - the Centri-Cross feature -, to customize results to enable maximum yields with minimum re-suspension.



ACE function

The Accumulated Centrifugal Effect (ACE™) function is designed to achieve reproducible results. The ACE technology automatically adjusts run time to account for variations in acceleration due to full or partial rotor loading (see Figure 2). It calculates the g-force experienced during the run in increments of speed over time to give a value representing the overall separating g-force. This value can be substituted for the “TIME” setting, therefore duplicating the overall separating g-force for every run.

Results without the ACE integrator function



Results with the ACE integrator function

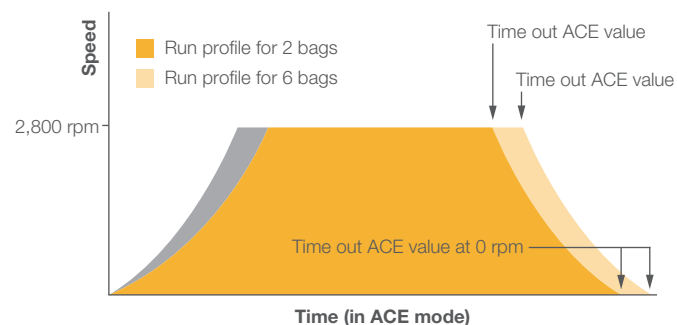


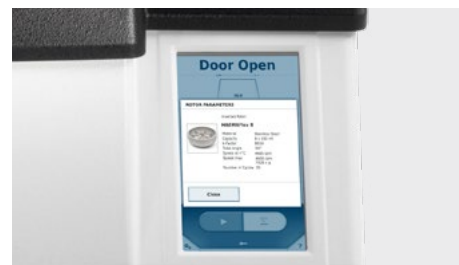
Figure 2. In a typical first centrifugation step, a two-bag rotor load attains set speed faster than a six-bag load. Since both loads will time out at the set time of 3:30 minutes, different g-forces are achieved during the run. By using the ACE integrator function, the time for two bags would be changed 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.



Features and benefits

Auto-ID Instant Rotor Identification

The Auto-ID instant rotor identification technology automatically and instantly identifies a rotor the moment it is placed into the Cryofuge centrifuge. The technology adjusts the parameters to standard settings of the rotor which helps save time and improves ease of use. Additionally, instant rotor identification eliminates the potential to over-speed a rotor by accidentally entering an incorrect rotor code or too high a speed for the inserted rotor.



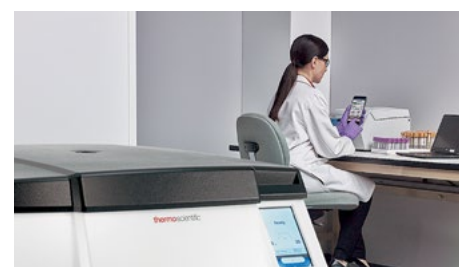
DuraFlex Drive Technology

Automatically neutralize up to 125 g loading imbalance with Thermo Scientific™ DuraFlex™ Drive Technology. This advanced, flexible drive system enhances the durability and performance of the centrifuge. By accommodating up to 125 g of imbalance without requiring perfect rotor loading, this technology prevents run interruptions, thereby helping save time and increasing efficiency.



Centri-Vue Application

Centri-Vue application is a software tool for remote monitoring and management of centrifuges. It allows users to track the status, performance, and maintenance needs of their centrifuges in real time via a mobile device or computer. This application enhances operational efficiency by providing alerts, usage reports, and diagnostic information, thereby helping ensure optimal performance and reducing downtime.



Centri-Track Application

Designed to assist with GMP/GLP compliance with Centri-Track on-board application for run logging of user and run conditions, and error messages, and optional Centri-Log Plus software integration for data collection.



Application flexibility

With a focus on blood banking applications, Cryofuge centrifuges offer high-throughput sample processing with the flexibility to match your current and future needs from 6, 8, 12 or 16 x 550 mL blood bags per run. Additionally, there is a range of adapters available, allowing the centrifugation of most common tubes and microplates depending on your application needs.



Ergonomics

The Cryofuge centrifuge provides an optimal working height of 930 mm for effortless loading and unloading. With push-button convenience and automatic door and rotor lid opening and closing, the centrifuge offers excellent ergonomics. Castors and adjustable, robust feet support mobility in the laboratory, eliminating the need to bolt down the instrument to the floor. This simplifies installation and provides enhanced flexibility for relocation within a facility.



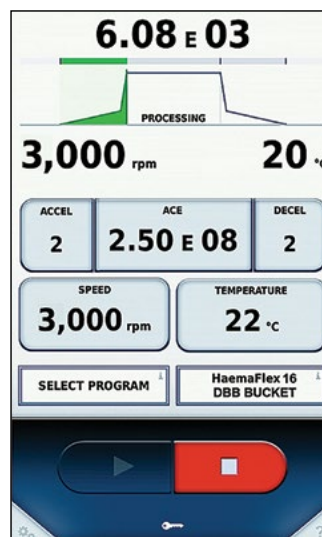
Data management and connectivity

Large, bright, interactive Centri-Touch interface

- Glove- and detergent-friendly design
- Simple and quick run setup with ACE function, speed, time, temp, plus pre-temp and accel and decel ramps
- Convenient 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 setup and monitoring, plus powerful functions just one touch away, providing:

- 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
- Protocol conversion from another Thermo Scientific centrifuge model with Centri-Cross function
- 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
- 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

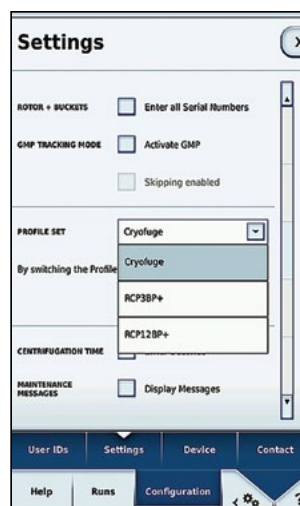


Status information

Run parameters

Control and configuration

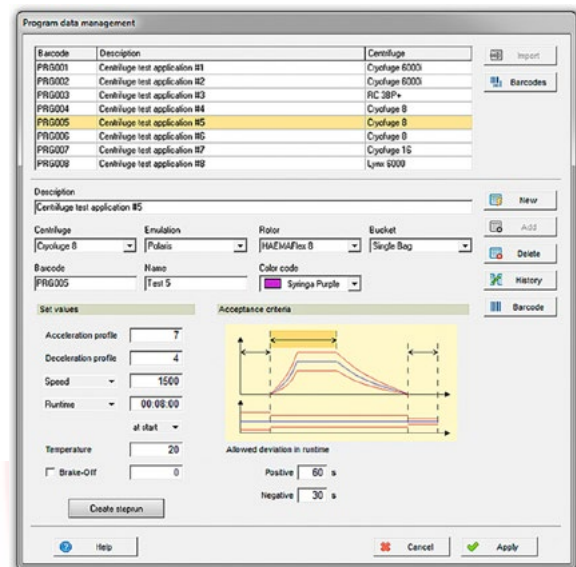
Easily set current parameters and monitor centrifuge status



Emulate protocols from other centrifuges with Centri-Cross function

Data collection

- On-board Centri-Track app for run logs, downloadable via USB port or real-time via Ethernet
- Centri-Log Plus data collection software: protocol-tracking solution enabling 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



* GMP mode must be enabled.

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

Connection

The Centri-View application provides a real-time connection with your Cryofuge 8 and 16 Blood Banking Centrifuges. Use your smart device to check your run status or whether a centrifuge is available from across the campus, building, or lab. With the Centri-View application, you can also:

- Determine status of 1 or up to 100 centrifuges at a glance
- 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 the Centri-View application for instant remote monitoring and control, available for both iOS™ and Android™ devices.



Standards

Compliance

Full GMP/GLP traceability and compliance

- Two logging modes and optional external monitoring and control
- Simplified quality control and record keeping
- Electronic signatures for runs with user log-in and password protection

Latest global safety and compliance standards

- Our ISO 13485 and medical device certification help ensure the implementation of control steps during both development and manufacturing, meeting customer needs and all safety and performance requirements for medical devices.
- The centrifuges are rigorously tested for their suitability for the declared intended purpose under MDR/IVDR standards.
- With an additional IVD intended purpose, the device also facilitates the risk management process in accordance with ISO 22367 for your medical laboratory.
- Complying with ISO 14971, the centrifuges undergo a comprehensive risk management process to help ensure maximum safety for both patients and users.
- The applied usability engineering process according to IEC 62366-1 helps us to provide a product optimized for safety, benefiting both users and patients.














Full list of standards

- UL listed
- CE marked for Medical Device Regulation (EU) 2017/745
- US FDA listed
- RoHS compliant
- WEEE compliant
- IEC 61010-1
- IEC 61010-2-020
- IEC 61010-2-101
- IEC 61326-1 Class B
- IEC 61326-2-6
- IEC 62304
- IEC 62366
- EN ISO 14971
- EN ISO 13485


















Rotors and accessories

Rotor specifications

| | Description | Rotor capacity (places x volume) | Maximum speed (rpm) | Maximum RCF (x g) | Cat. No. |
|---|--|-------------------------------------|------------------------|----------------------|----------|
| Rotors | | | | | |
|  | HAEMAFlex 6 Swinging Bucket Rotor | 6 x 550 mL blood bags | 5,000 | 7,295 | 75003861 |
|  | HAEMAFlex 8 Swinging Bucket Rotor | 8 x 550 mL blood bags | 4,600 | 7,144 | 75003881 |
| Rotor buckets and adapters (sets of 2)* | | | | | |
|  | Oval Single Blood Bag Bucket | | 5,000 | 7,127 | 75003834 |
|  | 450–550 mL Quad or Quint Blood Bag Adapter | 6 or 8 x 550 mL | | | 75003837 |
|  | 400–450 mL Double or Triple Blood Bag Adapter | 6 or 8 x 450 mL | | | 75003838 |
|  | 250 mL Platelet-rich Plasma or Buffy Coat Bag Adapter | 6 or 8 x 250 mL | | | 75003839 |
|  | 400–450 mL Single or Double Blood Bag Adapter | 12 or 16 x 450 mL | | | 75003841 |
|  | Single Blood Bag Bucket with Filter Pack | | 5,000 | 7,211 | 75003835 |
|  | 450–550 mL Triple, Quad, or Quint Blood Bag with Additive Solution Adapter | 6 or 8 x 550 mL | | | 75003842 |
|  | Filter Holder | | | | 75003859 |
|  | Single Blood Bag Round Bucket | | 5,000 | 7,295 | 75003836 |
|  | 450–500 mL Triple or Quad Blood Bag Adapter | 6 or 8 x 500 mL | | | 75003857 |
|  | 450 mL Single or Double Blood Bag Adapter | 6 or 8 x 450 mL | | | 75003858 |







* Order three sets of rotor buckets and adapters for use with the HAEMAFlex 6 rotor and four sets for use with the HAEMAFlex 8 rotor.

Rotor specifications, cont.

| | Description | Rotor capacity (places x volume) | Maximum speed (rpm) | Maximum RCF (x g) | Cat. No. |
|---|---|-------------------------------------|------------------------|----------------------|----------|
| Rotors | | | | | |
|  | HAEMAFlex 12 Swinging Bucket Rotor | 12 x 500 mL blood bags | 4,700 | 7,187 | 75003862 |
|  | HAEMAFlex 16 Swinging Bucket Rotor | 16 x 500 mL blood bags | 3,900 | 5,374 | 75003882 |
| Rotor buckets and adapters (sets of 2)* | | | | | |
|  | Double Blood Bag Bucket | | 4,700 | 7,187 | 75003846 |
|  | Double Quint Blood Bag Adapter for XXL size, HD (110 x 88 mm) | 12 or 16 x 500 mL | | | 75003899 |
|  | Double Quint Blood Bag Adapter for XXL size (110 x 88 mm) | 12 or 16 x 500 mL | | | 75003851 |
|  | Double Quint Blood Bag Adapter for XL size (110 x 76 mm) | 12 or 16 x 500 mL | | | 75003852 |
|  | Double Quint Blood Bag Adapter for M size (110 x 57 mm) | 12 or 16 x 450 mL | | | 75003853 |
|  | Hook Adapter for Cord Blood Separations, for use with M size adapters | 12 or 16 x 300 mL | | 1,328 | 75003855 |
|  | Hook Adapter for Cord Blood Separations, for use with XXL size adapters | 12 or 16 x 300 mL | | 1,328 | 75003868 |
| Rotor buckets and adapters (sets of 2)* | | | | | |
|  | Oval Bucket Rotor | | 4,700 | 7,187 | 75003964 |
|  | 52 x 5/7 mL Blood Tube Adapter | | | | 75003341 |
|  | 42 x 10 mL Blood Tube Adapter | | | | 75003342 |
|  | 26 x 15 mL Conical Tube Adapter | | | | 75003343 |
|  | 11 x 50 mL Conical Tube Adapter | | | | 75003344 |
|  | 5 Microplates/1 Deep-Well Plate Adapter | | | | 75003345 |

* Order three sets of rotor buckets and adapters for use with the HAEMAFlex 12 rotor and four sets for use with the HAEMAFlex 16 rotor.

Rotor specifications, cont.

| Description | Rotor capacity (places x volume) | Maximum speed (rpm) | Maximum RCF (x g) | Cat. No. |
|---|-------------------------------------|------------------------|----------------------|----------|
| Rotor accessories | | | | |
|  Liner Stand for Single Blood Bag Adapters (set of 2) | | | | 75003833 |
|  Liner Stand for Double Blood Bag Adapters (set of 2) | | | | 75003832 |
|  Blood Bag Spacer (set of 12) | | | | 75003843 |
|  Rubber Volume Compensation Plates (set of 12) | | | | 75006681 |
|  Rubber Balancing Plates (set of 4) | | | | 75005759 |
|  Dummy Weights | | | | 75003866 |

Software

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* | Centri-Track via Ethernet* | Centri-Log Plus Software* Cat. No. 75007742 |
| | Sample Tracking Kit** Cat. No. 75007740 | Sample Tracking Kit** Cat. No. 75007740 | Sample Tracking Kit** Cat. No. 75007740 |
| | | Network Access Kit Cat. No. 75007741 | Network Access Kit Cat. No. 75007741 |
| Without sample tracking | Run log | Network Access Kit Cat. No. 75007741 | Not available |

* GMP mode must be enabled.






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

Product specifications

| Specifications | Cryofuge 8 Centrifuge | Cryofuge 16 Centrifuge |
|--|--|--|
| Capacities | 6 x 550 mL and 8 x 550 mL blood bags | 12 x 550 mL and 16 x 550 mL blood bags |
| Maximum speed | 5,000 rpm | 4,700 rpm |
| Maximum RCF | 7,295 x g | 7,187 x g |
| Drive system | DuraFlex high torque brushless drive technology | |
| Imbalance tolerance | 125 g in opposite loads | |
| ACE integrator | Yes | |
| Green technology | GreenCool technology; refrigeration off when door opens; Eco-Spin windshielded rotors | |
| Control | Centri-Touch touchscreen interface | |
| Accel/decel profiles and existing protocol emulation | 10 acceleration, 10 deceleration profiles, up to 11/12 with 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 | |
| Performance range | Speed 300–5,000 rpm; RCF 26–7,295 x g | Speed 300–4,700 rpm; RCF 29–7,187 x g |
| Run time | 99 hours 59 min 59 sec (1-second increment) | |
| Precooling 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) | 1,015 x 816 x 900 mm (39.9 x 32.1 x 35.4 in.) | |
| Product weight (excluding accessories) | 230V: 415 kg / 914,9 lb 400V: 438 kg / 965,6 lb | 230V: 415 kg / 914,9 lb 400V: 438 kg / 965,6 lb |
| Heat output | <1,5 kW | |
| Noise level | 58dB (A) | |
| Power consumption | < 4450 VA | |
| Certifications | UL, CE, MDR, FDA listed | |
| Cleanroom compatibility | Class ISO 6 according to DIN EN ISO 14644-1 | |
| Standards | EN 61010-1, IEC 61010-2-020, IEC 61010-2-101, EN 61326-1 Class B, EN 61326-2-6, EN 62304, EN 62366, EN ISO 14971, EN ISO 13485 | |
| Warranty | 2 years for unit, 5 years for powertrain (motor shaft and drive), 5 years for refrigeration | |



Ordering information

| Description | | Cat. No. |
|---|---|----------|
| Centrifuges | | |
| Cryofuge 8 centrifuge with GreenCool technology, 200, 208, 220, 230, 240 V $\pm 10\%$, 50/60 Hz, Single phase | | 75008600 |
| Cryofuge 8 centrifuge with GreenCool technology, 380, 400, 415 V $\pm 10\%$, 50 Hz, 3-phase | | 75008603 |
| Cryofuge 16 centrifuge with GreenCool technology, 200, 208, 220, 230, 240 V $\pm 10\%$, 50/60 Hz, Single phase | | 75008610 |
| Cryofuge 16 centrifuge with GreenCool technology, 380, 400, 415 V $\pm 10\%$, 50 Hz, 3-phase | | 75008615 |
| Additional options | | |
| Cryofuge 16 Heavy Duty centrifuge with stainless steel side panels, 380, 400, 415 V $\pm 10\%$, 50 Hz, 3-phase | | 75008618 |
| Power plugs* | | |
| IEC60309 32A-6h-3-pin blue, 200–250 V |  | 20190357 |
| NEMA 6-30P 30 A-6h, 200–250 V |  | 20190358 |
| IEC60309 32A-6h 5-pin red, 230–400 V |  | 20190359 |
| IEC60309 16A-6h 5 pin red (3P+N+PE), 380/400 V |  | 20190360 |
| 3x AWG10 NEMA L6-30P/CEE |  | 20190364 |
| Accessories | | |
| Drain Box (600 x 400 x 50 mm) | | 75007730 |

* Centrifuges will include power plug most common for country of order. Please indicate alternate power plug requirements at time of order.





Learn more at thermofisher.com/bloodbankcentrifuge

thermo scientific

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