

## Thermo Scientific Heraeus Cryofuge® Centrifuges

Large volume refrigerated centrifuges for practical work in blood banks and biotechnology.



# Thermo Scientific Heraeus Cryofuge Refrigerated Centrifuges

Our Heraeus Cryofuge centrifuges are attractively designed, large volume, floor standing, refrigerated models offering optimised technology for lowspeed applications. They are ideal for use in blood banks, biotechnology and the pharmaceutical industry, where large volumes require high speeds and constant temperatures.

The use of sophisticated microelectronics systems and high strength materials for rotors and accessories guarantees outstanding reproducibility and highly-accurate centrifugation.

The Heraeus Cryofuge 6000i offers a top speed of 4240 rpm (6010 x g) while the Heraeus Cryofuge 8500i offers a top speed of 5050 rpm (8525 x g).

## Safety

When designing our Heraeus Cryofuge centrifuges, all international safety standards were kept in mind to guarantee the highest level of safety. Diagnostic and fault messages are clearly visible. Pre-selection of buckets protects against overspeeding. The lid lock system and steel armoured rotor chamber further ensure safe operation. A key operated switch safeguards against unauthorised use.

## Highest Versatility

Swinging-bucket rotors for the Heraeus Cryofuge series centrifuges support a diverse array of sample processing applications without the need to modify existing protocols.



Our Heraeus Cryofuge centrifuges work with the Thermogenesis APX system to automatically separate cord blood into a freezing bag (for the mononuclear cell product), an erythrocyte bag and an excess plasma bag.

### Convenient Operation

The SEPACONTROL® operating panel is systematically arranged, clearly displaying all functional areas and allowing easy access to operating parameters. Visual diagnostic indicators and acoustic signals supplement the information supplied by the microcomputer. This makes the centrifuge easy to use right from the start. The "delay" function permits users to delay system start-up.

### Panel

Five visual displays facilitate the identification of problems during centrifugation. When the lid is opened, the rotor is unevenly balanced. In the event of a system error, programming error, or if the temperature limit has been exceeded, an LED signals a warning.

### Memory Control

33 memory locations are available to save run parameters for future use. New programs generated using the function panel can be immediately added to the library.

### Status

The status field is systematically arranged into the following areas: start-up and braking curves, speed and rotor data, time and temperature. LEDs prevent the user from confusing the values on the display.

### Software for Sample Tracking

Heranet® software allows users to document centrifugation in blood banks. The software saves actual and set values and processes information which is entered at the centrifuge, using a barcode reader.



### Easy Opening and Closing

The robust, automated lid-lock mechanism protects operators and makes lid openings and closures effortless.

### Easy Set-Up, Programming and Monitoring

An intuitive operator keypad allows you to recall protocols at the touch of a button. Only five keys are required for completely programming all parameters.

### Easy User Access

Front panel controls allow users to start, stop and open the lid of the centrifuge.

### Whisper-Quiet Operation

A noise level under 58 dBA provides the lab with a more comfortable working environment.

### Energy-Efficient Performance

Energy-saving design increases refrigeration efficiency and minimizes heat output, ensuring a more comfortable working environment.





## Double Bucket for Blood Packs

Ordering Information			
Model	Heraeus Cryofuge 6000i	Heraeus Cryofuge 8500i	Technical data
<b>Cat. No.</b>	<b>75007617</b>	<b>75007617</b>	
Max. speed (rpm)	4,000	4,000	Operation with blood packs double-quint
Max. RCF (x g)	5,312	5,312	No. of pack systems/bucket 2
Max. capacity	2 x 950 ml	2 x 950 ml	Polyamide plastic inserts:
Max. perm. mass (g)	3,500	3,500	Order no. M <sup>2)</sup> 76007667
Min. temp. at max. RCF*	-5 °C	-5 °C	Opening M (mm) 110 x 57
Max. acceleration time (s)	140	140	Order no. L <sup>1)</sup> 76007647
Min. braking time (s)	180	180	Opening L (mm) 110 x 70
Radius (cm)	29.7	29.7	Order no. XL <sup>3)</sup> 76007657
			Opening XL (mm) 110 x 76
			Order no. XXL <sup>4)</sup> 76007677
			Opening XXL (mm) 110 x 88

\* At ambient temp. of 25 °C

M, L and XL plastic inserts come complete with balancing weights 75007645. One set of balancing weights includes 4 weights of 6 and 15 g each. Balancing plates 75005759 can be used to compensate big weight differences. One set includes 2 plates at 35 and 65 g each.

The balancing insert 75007668 consists of an XL plastic insert, 2 balancing weights and 30 balancing plates, enabling compensation of up to a full bucket load.

<sup>1)</sup> Suitable for triple and quad systems. <sup>2)</sup> Suitable for double systems. <sup>3)</sup> Suitable for quad systems, systems with soft filters.

<sup>4)</sup> Suitable for quad and quintuple systems, systems with filters..

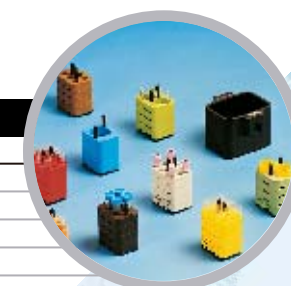
Ordering Information	
Additional Accessories for Blood Pack Operation	
75006681	12 rubber volume compensation plates
75005759	4 rubber balancing plates
75015638	Hook adapter for Cord Blood Separations (max RCF 1,328xg)

## Double Rectangular Bucket

Ordering Information		
Model	Heraeus Cryofuge 6000i	Heraeus Cryofuge 8500i
<b>Cat. No.</b>	<b>76008078</b>	<b>76008078</b>
Max. speed (rpm)	4240/3006	5050/3006
Max. RCF (x g)	4984/2506	7070/2506
Max. capacity	24 x 15 ml/3 racks <sup>1</sup>	24 x 15 ml/3 racks <sup>1</sup>
Max. perm. mass (g)	2500/1800	2500/1800
Min. temp. at max. RCF*	-4 °C	+6 °C
Max. acceleration time (s)	150	190
Min. braking time (s)	190	220
Radius (cm)	24.8	24.8

\* At ambient temp. of 25 °C

1) Boehringer Mannheim or Hitachi®-sample racks



## Accessories for Standard Tubes in Rectangular Bucket

Ordering Information														
Nominal volume of tube (ml)	1.5	7	7	15	15	15	25	25	50	50	50	50	100	150
No. of tubes per adaptor	40	20	12	12	11	6 <sup>1)</sup>	5	4	2	2	6	2	1	1
No. of tubes per rotor	480	240	144	144	132	72	60	48	24	24	36	24	12	12
Type of tube	ML	DIN	B. Coll.	DIN	B. Coll.	Con.	DIN	Univ.	DIN	Con.	Con.	Univ.	DIN	DIN
Max. length of tube (mm)	45	110	110	111	109	121	100	120	130	120	117	120	120	120
Max. tube ø (mm)	11	13	14	17	17	17	25	25.5	35	29.5	29	29.5	45	55
Max. cap ø (mm)	—	14	18	18	19.5	23	25.9	31	36	37.5	35	37.5	48	—
Colour of adaptor	black	yellow	grey	red	white	brown	orange	green	green	gr./yel.	nat.	gr./yel.	blue	black
Adaptor order no. (7500xxxx)	5335	5321	5330	5322	5327	5387	5323	5391	5324	5386	2261	5389	5325	5326

1) Make sure that the bucket swings out correctly when all places are used.

Type of tube: ML = microlitre tube; B. Coll. = blood collection tube; Con = disposable conical tube; Oil test = oil test tube, pear shaped;

Univ. = universal container (with vertical edge, disposable conical type). Standard tube: a) 1.5 ml microlitre tubes, b) borosilicate glass, c) 12 ml Nunc.®-screw cap tube, d) oil test tube, pear shaped,

e) 50 ml disposable conical screw cap tube. Adaptors can be used with tubes with the following shape bottom: F = flat, R = round, C = conical, S = special

## Round Bucket



### Ordering Information

Model	Heraeus Cryofuge 6000i	Heraeus Cryofuge 8500i
Cat. No.	75008165	75008165
Max. speed (rpm)	4,240	5,050
Max. RCF (x g)	6,010	8,525
Max. capacity	1 x 1000 ml	1 x 1000 ml
Max. perm. mass (g)	3,200	3,200
Min. temp. at max. RCF*	-4 °C	+8 °C
Max. acceleration time (s)	150	190
Min. braking time (s)	190	220
Radius (cm)	29.9	29.9

\*At ambient temp. of 25 °C  
Aerosol tight cap (order no. 75008081) available on request.

## Accessories for Large Volume Tubes in Round Bucket



### Ordering Information

Nominal volume of tube (ml)	250	250 <sup>2)</sup>	250	500	650	750	1000	1000	Bp
No. of tubes per adaptor	1	1	1	1	1	—	1	—	1
No. of tubes per rotor	6	6	6	6	6	6	6	6	6
Type of tube	DIN	Div./H.	Corni.	H	DIN	H	H	HST	Sing.-trip.
Max. length of tube (mm)	190	190	190	190	195 <sup>3)</sup>	148	190	175	—
Max. tube ø (mm)	59	62.5	61.5	70	84	100	100	99.5	—
Max. cap ø (mm)	—	—	—	—	—	87	87	—	—
Colour of adaptor	nat.	nat.	nat.	nat.	nat.	-	-	-	nat.
Adaptor order no. (7500xxxx)	6649 <sup>4)</sup>	8144	8147	8145	6637 <sup>5)</sup>	—	—	—	6639

Nominal volume of tube: Bp. = blood pack, Type of tube: Div. = diverse, Corni. = Corning® bottle, H = Heraeus tube, HST = Heraeus stainless steel tube  
Standard tube: b) borosilicate glass. 2) Additional pad for conical tubes required from manufacturer, 3) Only use without cap 75008081, 4) Pad 75001808 required, 6) Pad 75001913 required, 7) max. speed – 2,600 rpm Adaptors can be used with tubes with the following shape bottom: F = flat, R = round, C = conical, S = special

## Accessories for Standard Tubes in Round Bucket

### Ordering Information

Nominal volume of tube (ml)	1.5/2	7	7	15	15	15	25	50	50	100
No. of tubes per adaptor	48	35	27	19	17	12	7	4	7	2
No. of tubes per rotor	288	210	114	114	102	72	42	24	42	12
Type of tube	ML	DIN	B. Coll.	DIN	B. Coll.	Con.	DIN	DIN	Con.	DIN
Max. length of tube (mm)	42	177	162	177	177	177	177	177	177	177
Max. tube ø (mm)	11	13	14	17	17	17	25	35	29.5	45
Max. cap ø (mm)	—	14	18.5	18.5	20	23.7	31	39	39	47.5
Colour of adaptor	black	yellow	black	red	white	brown	orange	green	black	blue
Adaptor order no.	75008132	75008133	11210822	75008135	75008136	75008137	75008138	75008140	11210826	75008142

Type of tube: ML = microlitre tube; B. Coll. = blood collection tube, Con = disposable conical tube  
Standard tube: a) microlitre tubes, b) borosilicate glass, c) 15 ml disposable conical screw cap tube, e) 50 ml disposable conical screw cap tube.  
Adaptors can be used with tubes with the following shape bottom: F = flat, R = round, C = conical.



## Thermo Scientific Cryofuge Refrigerated Centrifuges

Specifications		
Model	Heraeus Cryofuge 6000i	Heraeus Cryofuge 8500i
Description	Large volume refrigerated floor standing centrifuge	Large volume refrigerated floor standing centrifuge
Max. speed	4240 rpm	5050 rpm
Max. RCF	6010 x g	8525 x g
Max. capacity	6 x 1000 ml bottles or 12 blood bags 550 ml each	6 x 1000 ml bottles or 12 blood bags 550 ml each
Control and drive	High performance induction drive, SEPACONTROL with microprocessor	High performance induction drive, SEPACONTROL with microprocessor
Acceleration and braking profiles	9/10 profiles	9/10 profiles
Runtime	1 min – 99 hrs, continuous operation	1 min – 99 hrs, continuous operation
Program memory	33 user centrifugation programs, one of which with freely combinable braking and acceleration curves, key operated switch for protection against unauthorised access, data last used saved, in the case of a power interruption data saved for unlimited period of time.	
Temperature control range	-20 °C to +40 °C	-20 °C to +40 °C
Safety features	Lid lock and interlock, imbalance cut-out, steel armoured chamber	
Design	Sturdy, torsion resistant steel design with stainless steel rotor chamber	
Dimensions (hxxwxd)	1178 x 800 x 905 mm	1178 x 800 x 905 mm
Weight (excl. rotor)	445 kg	445 kg
Power consumption	4.2 kW	5.4 kW
Refrigeration unit	1.9 kW	1.9 kW
Recommended fuse	25A	25A
Designed and tested in acc. with	European directive 2006/95/EC for Low voltage equipment: DIN EN 601010-1 2nd edition; IEC 61010-2-20 2nd Edition; IEC 60529 protection version IP20 European directive 2004/108/EC for Electromagnetic compatibility: DIN EN 61326 CLASS A (for EMC)	
Rotor – Wind-shielded rotor with lid	75006606 included in basic package	75006606 included in basic package

Ordering Information		
Electrical Configuration	Heraeus Cryofuge 6000i	Heraeus Cryofuge 8500i
220 V, 50 Hz, Single Phase	75007520	75007550
230 V, 50 Hz, Single Phase	75007526	
400 V, 50 Hz, 3 phase	75007521	
220 V, 60 Hz, Single Phase	75007528	
<b>GMP model*</b>		
400 V, 50 Hz, 3 phase with built-in refrigeration unit	75007562	75007561
400 V, 50 Hz, 3 phase for external refrigeration unit	75007566	

\* external refrigeration unit required when operating a GMP unit (part number 75015709)

### Protecting Your Investment

Centrifuge rotor maintenance is critical to the safety of your lab. We offer rotor safety seminars and rotor inspection clinics to ensure the longevity of your investment, and the safety of your workplace. If you would like to learn more about hosting a clinic at your facility or taking part in one at one of our facilities, please contact your local representative for further information.



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