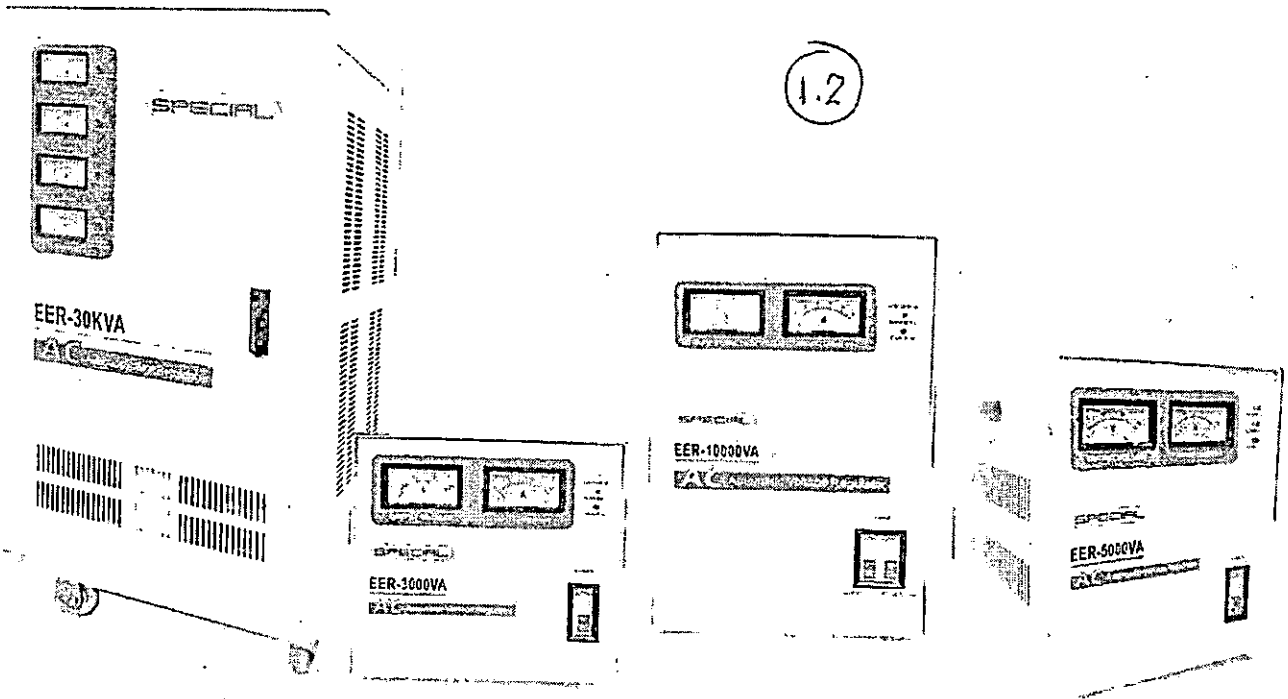


EER

AUTOMATIC VOLTAGE STABILIZER AND REGULATOR

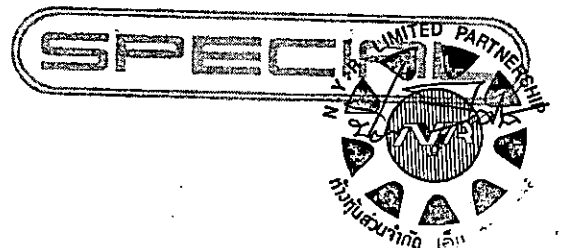
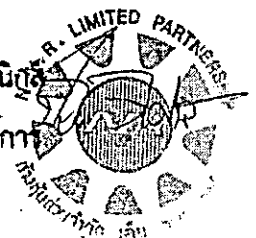


คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑. ลงชื่อ..... *Mr* ประธานกรรมการ

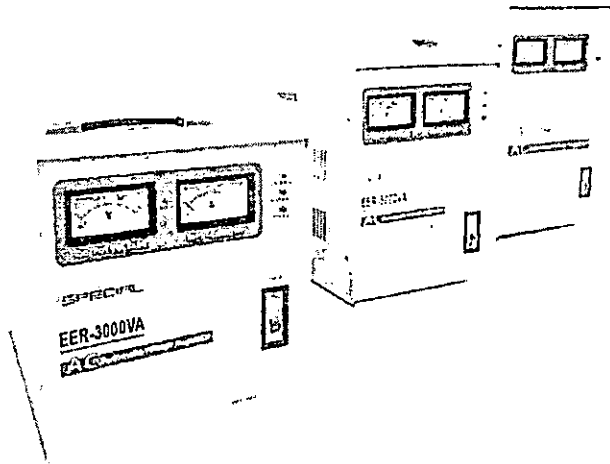
๒. ลงชื่อ..... *Mr* กรรมการ

๓. ลงชื่อ..... *Mr* กรรมการ



Model EER SERIES

This fully automatic AC Stabilizer was designed and produced by regulating principles, accepted internationally. Their features ,high-precision stabilization minimal output wave distortion, small power consumption and compact size. It can be widely applied in computer lab, scientific & medical equipment and factories.



Technical Indicators

Stabilizing Precision	+/- 3%
Voltage regulating speed	>10V/S
Frequency	50Hz-60Hz
Ambient Temperature	-5°C - +40°C
Wave distortion	<1.0%
Efficiency	>95%

Technical Parameters

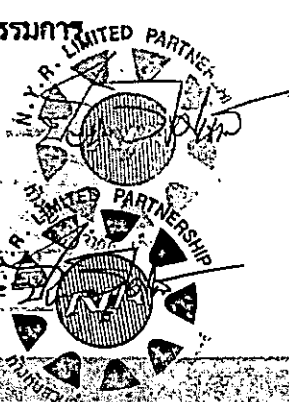
Model (KVA)	Input Voltage Range (V)	Rate Output Voltage (V)	Rate Output (A)	Weight (Kg)	Size WxDxH (mm)
EER-3K	180-250	230V	13.6A	12.5	230x305x240
EER-5K	180-250	230V	22.7A	15.5	230x370x290
EER-10K	180-250	230V	45A	27.0	240x430x370
EER-30K	280-430	380V	136-P	168.0	490x490x980

คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑.ลงชื่อ.....ประธานกรรมการ

๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ



บริษัท สเปเชียล ซัพพลาย แอนด์ เซอร์วิส จำกัด สำนักงานใหญ่
 199/3 หมู่ที่ 3 ด.บางขุน อ.บางกรวย จ.นนทบุรี 11130
 โทร 099-713-4208, 083-615-1547, 02-0535772 Email: specialgroup04@gmail.com

CERTIFICATE



This is to certify that

1.11

Thermo Electron LED GmbH

Zweigniederlassung Osterode

Am Kalkberg
37520 Osterode am Harz
Germany

has implemented and maintains a **Quality Management System**.

Scope:

Design, development, manufacturing, sales and service of laboratory equipment.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no.	000651 QM15
Certificate unique ID	170774680
Effective date	2021-08-03
Expiry date	2024-08-02
Frankfurt am Main	2021-04-17



DAKKS

Deutsche
Akkreditierungsstelle
D-214-16021-02-00



คณะกรรมการพิจารณาผลการประกาศราคาอิเล็กทรอนิกส์

DQS Medizinprodukte GmbH.....ประธานกรรมการ

.....กรรมการ

.....กรรมการ

Sigrid Uhlemann
Managing Director

CERTIFICATE



This is to certify that the company



Thermo Electron LED GmbH

Zweigniederlassung Osterode

Am Kalkberg
37520 Osterode am Harz
Germany

has implemented and maintains a **Quality Management System**.

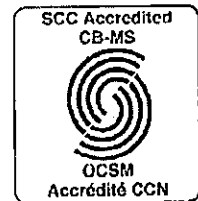
Scope:

Design, development, manufacturing, sales and service of laboratory centrifuges for in-vitro diagnostics.

Through an audit, documented in a report, performed by DQS Medizinprodukte GmbH, it was verified that the management system fulfills the requirements of the following standard:

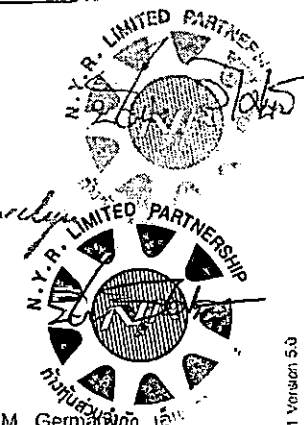
ISO 13485 : 2016

Certificate registration no.	000651 MP2016SCC
Certificate unique ID	170774679
Effective date	2021-08-03
Expiry date	2024-08-02
Frankfurt am Main	2021-04-30



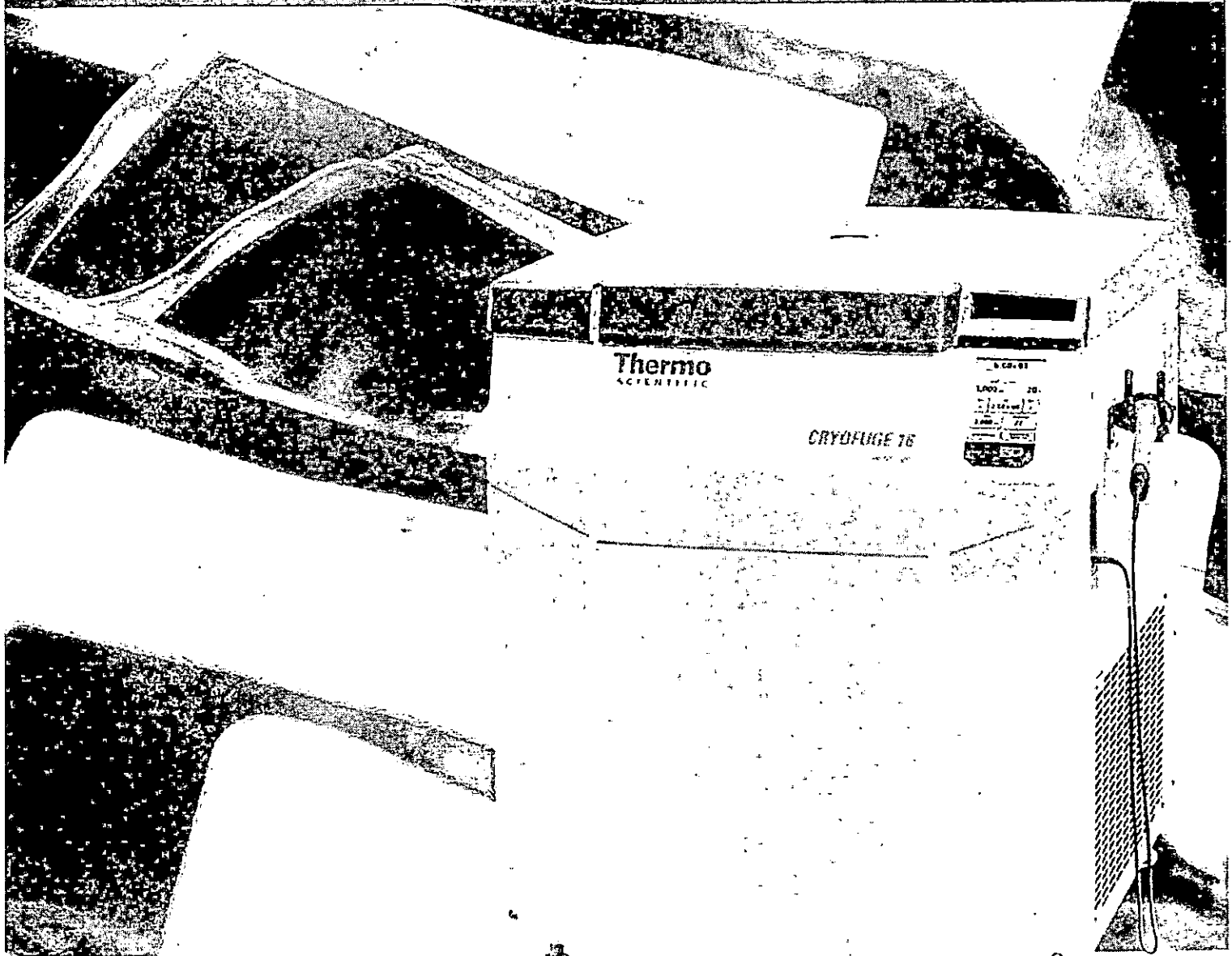
DQS Medizinprodukte GmbH

คณะกรรมการพิจารณาผลการประกวดตราค่าอิเล็กทรอนิกส์
 อ.สิงชื่อ..... ประธานกรรมการ
 Sigrd Uhlemann Managing Director..... Szymon Kurdyn Product Manager
 อ.สิงชื่อ..... กรรมการ



Accredited Body: DQS Medizinprodukte GmbH, August-Schanz-Str. 21, 60433 Frankfurt a. M., Germany

thermoscientific



Cryofuge 8 and 16 Blood Banking Centrifuges

Proven productivity, built around you

คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑. ลงชื่อ.....ประธานกรรมการ

๒. ลงชื่อ.....กรรมการ

๓. ลงชื่อ.....กรรมการ



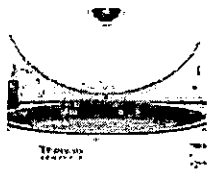
(2.1)

(1.3)

Proven productivity, built around you

Thermo Scientific Cryofuge 8 and 16 Centrifuges designed for flexible, large capacity blood banking.

Thermo Scientific large capacity centrifuges have a proven track record for reliability and productivity in blood processing centers. Now the enhanced capacity of 16 x 500 mL blood bags and user-friendly design of the Cryofuge 8 and 16 blood banking centrifuges make working with large volumes easier and more convenient using the protocols you've already validated and in compliance with global standards. Enhanced ergonomics and compact design combined with the quick set-up of traceable, reproducible runs makes this the centrifuge of choice for simplified blood processing productivity.



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



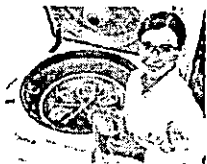
Quick run set-up and standardization

Glove friendly Thermo Scientific Centri-Touch interface with Thermo Scientific Centri-Cross function to convert your existing protocols



Improved capacity to maximize productivity

Unique 16 x 500 mL blood bag capacity



Latest global safety and compliance standards

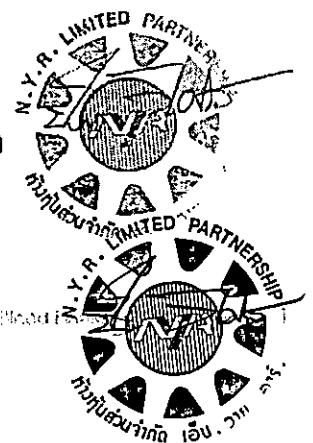
Certified by UL and CE
Meets MDD CE Requirements
Listed with US FDA

คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑.ลงชื่อ.....ประธานกรรมการ

๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ..... Thermo Scientific กรรมการ 8 and 16 Blood



Proven productivity, built around you

Combining more than 60 years of **application expertise with innovation** designed to improve your productivity.

High-throughput sample processing with the flexibility to match your current and future needs from 6, 8, 12 or 16 x 500 mL blood bags per run and designed to achieve reproducible results with the Thermo Scientific Accumulated Centrifugal Effect (ACE) Function, automatically adjusting run time to account for variations in acceleration.

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, while standard power supply eliminates the need for expensive hardwiring
- Immediate rotor detection and programming with Thermo Scientific Auto-ID Instant Rotor Identification that helps save time and protects the integrity of your samples **2.10**
- 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 and Centri-Cross protocol conversion
- Real-time run monitoring and control with Thermo Scientific Centri-View Application
- Designed to assist with GMP/GLP compliance with Thermo Scientific Centri-Track on-board run logging of user, run conditions and error messages and optional Thermo Scientific Centri-Log Plus data collection software

Thermo Scientific

คณะกรรมการพิจารณาผลการประกวดรางวัลดีเด่น
 ๑. ลงชื่อ..... ประธานกรรมการ
 ๒. ลงชื่อ..... กรรมการ
 ๓. ลงชื่อ..... กรรมการ

Thermo Scientific Centri-Track 8 and 16 Blood Bags

N.Y.R. LIMITED PARTNERSHIP
 N.Y.R. LIMITED PARTNERSHIP

Blood banking, built around you

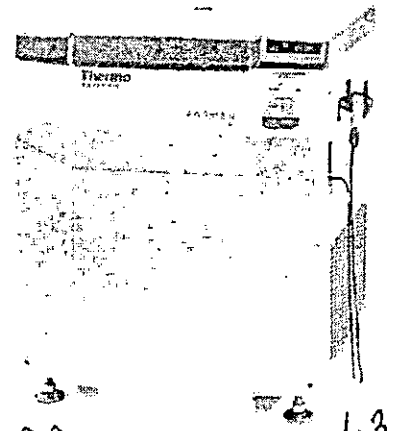
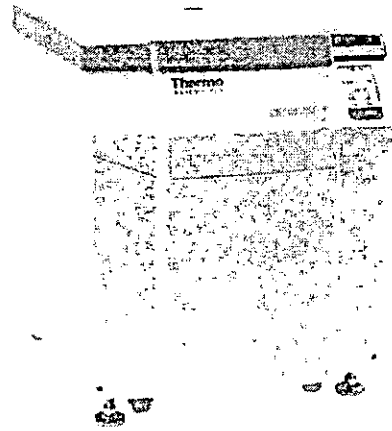
Cryofuge blood banking centrifuges are available in two models, offering the flexibility to select higher capacity rotors or match existing workflows, with a choice of 4 Thermo Scientific HAEMAFlex Rotors.

Standard individual bucket capacity

For regular- to medium-throughput blood processing needs, select the Cryofuge 8 centrifuge providing 6 x 550 mL blood bag capacity and utilizing the same bucket system, is upgradeable to 8 x 550 mL bags

Maximum individual blood bag capacity

For high-throughput blood processing needs, choose the Cryofuge 16 centrifuge with 12 x 500 mL capacity and is upgradeable to 16 x 500 mL blood bags with the same bucket selections



Description	HAEMAFlex 6	HAEMAFlex 8	HAEMAFlex 12	HAEMAFlex 16
Cat. No.	75003861	75003881	75003862	75003882
Rotor capacity (places x volume, mL)	6 x 550 mL	8 x 550 mL	12 x 500 mL	16 x 500 mL
Maximum speed (rpm)	5,000 rpm	4,600 rpm	4,700 rpm	3,900 rpm
Maximum RCF (x g)	7,295 x g	7,144 x g	7,187 x g	5,374 x g

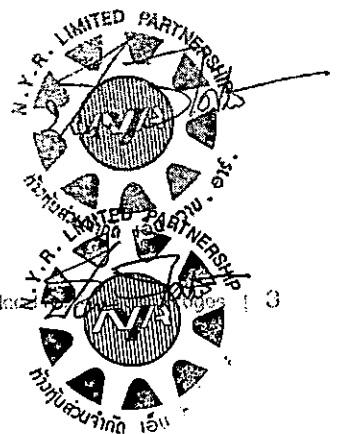
คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑.ลงชื่อ.....ประธานกรรมการ

๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ

Thermo Scientific Cryofuge 8 and 16 Electro

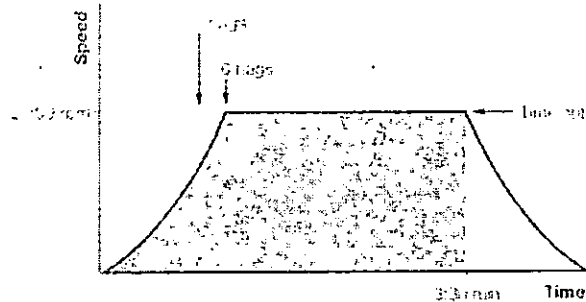


Ergonomics and safety, built around you

- Effortless loading and unloading with optimal working height of 930 mm
- Meets MDD CE requirements and listed with US FDA, with latest global safety standards including UL and CE, 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, including profiles loaded from another Thermo Scientific large capacity centrifuge, 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 rotor lid storage on the centrifuge door
- Auto-ID instant rotor identification improves ease-of-use
- Thermo Scientific Eco-Spin Windshielded Rotors provide energy savings up to 64% when compared with non-windshielded rotors¹ (see Figure 2.)

Based on an empirical evaluation of wind shielded rotors of the same rotor body

Results without the ACE integrator function



Results with the ACE integrator function

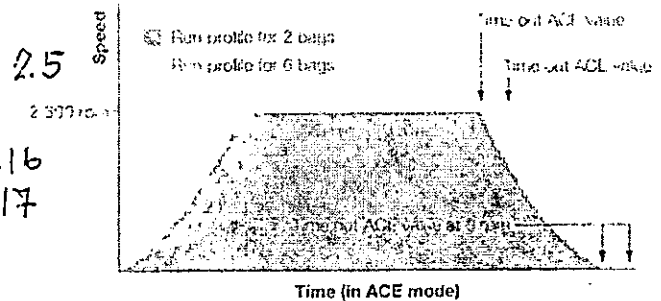


Figure 1. In a typical first centrifugation step, a two-bag rotor load attains set speed faster than a six-bag load. Since both loads will time out at the set time of 3:30 minutes, different g-forces are achieved during the run. By using the ACE integrator function, the time for 2 bags would be changed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

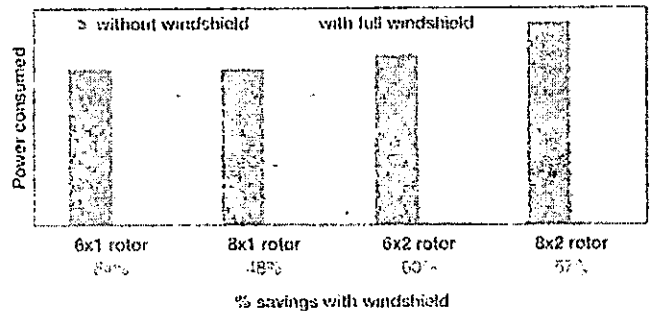


Figure 2. Power consumption of Thermo Scientific windshielded rotors as compared with non-windshielded designs of the same rotor body.

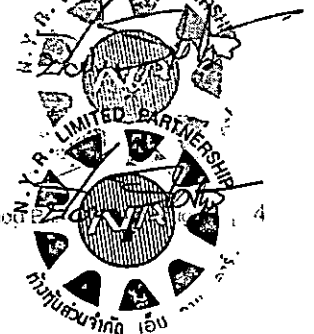
คณะกรรมการพิจารณาการประกวดราคาอิเล็กทรอนิกส์

๑. ลงชื่อ..... ประธานกรรมการ

๒. ลงชื่อ..... กรรมการ

๓. ลงชื่อ..... กรรมการ

Thermo Scientific Cryofuge 8 and 16 Isocool



Operation, built around you

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

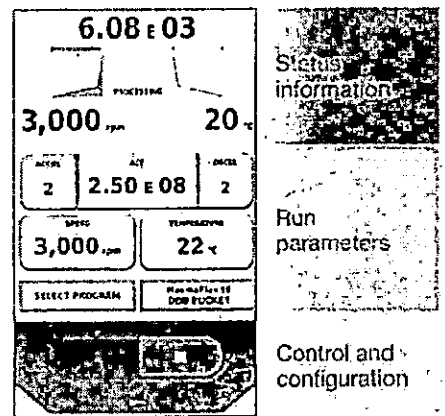
- Glove- and detergent-friendly
- Simple and quick run set-up with ACE function. Speed, Time, Temp, plus Pre Temp and Accel and Decel ramps
- Convenient virtual touchscreen keyboard for direct input of program parameters
- Highly visible backlit display of set and actual run conditions, including rpm,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

Simple, quick run set-up and monitoring

Plus powerful functions are just one touch away:

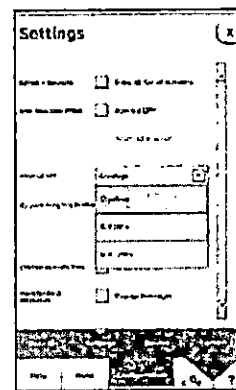
- Quick recall of up to 120 programs with alpha-numeric naming to minimize time between runs and for quick run start by routine users
- User access control and security with optional password protection, ideal for multi-user environments
- Multilingual instructions on programming, run conditions, alerts and service messages
- 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

2.9



Easily set current parameters and monitor centrifuge status

2.10



Emulate protocols from other centrifuges with Centri-Cross function

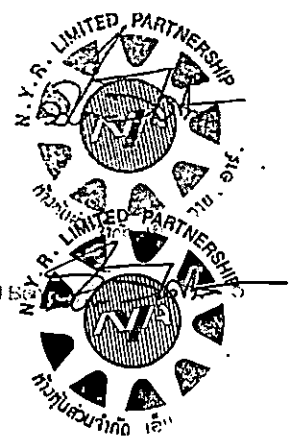
2.9, 2.10

คณะกรรมการพิจารณาผลการประกวดราคาคอนกรีต

๑.ลงชื่อ.....ประธานกรรมการ

๒.ลงชื่อ.....กรรมการ

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Data collection, built around you

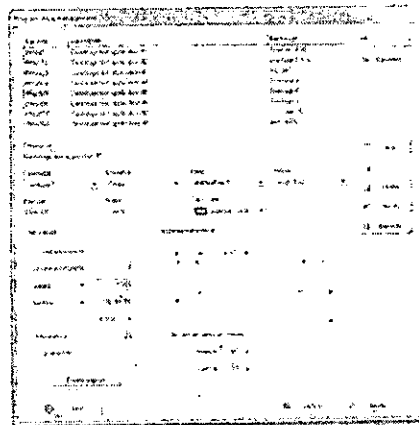
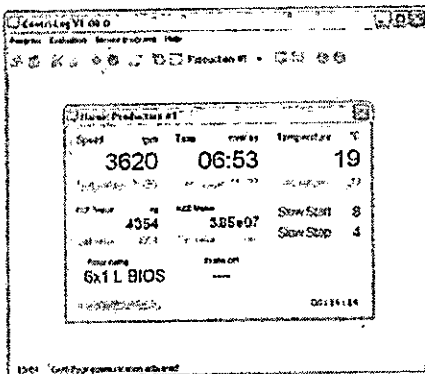
2.14

- 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 PG database
 - Connection to central database through customized export file

Connection built around you

Our Centri-Vue application provides real-time connection with your Cryofuge 8 and 16 blood banking 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



Ordering information

Data collection options	Data transfer via USB	Data transfer via Ethernet	Device management via Centri-Log Plus software
	Centri-Track via USB	Centri-Track via Ethernet	Centri-Log Plus Software Cat. No. 75007742
With Barcode Sample Tracking	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



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

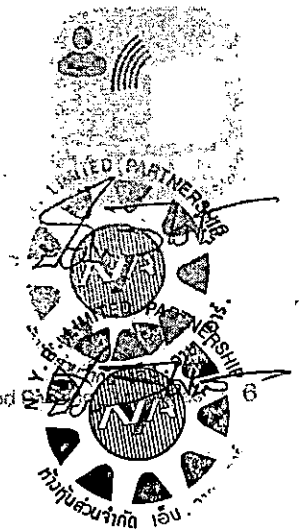
SNMP may need to be enabled
Sample Tracking Kit contains barcode scanner, tether and cable

คณะกรรมการการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑.ลงชื่อ.....ประธานกรรมการ

๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ



Compliance, built around you

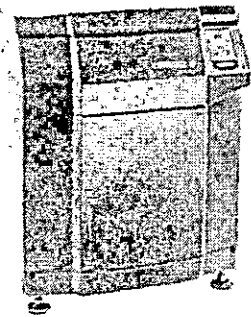
Full GMP/GLP traceability and compliance

- 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:

- | | |
|--|-------------------------------|
| - UL Listed | - IEC 61010-2-101 3rd Edition |
| - CE Marked for Medical Devices
Directive 93/42/EEC | - EN 61326-1 Class B |
| US FDA Listed | - EN 61326-2-6 |
| - RoHS Compliant | - EN 62304 |
| - WEEE Compliant | - EN 62366 |
| - EN 61010-1 3rd Edition | - EN ISO 14971 |
| - IEC 61010-2-020 3rd Edition | - EN ISO 13485 |

Additional options available

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



- Water/air-cooling configuration, complete with containment skirt (Figure 3.)

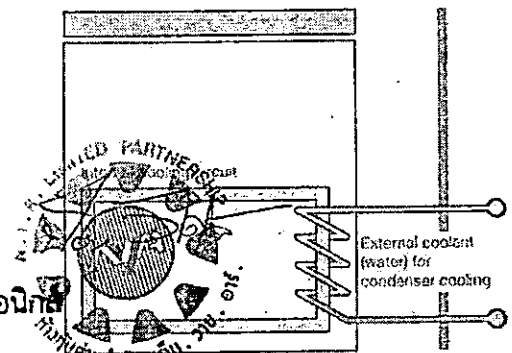
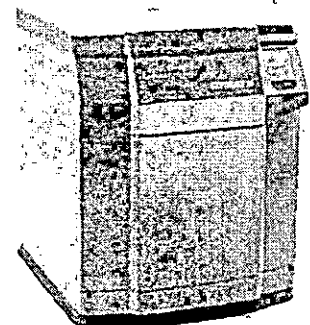


Figure 3. External cooling coil

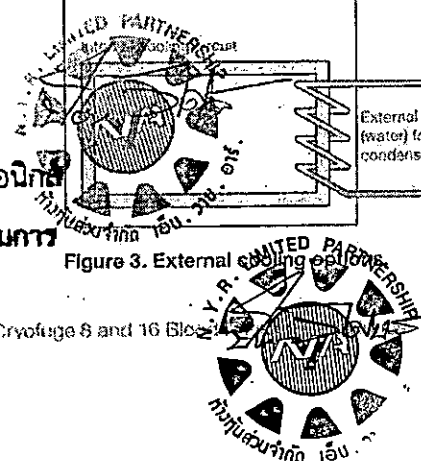
คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑.ลงชื่อ.....ประธานกรรมการ














๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ

Thermo Scientific Cryofuge 8 and 16 Bioscience



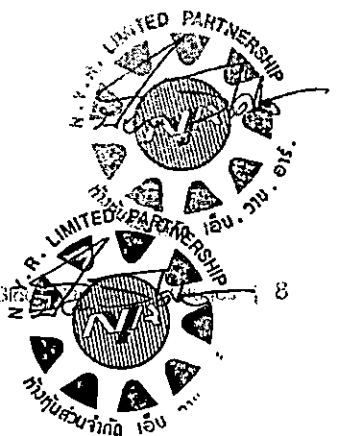
Rotor specifications

Cat. No.	Description	Rotor capacity (bags x volume, mL)	Maximum speed (rpm)	Maximum RCF (x-g)
Rotors				
75003861	 HAEMAFlex 6 Swinging Bucket Rotor	6 x 550 mL blood bags (6 x 1000 mL)	5,000	7,295
75003881	 HAEMAFlex 8 Swinging Bucket Rotor	8 x 550 mL blood bags (8 x 1000 mL)	4,600	7,144
Rotor buckets and adapters (sets of 2)				
75003834	 Oval Single Blood Bag Bucket		5,000	7,127
75003837	 450-550 mL Quad or Quint Blood Bag Adapter	6 or 8 x 550 mL		
75003838	 400-450 mL Double or Triple Blood Bag Adapter	6 or 8 x 450 mL		
75003839	 250 mL Platelet-rich Plasma or Buffy Coat Bag Adapter	6 or 8 x 250 mL		
75003841	 400-450 mL Single or Double Blood Bag Adapter	12 or 16 x 450 mL		
75003835	 Single Blood Bag Bucket with Filter Pack		5,000	7,211
75003842	 450-550 mL Triple, Quad or Quint Blood Bag with Additive Solution Adapter	6 or 8 x 550 mL		
75003859	 Filter Holder			
75003836	 Single Blood Bag Round Bucket		5,000	7,295
75003867	 450-500 mL Triple or Quad Blood Bag Adapter	6 or 8 x 500 mL		
75003858	 450 mL Single or Double Blood Bag Adapter	6 or 8 x 450 mL		



Blood bag volume includes additives and filters; total bucket volume is approximately 1000 mL.
Under three sets of rotor buckets and adapters for use with the BALANCE 16 C tube and two sets for use with the BALANCE 8 tube.

คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์
 ๑. ลงชื่อ..... ประธานกรรมการ
 ๒. ลงชื่อ..... กรรมการ
 ๓. ลงชื่อ..... กรรมการ


Thermo Scientific Cryofuge 8 and 16 Blood









Rotor specifications, cont.

Cat. No.	Description	Rotor capacity (places x volume, mL)	Maximum speed (rpm)	Maximum RCF (x g)
Rotors				
75003862	 HAEMAFlex 12 Swinging Bucket Rotor	3.1 12 x 500 mL blood bags (12 x 1000 mL)	4,700	7,187
75003852	 HAEMAFlex 16 Swinging Bucket Rotor	16 x 500 mL blood bags (16 x 1000 mL)	3,000	6,374

Rotor buckets and adapters (sets of 2)

75003848	 Double Blood Bag Bucket	2.2, 3.1	4,700	7,187
75003851	Double Quint Blood Bag Adapter for XXL size (110 x 98 mm)	3.3	12 or 16 x 500 mL	
75003852	Double Quint Blood Bag Adapter for XL size (110 x 76 mm)	3.2	12 or 16 x 500 mL	
75003853	Double Quint Blood Bag Adapter for M size (110 x 57 mm)		12 or 16 x 450 mL	
75003855	Hook Adapter for Cord Blood Separations, for use with M size Adapters		12 or 16 x 300 mL	1,325
75003868	Hook Adapter for Cord Blood Separations, for use with XXL size Adapters		12 or 16 x 300 mL	1,328

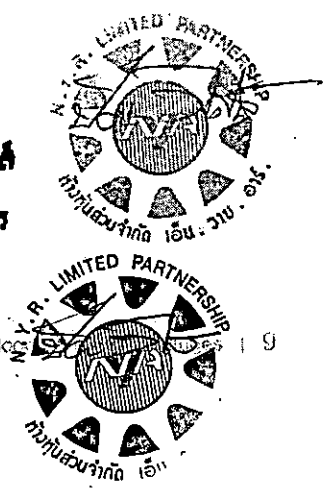
Rotor accessories

75003839	 Liner Stand for Single Blood Bag Adapters (set of 2)			
75003832	 Liner Stand for Double Blood Bag Adapters (set of 2)			
75003843	 Blood Bag Spacer (set of 12)			
75006681	 Rubber Volume Compensation Plates (set of 12)			
75005759	 Rubber Balancing Plates (set of 4)			
75003866	 Dummy Weights			

Blood bag volume includes satellites and filters. Total net total volume is approximately 1000 mL.
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.

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Centrifuge specifications

Specifications	Cryofuge 8 Centrifuge	Cryofuge 16 Centrifuge
Capacities	6 x 550 mL and 8 x 550 mL blood bags	12 x 500 mL and 10 x 500 mL blood bags
Maximum speed	5,000 rpm	4,700 rpm } 2.3
Maximum RCF	7,295 x g	7,187 x g
Drive system	DuraFlex high torque brushless drive technology 2.4	DuraFlex high torque brushless drive technology
Imbalance tolerance	125 g in opposite loads	125 g in opposite loads 2.5
Accumulated centrifugal effect (ACE) integrator	Yes 2.8	Yes
Green technology	Refrigeration off when door opens; Eco-Spin windshilded rotors	Refrigeration off when door opens; Eco-Spin windshilded rotors
Control	Centri-Touch touchscreen interface	Centri-Touch touchscreen interface
Accel/decel profiles and existing protocol emulation	11 accel, 12 decel, multiple emulation profiles	11 accel, 12 decel, multiple emulation profiles
Modes	At start, at speed, time start	At start, at speed, time start
Step-runs	Yes, 30 profile/speed/time triplets, up to 3 steps each	Yes, 30 profile/speed/time triplets, up to 3 steps each 2.10
Maintenance tracking log	Yes	Yes
Protocol traceability	Yes, built-in Centri-Track run logging	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)	99 hours 59 min 59 sec (1 second increment)
Pre-cooling function	Yes	Yes 2.11
Temperature set range	-20 to -40°C, adjustable to 1°C 2.6	-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)	1015 x 816 x 900 mm (39.9 x 32.1 x 35.4 in)
Weight	230V: 475 kg/1047.2 lbs; 400V: 495 kg/1091.3 lbs	230V: 475 kg/1047.2 lbs; 250V Water Cooled: 479 kg/1056 lbs; 400V: 495 kg/1091.3 lbs
Heat output	< 2 kW	< 2 kW
Power consumption	< 5,400 VA	< 5,400 VA
Certifications	UL, CE, MDD, FDA listed	UL, CE, MDD, FDA listed
Standards	EN 61010-1 3rd Edition, IEC 61010-2-020 3rd Edition, IEC 61010-2-101 3rd Edition, EN 61326-1 Class B, EN 61326-2-6, EN 62304, EN 62366, EN ISO 14971, EN ISO 13485	
Warranty	2 yrs unit, 5 yrs power-train (motor shaft and drive), 5 yrs refrigeration	2 yrs unit, 5 yrs power-train (motor shaft and drive), 5 yrs refrigeration



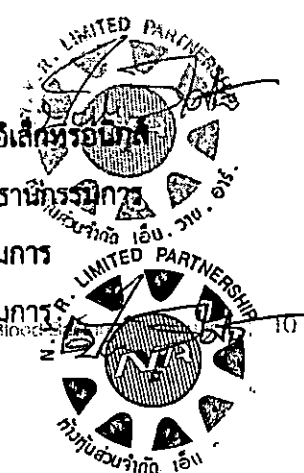
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 Thermo Scientific Cryofuge 8 and 16 Blood



Ordering information

Description	Cat. No.
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Centrifuges

Cryofuge 3 centrifuge, 200, 208, 220, 230, 240 V $\pm 10\%$, 50/60 Hz, Single phase	75007671
Cryofuge 8 centrifuge, 380, 400, 415 V $\pm 10\%$, 50 Hz, 3-phase	75007672
Cryofuge 16 centrifuge, 200, 208, 220, 230, 240 V $\pm 10\%$, 50/60 Hz, Single phase	75007673
Cryofuge 16 centrifuge, 380, 400, 415 V $\pm 10\%$, 50 Hz, 3-phase	75007674

1.1

Additional options

Cryofuge 16 Heavy Duty Water Cooled centrifuge, 200, 208, 220, 230, 240 V $\pm 10\%$, 50/60 Hz, Single phase	75007677
Cryofuge 16 Heavy Duty centrifuge, 380, 400, 415 V $\pm 10\%$, 50 Hz, 3-phase	75007678

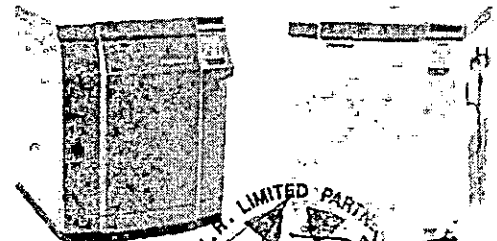
Power plugs*

IEC60309 32A-6h 3-pin blue, 200-250 V		20100357
NEMA 6-30P 30 A-6h, 200-250 V		20100358
IEC60309 32A-7h 5-pin red, 230-400 V		20100359
IEC60309 16A-6h 5-pin red (3P+N+PE), 380/400 V		20100360
5x AWG10 NEMA L6-30P / CEE		20100364

Accessories

Drain Box (600 x 400 x 50 mm)	75007730
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Centrifuges will operate power plug most common for country of origin. Please indicate alternate power plug requirements at time of order.



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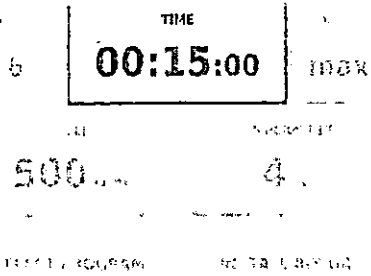
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Find out more at thermofisher.com/bloodbankcentrifuges

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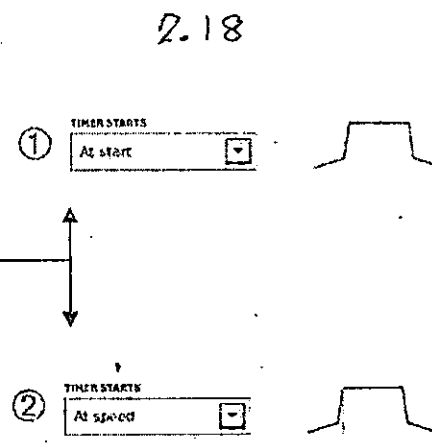
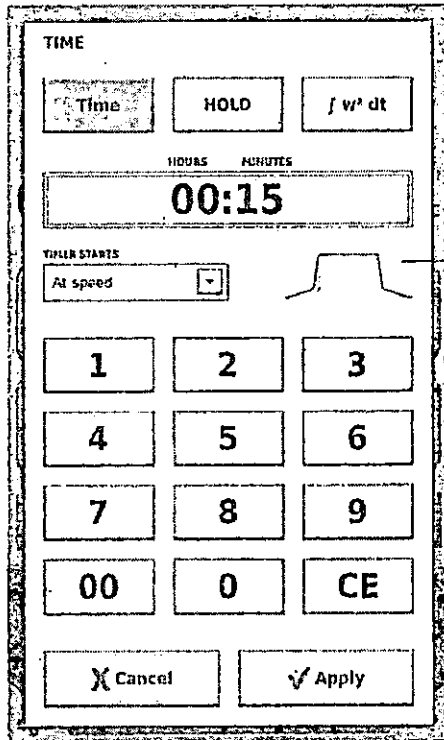


Here, you can enter a run time in hours and minutes. (You can also activate an input for seconds by making the appropriate change in the settings.)

There are three different modes for the run time.

1- Time

A time can be entered. When this time expires, centrifugation stops. You can specify whether the set time begins when the centrifuge is first started ① or once the acceleration phase is completed ②.



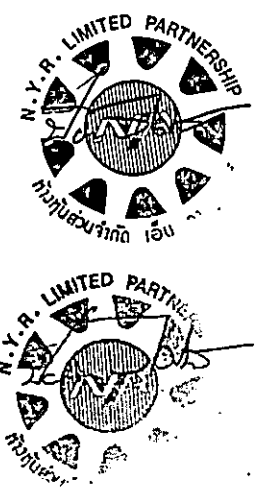
2- HOLD Mode 2.7

In HOLD mode, no time is entered. Instead, centrifugation continues until it is manually stopped.

3- Accumulated Centrifugal Effect (ACE)

Input as X, Y * 10⁴

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3.0 Function

2.20

3.8. Cooling plant (only refrigerated versions)

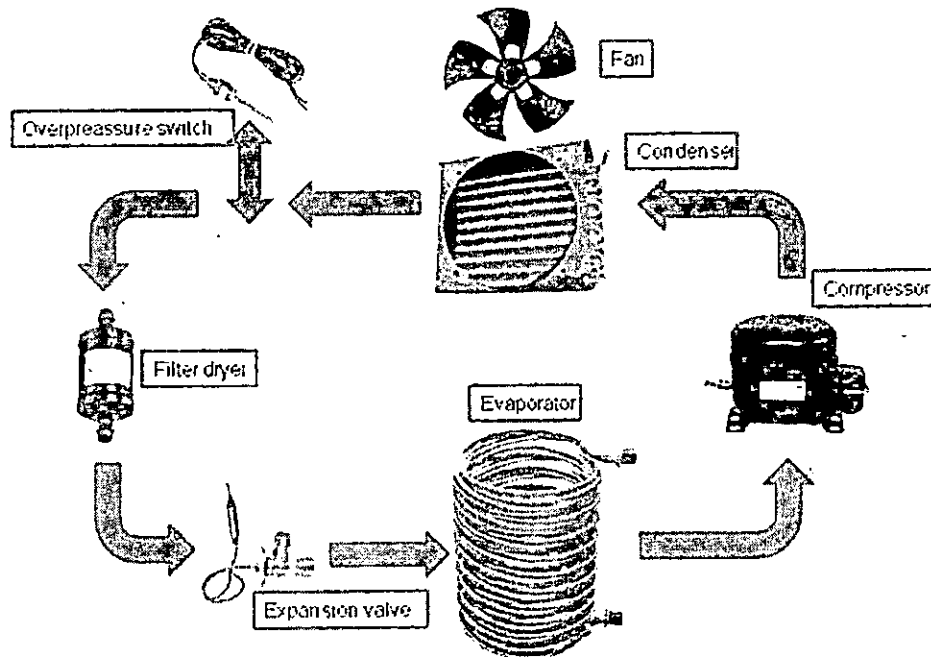
Cryofuge 8, Cryofuge 16 are equipped with a high-grade cooling plant, to meet its requirements of driving power and compact design. The CFC free refrigerant R404a evaporates at low temperatures ($\leq -20^{\circ}\text{C}$) and absorbs through this the frictional heat from chamber produced by the fast spinning rotor. A fan serve for even air flow through condenser so that the refrigerant's condensing temperature is kept on a low level.

A specially designed coaxial heat exchanger serves for essential under cooling of the condensed refrigerant to ensure an optimum evaporation and a perfect operation of the expansion valve. To maintain low evaporation and resultant condensation temperatures on one hand and to support the starting procedure of the compressor on other hand, a thermostatic expansion valve with 10bara MOP is used.

The minimum achievable sample temperatures are depending on speed, rotor type and a little on ambient temperature. After a compensating time, given by the pre-cooling or pre-heating program as optimal result, the rotor has reached the selected set temperature within a tolerance of $\pm 2\text{K}$. To reduce the power consumption of the unit the compressor will not be activated during accelerating of the motor. When reaching the selected speed the compressor will be activated if a low temperature had been selected.

3.8.1. Cooling flow chart

Cooling flow chart



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www.thermo.com/thermo-scientific-heraeus-cryofuge-8/16-centrifuges

ORDERING INFORMATION

Maximum Capacity	6x550 ml and 8x550 ml Quadruple blood bags	12x550 ml and 16x500 ml Quadruple blood bags
Maximum Speed	5000 rpm	4700 rpm
Maximum RCF	7295xg	7187xg
Drive System	DuraFlex High Torque Brushless	DuraFlex High Torque Brushless
Imbalance Tolerance	125 g in opposite loads	125 g in opposite loads
Control	Centri-Touch touchscreen interface	Centri-Touch touchscreen interface
Green Technology	Refrigeration off when door opens, Eco-Spin technology, Windshielded rotor	
Accumulated Centrifugal Function Integrator (ACE)	Yes	Yes
Accel/Deccel Profiles	11 accel/ 12 decel, multiple emulation profiles	11 accel/ 12 decel, multiple emulation profiles
Modes	At Start/At Speed/ Timed Start Operation	At Start/At Speed/ Timed Start Operation
Step-Runs	10s (30 profile/speed/time triplets)	Yes (30 profile/speed/time triplets)
Maintenance Tracking	Yes	Yes
Centri-Track built-in protocol traceability	Yes	Yes
Green Technology	Refrigeration off when door opens, Wind-shielded rotors, Heat output, min speed: 300 rpm, 7000xg	Refrigeration off when door opens, Wind-shielded rotors, Heat output, min speed: 300 rpm, 7000xg
Speed Range	+ 1% or +20 rpm	+ 1% or +20 rpm
Speed Control Accuracy	1 min-99 hours 59 min 59 sec	1 min-99 hours 59 min 59 sec
Run Time	Yes	Yes
Pre-Cooling Function	-20 to 40 C	-20 to 40 C
Temperature Set Range	+ 2 C	+ 2 C
Temperature Accuracy	Multiple 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, galvanized steel chassis with armoured plating housing	Multiple 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, galvanized steel chassis with armoured plating housing
Other Functions	Not required, Optional Seismic Bolt Down	Not required, Optional Seismic Bolt Down
Instrument Bolt Down	1015x816x900 (39.9x32.1x35.4)	1015x816x900 (39.9x32.1x35.4)
Dimensions HXWXD mm (in)	465 kg / 1025.2 lb	465 kg
Weight	<2 KW	<2 KW
Heat Output	<5400 VA	<5400 VA
Power Consumption	<62 dBA	<62 dBA
Noise	UL, FDA listed	UL, FDA listed
Compliance	UL, FDA listed	UL, FDA listed
CE Marking	IEC 61010-1 3rd Edition, IEC 61010-2-020 2nd ed & CDV 61010-2-020 3rd Edition, EN 62326-1 Class B	IEC 61010-1 3rd Edition, IEC 61010-2-020 2nd ed & CDV 61010-2-020 3rd Edition, EN 62326-1 Class B
Warranty	200, 240 V, 50/60 Hz or 400 V, 50 HZ 3 Phase	200, 240 V, 50/60 Hz or 400 V, 50 HZ 3 Phase
	2 Yrs unit, 5 Yrs Power Drive, 5 Yrs Refrigeration	2 Yrs unit, 5 Yrs Power Drive, 5 Yrs Refrigeration

75007671	Thermo Scientific Heraeus Cryofuge 8, 200, 208, 220, 230, 240 +-10%; 50/60 Hz, 1-Ph
75007672	Thermo Scientific Heraeus Cryofuge 8, 380, 400, 415 +-10%, 50 Hz, 3-Ph
75007673	Thermo Scientific Heraeus Cryofuge 16, 200, 208, 220, 230, 240 +-10%; 50/60 Hz, 1-Ph
75007674	Thermo Scientific Heraeus Cryofuge 16, 380, 400, 415 +-10%, 50 Hz, 3-Ph
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, 230-400V
20190360	IEC60309 16A-6h 5 pin red (3P+N+PE), 380/400V
20190364	3x AWG10 NEMA L6-30P / CEE

Note: power plugs MUST be ordered with the centrifuge at no additional cost



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Thermo Fisher Scientific Pte Ltd
Company Registration No. 200510503Z
Blk 33 Marsiling Industrial Estate Road 3
Unit #07-06, Singapore 739256
(65) 6499 9999 tel (65) 6896 2147 fax
www.thermofisher.com

1st January 2023

Letter of Authorization

Dear Sirs,

Thermo Fisher Scientific Pte Ltd with its registered office at Blk 33, Marsiling Industrial Estate Road 3, #07-06, Singapore 739256 is an established and reputable manufacturer specialized in among other things, the design, manufacture and sales & marketing of the following products ("Products"):

- Thermo Scientific Heracell VIOS CO2 incubator
- Thermo Scientific Herasafe and MSC advantage Biosafety Cabinet
- Thermo Scientific Cryofuge 8 and 16 Blood Banking Centrifuges
- Thermo Scientific Sorvall Benchtop centrifuges
- Thermo Scientific Sorvall Floor Stand centrifuges
- Thermo Scientific Sorvall BP 8 and 16 Blood Banking Centrifuges
- Thermo Scientific Sorvall BIOS 16 Bioprocessing Centrifuge
- Thermo Scientific Sorvall BIOS A Centrifuges
- Thermo Scientific Sorvall WX+ Ultracentrifuge Series
- Thermo Scientific Heratherm Oven and Incubator
- Thermo Scientific General Purpose Lab Refrigerator & Freezer
- Thermo Scientific Revco RDE Series Ultra-Low Temperature Freezers
- Thermo Scientific Savant Vacuum Concentrator

With this letter, we hereby confirm that the company named below is an Authorized Distributor in Thailand of our products listed above ("Products") and is fully authorized to present quotations for tenders on its own behalf; provide sales, after-sales service, service assistance, and spare parts during the specified warranty period and to sign and receive contracts in its own name.

N.Y.R Limited Partnership
159/21 Charansanitwong Road,
Bangbunru, Bangplad, Bangkok 10700
Thailand

This letter is for information purposes only and Thermo Fisher Scientific Pte Ltd does not grant any rights to N.Y.R Limited Partnership by the issuance of this letter. N.Y.R Limited Partnership's authorization is subject to TMO standard Terms and Conditions of Sale.

- All offers related to the Products are subject to Thermo Scientific's latest Terms and Conditions of Sale. This appointment is valid until January 31, 2024.

Yours faithfully,

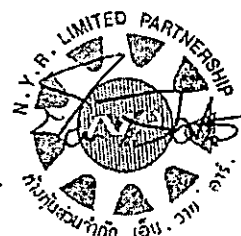
Josephine Chong
Regional Commercial Leader
Laboratory Product
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H.4

Mr. Noppol Kumsing

NYR Limited Partnership
Thailand

has successfully completed the course

Floor stand and Table top centrifuge Service Training

Description:

- Product Introduction, Family and Features
- System Overview and Operation
- Installation, Testing and Commissioning
- Parts Identification and Replacement, PM & Trouble-shooting
- IQ and OQ Validation Training
- Rotor Inspections

Certificate No. TFU_Cert_LPG-1217-16

Training date(s): 15-Aug-2016 — 19-Aug-2016

Location: Marsiling Office Singapore

Issued on: 19-Aug-2016

Certificate issued by:

คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

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Fred Ying

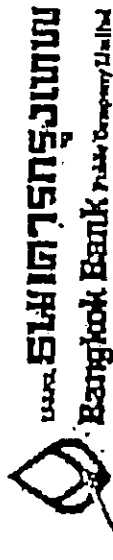
Team Lead, Training, Competency, Validation and PM

signed by Fred Ying for

Vicky Tan, Senior Service Product Support Manager

The certificate is only valid during employment with the Thermo Fisher Scientific Inc. and its subsidiaries and certified contractors. The original certificate is filed and stored at the company.





สำหรับลูกค้า

บัญชี เลขที่
Account No.

162-306645-1

บมจ. ธนาคารกรุงเทพ สาขาสะพานพระอินทร์ (162)
165/20 ถนนสมเด็จพระปิ่นเกล้า
อรุณอมรินทร์ บางกอกน้อย กทม. 10700

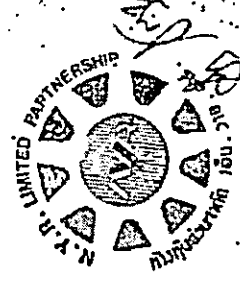
บัญชีเงินฝากกระแสรายวัน

ชื่อบัญชี ทำง่วนส่วนจำกัด เอ็ม.วาย.อาร์.

ที่อยู่ 159/21 ถนนเจริญสุขุมวิท

แขวงบางนาหุ เขตบางพลัด

กรุงเทพฯ 10700



บริษัทสามัญ

